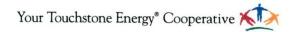
# **ORIGINAL**



RECEIVED
MAY 0 6 2015

PUBLIC SERVICE COMMISSION



#### COMMONWEALTH OF KENTUCKY

#### BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

In the Matter of:

AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2013 THROUGH APRIL 30, 2014	) ) )	Case No. 2014-00230
AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2012 THROUGH OCTOBER 31, 2014	) ) ) )	Case No. 2014-00455

Forced Outage Reports in response to Item 3d of the Kentucky Industrial Utility Customers, Inc.'s Request for Information dated March 6, 2015 (Provided on electronic media filed on March 20, 2015)

Volume 2 of 2 (Electronic files 41 through 87)

FILED:

May 6, 2015

# ORIGINAL



Your Touchstone Energy Cooperative

## **Forced Outage Report**

To:

**Bob Berry** 

From: Billy Boarman

Date: 29-Aug-2013

Plant: HMP&L Station Two

Unit: 1

GADS Class: UO2

**Duration** 

Trip Time: 17-Aug-2013 01:56

Tie Time: 8-Aug-2013 11:39

Time Offline: 33:43

#### **Outage Description**

HMP&L Station Two Unit 1 tripped on Saturday, 17-Aug-2013 at 01:55 on a turbine low vacuum trip due to losing the power feed to the C and D circulating water pumps.

#### **Root Cause**

While taking H-2 offline the H-2 "A" 4160 volt main breaker did not open when transferring from auxiliary power to start up power which caused a fault in the T1 tie Transformer. When T1 tie Transformer tripped we lost all start-up power to H2 which caused C and D circulating water pumps to trip. At this time H1 was at full load and the HMP&L units have a common circulating water system. With the loss of two circulating water pumps H-1 began experiencing back pressure and vacuum problems; the operator was in the process of reducing load when the unit tripped.

### **Failure History**

No failures of this nature have occurred in the last three years.

#### **Corrective Action**

A new OPL on Transferring to and from Auxiliary power was initiated. If the transfer had been performed correctly the C and D circulating water pumps would not have tripped.



Your Touchstone Energy® Cooperative

# **Forced Outage Report**

**SOE Print Out** 

STANDARD SOE REPORT

Triggered on: 17-Aug-2013 01:55:20:523

Event Time	State	Tag Name	Tag Description
17-Aug-2013 01:55:43:300	TRIP	H125DRMTP	BLR DRUM LEVEL TRIP
17-Aug-2013 01:55:39:217	HIGH	H140EXHOODTEHI	TURB EXH HOOD HIGH TEMP
17-Aug-2013 01:55:36:967	HIGH	H140THROPRESHI	TURB THROTTLE PRESS HIGH
17-Aug-2013 01:55:35:292	TRBLE	H132LOSSSAFANS	LOSS OF SEAL AIR FANS
17-Aug-2013 01:55:33:965	LOW	H125DRMLVLLOW	BLR DRUM LEVEL LOW
17-Aug-2013 01:55:33:965	ОК	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
17-Aug-2013 01:55:33:591	CLOSED	H103CONP2BST	4160 BKR COND PUMP 2B STATUS
17-Aug-2013 01:55:30:513	ОК	H141BRGOILLOTP	TURB BRG OIL PRESS LOW TRIP
17-Aug-2013 01:55:30:211	LOW	H132FLUGASLOO2	FLUE GAS LOW OXYGEN
17-Aug-2013 01:55:29:521	TRIP	H141BRGOILLOTP	TURB BRG OIL PRESS LOW TRIP
17-Aug-2013 01:55:29:445	TRBLE	H147HYDTROUBLE	HYDROGEN TROUBLE
17-Aug-2013 01:55:29:301	TRIP	H148DCEMSOPST	DC EMERG.SEAL OIL PMP STATUS
17-Aug-2013 01:55:29:115	OPEN	H140HYDOP2BST	HYD OIL PUMP 2B STATUS
17-Aug-2013 01:55:29:110	OPEN	H124AXCWP2BST	AUX CIRC WTR PMP 2B STATUS
17-Aug-2013 01:55:29:051	OPEN	H148MNSOPST	MAIN SEAL OIL PUMP STATUS
17-Aug-2013 01:55:28:978	OPEN	H141BGOPP2BST	BRG OIL PUMP 2B STATUS
17-Aug-2013 01:55:28:962	OFF	H132NOSCABRNG	NO SCNNR CLNG AIR BLWR RNG
17-Aug-2013 01:55:28:901	ОК	H103AIRCMPATP	4160 BKR AIR COMP A TRIP
17-Aug-2013 01:55:28:896	OPEN	H132SAF2AST	SEAL AIR FAN 2A STATUS
17-Aug-2013 01:55:28:896	TRIP	H141BGOPP2BTP	BRG OIL PUMP 2B TRIP
17-Aug-2013 01:55:28:893	OPEN	H124AXCWP2AST	AUX CIRC WTR PMP 2A STATUS
17-Aug-2013 01:55:28:881	OPEN	H132BRCAF2ST	BNR CLG AIR FAN 2 STATUS
17-Aug-2013 01:55:28:878	OPEN	H140HYDOP2AST	HYD OIL PUMP 2A STATUS
17-Aug-2013 01:55:28:872	OPEN	H103AIRCMPAST	4160 BKR AIR COMP A STATUS
17-Aug-2013 01:55:28:858	TRIP	H140HYDOP2BTP	HYD OIL PUMP 2B TRIP
17-Aug-2013 01:55:28:854	TRIP	H148MNSOPTP	MAIN SEAL OIL PUMP TRIP
17-Aug-2013 01:55:28:838	TRIP	H103AIRCMPATP	4160 BKR AIR COMP A TRIP
17-Aug-2013 01:55:28:812	ОК	H132SAF2BTP	SEAL AIR FAN 2B TRIP
17-Aug-2013 01:55:28:811	ENGD	H140TGRSTPENG	TURNING GEAR STOPPED/ENGAGED
17-Aug-2013 01:55:28:805	ОК	H132SAF2ATP	SEAL AIR FAN 2A TRIP
17-Aug-2013 01:55:28:798	OPEN	H132AHDR2AST	AIR HTR DRIVE 2A STATUS
17-Aug-2013 01:55:28:796	TRIP	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
17-Aug-2013 01:55:28:793	TRIP	H140HYDOP2ATP	HYD OIL PUMP 2A TRIP
17-Aug-2013 01:55:28:783	TRIP	H132AHDR2ATP	AIR HTR DRIVE 2A TRIP
17-Aug-2013 01:55:28:782	OK	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
17-Aug-2013 01:55:28:778	OPEN	H103BUSAMAINST	4160 BKR BUS A MAIN STATUS
17-Aug-2013 01:55:28:776	TRIP	H141BGOPP2ATP	BRG OIL PUMP 2A TRIP
17-Aug-2013 01:55:28:770	TRIP	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP





17-Aug-2013 01:55:20:523	TRIP	H140LOVACTP	TURB LOW VACUUM TRIP
17-Aug-2013 01:55:20:737	OK	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
17-Aug-2013 01:55:20:753	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
17-Aug-2013 01:55:21:278	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
17-Aug-2013 01:55:21:329	OPEN	H103PAF2BST	4160 BKR PA FAN 2B STATUS
17-Aug-2013 01:55:21:329	OPEN	H103M2BST	4160 BKR MILL 2B STATUS
17-Aug-2013 01:55:21:336	OPEN	H103PAF2AST	4160 BKR PA FAN 2A STATUS
17-Aug-2013 01:55:21:340	OPEN	H103M2AST	4160 BKR MILL 2A STATUS
17-Aug-2013 01:55:21:351	TRIP	H103M2BTRIP	4160 BKR MILL 2B TRIP
17-Aug-2013 01:55:21:362	OK	H103M2BTRIP	4160 BKR MILL 2B TRIP
17-Aug-2013 01:55:21:772	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
17-Aug-2013 01:55:21:780	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
17-Aug-2013 01:55:22:514	OK	H140LOVACTP	TURB LOW VACUUM TRIP
17-Aug-2013 01:55:23:710	OFF	H132NOSCABRNG	NO SCNNR CLNG AIR BLWR RNG
17-Aug-2013 01:55:23:951	OK	H132NOSCABRNG	NO SCNNR CLNG AIR BLWR RNG
17-Aug-2013 01:55:25:775	OK	H133LMISTP	LAST MILL IN SERVICE TRIP
17-Aug-2013 01:55:28:425	TRBLE	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
17-Aug-2013 01:55:28:429	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
17-Aug-2013 01:55:28:429	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
17-Aug-2013 01:55:28:447	LKOUT	H150GENLO86G2	GEN DIFFERENTIAL LO (86G2)
17-Aug-2013 01:55:28:447	OK	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
17-Aug-2013 01:55:28:452	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
17-Aug-2013 01:55:28:452	TRIP	H103BUSBMAINTP	4160 BKR BUS B MAIN TRIP
17-Aug-2013 01:55:28:454	OK	H150OCB162GETP	OCB 0162 GEN H1 TRIP
17-Aug-2013 01:55:28:454	TRIP	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
17-Aug-2013 01:55:28:455	OK	H150OCB166GETP	OCB 0166 GEN H1 TRIP
17-Aug-2013 01:55:28:492	OPEN	H103BUSBMAINST	4160 BKR BUS B MAIN STATUS
17-Aug-2013 01:55:28:516	OK	H103BUSBMAINTP	4160 BKR BUS B MAIN TRIP
17-Aug-2013 01:55:28:518	OK	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
17-Aug-2013 01:55:28:526	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
17-Aug-2013 01:55:28:584	OPEN	H150OCB166ST	OCB 0166 GEN H1 STATUS
17-Aug-2013 01:55:28:725	TRIP	H141BGOPP2ATP	BRG OIL PUMP 2A TRIP
17-Aug-2013 01:55:28:747	OK	H141BGOPP2ATP	BRG OIL PUMP 2A TRIP
17-Aug-2013 01:55:28:749	TRIP	H132BRCAF2TP	BNR CLG AIR FAN 2 TRIP





#### Your Touchstone Energy® Cooperative

### **Operators Event Log**

8/17/2013	1:00 AM	H-2 OFF	TO WASH	AIR HEATER	25					1				
	1.00 AW			WER TO ST		-		-	-	-				
	5;06AM		N CALLED		IATION	-		-	-	-				
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3/17/2013		FELTY C	CIL BLAIR	R,EMBRY,HI	LLYARD			-	-			A SHIFT T. TOW		
				S/L M JOH								A 01111 1 1.10	••	
						1		+						
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	JRE
			12 HOUR	50	45									18'
			STANDBY											26'
		H1	OFF	165	153	0.794	10.5	0.19	74.4	85.8	65.08	200	2.7	
									1	1				
		H2	OFF	160	147	0.418	11.3	0.079	22.8	92.9	7.87	208	3.1	15.5'
		C.T.	0	61	61									
											GAUGE GI	LASSES		DRYING AGENT
		ALARMS	:								OK			HMPL 0%
		R1												REID 0%
		H1			BURNER M.	ANG., EH P	RSS LO							
		H2	EH RES L	EVEL HI										
-														
			OWERS TA											
				18,19,22L,28										
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		FUEL OIL	C.H.	HMPL	NORTH	SOUTH		-			5'			IN
		LEVELS		11' 9"	16' 5"	8 1/4"	1	-	-	-				
		LEVELS	1 3	11.9	10. 2.	0 1/4		-						
-	7;00am	L.BREED	EN HERE	-				-	-					
	730am			LINNING BI	IT FOLIND	PIN SHEARE	- D	-	-					
	8;00AM		NDS HERE	OINING DO	I I COND I	IN STILL	-0	-						
-	9;00AM			ON H2 SCRU	IBBERS				-	-				
-	9:00AM	A.HOGAN		JIV 112 OOK	DDDLING			-	-	-				
-	NOTE			T COUPLIN	G SHEARE	D		+	-	-				
	NOTE					HEATHAM	NOTIFIED	7:38AM	-	1				
	NOTE					PIN SHEARE		1	-					
	9;37AM	CLOSED	IN SCRUBE	BER EMERO	GENCY FEE	ED 21-1 TO	BACK FEE	D THRU H	TO POW	ED LID 480V	POWER O	NLY TO RUN H	& H2 TURBINE	E OIL PUMPS
	9;44AM		VOULD NO	T CLOSE IN	1				2 10 1 000	LIC OF 400V	OWERO			
	3,44/101		ING OIL PU		l				210100	LIK OF 400V	TOWER			
	10;00AM	H2 TURN	ING OIL PU	MP ON		NCY FEED	21-1 TO B							
		H2 TURN H1 480V	ING OIL PU CLOSED IN	MP ON	R EMERGE	NCY FEED	21-1 TO B							
		H2 TURN H1 480V & T.G V	ING OIL PU CLOSED IN	MP ON SCRUBBE T CLOSE IN	R EMERGE	NCY FEED	21-1 TO B							
	10;00AM 10;01AM 10;09AM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB	ING OIL PU CLOSED IN YOULD NO PUMP ON INE ON GE	MP ON I SCRUBBE T CLOSE IN I AR	R EMERGE	NCY FEED	21-1 TO B							
	10;00AM 10;01AM 10;09AM 10;50AM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN	ING OIL PU CLOSED IN YOULD NO PUMP ON INE ON GE SEAL OIL F	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON	R EMERGE	NCY FEED	21-1 TO B							
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C	ING OIL PU CLOSED IN VOULD NO PUMP ON INE ON GE SEAL OIL F GEN RUNNI	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN	R EMERGE	NCY FEED	21-1 TO B							
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING	ING OIL PU CLOSED IN YOULD NO PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA	R EMERGE		21-1 TO B							
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING PURGING	ING OIL PU CLOSED IN WOULD NO' PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN T	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H	R EMERGE	TOR		ACK FEED	THRU H2	TO POWER	UP 480V P			
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING PURGING INLAND D	ING OIL PU CLOSED IN WOULD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN G HYDROGE OONE ON H	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H	R EMERGE	TOR		ACK FEED	THRU H2		UP 480V P			
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING PURGING INLAND D	ING OIL PU CLOSED IN WOULD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN G HYDROGE OONE ON H	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H	R EMERGE	TOR		ACK FEED	THRU H2	TO POWER	UP 480V P			
	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURN DIESEL C PURGING PURGING INLAND E 416-2 R/T	ING OIL PU CLOSED IN WOULD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN G HYDROGI DONE ON H	MP ON I SCRUBBE T CLOSE IN AR PUMP ON NG AGAIN TO CO2 THA EN THRU H IZ M.E. WAS	R EMERGE I AN AIR 1 GENERAT SH CHEVER	TOR RONS MAIN	T WILL PL	ACK FEED	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	
9/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND I 416-2 R/T	ING OIL PU CLOSED IN WOULD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN G HYDROGE DONE ON H FOR BREC ONAN, REY	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H 12 M.E. WAS C DISPATCH	R EMERGE I AN AIR 1 GENERAT SH CHEVER	TOR	T WILL PL	ACK FEED	THRU H2	TO POWER	UP 480V P		O RUN H1& H2	
9/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND I 416-2 R/T	ING OIL PU CLOSED IN WOULD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN G HYDROGI DONE ON H	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H 12 M.E. WAS C DISPATCH	R EMERGE I AN AIR 1 GENERAT SH CHEVER	TOR RONS MAIN	T WILL PL	ACK FEED	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	
9/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND C 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN VOLUD NO D PUMP ON INE ON GE. SEAL OIL F GEN RUNNI G H-2 GEN F FOR BREC ONAN, REY S/L, DENCI	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THA EN THRU H I2 M.E. WAS C DISPATCH WOLDS,BA	R EMERGE I AN AIR 1 GENERAT SH CHEVEI H KER,GATTO	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
W17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC INLAND C 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN CLOSE	MP ON I SCRUBBE T CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THE EN THRU H 12 M.E. WAS C DISPATCH TNOLDS,BA IL HERE UNIT CAP	R EMERGE	TOR RONS MAIN ON, TATE, EL	T WILL PL	ACK FEED	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
W17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND C 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN VOULD NO D PUMP ON INE ON GE. SEAL OIL F. GEN RUNNI GEN RUNNI GHORE ON HOT FOR BREC ONAN, REY S/L, DENCI LOAD 12 HOUR	MP ON SCRUBBE T CLOSE IN (AR PUMP ON NG AGAIN TO CO2 THE EN THRU H' 12 M.E. WA'S C DISPATCH NOLDS, BAIL HERE	R EMERGE I AN AIR 1 GENERAT SH CHEVEI H KER,GATTO	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
3/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND D 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN CLOSE	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THAEN THE UNIT OF THE INFORMATION OF THE INFORMAT	AN AIR 1 GENERAT 1 GENERAT 1 KER,GATTO 1 NET CAP.	TOR RONS MAIN ON, TATE, EL	T WILL PU	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
9/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC INLAND C 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN VOULD NO D PUMP ON INE ON GE. SEAL OIL F. GEN RUNNI GEN RUNNI GHORE ON HOT FOR BREC ONAN, REY S/L, DENCI LOAD 12 HOUR	MP ON SCRUBBE T CLOSE IN (AR PUMP ON NG AGAIN TO CO2 THE EN THRU H' 12 M.E. WA'S C DISPATCH NOLDS, BAIL HERE	R EMERGE	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
V17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND D 416-2 R/T DENTON, MORRIS-	ING OIL PU CLOSED IN VOULD NO D PUMP ON INE ON GE. SEAL OIL F. GEN RUNNI GEN RUNNI GHORE ON HOT FOR BREC ONAN, REY S/L, DENCI LOAD 12 HOUR	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THAEN THE UNIT OF THE INFORMATION OF THE INFORMAT	AN AIR 1 GENERAT 1 GENERAT 1 KER,GATTO 1 NET CAP.	TOR RONS MAIN ON, TATE, EL	T WILL PU	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
3/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V II 8 T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1	ING OIL PU CLOSED IN VOULD NO D PUMP ON INE ON GE. SEAL OIL F. GEN RUNNI GEN RUNNI GHORE ON HOT FOR BREC ONAN, REY S/L, DENCI LOAD 12 HOUR	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THE EN THRU H' 2 M.E. WA. C DISPATCH NOLDS, BAIL HERE  UNIT CAP 50  165	R EMERGE  AN AIR  1 GENERAT SH CHEVEI H  KER,GATTO  NET CAP. 45	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
W17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V II 8 T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1	ING OIL PU CLOSED IN VOULD NO D PUMP ON INE ON GE. SEAL OIL F. GEN RUNNI GEN RUNNI GHORE ON HOT FOR BREC ONAN, REY S/L, DENCI LOAD 12 HOUR	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THE EN THRU H' 2 M.E. WA. C DISPATCH NOLDS, BAIL HERE  UNIT CAP 50  165	R EMERGE  AN AIR  1 GENERAT SH CHEVEI H  KER,GATTO  NET CAP. 45	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND D 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2	ING OIL PU CLOSED IN VOULD NO D PUMP ON D PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THAEN THRU H' 12 M.E. WAS C DISPATCH NOLDS, BAIL HERE  UNIT CAP 50 165	AN AIR 1 GENERAT 1 GENERAT 1 KER,GATT(  NET CAP. 45 153	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO	O RUN H1& H2	TURBINE OIL PU
V17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND D 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2	ING OIL PU CLOSED IN VOULD NO D PUMP ON D PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THAEN THRU H' 12 M.E. WAS C DISPATCH NOLDS, BAIL HERE  UNIT CAP 50 165	AN AIR 1 GENERAT 1 GENERAT 1 KER,GATT(  NET CAP. 45 153	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	TURBINE OIL PU
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV & T.G V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC FURGINC FUR	ING OIL PU CLOSED IN VOULD NO D PUMP ON D PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 THAEN THRU H' 12 M.E. WAS C DISPATCH NOLDS, BAIL HERE  UNIT CAP 50 165	AN AIR 1 GENERAT 1 GENERAT 1 KER,GATT(  NET CAP. 45 153	TOR RONS MAIN ON, TATE, EL	T WILL PL	JLL NOZZLE	THRU H2	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	TURBINE OIL PU
V17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND C 416-2 RT DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS	ING OIL PU CLOSED IN VOULD NO D PUMP ON D PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE I	R EMERGE  AN AIR  1 GENERAT SH CHEVEI  1  KER,GATTO  153  147  58	TOR RONS MAIN ON, TATE, EL	T WILL PL DWARDS CO2 OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	TURBINE OIL PU
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV H1 480V IV H1 AC LC H1 TURB H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND I 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2	ING OIL PU CLOSED IN VOULD NO D PUMP ON D PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE IN I CLOSE IN I AR PUMP ON NG AGAIN TO CO2 TH/E CDISPATCH NOLDS, BAIL HERE  UNIT CAP 50  165  160  58	R EMERGE  AN AIR  1 GENERAT SH CHEVEI  1  KER,GATTO  153  147  58	TOR RONS MAIN ON, TATE, EL	T WILL PL DWARDS CO2 OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	DRYING AGEN HMPL 10%
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV H1 480V IV H1 AC LC H1 TURB H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND I 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL	ING OIL PU CLOSED IN VOULD NO P PUMP ON P PUMP ON P ON GE. SEAL OIL F SEN RUNNI B H-2 GEN 'S EN YOROGE ONAN, REY S/L, DENCI LOAD 12 HOUR STANDBY  STEAM S EH RES L OWERS TA	MP ON SCRUBBE T CLOSE IN I CLOSE I	R EMERGE  I  AN AIR 1 GENERAT SH CHEVEI H  KER,GATTO 45  153  147  58	TOR RONS MAIN ON, TATE, EL	T WILL PL DWARDS CO2 OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	DRYING AGEN HMPL 10%
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV & T.G V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H2 SOOTBL R1 1,2,3	ING OIL PU CLOSED IN VOULD NO P PUMP ON P PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE	R EMERGE  AN AIR  1 GENERAT  SEH CHEVEI  KER,GATTO  NET CAP.  45  147  58  BURNER M.  8,29,30,31	TOR RONS MAIN ON, TATE, EL	T WILL PL DWARDS CO2 OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	DRYING AGEN HMPL 10%
V17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV H1 480V IV H1 AC LC H1 TURB H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND IC 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7	ING OIL PU CLOSED IN VOULD NO P PUMP ON P PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE	R EMERGE  AN AIR 1 GENERAT SH CHEVEI  KER,GATT  NET CAP. 45  153  147  58  BURNER M.  BURNER M.	TOR RONS MAIN ON, TATE, EL	OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	DRYING AGENT HMPL 10% REID 0%
/17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV & T.G V & T.G V H1 AC LC H1 TURB H1 MAIN DIESEL C PURGINC PURGINC INLAND I 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4	ING OIL PU CLOSED IN VOULD NO P PUMP ON P PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE	R EMERGE  I  AN AIR I GENERAT SH CHEVEI  KER,GATTO  NET CAP. 45  153  147  58  BURNER M.  8,29,30,31 39 10,21,22,23,	FOR RONS MAIN ON, TATE, EL SO2 ANG., EH P	OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	DRYING AGENT HMPL 10% REID 0%
V17/2013	10;00AM 10;01AM 10;09AM 10;50AM 12:30PM 12:45PM 2;30PM 5;15PM 5;23PM	H2 TURN H1 480V IV H1 480V IV H1 AC LC H1 TURB H1 AC LC H1 TURB H1 MAIN DIESEL C PURGING INLAND IC 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7	ING OIL PU CLOSED IN VOULD NO P PUMP ON P PUMP	MP ON SCRUBBE T CLOSE IN I CLOSE	R EMERGE  AN AIR 1 GENERAT SH CHEVEI  KER,GATT  NET CAP. 45  153  147  58  BURNER M.  BURNER M.	FOR RONS MAIN ON, TATE, EL SO2 ANG., EH P	OFF OUTAGE	NOX	OPACITY	TO POWER	UP 480V P	OWER ONLY TO D SHIFT PAYN AMM. FLOW E	O RUN H1& H2	TURBINE OIL PU  PRYING AGENT HMPL 10%



	-			+
Your	Touchstone	Energy®	Cooperative	XI.

8/17/2013														
	8:00PM	SAFETY	BRIEFING					1						
	11:00PM	H1 BOILE	R SET TO	FIRE				-			-			
8/18/2013	1:06AM	H1 POWE	ER RESTOR	PED						-				
	1:27AM				CONDENS	ED VAC DI	MADE ON	-		-		-		
						EK VAC F	JIVIPS ON	-	-		-			
	1:52AM			PUMP ON										
	1:57AM			TER PUMP										
	1:59AM	R1 A BEA	ARING WAT	TER COOLIN	NG WATER	PUMP ON								
	2:00AM	H1 B COI	NDENSATE	PUMP OF	F									
	2:34AM	H1 B CIR	C WATER I	PUMP ON				-		-				
	2:51AM		C WATER I					-		-				
	2:54AM		KE UP PUN		-			-	-	-		-		
										-				
	3:01AM	The second second second second second	WATER P											
	3:07AM			TER PUMP										
	3:14AM	H1 A AIR	COMPRES	SOR AUX C	COOLING W	ATER PUM	PON							
	3:26AM	H2 B CEN	NTAC COOL	ING WATE	R PUMP ON	١								
	3:37AM	H1 B COI	NDENSATE	PUMP ON	T	Ī T		-		-	-	-		
	3:40AM				COMPRESS	SORE NO	SEAL AID	INVESTICA	TING	-	-			
	4:04AM					JONO. NO	LAL AIIV.	IIIV LO IIOA	TING			-		
				OMPRESSO	OKS ON	-		-		-				
	4:51AM		DAMPERS					1						
	4:54AM			PING UP H1										
	4:57AM	H2 FD FA	NS ON FO	R COOLING	H2 BOILER	R, H2 B FD	FAN SHUT	OFF DAM	PER DID N	OT COME C	PEN. INST	WORKING ON SAI	ME	
	5:42AM	H1 A AND	B AIR HE	ATER DRIVI	ES ON					1				
	5:42AM	H1 A SEA	AL AIR FAN	ON	1 341					1				
	5:43AM			NG AIR FAN	1		-	1		1	-	-		
	5:47AM		BFDFAN		-			-		1	-			
	5:53AM		REW FEEL		-		-	-	-	-	-			
				DER ON				1						
	6:02AM	STARTH										-		
	6:20AM			D IN H1 BO										
	7:00AM	H-2 C MC	C RACKING	G IN VENT F	FAN BKR TF	RIPPED OU	TMCC							
	7;25AM	H2-B BFF	ON											
8/18/2013	8:00AM	FELTY.CI	ECIL BLAIF	R,EMBRY,HI	LLYARD							A SHIFT T. TOW		
	-100			S/L M JOH				+		-		A 01111 1 1. 10W		
		DOTALL	O/L,DLAN	O/L 181 0011	110011			-		-				
								l		Laurence .				
		UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW BAG	CK PRESS	
		R1	LOAD 12 HOUR		NET CAP. 45	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW BAG	CK PRESS	URE 18'
						SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW BAG	CK PRESS	
			12 HOUR			SO2 0.794	CO2	NOX 0.19	OPACITY	REMOVAL	DUST 65.08			18'
		R1	12 HOUR STANDBY	50	45							AMM. FLOW BAG	2.7	18'
	WILL IN	R1 H1	12 HOUR STANDBY OFF	165	45 153	0.794	10.5	0.19	74.4	85.8	65.08	200	2.7	18' 26'
	WIL	R1	12 HOUR STANDBY	50	45									18'
		R1 H1	12 HOUR STANDBY OFF	165 160	45 153 147	0.794	10.5	0.19	74.4	85.8	65.08	200	2.7	18' 26'
		R1 H1	12 HOUR STANDBY OFF	165	45 153	0.794	10.5	0.19	74.4	85.8	65.08 7.87	200 208	2.7	18' 26' 15.5'
		R1 H1 H2 C.T.	12 HOUR STANDBY OFF OFF	165 160	45 153 147	0.794	10.5	0.19	74.4	85.8	65.08	200 208	2.7	18' 26'
		R1 H1	12 HOUR STANDBY OFF OFF	165 160	45 153 147	0.794	10.5	0.19	74.4	85.8	65.08 7.87	200 208 LASSES	2.7	18' 26' 15.5'
		R1 H1 H2 C.T.	12 HOUR STANDBY OFF OFF	165 160	45 153 147	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5'
		H1 H2 C.T.	12 HOUR STANDBY OFF OFF	165 160 61	45 153 147	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
		H1 H2 C.T. ALARMS R1	12 HOUR STANDBY OFF OFF	50 165 160 61 EAL HI/LO,I	153 147 61	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
		R1 H1 H2 C.T. ALARMS R1 H1	12 HOUR STANDBY OFF OFF	50 165 160 61 EAL HI/LO,I	153 147 61	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
,		R1 H1 H2 C.T. ALARMS R1 H1 H2	12 HOUR STANDBY OFF OFF : STEAM S EH RES L	50 165 160 61 EAL HI/LO, I	153 147 61	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
,		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL	12 HOUR STANDBY OFF OFF 0 : STEAM S EH RES L	165 160 61 EAL HI/LO,I EVEL HI	153 147 61 BURNER MA	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3	12 HOUR STANDBY OFF OFF 0 : STEAM S EH RES L	50 165 160 61 EAL HI/LO, EVEL HI GGED 18,19,22L, 28	153 147 61 BURNER MA	0.794	10.5	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
,		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA ,6,7,16,17,18,9,10,11,218	165 160 61 EAL HI/LO.E EVEL HI GGED 18,19,221,24 20,29,30,33,	153 147 61 BURNER MA 8,29,30,31	0.794 0.418 ANG., EH P	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GI OK	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0% REID 0%
		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA ,6,7,16,17,18,9,10,11,218	165 160 61 EAL HI/LO.E EVEL HI GGED 18,19,221,24 20,29,30,33,	153 147 61 BURNER MA	0.794 0.418 ANG., EH P	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE G	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0%
,		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA ,6,7,16,17,18,9,10,11,218	165 160 61 EAL HI/LO.E EVEL HI GGED 18,19,221,24 20,29,30,33,	153 147 61 BURNER MA 8,29,30,31	0.794 0.418 ANG., EH P	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GI OK	200 208 LASSES	2.7	18' 26' 15.5' DRYING AGENT HMPL 0% REID 0%
		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4	12 HOUR STANDBY OFF OFF 0 : : STEAM S EH RES L OWERS TA .6.7,16,17, .8.9,10,11, .5.7,9,10,11	50 165 160 61 EAL HIVLO,I. EVEL HI GGED 18,19,22L,21,20,29,30,33,1,15,18,19,2	45 153 147 61 BURNER M. 8,29,30,31 39 00,21,22,23,2	0.794 0.418 ANG., EH P	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA ,6,7,16,17, ,8,9,10,11, ,5,7,9,10,11	50 165 160 61 EAL HI/LO, 1 EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL	45 153 147 61 BURNER M. 8,29,30,31 39 0,21,22,23,2	0.794 0.418 ANG., EH P 24,30,32,34,	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
		R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA ,6,7,16,17, ,8,9,10,11, ,5,7,9,10,11	50 165 160 61 EAL HIVLO,I. EVEL HI GGED 18,19,22L,21,20,29,30,33,1,15,18,19,2	45 153 147 61 BURNER M. 8,29,30,31 39 00,21,22,23,2	0.794 0.418 ANG., EH P	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
,	SOMM	R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL(R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS	12 HOUR STANDBY OFF OFF 0 STEAM S EH RES L OWERS TA .6.7,16,17, .8.9,10,11, .5.7,9,10,11	50 165 160 61 EAL HI/LO, 1 EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL	45 153 147 61 BURNER M. 8,29,30,31 39 0,21,22,23,2	0.794 0.418 ANG., EH P 24,30,32,34,	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM	R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,7,16,17, 8,9,10,11, 1,5,7,9,10,11  C.H. 6' 10"  BRIEFING	50 165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,2i 20,29,30,33, 1,15,18,19,2 HMPL 8' 1/2"	45 153 147 61 BURNER M. 8,29,30,31 39 0,21,22,23,2	0.794 0.418 ANG., EH P 24,30,32,34,	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,6,17,7,9,10,11  C.H. 6'10"  BRIEFING CT UP H-2 P	50 165 160 61 EAL HI/LO, I EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 1/2"	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34,	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,6,17,7,9,10,11  C.H. 6'10"  BRIEFING CT UP H-2 P	50 165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,2i 20,29,30,33, 1,15,18,19,2 HMPL 8' 1/2"	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34,	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 STAR	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,6,17,7,8,9,10,11,5,7,9,10,11  G.H.  BRIEFING  BRIEFING  ET UP ON S	50 165 160 61 EAL HIVLO.1 EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 11/2"	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4"	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE	R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL: R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 STAR HNLAND+	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA (6,7,16,17, 8,9,10,11, 4,5,7,9,10,11)  C.H. 6' 10"  BRIEFING TT UP H-2 P TT UP ON S EHERE / STA	165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,2i 20,29,30,33,1,15,18,19,2 HMPL 8' 1/2" TT STOP TTART UP LC RTING ON I	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4"	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 STAR INLAND H COMPUTI	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 1,6,7,9,10,11  C.H. 6'10"  BRIEFING TUP H-2 P TT UP ON S 1 ERE P S TA ER R EW-O	50 165 160 61 EAL HI/LO, I EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 1/2" FIT STOP TARTUP LC TARTUP CON I LD ROOM A	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4"	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 STAR H-1 STAR H-1 STAR H-1 URGING	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,6,17, 7,8,9,10,11, 5,7,9,10,11 6'10"  BRIEFING  ET UP H2 P  ET UP ON S  HERE / STA	165 160 61 EAL HI/LO.1 EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 22 HMPL 8' 1/2" IT STOP TART UP LC RTING ON I LD ROOM A RATOR FRC	45 153 147 61 8URNER M. 8,29,30,31 39 90,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4"	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR INLAND F COMPUT PURGINGS SEALING	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA .6.7,16,17, .8.9,10,11, .5.7,9,10,11  C.H.  6' 10'  BRIEFING BT UP H-2 P ET UP ON S SHERE / STA ER NEW-O EN LEGEMENT OF STANDBY SHERE / STA ER NEW-OEH H1 TURBIN	165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 8' 11/2" TT STOP TART UP LC RTING ON I LD ROOM A RATOR FRC NE	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4"	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA .6.7,16,17, .4.8,9,10,11, .5.7,9,10,1  C.H. 6' 10"  BRIEFING TUP H-2 P TUP ON S EERE / STA ER NEW-O H2 GENE! H1 TURBIN NE PULLIN P	50 165 160 61 EAL HI/LO, I EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 1/2" FT STOP TARTUG ON I LD ROOM A RATOR FRC VIE G VACUM	45 153 147 61 88,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH 4C NOT WO DM CO2 - Al	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 8,9,10,11, 5,7,9,10,11  G'10"  BRIEFING TUP H-2 P TUP ON S HERE / STA ER NEW-O 6 H2 GENEI H1 TURBIN H1 TURBIN H1 TURBIN C MAIN BK	50 165 160 61 EAL HI/LO, I EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 1/2" FT STOP TARTUG ON I LD ROOM A RATOR FRC VIE G VACUM	45 153 147 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2"	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;08AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR INLAND + COMPUT PURGING SEALING H1 TURBI H2-C MCC H2-B BFF	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 18,9,10,11, 5,7,9,10,11 CH.  G'10"  BRIEFING STUP H-2 PT UP H-3 PT UP H-4 P	165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 8*11/2** PIT STOP TART UP LC RTING ON I LD ROOM A RATOR FRC IE G VACUM R R/T FOR I	45 153 147 61 BURNER MA 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH CC NOT WO DM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;08AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR INLAND + COMPUT PURGING SEALING H1 TURBI H2-C MCC H2-B BFF	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 18,9,10,11, 5,7,9,10,11 CH.  G'10"  BRIEFING STUP H-2 PT UP H-3 PT UP H-4 P	50 165 160 61 EAL HI/LO, I EVEL HI GGED 18, 19, 22L, 21 20, 29, 30, 33, 1, 15, 18, 19, 2 HMPL 8' 1/2" FT STOP TARTUG ON I LD ROOM A RATOR FRC VIE G VACUM	45 153 147 61 BURNER MA 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH CC NOT WO DM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO	0.19	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;08AM 10;09am	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA (6,7,16,17, 8,9,10,11, 6,7,16,17, 8,9,10,11, 15,7,9,10,11 CH.  BRIEFING STUP H-2 P STUP ON S SERE R NEW-O H-2 GENEI H-1 TURBIN C MAIN BKI  OF ON POFF 144	50 165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 8' 1/2" ETSTOP TART UP LC RATING ON ILD ROOM A RATOR FRC G VACUM R R/T FOR II 0 DRUM PS	45 153 147 61 BURNER MA 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH CC NOT WO DM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE.RKING B.E.RK	10.5 11.3 RSS LO 39 ADERS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;08AM 10;09am 10;51AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,6,17, 5,7,9,10,1'  C.H. 6' 10"  BRIEFING IT UP H-2 P IT UP ON S IERE / STA IERE NEW-O B H2 GENEI H1 TURBIN TO B IT URBIN TO B IT UP H2 P IT UP ON S IERE / STA IE	50 165 160 61 EAL HI/LO.1 EVEL HI GGED 18,19,22L,21 15,18,19,22 HMPL 8' 1/2" IT STOP TARTING ON I LD ROOM A RATOR FRC	45 153 147 61 61 88,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH AC NOT WO OM CO2 - Al	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE.RKING B.E.RK	10.5 11.3 RSS LO 39 ADERS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;08AM 10;09am 10;51AM 10;53AM	R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR INLAND + COMPUT PURGING SEALING H1 TURB H2-C MCC H2-B BFF H	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 7,8,9,10,11, 5,7,9,10,11 C.H.  G'10"  BRIEFING BRIEFING BRIEFING BY LIPH H2 P L  TUP H2 P L  TUP H2 P L  TUP H3 GENEE H1 TURBIN NE PULLIN C  O MAIN BKI O ON OFF 144 O O GOOD & H1 TURBIN H1 TURBIN H1 P L  O OFF 144 O O O GOOD & H1 TURBIN H1 TURBIN H1 P L  O O O GOOD & H1 TURBIN H1 TURBIN H1 TURBIN H1 P L  O O O GOOD & H1 TURBIN H1 TUR	165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 87 1/2" FIT STOP TART UP LC RTING ON I LD ROOM A RATOR FRC VE G VACUM R R/T FOR I O DRUM PS VACUM CH VE	45 153 147 61 BURNER MA 8,29,30,31 8,29,30,31 90,21,22,23,2 NORTH 16'9 1/2"  OG M.E. WASH AC NOT WO OM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO 39 ADERS DWARDS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;03AM 10;05AM 10;09am 10;51AM 10;53AM 10;53AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 1,6,7,16,17, 1,8,9,10,11, 1,5,7,9,10,1  C.H. 6' 10"  BRIEFING RT UP H-2 PX TUP ON S HERE / STA ER NEW-O H-2 GENE! H-1 TURBIN NE PULLIN C MAIN BK!  O GOOD & H-1 GENE! H-1 TURBIN O GOOD & H-1 TURBIN EXPRO (MII)	50 165 160 61 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 8' 1/2" 1T STOP TART UP LC RTING ON IA RATOR FRC 1E 1G VACUM CR 1E 00 DRUM PS VACUM CH 1E KE) H2 HYD	45 153 147 61 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH AC NOT WO OM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO 39 ADERS DWARDS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9:00AM 10;01AM 10;03AM 10;05AM 10;09am 10;51AM 10;55AM 10;55AM 11:35AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  STEAM S EH RES L  OWERS TA 6,5,7,16,17, 3,8,9,10,11, 5,7,9,10,1'  C.H. 6' 10"  BRIEFING IT UP H-2 P L  TU UP H-3 P L  TU UP H-3 P L  TU UP H-4 P L  TU UP H-5 P L  TU UP H-6 P L  TU UP H-7 P L  TU UP H-7 P L  TU UP H-8 P L  TU UP H-8 P L  TU UP H-8 P L  TU UP H-9 O S L  TU UP	165 160 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 87 1/2" FIT STOP TART UP LC RTING ON I LD ROOM A RATOR FRC VE G VACUM R R/T FOR I O DRUM PS VACUM CH VE	45 153 147 61 61 8,29,30,31 39 10,21,22,23,2 NORTH 16'9 1/2" OG M.E. WASH AC NOT WO OM CO2 - AI	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO 39 ADERS DWARDS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%
	8:00AM NOTE 8;30am NOTE 9;00AM 10;01AM 10;05AM 10;05AM 10;09am 10;51AM 10;53AM 10;55AM 11;35AM 11;39AM	R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLI R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFET H-1 STAR H-1 S	12 HOUR STANDBY OFF  OFF  OFF  STEAM S EH RES L  OWERS TA 6,6,7,16,17, 8,9,10,11, 5,7,9,10,11  G.H. OFF  OFF  OWERS TA 6,6,716,17, 18,9,10,11, 19,	50 165 160 61 61 EAL HI/LO,1 EVEL HI GGED 18,19,22L,21 20,29,30,33,1,15,18,19,2 HMPL 8' 1/2" 1T STOP TART UP LC RTING ON IA RATOR FRC 1E 1G VACUM CR 1E 00 DRUM PS VACUM CH 1E KE) H2 HYD	45 153 147 61 BURNER MA BU	0.794 0.418 ANG., EH P 24,30,32,34, SOUTH 8 1/4" & R.P. HE. RKING B.E.	10.5 11.3 RSS LO 39 ADERS DWARDS	0.19 0.079 NOTIFIED	74.4	85.8	65.08 7.87 GAUGE GOOK	200 208 LASSES	2.7	18' 26'  15.5'  DRYING AGENT HMPL 0% REID 0%





#### Your Touchstone Energy® Cooperative

## **Forced Outage Report Estimated Outage Cost**

N/A





Your Touchstone Energy® Cooperative

Lost Sales Opportunity Report

	MISO	DARTR	even	ue and	LOS	ST OPPOR	TUNITY		
Jnit		HMP'L 1	H1-13	-10			Produc	tion C	ost
Date & Time Off Line		8/17/1	3 1:56				MW		\$/MW
Date & Time On Line		8/18/1	3 11:39				100	\$	29.50
Outage Duration		33 hr.	43 min.				133	\$	28.31
Outage Code		U	02			72	155	\$	28.16
Outage Reason		tripped on lo of circulating start up pov	water p	oump when					
Date	DA LI	MP Average	RT LN	/IP Average	C	DART P&L	Lost Opportunity		
8/17/13 (HE 2-24)	\$	31.96	\$	29.16	\$	(5,833)	\$ -		
8/18/13 (HE 1-18)	\$	24.58	\$	23.05	\$	4,023	\$ -		
Total	6				\$	(1,810)	\$ -		
Start Up Fu	el Cost						Total Force	d Outa	ge Cost
S/U Fuel Consumed		9,947					DART P&L	\$	(1,810
S/U Fuel Price	\$	3.13					Lost Opportunity	\$	
S/U Fuel Cost	\$	(31,130)					S/U Fuel Cost	\$	(31,130
							Total	\$	(32,940
NOTES:									





Your Touchstone Energy Cooperative

To:

**Bob Berry** 

From: Billy Boarman

Date: 30-Aug-2013

Plant: HMP&L Station Two

Unit: 2

GADS Class: MO/UO1

#### **Duration**

Trip Time: 17-Aug-2013 01:00

Converted To Forced Outage: 18-Aug-2013 13:00

Tie Time: 20-Aug-13 22:38

Start of Forced Outage: 18-Aug-2013 13:00 Time Offline: 93:38

MO Hours: 36:00

UO1 Hours: 57:38

#### Outage Description

HMP&L Station Two Unit 2 was removed from service on Thursday, 17-Aug-2013 at 01:00 for a maintenance outage to wash air heaters. At 13:00 on Sunday, 18-Aug-2013 it was switched to a forced outage due to the loss of startup power at the Reid/HMP&L Station

### **Root Cause**

The differential across the air heaters was caused by an accumulation of ammonia bisulfate deposits.

The continuation into the forced outage was caused by the T1 tie transformer tripping which resulted in the loss of start-up power to Reid and Station Two, as well as possible issues with the generator and with the turbine bearings.

### **Failure History**

No failures of this type have been reported in the last three years.



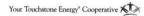
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## **Unforced Outage Report**

### Corrective Actions

- · Washed the Air Heaters
- Midwest Switchgear inspected H-2 4160 "A" main breaker. They found the trip coil burned up. They replaced the trip coil and gave ok for the breaker to be returned to service
- The DC Turbine Lube Oil Pump coupling was replaced; the pump was run and it tested well.
- After consultation with Siemens and their review of the record of events, the
  bearing temperatures and the coast down speed it was advised that we check
  the lube oil strainer for indications of Babbitt and to complete a borescope
  inspection on the #1 turbine bearing. No Babbitt was found in the strainer and the
  bearing revealed no issues.
- After consultation with Siemens concerning the generator motoring; Siemens concluded that this event appears to be a low risk to continued operation of the unit.
- Both the Reid electricians and the ET&S crews began looking for a short causing a 20,000 amp arc.
- The electricians systematically meggered each section of bus back to the Start-up transformer. All megger readings were good. All bus was visually inspected from the outside for obvious damage. No damage was found. Random panels were removed to visually inspect the bus internally. No broken insulators or misaligned bus was found. Cable bus on Reid 1 was meggered at the switchgear and from the removed links on the outside of the plant wall. Both readings were identical.
- ET&S Doble tested the Start-up transformer with normal results.
- ET&S visually inspected the cables running into the plant and found indications of the arc, but no damage that required repairs.
- ET&S opened and inspected the Ground Neutral transformer and found no indication of damage.
- Oil samples were taken on the Start-up transformer, the Ground Neutral transformer and the Start-up transformer Load Tap Changer.
- The switch 416-2 was visually inspected and found to have damage on the B phase connection. The A and C phases showed some signs of overheating, but B phase was the worse. ET&S opted not to clean or repair this switch at this time.
- After all testing was completed it was decided to begin putting the system back together in pieces to verify that the fault was cleared.
  - First the 416-2 switch was opened, the links were removed to R1, and the Start-up transformer was energized. This worked as designed.
  - Switch 416-2 was closed and with the H1 and H2 main and tie breakers open, and the Start-up was energized. This worked as designed.





- The links were reinstalled on Reid 1, Switch 416-2 was opened, and the Start-up was again energized. This worked as designed.
- Finally, Switch 416-2 was closed and the Start-up transformer was energized. With this configuration we verified that the second fault had cleared.
- All bus into the plant was energized and ready to begin switch over operations.
- The diesel generator was disconnected and the scrubber feed was opened.
- At 01:10 H1 station power returned to normal
- At 01:16 H2 station power returned to normal
- At 01:20 R1 station power returned to normal
- ET&S Doble tested the H-2 Auxiliary transformer
- BREC electrician's meggered the bus between the Auxiliary transformer and the 4160V main.

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 17-Aug-2013 01:00:27:573

Event Time	State	Tag Name	Tag Description
17-Aug-2013 01:00:39:652	RUNING	H241DCEMOPSTS	DC EMERG.OIL PMP STATUS
17-Aug-2013 01:00:38:549	TRIP	H224AXCWP3ATRP	AUX CIRC WATER PMP H2A TRIP
17-Aug-2013 01:00:38:420	CLOSED	H232SAF3BSTS	SEAL AIR FAN H2B STATUS
17-Aug-2013 01:00:38:346	OPEN	H232BRCAF3STS	BRNR COOLING AIR FAN 2 STATUS
17-Aug-2013 01:00:38:229	CLOSED	H248DCEMSOPSTS	DC EMERG.SEAL OIL PMP STATUS
17-Aug-2013 01:00:38:127		H241DCEMOPTRP	DC EMERG OIL PMP AUTOSTR
17-Aug-2013 01:00:37:939	OPEN	H240HYDOP3ASTS	TURB HYD FLUID PMP H2A STATUS
17-Aug-2013 01:00:37:857	OPEN	H232SAF3ASTS	SEAL AIR FAN H2A STATUS
17-Aug-2013 01:00:37:847	TRIP	H232AHDR3ATRP	AH DRIVE H2A DRIVE TRIP
17-Aug-2013 01:00:37:845	OPEN	H248MNSOPSTS	MAIN SEAL OIL PMP H2 STATUS
17-Aug-2013 01:00:37:838	TRIP	H241BGOPP3ATRP	TG OIL PMP H2A TRIP
17-Aug-2013 01:00:37:826	OK	H241BGOPP3ATRP	TG OIL PMP H2A TRIP
17-Aug-2013 01:00:37:815	TRIP	H241BGOPP3ATRP	TG OIL PMP H2A TRIP
17-Aug-2013 01:00:37:813	TRIP	H240HYDOP3ATRP	TURB HYD FLUID PMP H2A TRIP
17-Aug-2013 01:00:37:799	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:785	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:778	TRIP	H248MNSOPTRP	MAIN SEAL OIL PMP H2 TRIP
17-Aug-2013 01:00:37:774	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:764	TRIP	H232BRCAF3TRP	BRNR COOLING AIR FAN 2 TRIP
17-Aug-2013 01:00:37:763	TRIP	H242TGRMTRTRP	TG DRIVE MTR TRIP
17-Aug-2013 01:00:37:760	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP



	O		
17-Aug-2013 01:00:37:748	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:744	OK	H203BUSATIETRP	4160 BKR BUS A TIE TRIP
17-Aug-2013 01:00:37:734	OPEN	H203BUSATIESTS	4160 BKR BUS A TIE STATUS
17-Aug-2013 01:00:37:727	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:716	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:37:688	TRIP	H203BUSATIETRP	4160 BKR BUS A TIE TRIP
17-Aug-2013 01:00:36:894	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:883	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:611	ОК	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:600	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:419	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:408	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:177	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:36:166	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:35:835	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:35:824	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:35:060	OK	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:35:049	TRIP	H232SAF3ATRP	SEAL AIR FAN H2A TRIP
17-Aug-2013 01:00:33:038	OK	H233LMISTRP	LAST MILL IN SERVICE TRIP
17-Aug-2013 01:00:32:341	TRBLE	H247HYDTROUBLE	GEN H2 HYDROGEN TROUBLE
17-Aug-2013 01:00:29:041	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
17-Aug-2013 01:00:28:293	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
17-Aug-2013 01:00:28:044	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
17-Aug-2013 01:00:27:793	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
17-Aug-2013 01:00:27:709	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
17-Aug-2013 01:00:27:700	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
17-Aug-2013 01:00:27:690	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
17-Aug-2013 01:00:27:598	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
17-Aug-2013 01:00:27:596	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
17-Aug-2013 01:00:27:573	TRIP	H203BUSAMAINTR	4160 BKR BUS A MAIN TRIP
17-Aug-2013 01:00:27:572	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
17-Aug-2013 01:00:27:566	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
17-Aug-2013 01:00:27:566	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP



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### Other Work Completed While Unit Was Offline

- · Boiler Hydro and Reheat Vacuum Check, no issues
- Repaired gas leaks on the Economizer Dead Air Space, Economizer Duct work and the Air Heaters
- Air heater wash
- Inspected "A" and "B" SCR Damper vertical jamb seals
- Calibrated all coal feeders
- Inspected precipitators
- Replaced three steam coils
- · Replaced east drum gauge glass bottom water isolation valve
- Repaired gas leaks
- ET&S Doble tested the Start-up transformer with normal results
- 4160 A main breaker trip coil was replaced
- Performed Borescope inspection on the front standard of the turbine. Inspection displayed no flaws in the bearing



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### **Operators Event Log**

8/17/2013				AIR HEATER	RS									
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	5,06AM	N.DENIC	N CALLED	IN SICK										
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				1.00	100	0.101	10.0	0.10	74.4	00.0	03.00	200	2.7	
		H2	OFF	160	147	0.418	11.3	0.079	22.8	92.9	7.87	208	2.4	45.51
			011	100	147	0.410	11.3	0.079	22.0	92.9	1.01	208	3.1	15.5'
		C.T.	0	61	61									
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		H2	EH RES L	EVELHI										
			OWERS TA											
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		H1 5,6,7	,8,9,10,11,2	20,29,30,33,	39									
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	NOTE													
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	10;09AM 10;50AM	H1 AC LC H1 TURBI H1 MAIN DIESEL C	PUMP ON INE ON GE SEAL OIL F GEN RUNNI	AR PUMP ON NG AGAIN										
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3/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1	D PUMP ON PUMP ON PUMP ON PUMP ON GE. SEAL OIL, E. SEAL O	AR PUMP ON NG AGAIN TO CO2 THE N THRU H1 C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165	N AIR GENERAT GENERAT H KER,GATTO NET CAP. 45 153	RONS MAIN	OWARDS CO2 OFF		ES & PULLI	NG BACK P	DUST GAUGE GL	AMM. FLOW BAC		JRE  DRYING AGENT
W17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND D 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS	D PUMP ON PUMP ON PUMP ON PUMP ON GE. SEAL OIL, E. SEAL O	AR PUMP ON NG AGAIN TO CO2 THE N THRU H1 C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165	N AIR GENERAT GENERAT H KER,GATTO NET CAP. 45 153	RONS MAIN	OWARDS CO2 OFF		ES & PULLI	NG BACK P	LATES DUST	AMM. FLOW BAC		DRYING AGENT HMPL 10%
9/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1	D PUMP ON PUMP ON PUMP ON PUMP ON GENERAL OIL FEED RUNNING ON PUMP O	AR PUMP ON NG AGAIN TO 27 HE NG AGAIN TO THRU H 12 M E. WAS TO SISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58	IN AIR I GENERAT SH CHEVER I KER,GATT( NET CAP. 45 153 147	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P	DUST GAUGE GL	AMM. FLOW BAC		JRE  DRYING AGENT
W17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H1	D PUMP ON PUMP	AR PUMP ON NG AGAIN NG AGAIN NG THE NO CO2 THE EN THRU H1 2 M.E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58	IN AIR I GENERAT SH CHEVER I KER,GATT( NET CAP. 45 153 147	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P	DUST GAUGE GL	AMM. FLOW BAC		DRYING AGENT HMPL 10%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1	D PUMP ON PUMP ON PUMP ON PUMP ON GENERAL OIL FEED RUNNING ON PUMP O	AR PUMP ON NG AGAIN NG AGAIN NG THE NO CO2 THE EN THRU H1 2 M.E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58	IN AIR I GENERAT SH CHEVER I KER,GATT( NET CAP. 45 153 147	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P	DUST GAUGE GL	AMM. FLOW BAC		DRYING AGENT HMPL 10%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 RT DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2	D PUMP ON DE MENOR OF THE MENOR OF T	AR PUMP ON NG AGAIN NG AGAIN NG OCO 2THE EN THRU H- 2 M.E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58	IN AIR I GENERAT SH CHEVER I KER,GATT( NET CAP. 45 153 147	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
W17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 R/T DENTON, MORRIS- UNIT R1 H1 H2 C.T. ALARMS R1 H2 SOOTBLC	D PUMP ON PUMP ON PUMP ON PUMP ON SEAL OIL FEEN RUNNIN BHOOME ON HE FOR BRECONE ON AN POWER STANDBY  STEAM SEEN RES LOWERS TA STEAM SEEN RES LOWERS TA DOWERS TA DOWER	AR PUMP ON NG AGAIN TO CO2 THE EN THRU HT 2 M E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED	N AIR GENERATH H CHEVER KER, GATTO 153 147 58	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P REMOVAL	DUST GAUGE GL	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
V17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND E 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLC R1 1,2,3	D PUMP ON DEMPORE TO PUMP ON THE PUMP ON T	AR UMP ON NG AGAIN TO CO2 THEN NT THRU HT 2 M E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28	EN AIR I GENERAN SH CHEVEI KER,GATTO NET CAP. 45 153 147 58 3URNER M.	ON, TATE, EL	OWARDS  CO2  OFF  OUTAGE	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 1,2,3 H1 1,2,3	D PUMP ON DE MENOR OF THE MENOR	AR PUMP ON NG AGAIN NG AGAIN NG OCO2 THEE N THRU H1 2 M.E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO.E EVEL HI GGED GB, 19, 22L, 28, 20, 29, 30, 33, 20, 20, 20, 30, 30, 20, 20, 20, 30, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2	N AIR I GENERATH H CHEVER KER, GATTO NET CAP. 45 153 147 58 3URNER M.	SO2	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING INLAND C 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 1,2,3 H1 1,2,3	D PUMP ON DE MENOR OF THE MENOR	AR UMP ON NG AGAIN TO CO2 THEN NT THRU HT 2 M E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28	N AIR I GENERATH H CHEVER KER, GATTO NET CAP. 45 153 147 58 3URNER M.	SO2	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL SOOTBL SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4	D PUMP ON DE MENOR OF THE MENOR	AR  UMP ON  NG AGAIN  TO CO2 THE  EN THRU H-  2 M.E. WAS  C DISPATCH  NOLDS, BAIL  L HERE  UNIT CAP  50  165  160  58  EAL HI/LO.8  EVEL HI  GGED  BR. 19, 221., 28, 20, 29, 30, 33, 1, 15, 18, 19, 21	EN AIR I GENERAN H CHEVER H CHEVER KER,GATTO 153 147 58 3URNER M. 329,30,31 39 0,21,22,23,	SO2  ANG . EH P	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 R/I DENTON, MORRIS-  UNIT R1 H2 C.T. ALARMS R1 H2 SOOTBLC R1 1,2,3 H1 5,0,7 H2 1,2,4 FUEL OIL	D PUMP ON PUMP ON PUMP ON PUMP ON SEAL OIL FEEN RUNNIN BHYDROGE ON HE FOR BRECUNDED ON HE OF THE PUMP ON PUMP	AR PUMP ON NG AGAIN TO CO2 THE EN THRU H 2 M E. WAS C DISPATCH  NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28, 23, 33, 31, 15, 18, 19, 21 HMPL	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
/17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 R/I DENTON, MORRIS-  UNIT R1 H2 C.T. ALARMS R1 H2 SOOTBLC R1 1,2,3 H1 5,0,7 H2 1,2,4 FUEL OIL	D PUMP ON DE MENOR OF THE MENOR	AR PUMP ON NG AGAIN TO CO2 THE EN THRU H 2 M E. WAS C DISPATCH  NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28, 23, 33, 31, 15, 18, 19, 21 HMPL	EN AIR I GENERAN H CHEVER H CHEVER KER,GATTO 153 147 58 3URNER M. 329,30,31 39 0,21,22,23,	SO2  ANG . EH P	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 R/I DENTON, MORRIS-  UNIT R1 H2 C.T. ALARMS R1 H2 SOOTBLC R1 1,2,3 H1 5,0,7 H2 1,2,4 FUEL OIL	D PUMP ON PUMP ON PUMP ON PUMP ON SEAL OIL FEEN RUNNIN BHYDROGE ON HE FOR BRECUNDED ON HE OF THE PUMP ON PUMP	AR PUMP ON NG AGAIN TO CO2 THE EN THRU H 2 M E. WAS C DISPATCH  NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28, 23, 33, 31, 15, 18, 19, 21 HMPL	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 R/I DENTON, MORRIS-  UNIT R1 H2 C.T. ALARMS R1 H2 SOOTBLC R1 1,2,3 H1 5,0,7 H2 1,2,4 FUEL OIL	D PUMP ON DE MENOR OF THE MENOR	AR PUMP ON NG AGAIN TO CO2 THE EN THRU H 2 M E. WAS C DISPATCH  NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 221, 28, 23, 33, 31, 15, 18, 19, 21 HMPL	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGENT HMPL 10% REID 0%
	10; 09AM 10;50AM 10;50AM 12:30PM 12:45PM 5;15PM 5;23PM 8:00PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLC R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY	D PUMP ON DEMPORE TO PUMP ON THE PUMP ON T	AR  UMP ON  NG AGAIN  TO CO2 THE  NT THRU HH  SO DISPATCH  NOLDS, BAI  L HERE  UNIT CAP  165  160  58  EAL HI/LO, E  EVEL HI  GGED  8, 19, 22L, 28  0, 29, 30, 33, 31  15, 18, 19, 21  HMPL  11' 9"	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
	10; 09AM 10;50AM 10;50AM 12:30PM 12:45PM 5;15PM 5;23PM 8:00PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLC R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY	D PUMP ON DE MENOR OF THE MENOR	AR  UMP ON  NG AGAIN  TO CO2 THE  NT THRU HH  SO DISPATCH  NOLDS, BAI  L HERE  UNIT CAP  165  160  58  EAL HI/LO, E  EVEL HI  GGED  8, 19, 22L, 28  0, 29, 30, 33, 31  15, 18, 19, 21  HMPL  11' 9"	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10; 09AM 10; 50AM 10; 50AM 12: 30PM 12: 45PM 5; 15PM 5; 15PM 8: 00PM 8: 00PM 8: 00PM 11: 00PM	H1 AC LC H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 RT DENTON, MORRIS-  UNIT R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLC R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY I H1 BOILE	D PUMP ON PUMP ON PUMP ON PUMP ON PUMP ON SEAL OIL FEEN RUNNIN BENDONE ON HER SEAL OIL FOR BRECONE ON PUMP ON	AR PUMP ON NG AGAIN NG AGAIN OF CO27 THE EN THRU H1 2 M E. WAS C DISPATCH NOLDS, BAI L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED 8, 19, 22L, 28 C, 29, 30, 31, 15, 18, 19, 24 HMPL 111 9"	N AIR GENERATI H CHEVEI KER, GATTO 153 147 58 3URNER M. 3,29,30,31 39 0,21,22,23,3	ON, TATE, ET  SO2  ANG . EH P  24,30,32,34, SOUTH	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM 8: 00PM 8: 00PM 11: 00PM 11: 00PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING PURGING UNIAND E 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLC R1 H2 FUEL OIL LEVELS SAFETY H1 BOILE H1 POWE	D PUMP ON DEMPORE TO PUMP ON THE PORT OF T	AR  UMP ON  NG AGAIN  TO CO2 THE  NTHU H  2 M E. WAS  C DISPATCH  NOLDS, BAIL  L HERE  UNIT CAP  50  165  160  58  EAL HI/LO, E  EVEL HI  GGED  8, 19, 22L, 28  29, 29, 30, 33, .15, 18, 19, 21  HMPL  111 9"	EN AIR I GENERAL SH CHEVEI SH CHEVEI SH CHEVEI SH CAP.	ON, TATE, ET SO2  ANG. EH P  24,30,32,34,  SOUTH  8 1/4"	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10;09AM 10;50AM 12:30PM 12:45PM 2:30PM 5:15PM 5:23PM 8:00PM 11:00PM 11:00PM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND C 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 SOOTBL SOOTBL EVELS SAFETY I H1 BOILE H1 BOILE H1 BOILE H1 #3 CIR	D PUMP ON DE MINE ON GENERAL OIL FISH NEON OF SEAL OIL FISH NEON OF SEAL OIL FOR BENERAL OIL FOR BENERAL OIL FOR BREE ON AN AREA OF SEAL OIL FOR BREE OIL FISH OF SEAL OIL FISH OIL FIS	AR UMP ON NG AGAIN TO CO2 THE EN THRU H1 2 M.E. WAS C DISPATCH NOLDS, BAIL L HERE UNIT CAP 50 165 160 58 EAL HI/LO.E EVEL HI GGED MB, 19, 221, 28 EVEL HI 11' 9" FIRE EED ON, R1 18.2	EN AIR I GENERAL SH CHEVEI SH CHEVEI SH CHEVEI SH CAP.	ON, TATE, ET SO2  ANG. EH P  24,30,32,34,  SOUTH  8 1/4"	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10; 09AM 10; 50AM 10; 50AM 12: 45PM 12: 45PM 5; 15PM 5; 23PM 8: 00PM 8: 00PM 11: 00PM 11: 00PM 1: 27AM 1: 27AM 1: 27AM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING PURGING PURGING PURGING PURGING H16-2 RT H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLC R1 H2 LEVELS SAFETY I H1 BOILE H1 POWE R1 #3 CIR	D PUMP ON DEMP	AR  UMP ON  NG AGAIN  TO CO2 THE  NT THRU H  2 M E. WAS  D DISPATCH  165  160  58  EAL HI/LO, E  EVEL HI  GGED  8, 19, 221, 28  10, 29, 30, 33, 31, 15, 18, 19, 21  HMPL  11' 9"  EED  ON, R1 182  PUMP ON, R1 182	EN AIR  I GENERAN SH CHEVER  KER,GATTO  NET CAP.  45  153  147  58  3.29,30,31  39  0,21,22,23,3  NORTH  16' 5"  CONDENS	ON, TATE, ET SO2  ANG. EH P  24,30,32,34,  SOUTH  8 1/4"	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
/17/2013 /17/2013	10; 09AM 10; 50AM 10; 50AM 12: 30PM 12: 45PM 5; 15PM 5; 15PM 8: 00PM 8: 00PM 11: 00PM 11: 00PM 1: 00AM 1: 27AM 1: 52AM 1: 52AM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING INLAND D 416-2 RT H1 H2 C.T. ALARMS R1 H1 H2 C.T. ALARMS R1 H1 H2 LEVELS LEVELS LEVELS H1 BOILE H1 POWER R1 #3 CIR H1 BOON R1 #3 CIR	D PUMP ON DE PUMP ON SEAL OIL FISH NE ON GE. SEAL OIL FISH	AR UMP ON NG AGAIN TO CO2 THE EN THRU H-1 2 M.E. WAS C DISPATCH NOLDS, BAIL L HERE UNIT CAP 50 165 160 58 EAL HI/LO, E EVEL HI GGED B, 19, 221, 28 EVEL HMPL 11' 9" FIRE EED ON, R1 18.2 PUMP ON ER PU	EN AIR I GENERAN	ANG EH P	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10; 09AM 10; 50AM 10; 50AM 12: 45PM 12: 45PM 5; 15PM 5; 15PM 8: 00PM 8: 00PM 11: 00PM 11: 00PM 11: 00PM 11: 52AM 1: 52AM 1: 52AM	H1 AC LC H1 TURBI H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING PURGING UNIT R1 H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBL R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY I H1 BOILE H1 POWER H1 B CON R1 A AUX R1 A AUX	DPUMP ON DEMP ON DEMP ON SEAL OIL FISH SEAL	AR  UMP ON  NG AGAIN  TO CO2 THE  EN THRU HH  ST THRU H  ST THRU HH  ST THRU H  ST T	EN AIR  I GENERAN SH CHEVER KER,GATT(  NET CAP. 45  153  147  58  3URNER M.  3.29,30,31  99  0,21,22,23, NORTH 16' 5"  CONDENS ON G WATER	ANG EH P	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%
17/2013	10; 09AM 10; 50AM 12: 30PM 12: 45PM 2; 30PM 5; 15PM 5; 23PM 8: 00PM 11: 00PM 11: 00PM 11: 00PM 11: 00PM 11: 57AM 11: 57AM 11: 57AM 11: 57AM 11: 57AM 11: 57AM 11: 57AM	H1 AC LC H1 TURBI H1 TURBI H1 MAIN DIESEL C PURGING PURGING PURGING PURGING INLAND D H16-2 RT H1 H2 C.T.  ALARMS R1 H1 H2 SOOTBLC R1 H2 SOOTBLC R1 H3 EVELS SAFETY I H1 BOILE H1 POWE R1 #3 CIR H1 B COR R1 A AUX R1 A BEA H1 B COR R1 A BEA H1 B COR R1 A BEA	DPUMP ON DEMP ON DEMP ON SEAL OIL FISH NEW OI	AR  UMP ON  NG AGAIN  TO CO2 THE  NTHRU H-  2 M.E. WAS  C DISPATCH  NOLDS, BAIL  L HERE  UNIT CAP  50  165  160  58  EAL HI/LO, E  EVEL HI  GGED  8, 19,221, 28  29,29,30,33, 15,18,19,20  HMPL  111' 9"  ERE  ERE  ERE  ERE  ERE  ERE  ERE  E	EN AIR  I GENERAN SH CHEVER KER,GATT(  NET CAP. 45  153  147  58  3URNER M.  3.29,30,31  99  0,21,22,23, NORTH 16' 5"  CONDENS ON G WATER	ANG EH P	OWARDS  CO2  OFF  OUTAGE  RSS LO, F	NOX	OPACITY	NG BACK P REMOVAL	DUST  GAUGE GL OK	AMM. FLOW BAC		DRYING AGEN HMPL 10% REID 0%



UNIT   LOAD   UNIT GAP   NET CAP, SO2   CO2   NOX   OPACITY REMOVAL   DUST   AMM, FLOW BACK PRESSURE					UNIT CAP										
1-144M	8/2013	8:00PM		S/L,	YNOLDS,BA	KER,GATTO	N,TATE,E	DWARDS					D SHIFT PAYNE		
19-144M, HI A AIR COMPRESSOR AIX COOLING WATER PLUP ON 19-22AM HI B CONTROL COOLING WATER PLUP ON 19-23AM HI B CONTROL COOLING HIS DOLLER PLUP ON 19-23AM HI B CONTROL COOLING HIS DOLLER PLUP ON 19-23AM HI B CONTROL COOLING HIS DOLLER PLUP ON 19-23AM HI B CONTROL COOLING HIS DOLLER PLUP ON 19-23AM HI B CREAT AND PLUP ON 19-23AM HI B LIVER PLUE PLUE PLUE PLUE PLUE PLUE PLUE PLUE					ASH STARTE	D									
19-144M, HI A JAIR COMPRESSOR ALXCOOLING WATER PURP ON 1 1970M AND SECRETAC COCUNE WATER PURP ON 1 1970M AND SECRETAC COCUNE WATER PURP ON 1 1970M AND SECRETAC COCUNE WATER PURP ON 1 1970M AND 197					G TO NEXT	OPPER AF	IER PULL	ING PURG	ING OUT A	ND RESET	IING				
13-14AM H A AR COMPRESSOR AUX COLUND WATER PLAP ON 23AM PLAS CENTAC COLON WATER PLAP ON 34AM BOLLANG WATER PLAP PLAP PLAP PLAP PLAP PLAP PLAP PLA							TED D	NO DUT	INO SIT	ID P===	ntio.				
3-14AM		NOTE	TRANSFI	RRED FU	EL OIL TO H	MPL TANK			RTH 16' 1 1/2	"HMPL	13' 4"				
13-14AM HI A AR COMPRESSOR AUX COLUMN WATER PUMP ON 2-22AM HI B CONTAC COLON WATER PUMP ON 3-23AM HI B CONTAC COLON WATER PUMP ON 3-23AM HI B CONTAC COLON WATER PUMP ON 3-23AM HI SCONDENSATE PUMP ON 3-23AM HI SCONDEN		5:00PM	INST GO	NG BACK	TO STROKE	DIVERTER	DAMPERS	AGAIN					JE I OF AIR HEAT	TAMOI	
3-14AM	-							G DOWN	FD FANS	ND TAGG	ING NOTIFIE	D INI AND	TO SET UP AID HEAT	ER WAS	4
13-14AM HI A AR COMPRESSOR AUX COOLING WATER PUMP ON 3-29AM HIS CONTAC COOLAN WATER PUMP ON 3-29AM HIS CONTACTOR AND A SHAPE															
3-329AM 25 CENTAC COLONA DEVER PUMP ON 3-329AM 12 SCINTAC COLONA VICER PUMP ON 3-329AM 13 SCINTAC COLONA VICER PUMP ON 3-329AM 13 SCINTAC COLONA VICER PUMP ON 3-329AM 14 SCINTAC COLONA VICER PUMP ON 3-329AM 14 SCINTAC COLONA VICER PUMP ON 3-329AM 15 SCINTAC COLONA VICER PUMP ON 3-329AM 14 SCINTAC COLONA VICER PUMP ON 3-329AM 14 SCINTAC COLONA VICER PUMP ON 3-329AM 14 SCINTAC VICER PUMP ON 3-329AM 15 SCINTAC VICER PUMP ON 3-32AM 15 SC								OT BEEN T	AKEN OFF	REMOVIN	G SAME AN	D FLUSHIN	G HEADER		
3-314M HI A LAIR COMPRESSOR AUXCOOLANG WATER PUMP ON 2-326M HIS DECRITAC COLON WATER PUMP ON 3-326M HIS DECRITACION STARTE LIDEO WILLIAM HIS DECRITACION STARTE LIDEO WILLIAM HIS DECRITACION STARTE LIDEO WATER PUMP ON 3-326M HI		2:48PM	FLOWING	AMM ON	H-1										
3-14AM		2:30PM	H-2 MILL	BALL LEV	ELS MEASL										
33-34M   H   A AIR COMPRESSOR AUXCOOLANG WATER PUMP ON							80 LOAD	ENTERS	BACK TO N	ORMAL					
3-14AM							JEINER-	1120 N-2 4	OU LOAD IC	GEINER-	100 001	T-2 M 4160	LOAD CENTER FOR E	LECT	
3-14AM								TED H-2 4	80 LOAD TO	GETHER	TOOK OUT	H-2 A 4160	LOAD CENTER FOR F	LECT	
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3:14AM H1 A AIR COMPRESSOR AUX COOLING WATER PUMP ON 3:26AM H2 B CENTAC COOLING WATER PUMP ON							SORS. NO	SEAL AIR	INVESTIG	ATING	-				
3:14AM H1 A AIR COMPRESSOR AUX COOLING WATER PUMP ON	-						1	1	-	-	-		-		
								MP ON	-						
													-		
3:01AM H1 B AUX WATER PUMP ON						-									
2:54AM H1 A MAKE UP 3:01AM H1 B AUX WATE		3:01AM	H1 B AL	X WATE	ER	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON	ER PUMP ON



		H1	STANDBY 165	165	153	0.401	10.5	0.1	28	92.9	26.69	220	2.2	
				1.40	100	0.401	10.0	0.1	20	02.0	20.09	220	3.2	
		H2		160	147		OUTAGE							
		C.T.	0	58	58			-	-		-			
					00						GAUGE GI	ASSES		DRYING AGENT
		ALARMS	:								ОК			HMPL 10%
-		R1 H1	STEAMS	EAL HI/LO,	DI IDNED M	ANC EUR	Pec IO I	EEDWAT	ED DDECC	IDE LO				REID 0%
		H2	EH RES L		JOHNER WI	NO., EH P	KSS LO, F	EEDVVAIL	ER PRESS	JRE LO	-			
									1	-				
			OWERS TA								SILO			BOOTHE SYSTEM
				18,19,22L,28 20,29,30,33,			-	-	-	-	14FT			OUT
				1,15,18,19,2		4.30.32.34.	.39				-			
		FUEL OIL		HMPL	NORTH	SOUTH	-							
		LEVELS	6 10	13' 4"	16'1 1/2"	8 1/4"			-		-			
3/18/2013	8:00PM	SAFETY I	BRIEFING				-		-					
	8:00PM			S LEAVING										
	8:30PM 9:00PM	T.WEST L		H2 PRECIF	HOPPER	DOORS			-					
				OPEN AND	BACK PLA	TES OFF. H	HOPPERS	CLEAN/EN	IPTY		-			
	11:00PM	H2 B AIR	HEATER A	IR DRIVE N	OT WORKIN									
			HEATER A	IR DRIVE R	UNNING									
	NOTE:			ON H2 GEN	ERATOR									
									-		1			
8/19/2013	2:00AM			DILER IS NO										
	3:17AM 3:25AM			IR DRIVE Q		NG.	-	-	-					
	7:40AM			MPLETE - IN		TING EQUIP	MENT OU	т						
	7:40AM	H-2 GENE	RATOR AI	R TEST DO	NE - TEST	GOOD								
3/19/2013	8:00AM	CONN CI	APK CUT	SHAW, HIG	CINE DEE	DEN DIA	NIKE VOIII							
37 1072010	0.007111	COMM, CL	ARR, COI	SHAVY, FIIG	GING BREE	DEN, BLAI	4K3, 1001	10				B SHIFT - D.	PENDLET	
			LOAD	UNIT CAP	NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	RE
		R1		50		12 HOUR S	STANDBY							R-1 CTL
		H1	142	160	147	0.291	10.6	0.054	21.6	94.7	8.08	229	2.95	PWTL
	-	H2		160					-					HMPL
		C.T.	STANDBY	60										
											GAUGE GL	ASSES		DRYING AGENT
		ALARMS:	1								OK			H-1 0%
		R1 H1	STEAM S	EAL HI/LO	BURNER N	MANGT FH	PRESSU	RE LO/PUI	MP START	REO				H-2 0% R-1 0%
		H2	EH RES L		DOMMER	Direct. El	T REGOOD	L LON ON	WI GIAKI	IL W				K-1 0%
			OWERS TA	GGED 18,19,22L,28	20 20 24					SILO			BOOTHE EVET	
			,8,9,10,11,		,20,30,31				-	9'			BOOTHE SYSTI	EIWI
				1,15,18,19,2	0,21,22,23,2	4,30,32,34,	39							
		FUEL OIL	0.11	LIBARY	HODEL									
		FUEL OIL		13' 4"	NORTH 16' 1 1/2"	8 1/4"	1	-	-					
						0 1/4	-	-						
		LEVELS	0 0		1									
8/19/2013	8:00AM	SAFETY E	BRIEFING											
8/19/2013	8:00AM	SAFETY E	BRIEFING C/W FOR H	-2 TURBINE			S ON L.P.							
8/19/2013		SAFETY E	BRIEFING C/W FOR H RED TAG C		ULATOR CE	ELL GATE								
8/19/2013	8:00AM 800AM 8:15AM 8:18AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE	-2 TURBINE DFF #1 CIRC PASS DAMP OFF GEAR	ULATOR CE PER CLOSE	ELL GATE D & TAGGE	ED OUT							
8/19/2013	8:00AM 800AM 8:15AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2 SHUT H-2	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING	-2 TURBINE DFF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F	ULATOR CE PER CLOSE	ELL GATE D & TAGGE	ED OUT	RTED AT 1	6LBS - PRE	ESSURE CO	OME UP TO	20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
8/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 36LBS I	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING LOCAL GA	-2 TURBINE DFF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F	PER CLOSE	D & TAGGE	ED OUT					20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
8/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM	SAFETY BISSUED OF PULLED FINDOK H-2 SCRUTOOK H-2 SHUT H-2 & 36LBS II H-2 TURN	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING LOCAL GA	-2 TURBINE OFF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP	PER CLOSE	D & TAGGE	ED OUT					20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 36LBS I H-2 TURN H-2 TURB PULLED S	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING LOCAL GAI ING GEAR INE BACK	-2 TURBINE PF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2	PUMP OFF BACK ON -	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR	ED OUT PUMP STAF	- STARTED	BACK UP	SEAL OIL F	PUMP	20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM 10:25AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2 \$ 36LBS I H-2 TURN H-2 TURN PULLED S INLAND F	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING LOCAL GAI ING GEAR INE BACK STRAINER INISHED V	-2 TURBINE PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING	PUMP OFF BACK ON - LUBE OIL IN DUCTWO	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF	- STARTED	BACK UP	SEAL OIL F	PUMP	20LBS IN C.R	. 21.5LBS AT FRO	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM 10:25AM 10:30AM	SAFETY E ISSUED O PULLED F H-2 SCRU TOOK H-2 \$ 36LBS I H-2 TURN H-2 TURN PULLED S INLAND F WASHING	BRIEFING C/W FOR H RED TAG C JBBER BYF TURBINE TURNING LOCAL GAI LING GEAR INE BACK STRAINER INISHED V G STEAM C	-2 TURBINE DEF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING COILS & F.D.	PUMP OFF BACK ON - LUBE OIL IN DUCTWO FANS - H-	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF	- STARTED	BACK UP	SEAL OIL F	PUMP	20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM 10:25AM 10:30AM 10:45AM	SAFETY E ISSUED O PULLED E H-2 SCRU TOOK H-2 SHUT H-2 & 36LBS I H-2 TURN H-2 TURN H-2 TURN FULLED S INLAND F WASHING INLAND C	BRIEFING CW FOR H RED TAG C BBER BYF TURNING LOCAL GAI ING GEAR INE BACK STRAINER INISHED V G STEAM C LEANING I	-2 TURBINE PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING	PER CLOSE PUMP OFF BACK ON - LUBE OIL IN DUCTWO FANS - H- AL	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF	- STARTED	BACK UP	SEAL OIL F	PUMP	20LBS IN C.R	. 21.5LBS AT FR	ONT STANDARD
1/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM 10:25AM 10:30AM 10:45AM NOTE	SAFETY E ISSUED C PULLED F PULLED F PULLED F PULLED F PULLED S HUT H-2 TURN H-2 TURN H-2 TURN F PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET INLAND F PULLED F P	BRIEFING ZW FOR H RED TAG C JBBER BYP TURBINE TURNING LOCAL GA ING BACK STRAINER INISHED V. G SEAMNG H OUT H-2 TI SEAL DON	-2 TURBINE DEF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING OILS & F.D. H-2 WET SE URBINE D.C.	DUMP OFF BACK ON - LUBE OIL IN DUCTWO FANS - H- AL OIL PUMP	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF  UMP OFF	- STARTED	BACK UP	SEAL OIL F	OMP		. 21.5LBS AT FRI	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:32AM 8:44AM 9:00AM 10:25AM 10:30AM 10:45AM 12:35PM NOTE NOTE	SAFETY E ISSUED OF PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 39LBS I H-2 TURN H-2 TURN FULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T	BRIEFING C/W FOR H RED TAG C JBBER BYF ? TURBINE LOCAL GAI LOCAL GAI STRAINER LOCAL GAI STRAINER LINE BACK STRAINER LINESHED V G STEAM C LEANING F OUT H-2 TI SEAL DON TO D. SHEL	-2 TURBINE PF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP I ON GEAR OCUMING COILS & F.D. +2 WET SE URBINE D. C E E LTON - H-1 *1	DUMP OFF BACK ON - LUBE OIL IN DUCTWO FANS - H- AL OIL PUMP	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF  UMP OFF	- STARTED	BACK UP	SEAL OIL F	OMP		. 21.5LBS AT FR	ONT STANDARD
19/2013	8:00AM 800AM 8:15AM 8:18AM 8:32AM 8:38AM 8:44AM 9:00AM 10:25AM 10:30AM 10:45AM NOTE	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 & 36LBS I H-2 TURN H-2 TURN FULLED S INLAND F WASHING INLAND C TAGGED H-2 WET I TALKED I H-2 TURN H-2 TURN	BRIEFING ZW FOR H RED TAG C JBBER BYP TURBINE TURNING LOCAL GA ING BACK STRAINER INISHED V. G SEAMNG H OUT H-2 TI SEAL DON	-2 TURBINE OFF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP I ON GEAR OUT OF H-2 CULJMING CH-2 WET SE JRBINE D.C E TTON - H-1 1	DUMP OFF BACK ON - LUBE OIL IN DUCTWO FANS - H- AL OIL PUMP	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2	ED OUT PUMP STAF  UMP OFF	- STARTED	BACK UP	SEAL OIL F	OMP		. 21.5LBS AT FR	ONT STANDARD
3/19/2013	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:38AM 8:34AM 9:00AM 10:25AM 10:34AM 10:34SPM NOTE NOTE NOTE 4:37PM 4:39PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 SHUT H-2 SCRU TOOK H-2 & 36LBS I H-2 TURN PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET T TALKED T H-2 TURN H-2 TURN H-1 TURN WASHING INLAND C	BRIEFING C/W FOR H RED TAG C IBBER BYF TURBINE T TURNING LOCAL GA LING GEAR ING BACK STRAINER INISHED V S STEAM C S STEAM C STRAINER OUT H-2 T SEAL DON TO D. SHEL INISH OF OIL SYSTI	-2 TURBINE OFF #1 CIRC PASS DAMF OFF GEAR GEAR OIL F UGE OIL PUMP I ON GEAR OUT OF H-2 CULJMING CH-2 WET SE JRBINE D.C E TTON - H-1 1	ULATOR CE ER CLOSE UMP OFF BACK ON - LUBE OIL IN DUCTWI FANS - H- AL OIL PUMP	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2 2	ED OUT PUMP STAI UMP OFF J. FRANCI	STARTED	BACK UP	SEAL OIL F	OMP		. 21.5LBS AT FR	ONT STANDARD
	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:34AM 8:34AM 10:25AM 10:30AM 10:35AM 10:45AM NOTE NOTE 4:37PM 4:33PM 6:53PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 & 36LBS I H-2 TURN H-2 TURN B PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T H-2 UBE H-2 LUBE H-2 LUBE	BRIEFING BRIEFING BRIEFING BRED TAG C BBER BYP TURNING TURNING LOCAL GA ING GEAR INISHED V. S S STEAM C LLEANING F OUT H-2 TI S OIL SYSTI OIL SYSTI	-2 TURBINE -2 TURBINE -2 TURBINE -2 PASS DAMF OFF GEAR OFF GEAR OIL FUMP ON GEAR ON GEAR OON	ULATOR CE PUMP OFF BACK ON - LUBE OIL IN DUCTW- FANS - H- AL OIL PUMP 3' SIDE HO	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR RK - H-2 2  F & COLD B	ED OUT  UMP STAI  UMP OFF  J. FRANCI  BLOWERS	STARTED S - PUT CL NOT WOR	BACK UP  LEAN STRA  KING - THE	SEAL OIL F	OMP	НЕМ		ONT STANDARD
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3/19/2013	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:34AM 8:34AM 10:25AM 10:30AM 10:35AM 10:45AM NOTE NOTE 4:37PM 4:33PM 6:53PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 SHUT H-2 SHUT H-2 TURB PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T H-2 TURB H-2 LUBE H-2 LUBE EDMON	BRIEFING BRIEFING BRIEFING BRIEFING BRIEFING TURBINE T	-2 TURBINE -2 TURBINE -2 TURBINE -2 PASS DAMF OFF GEAR OFF GEAR OIL FUMP ON GEAR ON GEAR OON	ULATOR CE PUMP OFF BACK ON - LUBE OIL IN DUCTWI FANS - H: AL OIL PUMP SIDE HO'	ELL GATE D & TAGGE D.C. OIL P D.C. OIL P TANK FOR DRK - H-2 2  #1 BEARII GAN, BOV	ED OUT  UMP STAI  UMP OFF  J. FRANCI  BLOWERS	STARTED S - PUT CL NOT WOR	BACK UP EAN STRA KING - THE	SEAL OIL F	OMP	THEM C SHIFT		
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	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:34AM 8:34AM 10:25AM 10:30AM 10:35AM 10:45AM NOTE NOTE 4:37PM 4:33PM 6:53PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 36 LBS I H-2 TURB PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T H-2 LUBE H-2 LUBE EDMONI UNIT R1	BRIEFING BRIEFING BRIEFING BROWN FOR H RED TAG C BROWN FOR H RED TAG C BROWN FOR H RED TAG C BROWN FOR H RED TOWN FOR H R RED TOWN FOR H R R R R R R R R R R R R R R R R R	-2 TURBINE PF #1 CIRC PF #2 CIRC PF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING OILS & F.D. H-2 WET SE JRBINE D. C E ETON - H-1 'E EAR EAR EAM OFF EM BACK IN SON , GRI UNIT CAP 50	ULATOR CEPER CLOSE  UMP OFF.  BACK ON -  LUBE OIL  IN DUCTW.  FANS - H:  AL  OIL PUMP  S'SIDE HO'  SERVICE  FFIN, HOO  NET CAP.  45	ELL GATE D & TAGGE D.C. OIL P D.C. OIL PI TANK FOR DRK - H-2  F & COLD B #1 BEARII GAN, BOV	ED OUT  UMP STAI  UMP OFF  J. FRANCI  SLOWERS  NG 179 DE  VLEY,ALE  CO2	STARTED S - PUT CL NOT WOR GREES EXANDER NOX	BACK UP  EAN STRA  KING - THE	SEAL OIL F INER BACK Y ARE WO GTON REMOVAL	PUMP IN RKING ON T	C SHIFT	CARTER BACK PRESSU	
	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:34AM 8:34AM 10:25AM 10:30AM 10:35AM 10:45AM NOTE NOTE 4:37PM 4:33PM 6:53PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 36 LBS I H-2 TURB PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T H-2 LUBE H-2 LUBE EDMONI UNIT R1	BRIEFING BRIEFING BRIEFING BROWN FOR H RED TAG C BROWN FOR H RED TAG C BROWN FOR H RED TAG C BROWN FOR H RED TOWN FOR H R RED TOWN FOR H R R R R R R R R R R R R R R R R R	-2 TURBINE PF #1 CIRC PF #2 CIRC PF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING OILS & F.D. H-2 WET SE JRBINE D. C E ETON - H-1 'E EAR EAR EAM OFF EM BACK IN SON , GRI UNIT CAP 50	ULATOR CE ER CLOSE UMP OFF. BACK ON - LUBE OIL IN DUCTWW. FANS - H- AL OIL PUMP I SERVICE FFIN, HOO NET CAP.	ELL GATE D & TAGGE D.C. OIL P D.C. OIL PI TANK FOR DRK - H-2  F & COLD B #1 BEARII GAN, BOV	ED OUT  PUMP STAI  UMP OFF  J. FRANCI  SLOWERS  NG 179 DE	STARTED S - PUT CL NOT WOR GREES	BACK UP EAN STRA KING - THE	SEAL OIL F INER BACK Y ARE WO	NIN RKING ON	THEM C SHIFT	CARTER	
	8:00AM 800AM 8:15AM 8:15AM 8:32AM 8:34AM 8:34AM 10:25AM 10:30AM 10:35AM 10:45AM NOTE NOTE 4:37PM 4:33PM 6:53PM	SAFETY E ISSUED C PULLED F H-2 SCRU TOOK H-2 SHUT H-2 & 36 LBS I H-2 TURB PULLED S INLAND F WASHING INLAND C TAGGED H-2 WET TALKED T H-2 LUBE H-2 LUBE EDMONI UNIT R1	BRIEFING BRI	-2 TURBINE PF #1 CIRC PF #2 CIRC PF GEAR GEAR OIL F UGE OIL PUMP ON GEAR OUT OF H-2 ACUUMING OILS & F.D. H-2 WET SE JRBINE D. C E ETON - H-1 'E EAR EAR EAM OFF EM BACK IN SON , GRI UNIT CAP 50	ULATOR CEPER CLOSE  UMP OFF.  BACK ON -  LUBE OIL  IN DUCTW.  FANS - H:  AL  OIL PUMP  S'SIDE HO'  SERVICE  FFIN, HOO  NET CAP.  45	ELL GATE D & TAGGE D.C. OIL P D.C. OIL PI TANK FOR DRK - H-2  F & COLD B #1 BEARII GAN, BOV	ED OUT  UMP STAI  UMP OFF  J. FRANCI  SLOWERS  NG 179 DE  VLEY,ALE  CO2	STARTED S - PUT CL NOT WOR GREES EXANDER NOX	BACK UP  EAN STRA  KING - THE	SEAL OIL F INER BACK Y ARE WO GTON REMOVAL	PUMP IN RKING ON T	C SHIFT	CARTER BACK PRESSU	



•	T		OSSESSED BY
10	CKI	TOI	00
15	IL	IVCI	. D
$\subset$	ELECTRI	CORPORA	TION

						, -		1							
		ALARMS													
-		R1	·	+	-		-								
		H1	BURNER	MANAGEME	ENT/STEAM	SEAL LOV	N PRESSI	URE/H1 CO	OLING TO	NER HI / LC	W		GAUGE GLASS		
		H2	EHRESI	LEVEL HI									ОК		
		COOTE	OWERS TA	COED											
	-			18,19,22L,2	8 29 30 31	-									22/410
			,6,7,8,9,10		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										DRYING A R1-0%
		H2 1,2,4	,5,7,9,10,1	1,15,18,19,2	0,21,22,23,	24,30,32,34	,39								H1-0%
		FUEL OU	TANKO	-	-							-			H2- 0%
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH			011 0 111		DOOTIE				
		LEVELO	6' 8"	8' 1/2"	16' 9 1/2"		1		SILO LVL	2 even	BOOTHE	SYSTEM	OUT		-
			777		1.000	0 114				-	-				
	7;45PM		NE ON GE	AR											
	8;00PM		BRIEFING	011 0400 0								-			
	8;41PM NOTE			ON 0189 DI RATOR TO			-	-		-	-	-			-
	9;18PM			EAR & R/T	1				-						
	9;22PM			OIL. OFF &			-					-			-
	11;06pm			OIL SYSTEM								-			
	NOTE	AUX FOU	ND HOLE I	N H2 TURBI	NE L.P. EX	HASTHOOL	SPRAY	HEADER O	N GOV-EN	D / B.WILLM	IIER NOTIFI	ED			
8/20/2013	NOTE	LEANED	M.E. WASI	H STRAINE	2	-	-	-	-	-	-				_
	12;10AM			RGED TO			-	_		-	-				-
	1;36am			TOR BKRs											
	NOTE 1:36am			N & PRECI		IS BACKPL	ATES &D	OORS CLO	SED						
	1;36am 3;00AM			TOR BKRs OME /T,GR/			-		-	-	-				_
	NOTE			TANK SOL		AN DOOR	LEAKING-	W/O #6106	953						
8/20/2013	8:00AM	CONN, C	LARK, CUT	SHAW, HIG	GINS BRE	EDEN, BLA	NKS, YOU	NG				B SHIFT - D.	PENDLEY		
		UNIT	LOAD	LINIT CAR	NET CAR	903	cos	NOV	OBACIT	DEMONT	DUCT	AND	BACK SSEE		
		R1	LUAU	UNIT CAP	MET CAP.	12 HOUR	CO2 STANDBY	NOX	OPACITY	REMOVAL	TSUG	AMM. FLOW	BACK PRESSUR	RE R-1 CTL	18'
											-			PWTL	27'
		H1	145	160	147	0.289	10.6	0.055	16.7	94.5	10.25	235	2.95		
		H2	0	160	OFF		-		-	-				HMPL	15.5'
		C.T.	STANDBY	60							-				
				-							GAUGE G	LASSES		DRYING AGENT	
		ALARMS									OK			H-1 0%	
		R1	OTTAMO	EAL 188 0	DI IONICO A	MANOT F		DE 1 0 ID 1						H-2 0%	
		H1 H2	EH RES L	EAL HI/LO	BURNER	MANGT. EF	PRESSU	JRE LO/PU	MP START	REQ				R-1 0%	
	-	nz	LHKESE	EVELIN			-		-		-				
		SOOTBL	OWERS TA	GGED											
				18,19,22L,2	8,29,30,31					SILO			BOOTHE SYSTE	M	
			,8,9,10,11,		0 04 00 00	14 00 00 04	**		-	19'			OUT		
		1,2,4	,5,7,5,10,1	1,15,18,19,2	0,21,22,23,	24,30,32,34	,35								
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH									
		LEVELS	6' 6 1/2"	13' 4"	16' 6 1/2"	8 1/4"									
8/20/2013	9.00444	CAFETY	PDIECINO												
0/20/2013	8:00AM 8:00AM	SAFETY		ONDENSAT	F PUMPS	RTRANSFE	R PLIMP	DRAINING	DA DOW	N BELOW I	DOOR - LEA	KING			-
	8:00AM			LOAD CEN		110111012	Ter Own	DIOTHANG	D.A. DOW	THE BELOW	DOOK - LLA	IKIIYO			
	8:00AM			' & 'C' BOILE											
	8:30AM			GROUNDIN					FORMER						
	8:35AM 8:37AM			1 480V LOAI N SERVICE		- TIED BUS	SES TOGE	ETHER	-	-					-
	9:48AM			WILL BE IN		START UP		-	+		-				
	9:50AM	CALLED	J. HILLYAR	D - L/M											
	10:10AM			T HOOD LI									-10-10-10-10-10-10-10-10-10-10-10-10-10-		
	NOTE	IALKED.	ID DE EA	LTON - H-1 ' SED PERM	B. HOT SIDE	& COLD S	SIDE A.H.	STEAM CL	EANERS H	AVEN'T WO	RKED FOR	2 DAYS. HE	SAID THEY WERE	WORKING ON TH	HEM
				AD CENTE		TAGGED	B' LOAD C	ENTER OF	JT						-
	NOTE			UP IN H-2 'E							1				-
20	NOTE			TOR IS WO		N									
				E PUMP ON		ODKING									_
	1:20PM 1:20PM			RATOR TO			-	-		-	-				-
	1:25PM			1-2 F.D. FAN											
	2:50PM			OR AIR TES											
	3:11PM			PUMP ON		2 BOILER		_							
	4:20PM 4:48PM			OMING IN - NOTIFIED											
	5:22PM			HI DRUM L											
	5:25PM	CLOSED	IN H-2 #018	9 GENERA		NNECT									
	5:35PM		BACK IN H												
	6:24PM 6:25PM		TURNING		UMP OFF	STAPTED	IT BACK	IP . CUIT	D.C. LUBE	OII DI IMP	OFF - DEC	BLEM WITH C	OUBLING		_
				IECE BACK		SIAKIED	II BACK	OF - SHUT	D.C. LUBE	OIL PUMP	OFF - PROL	PLEM WITH C	JUPLING		
	NOTE														
	NOTE														
8/20/2013	8;00PM	EDMON	DS,JACK	SON , GRI	FFIN, HO	GAN, BOV	VLEY,AL	EXANDER	R,WADLIN	GTON		CSHIF	CARTER		
8/20/2013			DS,JACK		FFIN, HO		VLEY,AL	EXANDER					F CARTER  BACK PRESSUR		



Your Touchstone Energy Cooperative

# **Unforced Outage Report**

	H1	165	165	153	0.407	10.3	0.07	30.7	92.5	19.05	255/c	3.3	 PWTL / 26.2'
				1.00		10.0	0.01	00.1	52.0	13.03	200/0	3.3	 -
	H2		OUTAGE					1					 CTL / 15.0'
	C.T.	ON STAN	DBY	58									
	ALARMS	:		-		-							
-	R1												
	H1			ENT/STEAM	SEAL LO	W PRESSU	IRE/H1 CC	OOLING TOV	/ER HI / LO	WC		GAUGE GLASSI	
	H2	EH RES I	LEVEL HI									OK	
	SOOTRI	OWERS TA	AGGED		-	-		-					
	1,000	3,6,7,16,17,		28,29,30,31	-	-		+		+			 DRYING AGENT
	H1 20/	5,6,7,8,9,10	.11,32,39-	1	1					-			R1-0%
				20,21,22,23,	24.30.32.34	1.39	1	1		-			H1-0%
								1					H2- 0%
	FUEL OI												
	LEVELS		HMPL	NORTH	SOUTH			SILO LVL	15'	BOOTHE SY	STEM	IN	
		6' 6 1/2"	13' 4"	16' 6 1/2"	8 1/4"								
				105									
7;40pm													
7;43PM				VITH A.C. RU	INNING								
7;45PM	H2 TURN	ING GEAR	OIL PUMM	P OFF		121							
7;51PM	H2 TURB	INE BACK	ON GEAR										
NOTE	SAFETY	BRIEFING	& CLEANIN	IG H2 BTG S	WITCH GE	AR BOARD							
8;45PM	H2 DC O	IL PUMP OF	FF					1					
8;55PM	H2 DOIN	G AC-DC O	IL PUMP T	EST									
9;12PM	H2 OIL P	UMP TEST	COMPLETE	E				1					
9;14PM	H2 SEAL	INGTURBIN	E & PULLIN	NG VACUM									
9;40pm	ROLLING	H2 TURBIN	NE	T				1		-			
10;21PM	H2 TURB	INE TV-GV	TRANSFER	3									
	H2 TURB	INE 3600 &	FRONT ST	ANDARD TE	ST					-			
10;22PM					1	1				_			
10;22PM 10;27PM	H2 GENE												
10;27PM	H2 GENE		LLD OIL										



#### Your Touchstone Energy Cooperative

### Air Preheater wash estimated outage cost

- Vacuuming Economizer Hoppers, Wash seal trough, ME panels and Air Heaters
- Total \$13,636
- Misc. Work Titan
- Labor \$21,840
- Grand Total \$35,476

### "A" 4160 Main Breaker Trip estimated outage cost

- PPSI Inspect #1 Turbine Bearing
  - \$8,540 Labor
- Misc. work Titan
  - Labor \$40,560
  - Material \$2,426
  - Grand Total \$51,526





Lost Sales Opportunity Report

	MISO	DART R	eve	enue and l	LC	ST OPPOR	RTU	NITY		
Unit		HMP'L 2	H2-	13-07				Product	ion Co	ost
Date & Time Off Line	8/	17/13 1:00 8	8/18	3/13 13:00				MW	100	\$/MW
Date & Time On Line	8/	18/13 13:00	& 8/2	0/13 22:38				94	\$	29.73
Outage Duration	36	hr. 0 min. 8	57 h	nr. 38 min.				127	\$	28.45
Outage Code		MO 8	L UO	1				149	\$	28.13
Outage Reason	UO	MO - Wash 1 - Inspect#		and the second second						
Date	DA LI	MP Average	RT	LMP Average		DART P&L	0	Lost pportunity		
8/17/13 (HE 1-24)	\$	31.56	\$	28.84	\$	(630)	\$	(13,484)		
8/18/13 (HE 1-24)	\$	25.45	\$	23.45	\$	-	\$	-		
8/19/13 (HE 1-24)	\$	29.02	\$	44.78	\$	-	\$	(4,291)		
8/20/13 (HE 1-24)	\$	31.97	\$	40.36	\$	(616)	\$	(14,658)		
8/21/13 (HE 1-12)	\$	26.80	\$	27.55	\$	(6,589)	\$	-		
Total					\$	(7,835)	\$	(32,433)		
Start Up Fu	el Cost							Total Forced	Outag	ge Cost
S/U Fuel Consumed		8,428					[	DART P&L	\$	(7,835
S/U Fuel Price	\$	3.13					Los	t Opportunity	\$	(32,433
S/U Fuel Cost	\$	(26, 376)					S/	U Fuel Cost	\$	(26,376
								Total	\$	(66,644
NOTES: All negative values are mo		-6								





#### Your Touchstone Energy" Cooperative

## Forced Outage Report

**Bob Berry** To:

From: Billy Boarman

Date: 26-Sep-2013

Plant: HMP&L Station Two Unit: 1 GADS Class: UO2

#### **Duration**

Trip Time: 19-Sep-2013 10:19 Tie Time: 24-Sep-13 02:19

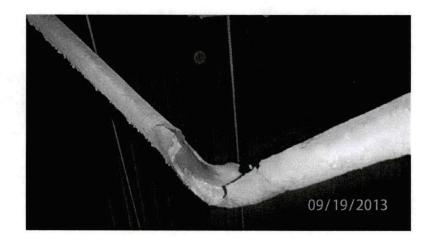
Time Offline: 112:00

#### **Outage Description**

HMP&L Station Two Unit 1 was removed from service on Thursday, 19-Sep-2013 at 10:19 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

### **Root Cause**

Tube leak on the Radiant SH Outlet, 6th element from the east wall, outer loop, at elevation 537' - 5" was caused by external corrosion.







#### Your Touchstone Energy\* Cooperative

### **Failure History**

16-Mar-2012	31:31	Tube leak in the radiant superheat outlet section, 3 <sup>rd</sup> element from the west wall, inner loop
3-Aug-2012	91:48	Tube leak in the radiant superheat outlet section, 2 <sup>nd</sup> element from the west wall, inner loop caused by soot blower erosion
24-Feb-2013	68:22	Tube leak on the Radiant SH Outlet 3 <sup>rd</sup> element from the west wall, on the outer loop at elevation 537' – 5" was caused by external corrosion
23-Mar-2013	70:02	Tube leak on the Radiant SH Outlet 4 <sup>th</sup> element from the east wall inner (hairpin) loop, at elevation 542' was caused by external corrosion
2-June-2013	70:00	Tube leak on the Radiant SH Outlet 5th element from the west wall outer loop, at elevation 537' – 5" was caused by external corrosion.
21-July-2013	75:39	Tube leak on the Radiant SH Outlet 5th element from the east wall outer loop, at elevation 537' – 5" was caused by external corrosion.
8-Aug-2013	84:04	Tube leak on the Radiant SH Outlet, 5 <sup>th</sup> element from the east wall, inner loop, at elevation 542' was caused by external corrosion.





#### **Corrective Action**

Your Touchstone Energy Cooperative

The outer loop on the 6th element from the east wall at elevation 537'-5" was replaced along with next inner loop which was washed from the leak on the outer loop. Based on past Radiant Superheat outlet section failures it was determined that all leaks had been either in the inner loops (E1) or outer loops (E10). Additional UT readings indicated that the next to outer loops (E9) were thin and subject to failure also. At this time it was decided that to increase unit reliability 39 additional loops (11 inner loops, 13 outer loops, and 15 next to outer loops) would need to be replaced. During the replacement of these loops which have four foot tangent legs on them an additional 17 dutchmen were installed due to thin tubes.

#### **SOE Print Out**

Triggered on: 21-Jul-2013 10:19:31:580

Event Time	State	Tag Name	Tag Description
19-Sep-2013 10:19:38:756	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
19-Sep-2013 10:19:38:049	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
19-Sep-2013 10:19:36:576	OK	H133LMISTP	LAST MILL IN SERVICE TRIP
19-Sep-2013 10:19:32:581	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
19-Sep-2013 10:19:31:580	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
19-Sep-2013 10:19:30:910	OPEN	H150OCB166ST	OCB 0166 GEN H1 STATUS

3





Your Touchstone Energy" Cooperative

## Forced Outage Report

### Other Work Completed While Unit Was Offline

- Replaced South West water wall automatic drain valve
- · Repaired gas leaks in the boiler penthouse and economizer dead air space
- Repaired gas leaks on the SCR Diverter Damper Duct
- Inspected the SCR diverter damper seal area
- Inspect/Clean H-1 Station Battery Charger
- Cleaned Wetbottom Seal Trough
- Cleaned Scrubber Mist Eliminator panels and nozzles
- Replaced bottom ash hopper west side equalizing valve gasket
- Repaired gas leaks SCR sonic horns
- · Precipitator inspection
- · Back-pass inspection
- · Calibrated all coal feeders.
- Changed oil in all FD Fan, PA Fan, and Mill motors
- · Repaired coal leaks on "A" Mill
- Repaired coal leaks on "B" Mill
- Cleaned seal air fan filters
- Replaced #5 feed water heater inlet equalizing valve
- Replaced #7, #24 and #31 boiler ports
- Replaced east side wet bottom grinder motor and gear box, also repaired mounting plate
- Repaired gas leak on the #9 precipitator hopper
- · Replaced the soot blower safety
- From the initial boiler hydro a weeper leak was discovered on the upper south water wall header tubes, 2<sup>nd</sup> tube from the east, this leak is located at the weld where it meets the south upper water wall header at elevation 579'-4". Repaired via Base Metal Repair



#### Your Touchstone Energy® Cooperative

### **Operators Event Log**

9/19/2013	8:00AM	MORRIS,	DENTON,	REYNOLDS	,BAKER,GA	ATTON, ED	WARDS, T	ATE				D SHIFT ASK	NS	,,
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUE	e F
		R1		50		12 HOUR	STANDBY						37101111120001	
		H1	143	160	153	0.32	10.1	0.09	19	94	19.05	200	2.2	
		1,,,	140	100	100	0.32	10.1	0.09	19	94	19.05	200	2.8	
		H2	141	160	152	0.311	10.5	0.07	15	94	7.59	230	3.2	
		C.T.	STANDBY	60		-	-							
		G. 1.	STANDET	00	-	-	-		1		GAUGE G	ASSES		DRYING AGENT
		ALARMS									OK			H-1 0%
		R1												H-2 0%
		H1 H2	EH RES	EAL HI/LO	BURNER	MANGT. E	H PRESSU	RE LO/PU	MP START	REQ				R-1 0%
		nz	EHIKES	LEVEL NI			1		FUEL OIL	C.H.	HMPL	NORTH	SOUTH	
		SOOTBL	OWERS TA	AGGED		-	1		and the second second	10' 3 1/4"			8 1/4"	
				18,19,22L,28	8,29,30,31									
		H1 20,32	No.	4 45 40 40 0							1			
		H2 1,2,4	,5,7,9,10,1	1,15,18,19,2	0,21,22,23,	24	-	-	-					
	8:00AM	SAFETY	BRIEFING					-	-					
	9:05AM	H-1 RUNN	ING HOT	WELL CHEC	K - MAKEL	P 35% OP	EN - LOUD	AROUND	S.H. AREA	EAST SIDE				
	9:15AM			INUTES - SI	ETTING UP	TO TAKE I	H-1 OFF.							
		H-1 SCRS		SERVICE			-							
The same		H-1 OFF		-	-	-	-		-					
-		H-1 DRAII		ER	1	1	-							
	NOTE	TRANSFE	RRED FU	EL OIL TO H	MP'L TANK		1							
				AGGED AND										
	3:15PM 3:30PM			ET UP TO C ON SICK LE			ND VACUU	M PENTHO	USE H-1.					
	4:00PM			L BE OFF 4			S BACK TO	DOCTOR	OCT 24th	-				
	5:25PM			SCONNEC					00121111					
	NOTE			T TO LOCK	OUT HEND	ERSON EL	EVATOR.							
	6:05PM		AT THE P		WELFVOO		-	-						
-	7:10PM 7:35PM			LL TAGGS V JT OF SCRU			O PULL M	F NO771 F	S AND HE	ADER CARS				
	7.001 111	1 0000	110 1110 01	, or conto	DDLINGTO	14041141	O I OLL IVI.	L. HOLLLE	O AND TIE	TOLK ON C				
/19/2013	8:00PM			R,EMBRY,HI								A SHIFT T. TO	W	
		DUVALL	S/L,BEAN	P.D. T. YOU	JNG HERE				-					
		UNIT	LOAD	UNIT CAP	NET CAP	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUE	)E
		R1	12 HOUR		45	302	002	NOX	OFACITI	KLWOVAL	5031	AMM. PLOVE	SACK PRESSOR	18'
			STANDBY											26'
		H1		165	153		-							
		OFF TUB	142	165	152	0.257	10.9	0.075	14.2	95.3	7.99	197	3.1	15.5'
			1-12	100	102	0.201	10.5	0.075	14.2	33.3	7.55	197	3.1	13.3
		C.T.	OFF	60	60									
			STANDBY								GAUGE G			DRYING AGENT
		ALARMS:				-		-			OK			HMPL 0%
		R1 H1	STEAM S	EAL HILO,	BURNER M	ANG FH	PRSSIO							REID 0%
		H2		EVEL HI, GE										
											150			
			OWERS TA											
				18,19,22L,28	3,29,30,31		-		-					
		H1 20,32		1,15,18,19,2	0.21.22.23	24		-	-		SILO			BOOTHE SYST
The bear		1,2,4	,-,,,0,,0,1	., .0, .0, 10,2	-,,,, -	1 3		-		-	18.7'			IN
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH								
				12' 4 3/4"										



Your Touchstone Energy Cooperative	0
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	CE	u	Jul	u <sub>S</sub>	CI	L L L	$\mathbf{O}$							perative **
	8:00PM	SAFETY			T	7	1		-	T	T	-		
	8:15PM			KING IN SC	RUBBERS		-	-	1		-			
	8:15PM			NTHOUSE F		TO START	TBLASTING	G	+		<del> </del>	-		
	8:15PM		TART BLAS					1	-	-	-			
	9:15PM	H-1 FLYA	SH PULLE	D DOWN TA	KING BAC	K PLATES	OFF OPEN	ING DOOR	RS		-			
	9:55PM	INLAND (	SOING BAC	K IN TO VA	C ON PEN	THOUSE H-	1 EXPRO	OOWN TO	4TH FLOOR	2		-		
				TING USING										
	10:42PM	CALLED	TO INSPEC	T BOILER A	AFTER DES	LAG INSPE	ECTING SA	ME WITH T	TAN AND	EXPRO				
	11:36PM	HAD TO	DO A LITTL	E MORE SH	HOTING IN S	SUPERHEA	TS AND FF	ROM WET	BOTTOM D	OORS DES	LAG COMP	LETE		
				TOM DOWN										
	11:45PM	CALLED	OUT TO INS	SPECT ME,	S NEEDED	A LITTLE N	ORE WAS	HING ON T	TRAYS					
	11:50PM	D. EDMO	NDS CALL	ED WILL BE	OFF SAT	AND SUN D	DAY SHIFT	SCHEDUL	ED D FELT	Y SAT E. CE	ECIL SUN			
10010010														
/20/2013			OING HOM											
	12:30AM			E,S THAT C			ON'T HAV	E ANOTHE	R VAC TRU	JCK TRING	TO GET ON	E		
	12:20444			D ANOTHER		RECONS								
0	1:30AM			EAL AIR FAI		COVERED	-	-	-	-	-	-		
	3:45AM			PECT PENT				ON ME	eT eine		-	-		
	5:00AM			ONE LEAVIN						RE INI AND	MOVING T	O ECONS		
	7:00AM			ON H1 ECO			THE MICH	LIVELDED	OOMENIO	THE INDIANG	WOVING I	O LCONG		1014
					T			-	-					
20/2013	8:00AM	MORRIS,	JACKSON,	HOGAN, TA	TE. ALEXA	NDER. WA	DLINGTON	V	+			C SHIFT - PA	YNE	
				INSON-VAC			1							
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM, FLOW	BACK PRESSU	RE
		R1		50		12 HOUR	STANDBY							R-1 CTL
														PWTL
		H1		165	153		TUBE LEA	AK						
						yestee								
		H2	165	165	152	0.28	11	0.079	19	94.6	6.68	258	3.3	HMPL
					12.									
		C.T.	STANDBY	61	-									
					-						GAUGE G			DRYING AGEN
		ALARMS					-	-			OK			H-1 0%
		R1	0754440	E41 1111 6	DUDNEDA		DDECON			WHEN SHOW				H-2 0%
		H1 H2	EH RES L	EAL HILO	BURNER	VIANGI. EI	H PRESSU	KE LO/PUI	MPSIARI	REQ				R-1 0%
-		п2	EHKESL	EVEL III				-	-		-			
		SOOTBL	OWERS TA	GGED	-	-	-		-					
		R1	OTTENS IA	OGLD	-	-	-	-	1	SILO	j		BOOTHE SYST	EM
		H1 20,3	2.43	-	-	-			-	17FT			EAST SIDE ONL	1
				1,15,18,19,2	0.21.22.23.	24							ENOTOIDE ONE	
			10,10,10,10	,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1								
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH								
		LEVELS	10' 1 1/8"	12' 4 3/4"	15' 3 1/2"	8 1/4"	1							
/20/2013	8:00AM	SAFETY												
	9:30AM			NG ME WA			Y B.CHEAT	HAM						
	NOTE:			G ECONS A		OUSE								
				TURBINE V										
				WATER LIN			AND #5 H	EATER FO	R B.CHEAT	НАМ				
	1:45PM 2:05PM			RAYS TAG			-							
	3:30PM			C CHECK. N NG H1 TURE		and the second second second	-	-	-					
	3:44PM			H2 DUE TO			4D							
	3:47PM			IN SERVICE		CHON IEW	11-			-				
	7:25PM			ON - TOOK					-					
	NOTE:			ED H-1 E.H.			-		-					
-			- Junital	and with	J. J. LIVI	-	1	-		-				
20/2013	8:00PM	CONN, C	LARK, BRE	EDEN, HIGO	GINS, CUTS	SHAW, BLA	NKS, YOU	NG	1			B SHIFT - D.	PENDLEY	
								T		-				
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	RE
		R1		50		12 HOUR								R-1 CTL
														PWTL
		H1		160	153	UNIT OFF								
			440	100	450	0.045								
		H2	143	160	152	0.249	10.6	0.062	14.3	95.1	8.21	205		HMPL
		СТ	STANDBY	61	-	-	-	-	-	-				
		C.T.	SIMINDBY	01						-	GAUGE G	ACCEC		DRYING AGEN
		ALARMS			-		ļ			-	OK OK			H-1 0%
		R1					-		-		OK			H-1 0% H-2 15%
		H1	STEAMS	EAL HI/LO	BURNER	MANGT F	PRESSU	RE LO/PLIA	MP START	REO				R-1 0%
		H2	EH RES L		DOMALIN II			LOTT ON	OTAINT					1321 070
		-					1	-						
		SOOTBL	OWERS TA	GGED		1	1	-		-				
		R1								SILO			BOOTHE SYSTI	EM
		H1 20,43	3							16'			IN	- A. C.
				1,15,18,19,2	0,21,22,23,2	24								
							1							
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH			1					
		LEVELS	10' 1 1/8"	12' 4 3/4"	15' 3 1/2"									



Your Touchstone Energy Cooperative

## **Forced Outage Report**

	CC	u	Jul	.ug	CI	$\iota$ CP		C				rour roue	ristone Energy Co	Actative Para
9/20/2013	8:00PM		BRIEFING		1		T	Ţ	1			-		
	NOTE			R FAN TRIP	PED ON M	OTOR FALL	LT - ISSUE	D W/O	-		-			
	8:15PM			NG AGENT		O TOTAL TAG	- 10000		-	-	-	-		
	8:40PM			CHANGING		A' E D EAN	1			<del> </del>		-		
-	9:00PM		LEAVING	OI II (I TOIL TO	OIL IIVIT	A I .D. I A	•	-	-		-	-		
				1	-		-		-		-			
/21/2013		DOING V	VEEKLY AL	ARM CHEC	KS		-			-				
	3:00AM			ED - OFF O		CT 1ST TUE	N ON WA	MOITAN	-	-	-	-		
	NOTE		1-1 E.H. RE		N S/L IIL O	CI ISI INE	IN ON VAC	CATION	ļ		-	_		
	4:30AM			DEAD AIR S	DACE ME	TOTAL F	COMOMI	EDO 01 EA		-		-		
	NOTE			OF BALLS T			CONOMIZ	ERS CLEA	N					
	5:45AM			480 VOLT				-	-		-			
	NOTE			NG AIR TES			-		-	ļ.,		-		
	7:15AM			MPS ON H			ON BOIL	ED.	-		-			
	7.10/10	O IAIKI V	ACCOUNT FO	MIFS ON H	I FOR KEN	EAT CHECK	ON BOIL	.ER						
/21/2013	8:00AM	EELTV I	ACKSON P	OGAN, TAT	E ALEVAN	DED WAD	INCTON				-			
12010	U.UUAIVI			INSON-VAC		DER, WADI	LINGTON		-	-		C SHIFT - PA	AYNE	
		UNIT	LOAD			000	000	NOV	0040170	DE1101111				
			LOAD	UNIT CAP	NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		R1		50	-	12 HOUR	STANDBY							R-1 CTL
		LI4	ļ	165	450	-	TIDELE	414	-	-				PWTL
		H1		165	153		TUBE LE	AK				_		
		LIO	140	455	440	0.004	40.7	0.050						
		H2	146	155	142	0.294	10.7	0.058	15	94.1	6.29	196	2.7	HMPL
		C.T.	STANDBY	64										
		C. I.	STANDBY	61			-							
				-	-		-				GAUGE G			DRYING AGEN
		ALARMS	:								OK			H-1 0%
		R1	0.75 111 0		m / im i im i									H-2 15%
		H1		EAL HI/LO	BURNER	MANGT. EF	PRESSU	RE LO/PU	MP START	REQ				R-1 0%
		H2	EH RES I	EVELHI			-	-						
-		COOTE	OWEDO TA	0050			-				-			
		R1	OWERS TA	AGGED		-	-			011.0	J		DOOT IF OVE	
		The second second	2.42				-			SILO			BOOTHE SYST	
		H1 20,3 H2 43	2,43	-			-	-		17FT	7		NOT WORKING	
-		FIZ 43	-					-		-	-	-	INST WORKING	3 ON SAME
		FUEL OII	C.H.	HMPL	NORTH	SOUTH	-	-	-	-	-	-		
				12' 4 3/4"			1		-		-			
		LLTLLU	0 10 112	12 4 5/4	10 0 1/2	0 114	-	-	-		-			
/21/2013	8:00AM	SAFETY	BREIFING	1	-	1	100	-	-		-	-		
	8:05AM			2 NET. NOT	FY ACES	AND DISTRI	BUTION II	ST			-			
	NOTE:			T ON COAL	I I MOLO	THE BIOTIN	DO HOIT LI	-	-		-	-		
	8:20AM	-		T ON COAL	1 7 1	1	-		-		-			
	8:40AM			OUT OF AD	S CONTRO	1	-	-	-			-		
	8:58AM			H2 DUE TO			-	-	-	-	-			
-			IN H2 BOI		DOILLING	FOLI	-	+	-	-	-			
				F. VAC CHE	CK GOOD	ON H1		+			-			
			OUT OF H		ON GOOD	ON III			-		-			
-	9:10AM	A recommendation and the			BACKIN	SEDVICE E	OP ELEC	A MADINI SA	III NOT CI	OSE IN EL	EC MODEL	NG ON SAME		
	9:38AM			SERVICE OF		SERVICE F	OR ELEC.	A IVIAIN VV	ILL NOT CL	OSE IN. EL	EC WORKI	NG ON SAME		
	9:40AM			OT WORKIN		NOTIEV B E	DWARDS	MILL TAK	EALOOK		-			
			IN ADS CO		O A I ALL. I	TOTIF 1 B.E	DIVARDS.	WILL IAK	L A LOOK					
				7NET, NOTI	EV ACES A	ND DISTRIC	RUTION LIE	eT.						
				FEEDER.					D THE TH	E DEINO	-			
-				ING TOWER				10 10% FC	JK INE IIN	IE BEING	-			
				TER PUMP					-		-			
				OT WORKIN					-					
	1:00AM			EAKER BAG			LLEVATOR	`			-			
	1:15PM							-	-	-	-			
				ER 480V M			-	-	-					
				ER FAN BA			ICE CUT	IOUT DITT	00 05:	DO455	OTIEV S S	(EDO DIOS: -	011	
						I TO CHAN	NGE OUT L	LIGHT BULE	S BEHIND	BOARD. N	OTIFY B.RIV	VERS DISPAT	CH	
	2:40PM	- Liver		66 OCB. ELI							-			
	3:00PM			CK IN SER				-						
	3:30PM			GENT BAC		0%								
	5:30PM			ON H2 TO										
	5:50PM			EAN ASH O			PENINGS	-						
	NOTE:	ADDED 1	BAKKEL	OF OIL TO G	AS TURBIN	(E								



	8:00PM	COIVIN, CI	-ARR, DRL	EDEN, HIGO	JINS, CUTS	SHAW, BLA	NKS, YOU	•0	+			B SHIFT - D.	PENDLEY	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSU	DE
		R1	-	50	L	12 HOUR S			OI NOTT	TEMOTAL	5001	AIIIII. I LOVV	BACK FRESSU	R-1 CTL
							I							PWTL
		H1		160	153	UNIT OFF								TVIL
-		H2	141	160	152	0.23	11	0.06	11.9	95.4	6.79	192	2.9	HMPL
		C.T.	STANDBY	61			-		-	-				
											GAUGE GL	ASSES		DRYING AGEN
		ALARMS									OK			H-1 0%
		R1												H-2 15%
		H1		EAL HI/LO	BURNER N	MANGT. EH	PRESSU	RE LO/PU	MP START	REQ				R-1 0%
		H2	EH RES L	EVEL HI			-							
		SOOTEL	OWERS TA	CCED			-		-					
		R1	JVVLN3 IA	IGGED					-	SILO			BOOTHE SYST	
-		H1 20,43					-	-	+	13'				EM
				1,15,18,19,20	0 21 22 23 3	14			-	13			IN	
-		,_, .	,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
	-	FUEL OIL	C.H.	HMPL	NORTH	SOUTH			1					
		The second second		12' 4 3/4"	1000000									-
							-	-	-					
/21/2013	8:00PM	SAFETY	BRIEFING											
	NOTE	CLEANING	G ASH OUT	T OF H-1 SO	NIC HORN	OPENINGS								
	11:00PM	T. GRAY.	T. BROWN	& B. WILLE	ETT LEAVIN	G								
/22/2013				PENINGS CL										
	2:00AM			E TEST - OK										
.0	5:00AM	TAGGED	OUT #1 CIF	RCULATOR	AT INTAKE									
/22/2013	8:00AM	CECII IA	CKEON H	OCAN TATE	AL EVANI	DED WADI	INCTON		-				NA.E	
12212013	0.00AW			OGAN, TATE		JER, WADL	INGTON		-			C SHIFT - PA	YNE	
				UNIT CAP		SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM ELOW	BACK PRESSU	DE
		R1		50	THE TOTAL	12 HOUR S		IIOX	OI AOITT	TEMOVAL	DOUT	AMM. I LOW	DACK FILESSO	R-1 CTL
		1		-					-					PWTL
		H1		165	153		TUBE LEA	K						
		H2	142	155	142	0.268	10.9	0.064	15	94.6	5.51	191	2.8	HMPL
3.1		C.T.	STANDBY	61					-					
											GAUGE GL	ASSES		DRYING AGEN
		ALARMS:									OK			H-1 0%
		R1									ON			
											OK.			H-2 10%
		H1		EAL HI/LO	BURNER N	IANGT. EH	PRESSU	RE LO/PU	MP START	REQ				H-2 10% R-1 0%
			STEAM S EH RES L		BURNER M	IANGT. EH	PRESSU	RE LO/PU	MP START	REQ				
		H1 H2	EH RES L	EVEL HI	BURNER N	IANGT. EF	PRESSU	RE LO/PU	MP START	REQ				
		H1 H2		EVEL HI	BURNER M	IANGT. EH	PRESSU	RE LO/PU	MP START	REQ			BOOTHE SYST	R-1 0%
		H1 H2 SOOTBLO	EH RES L	EVEL HI	BURNER	ANGT. EH	PRESSU	RE LO/PU	MP START				BOOTHE SYST	R-1 0%
		H1 H2 SOOTBLO	EH RES L	EVEL HI	BURNER	MANGT. EF	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
		H1 H2 SOOTBLO R1 H1 20,32 H2 43	EH RES L DWERS TA	GGED			PRESSU	RE LO/PU	MP START	SILO				R-1 0%
		H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL	EH RES L DWERS TA 2,43 C.H.	AGGED	/NORTH	SOUTH	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
		H1 H2 SOOTBLO R1 H1 20,32 H2 43	EH RES L DWERS TA 2,43 C.H.	GGED	/NORTH	SOUTH	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
1/22/2013	8-000M	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS	C.H.	AGGED	/NORTH	SOUTH	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
/22/2013	8:00AM NOTE:	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS	C.H. 9'8"	HMPL 12' 4 1/2"	/NORTH	SOUTH	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
22/2013	NOTE:	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY	C.H. 9' 8" BRIEFING	HMPL 12' 4 1/2"	NORTH 15' 3 1/2"	SOUTH	PRESSU	RE LO/PU	MP START	SILO				R-1 0%
22/2013	NOTE: 8:15AM	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY 10% DRY STROKING	C.H. 9' 8" BRIEFING ING AGEN' G H1 DIVE	HMPL 12' 4 1/2"	/NORTH 15' 3 1/2"	SOUTH	PRESSU	RE LO/PU	MP START I	SILO				R-1 0%
22/2013	NOTE: 8:15AM 8:50AM	H1 H2 SOOTBLG R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY STROKIN H1 FD FA	C.H. 9'8" BRIEFING ING AGEN' G H1 DIVEI	HMPL 12' 4 1/2" T RTER DAMP R B.CHEATH	^NORTH 15' 3 1/2" PERS. OK	SOUTH 8 1/4"				SILO				R-1 0%
/22/2013	NOTE: 8:15AM 8:50AM 10:30AM	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY STROKINI H1 FD FA INST CHE	C.H. 9'8"  BRIEFING ING AGENT G H1 DIVEIN N OFF PER CKING FD	HMPL 12' 4 1/2" T RTER DAMPR B.CHEATT	PERS. OK	SOUTH 8 1/4"	N TEMP, A			SILO				R-1 0%
//22/2013	NOTE: 8:15AM 8:50AM 10:30AM	H1 H2 SOOTBLO R1 H1 20,33 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY STROKIN H1 FD FA INST CHE CAN NOT	C.H. 9'8"  BRIEFING ING AGENT G H1 DIVEIN N OFF PER CKING FD	HMPL 12' 4 1/2" TRIER DAMPR FAN THERM B MASS FLO	PERS. OK	SOUTH 8 1/4"	N TEMP, A			SILO				R-1 0%
//22/2013	NOTE: 8:15AM 8:50AM 10:30AM 11:00AM	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY 1 10% DRY STROKIN H1 FD FA INST CHE CAN NOT H2 B MAS	C.H. 9'8"  BRIEFING NG AGEN' 3 H1 DIVEI N OFF PER SCHING FD	HMPL 12' 4 1/2" TRIER DAMPR FAN THERM B MASS FLO	PERS. OK HAM MOCOUPLE DW OFF. NO	SOUTH 8 1/4" S ON AIR II	N TEMP, A GGERS	LL CHECH	€ OK	SILO 11FT				R-1 0%
/22/2013	NOTE: 8:15AM 8:50AM 10:30AM 11:00AM 1:00PM	H1 H2 SOOTBLO R1 H1 20,33 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY STROKIN H1 FD FA INST CHE CAN NOT H2 B MAS INST REP	C.H. 9'8"  GRIEFING SING AGEN' 3 H1 DIVEI N OFF PER CKING FD SSHUT H2 E SS FLOW V LACED PA	HMPL 12' 4 1/2" T RTER DAMP R B.CHEATH FAN THERN B MASS FLO WORKING	PERS. OK HAM MOCOUPLE DW OFF. NO	SOUTH 8 1/4" S ON AIR II OTIFY D.JA	N TEMP, A GGERS T DID NOT	LL CHECH	€ OK	SILO 11FT				R-1 0%
/22/2013	NOTE: 8:15AM 8:50AM 10:30AM 11:00AM 1:00PM 1:30PM	H1 H2 SOOTBLO R1 H1 20,33 H2 43 FUEL OIL LEVELS SAFETY I 10% DRY STROKIN H1 FD FA INST CHE CAN NOT H2 B MAS INST REP	C.H. 9'8"  GRIEFING ING AGEN' 3 H1 DIVEI SHUT H2 ES FLOW V LACED PA OIL STRAIL	HMPL  T  RTER DAMP  R B CHEATT  FAN THERM  B MASS FLC  WORKING  RT ON H1 B1	PERS. OK HAM MOCOUPLE DW OFF. NO	SOUTH 8 1/4" S ON AIR II OTIFY D.JA	N TEMP, A GGERS T DID NOT	LL CHECH	€ OK	SILO 11FT				R-1 0%
/22/2013	NOTE: 8:15AM 8:50AM 10:30AM 11:00AM 1:00PM 1:30PM 2:00PM 2:30PM 2:45PM	H1 H2 SOOTBLO R1 H1 20,32 H2 43 FUEL OIL LEVELS SAFETY 10% DRY STROKIN H1 FD FA INST CHE CAN NOT H2 B MAS INST REP H2 LUBE J GLASC BOOTH S	C.H. 9'8"  BRIEFING ING AGEN' S H1 DIVE N OFF PER CKING FD SHUT H2 E S FLOW W LACED PA OIL STRAIR O HERE YSTEM OU	HMPL 12' 4 1/2" TRIER DAMPR B.CHEATH FAN THERR B.CHEATH FAN THERR B.CHEATH FAN THERR B.CHEATH ON CRKING RT ON H1 B VER CLEAN JT. 6FT	PERS. OK HAM MOCOUPLE DW OFF. NO	SOUTH 8 1/4" S ON AIR II OTIFY D.JA	N TEMP, A GGERS T DID NOT	LL CHECH	€ OK	SILO 11FT				R-1 0%
22/2013	NOTE: 8:15AM 8:50AM 10:30AM 11:00AM 1:00PM 1:30PM 2:00PM 2:30PM	H1 H2 SOOTBLG R1 H1 20,32 H1 20,32 FUEL OIL LEVELS SAFETY I 10% DRY STROKIN H1 FD FA INST CHE CAN NOT H2 B MAS INST CHE BOOTH S INST/ELE	C.H. 9'8"  GRIEFING ING AGEN' G H1 DIVEI N OFF PEI CKING FD SHUT H2 E SS FLOW V LACED PA OIL STRAIR O HERE VSTEM OLC C DEPT LE	HMPL 12' 4 1/2" TRIER DAMPR B.CHEATH FAN THERR B.CHEATH FAN THERR B.CHEATH FAN THERR B.CHEATH ON CRKING RT ON H1 B VER CLEAN JT. 6FT	PERS. OK HAM MCCOUPLE DW OFF. NO SYPASS DA AND PLACE	SOUTH 8 1/4" S ON AIR II OTIFY D.JA MPER. INSSED IN TRAS	N TEMP, A GGERS IT DID NOT SH BAG	LL CHECH	C OK	SILO 11FT				R-1 0%



9/22/2013	8:00PM	CONN, C	LARK, BRE	EEDEN, HIGO	GINS, CUT	SHAW, BLA	ANKS, YOU	ING				B SHIFT - D.	PENDLEY	
			1040				1							
		UNIT R1	LOAD	UNIT CAP	NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		KI		50		12 HOUR	STANDBY							R-1 CTL
		H1		160	153	UNIT OFF	-		-					PWTL
								1	1					
		H2	141	160	152	0.234	10.8	0.057	10.6	95.3	7.24	196	2.85	HMPL
	-	C.T.	STANDBY											
		G. I.	STANDBY	62							GAUGE GL	40000		DDV/ING + 0515
		ALARMS					-			-	OK OK	ASSES		DRYING AGEN H-1 0%
		R1							1					H-2 10%
		H1		EAL HI/LO	BURNER I	MANGT. E	H PRESSU	RE LO/PU	MP START	REQ				R-1 0%
		H2	EHRESI	LEVEL HI										
		SOOTBL	OWERS TA	AGGED					-					
		R1	OWERS IN	AGGED						SILO			BOOTHE SYST	EM
		H1 20,43	3				-	1		10'			OUT	CIVI
		H2 1,2,4	,5,7,9,10,1	1,15,18,19,2	0,21,22,23,	24								
	-	FUEL OIL	011	IIII	NODELL	0011711		-						
		FUEL OIL		12' 4 1/2"	NORTH	8 1/4"	-	-						
		LLVLLS	30	12 4 1/2	10 3 1/2	0 1/4	-		-					
9/22/2013	8:00PM	SAFETY	BRIEFING				-		1					
	NOTE			INSPECTIO	N CHECKS									
				R LEAVING										
	11:00PM	J. GLASS	CO LEAVI	NG			-	-	-					
/23/2013		CLEANIN	G H-1 EQU	IPMENT			-							
	2:00AM			ETY MEETI	NG		-	-						
	3:30AM	SETTING	H-1 BOILE	R FOR HYD	RO									
	4:30AM	1		NT OFF CO										
	5:30AM NOTE	and the second discount of the second		THE SYSTEM	M - TO REP	AIR LEAKI	NG GATE	-	-					
	7:45AM		ER SET FO	IRBINE MAN	IFOII D AR	FΔ	-	-						
	7,407111	IOOOLD (		TOTAL WORK	III OILD AIR									
	-							-						
/23/2013	8:00AM			R,EMBRY,HI	LLYARD							A SHIFT T. T	ow	
		DUVALL	S/L,BEAN		-		-	-	-					
		UNIT	LOAD	UNIT CAP	NET CAP	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSU	RE
		R1	12 HOUR		45	002		IIOA	OI AOITT	KLINOVAL	5001	Allilli. I LOW	DACKT REGOO	17'
			STANDBY											27'
		H1		165	153									
		OFF TUB		105	450	0.256	40.0	0.000	05.7	04.0	5.04	007	2.4	45.51
		H2	160	165	152	0.256	10.9	0.062	25.7	94.6	5.04	207	3.1	15.5'
		C.T.	OFF	61	61									
			STANDBY								GAUGE GL	ASSES		DRYING AGEN
		ALARMS	:								OK			HMPL 0%
		R1 H1	STEAMS	EAL HI/LO.E	DI IDNED M	ANC EHE	Pecio		-					REID 0%
		H2		LEVEL HI, GE		ANG., EFT	-K33 LO		-					
		SOOTBL	OWERS TA	AGGED										
				18,19,22L,28	3,29,30,31									
	-	H1 20,32		1 15 19 19 2	0 24 22 22	24.42					SILO			BOOTHE SYST
		NZ 1,2,4	,5,7,9,10,1	1,15,18,19,2	0,21,22,23,	24,43			-		13.5"			R/T
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					10.0			
				12' 4 1/8"		8 1/4"								
	0.00	0.15												
		SAFETY	BRIEFING 1-1 BOILER						-					
				N PENTHOU	SF H-1	-		-	-					-
				SED LIGHT N		NG BULB	OK CALLED	DISPATO	H TO OPEN	BKR , BKF	WILL			
				LOCAL/REM										
				ER DOWN P	AST LEAK									
			P ON FOR											
				RAINING TO T CLOSING E		EL SETTIN	IG TO FIRE	-	-					
				HOME FOR		-	-		-					
				STILL LEAKIN				-						
	3:25PM	PURGING	BOOTHE	SYSTEM OL	NAME OF TAXABLE PARTY.	UTTING DO	NWN							
			ER SET TO				1		1					
	4:00PM			ASED ON H						10011	TOO!	TOU ! O! : = : -		
												TCH ON EACH	1	
													ECKING OUR EN	ID
		AFTER								SCONNEC	JILL OPE	LIT ELECT ON	LONING OUR EN	
			DEAST GE	RINDERONE						ten Discou	INIECT DED			
	4:07PM NOTE	CHECKE	D EAST GR ED AND CI	LOSED 0169		ECT THIS T	IME GOT A	CLOSED	LIGHT ON U	109 DISCOI		DISPATCH		
	4:07PM NOTE 5:21PM 5:47PM	REOPEN GOT OK	ED AND CL TO START	LOSED 0169 H-1 FD FAN	DISCONNE S 5:51 FD F	ANS ON			LIGHT ON U	169 DISCOI	NINECTPER	DISPATCH		
	NOTE 5:21PM 5:47PM 6:15PM	REOPENI GOT OK SHUT DO	ED AND CI TO START WN H-1 FE	LOSED 0169 H-1 FD FAN: D FANS ONE	DISCONNE S 5:51 FD F PORT LEA	ANS ON AKING REP			LIGHT ON U	169 DISCOI	WECT PER	DISPATCH		
	NOTE 5:21PM 5:47PM 6:15PM 6:26PM	CHECKER REOPENI GOT OK SHUT DO H-1 C DIV	ED AND CI TO START WN H-1 FD ERTER DA	LOSED 0169 H-1 FD FAN: D FANS ONE MPER FAN	DISCONNE S 5:51 FD F PORT LEA ON AND O	ANS ON AKING REP K	AIRING SA		LIGHT ON U	169 DISCOI	WECTPEN	DISPATCH		
	NOTE 5:21PM 5:47PM 6:15PM 6:26PM 7:10PM	CHECKER REOPEN GOT OK SHUT DO H-1 C DIV CALLED I	ED AND CL TO START WN H-1 FC ERTER DA MURPHY E	LOSED 0169 H-1 FD FAN: D FANS ONE MPER FAN ELEVAYOR -	DISCONNE S 5:51 FD F PORT LEA ON AND O	ANS ON AKING REP K	AIRING SA		LIGHT ON U	169 DISCOI	WESTPEN	DISPATCH		
	NOTE 5:21PM 5:47PM 6:15PM 6:26PM 7:10PM 7:20PM	CHECKEI REOPENI GOT OK SHUT DO H-1 C DIV CALLED I H-1 BOILE	ED AND CI TO START WN H-1 FE ERTER DA MURPHY E ER RELEA:	LOSED 0169 H-1 FD FAN: D FANS ONE MPER FAN ELEVAYOR -	DISCONNE S 5:51 FD F PORT LEA ON AND O HENDERS	ANS ON AKING REP K ON ELEVA	AIRING SA	ME	LIGHT ON U	169 DISCOI	WEGIFER	DISPATCH		



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				_									
9/23/2013	8:00PM	MORRIS,	DENTON,	REYNOLDS	,BAKER,GA	ATTON, ED	WARDS, T	ATE				D SHIFT ASKINS	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW BAG	K DDESSI
		R1		50	7		STANDBY	HOX	OI AOITT	KLINOVAL	0031	ANIN. FLOW BA	N PRESSU
									1				
		H1	START UP										
		110	1444	400	1450								
		H2	141	160	152	0.35	10.5	0.07	10	93	6.8	210	2.8
		C.T.	STANDBY	60	-	-	-	-	-		-		
		0.11	O IT II I DO I	00		1					GAUGE GI	ASSES	
		ALARMS			1197						OK		
		R1											
		H1			BURNER N	MANGT. E	H PRESSU	RE LO/PU	MP START	REQ			
		H2	EH RES L	EVEL HI									
		SOOTRI	OWERS TA	CCED				-			-		
				18,19,22L,2	8 29 30 31		-	-	SILO			BOOTHE SYSTEM	
		H1 20,3		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-	-	9'			IN	SIEW
		H2 1,2,4	,5,7,9,10,11	1,15,18,19,2	0,21,22,23,	24			-				
	0.00014	0.45574	DDIEENIO										
	8:00PM 8:04PM	1 - 1 - 1	BRIEFING	CLINIC IN V	VODKINO O				-				
	8:10PM			GUNS IN V									
	O. TOP IVI	11-1 A-2 -	Y-2 - VIAD 1	-4 OIL GOI	NO IIV. SEE	START OF	LOG				-		
9/24/2013		WEEKLY	SAFETY N	MEETING	-				-		-		
	2:19AM	H-1 TIED	ON	100	1						-		
	2:32AM	H-1 PREC	CIPS INSER	RVICE									
	3:35AM	H-1 SCRU	JBBER IN S	SERVICE									





Your Touchstone Energy" Cooperative

## Forced Outage Report

#### **Boiler Tube Leak Record**

Plant:	HMP&L Station Two	Unit:	1
Type of Leak:			
	rerminal tube) Thick Lip Failure	Thin Lip Failure	e <u>√ (6<sup>th</sup> SH</u>
Tube Wall Thin	nning		
Orientation of	Rupture: Longitudinal V Circumfe	erential	
Probable Cause	e:		
Stress Ove	rheat ErosionInternal Cor	rosion	
External Corros	sion <u>√</u> Weld Failure (Shop_	Field)	
Internal Obstru	uction to Flow Soot blower Eros	ion	
Other		1 	
Type of Repair	:		
Dutchman <u>√</u>	Pad Weld _v Plug Tube Sho	ort Circuit(	Other

### **Description of Repair:**

The outer loop on the 6th element from the east wall at elevation 537'-5" was replaced along with next inner loop which was washed from the leak on the outer loop. Based on past Radiant Superheat outlet section failures it was determined that all leaks had been either in the inner loops (E1) or outer loops (E10). Additional UT readings indicated that the next to outer loops (E9) were thin and subject to failure also. At this time it was decided that to increase unit reliability 39 additional loops (11 inner loops, 13 outer loops, and 15 next to outer loops) would need to be replaced. From the initial boiler hydro a weeper leak was discovered on the upper south water wall header tubes, 2<sup>nd</sup> tube from the east, this leak is located at the weld where it meets the south upper water wall header at elevation 579'-4". Repaired via a BMR

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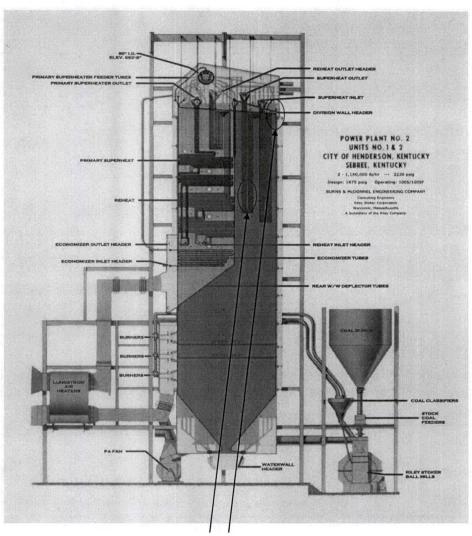


**Exact Location of Leaks:** 

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### HMPL STATION UNIT 1 2013 (42) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 1020 9-19-13
Date and Time Unit On Stand-by\_\_\_0219 9-24-13



The outer loop on the 6th element from the east wall at elevation 537'-5" was replaced along with next inner loop which was washed from the leak on the outer loop. Based on past Radiant Superheat outlet section failures it was determined that all leaks had been either in the inner loops (E1) or outer loops (E10). Additional UT readings indicated that the next to outer loops (E9) were thin and subject to failure also. At this time it was decided that to increase unit reliability 39 additional loops (11 inner loops, 13 outer loops, and 15 next to outer loops) would need to be replaced. From the initial boiler hydro a weeper leak was discovered on the upper south water wall header tubes, 2nd tube from the east, this leak is located at the weld where it meets the south upper water wall header at elevation 579'-4". Repaired via a BMR



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# **Forced Outage Report**

### **Estimated Outage Cost**

• Vacuuming Economizer Hoppers, Economizer Dead Air Space, and Boiler Penthouse, Wash seal trough, ME panels

Total

\$12,154.50

Titan - tube leak and SH outlet tube repairs

Labor

\$129,582

Material

\$1,305.26

Total

\$130,887.26

Titan - Misc. repairs (Gas leaks, coal leaks)

Labor

\$18,732

Total

\$18,732

**Grand Total** 

\$161,773.76





**Lost Sales Opportunity Report** 

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### **FORCED OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 1 - H1-13-11	Produ	Production Cost			
Date & Time Off Line	9/19/13 10:19	MW	,	\$/MW		
Date & Time On Line	9/24/13 2:19	78	\$	31.34		
Outage Duration	112 hr. 0 min.	133	\$	28.67		
Outage Code	UO2	155	\$	28.52		
Outage Reason	Repair superheater tube leak					

Date	DA LMF	P Average	RT LM	P Average	DART P&L	 Lost ortunity
9/19/13 (HE 11-24)	\$	34.53	\$	30.01	\$ (3,443)	\$ -
9/20/13 (HE 1-24)	\$	27.90	\$	29.75	\$ -	\$ -
9/21/13 (HE 1-24)	\$	25.05	\$	29.35	\$ -	\$ -
9/22/13 (HE 1-24)	\$	23.13	\$	26.06	\$ -	\$ -
9/23/13 (HE 1-24)	\$	28.44	\$	28.68	\$ 448	\$ (768)
9/24/13 (HE 1-10)	\$	23.25	\$	22.74	\$ (1,041)	\$ -
Total			1		\$ (4,036)	\$ (768)

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		6,293	DART P&L	\$	(4,036)
S/U Fuel Price	\$	3.13	Lost Opportunity	\$	(768)
S/U Fuel Cost \$ (19,685)	S/U Fuel Cost	\$	(19,685)		
			Total	\$	(24,489)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





To: Bob Berry

From: Billy Boarman

Date: 25-Sep-2013

Plant: HMP&L Station Two Unit: 1 GADS Class: UO2

**Duration** 

Trip Time: 24-Sep-2013 22:53 Tie Time: 25-Sep-13 04:55

Time Offline: 06:02

**Outage Description** 

HMP&L Station Two Unit 1 was tripped on Tuesday, 24-Aug-2013 at 22:53 via the emergency boiler trip due to a hydraulic fluid leak on the right side intercept valve.

**Root Cause** 

An O-ring on the main turbine right side intercept valve oil supply tubing failed.

Failure History

No failures of this nature have been reported in the last three years.

**Corrective Action** 

Replaced the failed Viton O-ring with a new Viton O-ring and pressure tested the system.

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### **Forced Outage Report SOE Print Out**

STANDARD SOE REPORT

Triggered on: 24-Sep-2013 22:53:05:465

Event Time	State	Tag Name	Tag Description
24-Sep-2013 22:53:11:732	LKOUT	H140SPVLO86TV2	TURB STOP VLV LOCKOUT (86TV2)
24-Sep-2013 22:53:11:727	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
24-Sep-2013 22:53:11:726	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
24-Sep-2013 22:53:10:462	ОК	H133LMISTP	LAST MILL IN SERVICE TRIP
24-Sep-2013 22:53:07:187	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
24-Sep-2013 22:53:06:467	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
24-Sep-2013 22:53:06:189	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
24-Sep-2013 22:53:06:148	ОК	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
24-Sep-2013 22:53:05:526	OPEN	H103M2AST	4160 BKR MILL 2A STATUS
24-Sep-2013 22:53:05:522	OPEN	H103PAF2AST	4160 BKR PA FAN 2A STATUS
24-Sep-2013 22:53:05:465	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
24-Sep-2013 22:53:05:215	TRIP	H125DRMTP	BLR DRUM LEVEL TRIP
24-Sep-2013 22:53:00:330	LOW	H122HOTWELLLO	COND HOTWELL LEVEL LOW





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### **Operators Event Log**

9/24/2013	8:00PM	MORRIS,	DENTON,	REYNOLDS	,BAKER,G	ATTON, E	OWARDS,	TATE				D SHIFT AS	KINS
					В.		-		-	-	-	-	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUE
		R1	12 HOUR	50	45			100				7	BAOK I REGOOT
			STANDBY										
		H1	160	146	153	0.43	10.3	0.07	23	92	19.48	240	3.3
		H2	148	165	152	0.37	10.1	0.05	12	94	7.59	250	3.4
		C.T.	ON	61	61				38				
			STANDBY								GAUGE G		
		ALARMS	:								OF	(	
		R1											
		H1		EAL HI/LO,		ANG., EH	PRSS LO	, BFP OIL	PUMP				
		H2	EH RES L	LEVEL HI,G	EN H2								
				1.00								_	
		and the second second second second	BLOWERS TAGGED 2,3,6,7,16,17,18,19,22L,28,29,30,31										
				18,19,22L,2	8,29,30,31								
		H1 20,3				-	-				-		
		H2 1,2,4	1,5,7,9,10,1	1,15,18,19,2	20,21,22,23,	24,43					SILO		
			-	-		-	-	-		-	13'		
				-			+	-	-		-		
	8:00PM	SAFETY	BRIEFING	19.5								-	
	9:55PM	H-1 RIGH	T INTERCE	PT VALVE,	EH LEAK	ON LINE FI	TTING TO	SERVO - (	GOING TO TA	KE UNIT O	FF TO REP	AIR	
	10:48PM	H-1 SCR	OUT OF SE	ERVICE									
	10:53PM	H-1 OFF	LINE	1									
	11:00PM	H-1 E.H.	<b>PUMPS TA</b>	GGED									
	11:35PM	H-1 E.H.	PUMPS ON	TO CHECK	K FOR LEAD	KS							
9/25/2013	12:05AM	H_1 FIDE	IN H-1 BOII	IFP		-			-		-		
0.2012010			ING VACUI					-	-		+	-	
			ING TURBI			·	+					7	
	1:23AM	1			SED IN FIE	I D BKR V	OI TAGE	RAISED TO	ABOUT 7 V	OI TS AND	I IRRINE TE	RIPPED - TRIP	SHOWS EHC -
	1.20/11/1	10.0											ROPPED TO 1677
	2:10AM		D AT PLAN		2 3 100 200		7 3711				3,0,2,0		
	NOTE			UMPS FOR	MAINT TO	CHANGE	OUT A PL	JMP		-		-	
	4:55AM	H-1 TIED										-	
	4:59AM		CIPS IN SEI	RVICE	1	-	-	-				-	
	6:05AM		JBBER IN S		1		1				1	-	
	6:15AM		MING SER			-					-	-	



#### Your Touchstone Energy\* Cooperative

# Forced Outage Report Estimated Outage Cost

None



**Lost Sales Opportunity Report** 

#### Your Touchstone Energy Cooperative

### **FORCED OUTAGE COST ANALYSIS**

MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 1 -	H1-13-1	2			Produc	tion C	on Cost	
Date & Time Off Line		9/24/13	3 22:53				MW		\$/MW	
Date & Time On Line		9/25/1	13 4:55				67	\$	32.28	
Outage Duration		6 hr. :	2 min.				133	\$	28.67	
Outage Code		U	02				155	\$	28.52	
Outage Reason Repair EHC leak			_	intercept						
Date	DA LMP	Average	RT LMF	Average		DART P&L	Lost Opportunity			
9/24/13 (HE 23-24)	\$	23.11	\$	21.49	\$	974	\$ -			
9/25/13 (HE 1-12)	\$	25.38	\$	31.94	\$	694	\$ -			
Total					\$	1,668	\$ -			
Start Up Fu	el Cost						Total Forced	Outa	ge Cost	
S/U Fuel Consumed		3,486				7 0	DART P&L	\$	1,668	
S/U Fuel Price	\$	3.13					Lost Opportunity	\$	-	
S/U Fuel Cost	\$	(10,905)					S/U Fuel Cost	\$	(10,905)	
							Total	\$	(9,236)	

	O.	_	-	
N			•	۰

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





To: Bob Berry

From: Tracy Cole

Date: 19-Nov-2013

Plant: Wilson Unit: 1 GADS Class: UO1

**Duration** 

Trip Time: 02-Sep-2013 15:52 Tie Time: 02-Sep-2013 22:40

Total Time Offline: 6:48

#### **Outage Description**

Wilson Station tripped offline on Monday, 02-Sep-2013 at 15:52 due to an apparent lightning strike in near proximity to the plant.

#### **Root Cause**

It was reported by personnel onsite that a loud clap of thunder was heard just prior to or as the unit tripped. When attempting to reset the turbine, it was discovered that a fuse had blown in the turbine control system that supplied power to detect the turbine being reset. The same fuse supplies power to determine if the generator breaker is closed. The following protective relay action occurred: 1) GENERATOR OVERCURRENT LOW FREQUENCY BACK UP RELAY 50 BU G-1 and 2) GENERATOR REVERSE POWER 32G-1. Although the protective relays tripped, it is logical to assume from the data that the loss of the Generator Breaker Closed signal resulted in the turbine trip. Review of the electrical wiring diagrams calls for voltage suppression on the breaker signal from the switchyard; inspection of the points called out on the drawings revealed no voltage suppression.

### **Failure History**

This is not the first time the fuse in the turbine control system has blown as a result of a nearby lightning strike.

#### **Corrective Action**

The recommendation is to install voltage suppression on the "breaker closed" signal from the switchyard. Also recommend adding logic to determine that the fuse in the turbine control system is intact.



### **Forced Outage Report SOE Print Out**

N/A

### Other Work Completed While Unit Was Offline

None

### **Operators Event Log**

9/2/2013	8:30am	Had 2 large condenser tube leaks, plugged 6 tubes and pulling boards and closing doors
	11:20am	Maintenance finished closing doors
		Pulling tags and filling condenser
	12:40pm	#3 Circulating water pump on
	12:45pm	Released unit for 417 net
	1:30pm	#4 Mill in service
		Backflushed booster pump
	3:52pm	Unit tripped
	7:52PM	Fire in boiler
	10:33PM	Precips in service
	10:40PM	Unit tied on

### **Estimated Outage Cost**

Insignificant



**Lost Sales Opportunity Report** 

#### Your Touchstone Energy Cooperative

Unit		Wilson -	W1-	13-05				Production Cost		
Date & Time Off Line	1	9/2/13	15:5	52				MW		\$/MW
Date & Time On Line		9/2/13	22:4	10				300	\$	23.83
Outage Duration	No a	6 hr. 4	8 mi	n.				340	\$	23.39
Outage Code	100	U	01					420	\$	22.86
Outage Reason	Unit to	ripped due	to lig	htning	strike					
Date	DA LMI	P Average	RT	LMP A	Average		DART P&L	Lost Opportunity		
9/2/13 (HE 16-24)	\$	27.65	\$		27.45	\$	(7,758)	\$ -		
9/3/13 (HE 1-7)	\$	20.55	\$		19.75	\$	(133)	\$ -		
Total						\$	(7,891)	\$ -		
Start Up Fu	el Cost							Total Forced	Outag	ge Cost
S/U Fuel Consumed		21,180						DART P&L	\$	(7,891
S/U Fuel Price	\$	3.13						Lost Opportunity	\$	
S/U Fuel Cost	\$	(66,236)	2					S/U Fuel Cost	\$	(66,236
						-		Total	\$	(74,127
	-			35					-	

3

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





Your Touchstone Energy Cooperative

### **Forced Outage Report**

To: Bob Berry

From: Billy Boarman

Date: 9-Sep-2013

Plant: HMP&L Station Two Unit: 2 GADS Class: UO2

#### **Duration**

Trip Time: 5-Sep-2013 19:46 Tie Time: 6-Sep-13 18:33

Time Offline: 22:47

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Thursday, 5-Sep-2013 at 19:46 due to the loss of rotation on "B" Air Heater.

#### **Root Cause**

The "B" Air Heater Gear Box locked up not allowing the "B" Air Heater to rotate.

### **Failure History**

N/A

### **Corrective Action**

The gear box, air motor and the electric motor on "B" Air Heater were replaced. Inspected both "A" and "B" Air Heaters internally specifically "B" while operating on the air drive to make sure there were no obstructions that would cause the gear box failure. Ran both "A" and "B" Air Heaters for confirmation, then released.



### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 5-Sep-2013 19:46:37:010

BigRivers  ELECTRIC CORPORATION
Your Touchstone Energy* Cooperative

5-Sep-2013 19:46:36:758	TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
5-Sep-2013 19:46:37:010	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
5-Sep-2013 19:46:37:507	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
5-Sep-2013 19:46:37:759	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
5-Sep-2013 19:46:39:023	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
5-Sep-2013 19:46:41:153	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
5-Sep-2013 19:46:41:154	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
5-Sep-2013 19:46:41:159	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
5-Sep-2013 19:46:41:186	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
5-Sep-2013 19:46:41:186	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
5-Sep-2013 19:46:41:270	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
5-Sep-2013 19:46:41:287	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
5-Sep-2013 19:46:41:296	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
5-Sep-2013 19:46:41:384	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
5-Sep-2013 19:46:41:754	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
5-Sep-2013 19:46:49:296	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
5-Sep-2013 19:46:49:370	ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
5-Sep-2013 19:46:49:460	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
5-Sep-2013 19:46:49:531	OK	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
5-Sep-2013 19:46:50:187	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
5-Sep-2013 19:46:50:480	ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
5-Sep-2013 19:46:52:515	ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
5-Sep-2013 19:46:55:970	ОК	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
5-Sep-2013 19:47:00:495	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
5-Sep-2013 19:47:15:405	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
5-Sep-2013 19:47:23:307	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
5-Sep-2013 19:47:32:474	CLOSED	H241BGOPP3ASTS	TG OIL PMP H2A STATUS

#### Other Work Completed While Unit Was Offline

- Performed hydrostatic test on the boiler along with a reheater vacuum check and nothing was detected.
- Verified Boiler Air Temperatures
- Replaced solenoids, pilot valves, and flow adjusters on the scrubber bypass damper



### **Operators Event Log**



9/5/2013	8:00AM	SAFETY	BRIEFING										
	8:00AM	H-2 A MIL	L OFF B A	IR HEATER	REPAIR			-	-				
	8:00AM	H-2 SCR	OUT LO TE	MP				-		1		-	
	9:30AM	H-2 B AIF	HEATER	BACK ON				1					
	9:30AM	OIL IN H-	2 BOILER P	UTTING A N	AILL ON			1			1		
	9:40AM	H-2 A MIL	LON	Lemi-								-	
	10:16AM	OIL OUT	OF H-2 BOI	LER				-					
	10:17AM	FLOWING	AMM ON	H-2		-	1	1					
	10:40AM	H-2 IN AD	S		N. H.		1						
	NOTE	H-1 A AIF	HTR HOT	SOOTBLOV	VER BACK	IN AND BL	EW OK						
	NOTE	- Commence of the Commence of	The same of the sa	SOOTBLO				-	1		-		
	4:00PM		M COILS B	The second secon				100	1			-	
	4:45PM			1 STEAM CO	OIL ON H-2	CHECKING	FORLEA	<	-		-	-	
	5:00PM			EAM COIL H				1	100		-		
	5:00PM		M COILS B			L LL/III			1			-	
	6:05PM			STEAM COIL	TO SEE IF	IT IS LEAD	CING INTER	IAM	1				
	6:25PM			GEAR BOX					1		-		
	NOTE			AT THE BR	EAKER								
	7:13PM	H-2 52-321 MAIN BREAKER WOULD NOT OPEN FROM CONTROL ROOM - HAD TO BE TRIPPED AT THE BR										in Malaia	
	7:40PM			HAD LONG	DELAY BEI	FORE BYP	ASS DAME	ER OPEN	IFD	-	-	-	
	7:46PM	SCRUBBERS OUT- HAD LONG DELAY BEFORE BYPASS DAMPER OPENED H-2 UNTIED										-	
	7:48PM		CIPS OUT				-	-	-				
	7.401 101	11-21111	0 001					-	-				
9/5/2013	8:00PM	MORRIS,	DENTON-V	AC, REYNO	DLDS,BAKE	R,GATTON	, EDWARI	S, TATE	-			D SHIFT ASKINS	
		UNIT	LOAD		NET CAP.	7.7.	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW BACK PI	RESSU
		R1		50		12 HOUR	STANDBY						
		H1	165	165	153	0.47	10.1	0.07	27	90	15.47	250 3	
	+		100	100	100	0.47	10.1	0.07	21	90	15.47	200 3	,
		H2	OUTAGE	100			-	-	-				
	-	112	OUTHOL	-			-	-	-		-	)	
		C.T.	STANDBY	59			-	-	-				
	-	0.11	OTATION	00			-	DEMONSOR	100		GAUGE G	IASSES	
	<del> </del>	ALARMS						GIRLS CO.	100		OK OK		
		R1							-		OR.		
	+	H1	STEAMS	EAL HI/LO.E	BURNER M	ANG EH	PSSIO	-					
		H2		EVEL HI.G		ANO., LITT	NOO LO,	-	-				
	-	112	LITINES	LVLLIII,G	L14 112			-	-			-	
	-	SOOTE	OWERS TA	GGED				-	-				
				18,19,28,29,	30.31	-	-	-	SILO	]	1	BOOTHE SYSTEM	
		H1 20,4	The second secon	10, 15,20,29,	30,31		1	-	4' ABOVE	2			
7	-			1,15,18,19,2	0 21 22 22	14 22 22 24 44			4 ABOVE	2		IN	
-	-	1,2,4	,5,7,9,10,1	1, 15, 16, 19,2	0,21,22,23,	24,41	1	-	7		1		
	8:00PM	SAFETY	BRIEFING			-	-	-	-			-	
	8:00PM		T AT PLAN	IT			-	-	-		-		
	0.00-101	I IIVI VVES	IAIPLAN	-			-	-				-	
9/6/2013	NOTE	H-2 BOIL	ER IS SET	FOR HYDRO	O AND VAC	UUM CHEC	K		-				
9/0/2013	7:38AM	H-2 BOILER IS SET FOR HYDRO AND VACUUM CHECK H-2 F.D. FANS ON											
	7:38AM		-ANS CIN										



Your Touchstone Energy Cooperative

9/6/2013	8:00AM	CONN, C	LARK, BRE	EDEN, HIG	GINS, BLAN	NKS, YOUN	G, BLANK	S				B SHIFT - D.	PENDLEY/CPAY
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM ELOW	BACK DDECCH
		R1	LOND	50	HET OAT.	12 HOUR		NOX	OPACITY	REMOVAL	D051	AMM. FLOW	BACK PRESSU
				32.									
		H1	143	160	153	0.378	10.5	0.072	16.3	91.8	11.07	205	2.65
		H2		160	152		OUTAGE	-	-				
		1		100	102		OOTAGE			-			
		C.T.	STANDBY	59									
		AL ADMO									GAUGE G		
		ALARMS R1	:					-			OK		
		H1	STEAM S	EAL HI/LO	BURNER N	MANGT. EH	PRESSU	RE LO/PL	JMP START	REQ			
		H2	EH RES L										
		COOTE	014/500 74	0055									
		R1	OWERS TA	GGED					-	SILO			BOOTHE SYSTE
			3,33,40,43,4	18						SILO			BOOTHE STSTE
		H2 1,4,5	,7,9,10,11,1	15,18,19,20,	21,22,23,24	,43							
		FUEL OIL	011	LIMADI	NODTH	COUTU							
		FUEL OIL		12' 2 1/4"	NORTH 15' 11"	8 1/4"	-	-	-				
		LEVELO	, ,	12 2 1/4	10 11	0 1/4							
9/6/2013	8:00AM		BREIFING										
	8:25AM		FANS OFF	0.000									
	8:26AM 8:18AM		ON - FILLIN		I I/M .I HI	I I YARD I /I	M M EME	BY I/M I	B. BLAIR L/N	D REAN	/M M 101	INCON	
	8:30AM			NED CALL				IN DIVI, I	J. DLAIN DIV	I, IX. DEAN	D 101, 101. 301	1143014	
	8:44AM	- Inches and the second		ED CALL - F	POSITION F	ILLED							
	9:27AM		OFF - 1440		OU ED TO E	1011015151							
	9:37AM 9:55AM			VAC PUM		IRING LEVI	EL & SETT	ING TO F	RE				
	11:50AM	- Control of the Control	ELEASED H		3 011				-				
	12:00PM			D CALL - JU	IST GOT BA	CK FROM	HOSPITAL	- CAN'T	COME IN				
	12:53PM	and the second second second second	I-2 BOILER		000001411	F 71 04							
	1:05PM NOTE	The second second second second		O CALL - IN VITH H-2 A1					SISTING				
	1:23PM	- Production - Control							ED - ISSUEI	W/O & NO	TIFIED T. T	AYLOR	
	2:00PM								NTS CLOSE	D			
	3:00PM 4:00PM			IN, 34% AIF						COUDE OF	OUDEDUE		
	4:30PM			RHEAT. SEA					650LBS PRE	55URE, 30	SUPERHE	AI	
	4:55PM		H-2 TURBIN			OLLII O	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LOINE					
	5:20PM			ED - WAITIN	IG ON SATI	JRATION TE	EMP						
	5:55PM NOTE		RRED VAL		VENT TO 16	7 8 STOD	DED CAL	LED T T	VIOR CO	T I ADMOU	) P T M/FC	TIMOLVED	THEY CALLED E
	NOIL			RAISE VOL						I J. ARNOLI	O A I. WES	I INVOLVED -	THEY CALLED I
	6:33PM	H-2 GENE	RATOR TIE	D ONLINE	- PRECIPS	IN SERVICE	E						
	7;14PM								ARE BREAK	ER FOR T.1	AYLOR		
	7;21PM	H2 MAINS	52-301 & 3	52-321 CLO	SED & IIE I	BKRs open	defeat swit	ches in N	ORMAL	-			
9/6/2013	8;00PM			SON, GRI	FFIN, HO	GAN, BOV	VLEY,ALE	XANDE	R,WADLING	GTON		C SHIFT	CARTER
		ONAN	LOAD	LIMIT CAD	NET CAD	601	000	NOV	ODACITY	DEMOVAL	DUCT	AMM 51 0W	DACK PRESSU
		R1	LOAD	50	NET CAP.	302	CO2	NOX	OPACITY	REMOVAL	D051	AMM. FLOW	BACK PRESSU
			12 HR STA	NDBY / GE		PURGED TO	O CO2						
		H1	147	165	153	0.383	10.2	0.039	17.4	92.1	18.07	250/A	3.1
		H2	131	110	152	1 102	10.2	0.250	10.5	77.0	0.0		2.2
		r14	131	118	152 1500 DRUM	1.183 M	10.2	0.356	12.5	77.3	8.6		3.3
		C.T.	ON STAND	BY	59	AND THE REAL PROPERTY.							
		ALARMS:						-	-				
		R1 H1	BURNER N	MANAGEME	NT/STFAM	SEAL LOW	/ PRESSU	RE/H1 CC	OLING TOW	/FR HI / I O	N		GAUGE GLASS



#### Your Touchstone Energy® Cooperative

### **Estimated Outage Cost**

 OPEN/CLOSE BOILER DOORS, BOILER HYDRO, REHEAT VACUUM CHECK, BOILER AIR TEST – Titan

Labor	\$2,100				
Material	\$	0			
Total	\$2.	100			



**Lost Sales Opportunity Report** 



### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

	The state of the s						
Unit	HMP'L 2 - H2-13-08	Production Cost					
Date & Time Off Line	9/5/13 19:46	MW		\$/MW			
Date & Time On Line	9/6/13 18:33	72	\$	31.54			
Outage Duration	22 hr. 47 min.	127	\$	28.83			
Outage Code	UO2	149	\$	28.50			
Outage Reason	Replace B air heater gear hoy						

Date	DA LN	IP Average	RT LN	IP Average	D	ART P&L	 ost rtunity
/5/13 (HE 19-24)	\$	28.60	\$	27.33	\$	1,124	\$ -
9/6/13 (HE 1-24)	\$	28.47	\$	30.71	\$	(11,864)	\$ -
9/7/13 (HE 1-2)	\$	21.79	\$	19.13	\$	(190)	\$ 1.
Total	77.46				\$	(10,929)	\$ -,-

4 0	State District Control of
u Outa	ge Cost
\$	(10,929
\$	
\$	(23,711
\$	(34,640
-	
ty	\$ ty \$ t \$ t \$

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To: Bob Berry

From: Chuck Tucker

Date: 15-Oct-2013

Plant: Green Unit: 1 GADS Class: UO2

#### **Duration**

Trip Time: 4-Oct-2013 05:04 Tie Time: 4-Oct-2013 12:52

Time Offline: 07:48

#### **Outage Description**

Green Unit 1 was removed from service on Friday, 4-Oct-2013 at 05:04 due to power feed problems related to a 480 volt transfer switch failure at Precipitator 1B. The electrically operated transfer switch gearing broke which prevented an automatic swap to the emergency source coming from Precipitator 1A.

Fires were established in the boiler on Friday, 4-Oct-2013 at 10:35.

The unit was tied online on Friday, 4-Oct-2013 at 12:52.

### **Root Cause**

The failed automatic transfer switch gearing was found broken apart which prevented a transfer to the emergency source power from Precipitator 1A. The broken operator was removed by plant electricians and is presently in a manual-only mode until a replacement is located or repairs can be made. The transfer switch is the original design and installation. See attached pictures.



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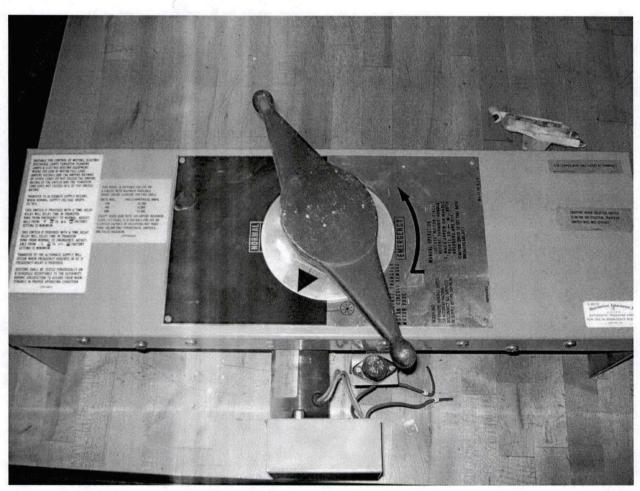
### **Forced Outage Report**

### **Failure History**

There are no recorded precipitator transfer switch failures in the period from 2007 to present for Green Station.

### **Corrective Action**

A temporary switching procedure has been developed for manual-only operation of the Precipitator '1B' Transfer Switch until repairs are made.



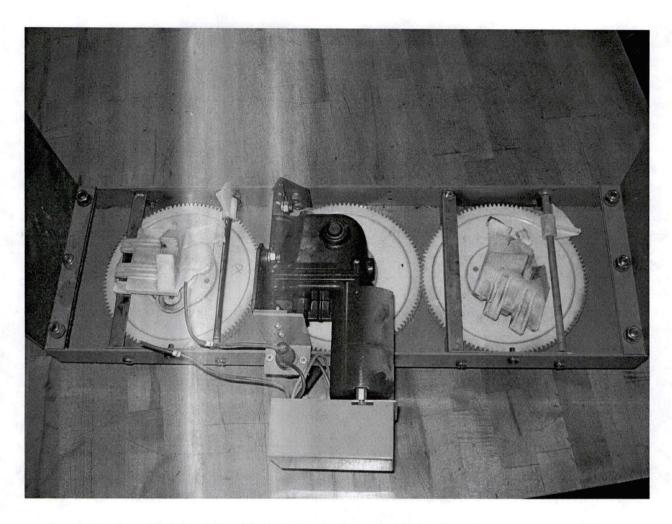
Precipitator '1B' Transfer Switch (front view) - Operator shown removed from panel







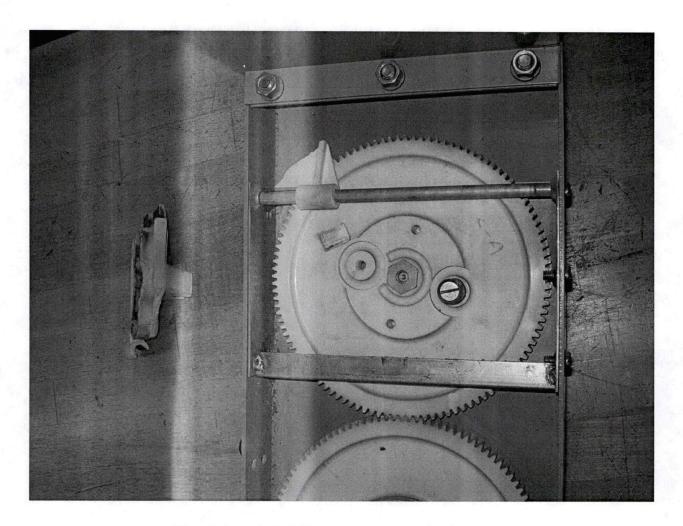
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Precipitator '1B' Transfer Switch (rear view) - Operator shown removed from panel







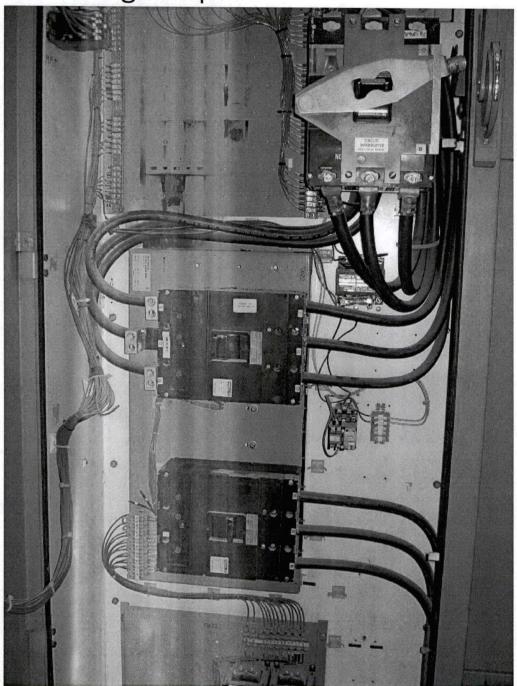
Precipitator '1B' Transfer Switch (rear view) Close up view shows broken racking gear follower assembly







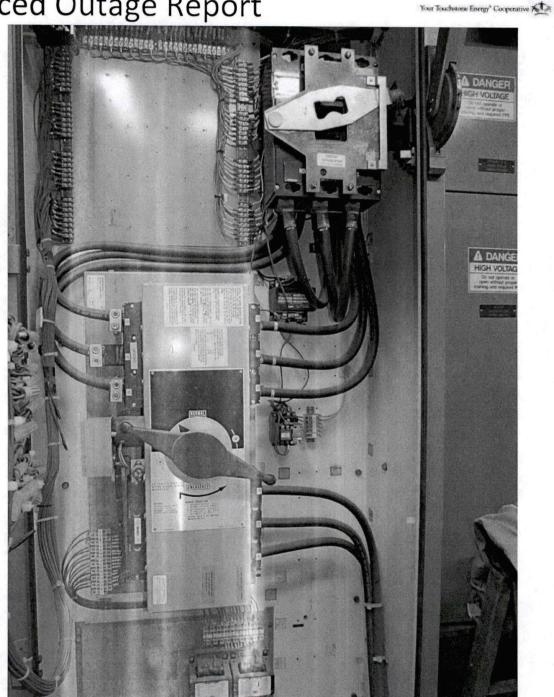
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Precipitator '1B' Transfer Switch Panel View showing operator removed







Precipitator '1A' Transfer Switch Panel

View showing operator in place

(Typical for '1B' - shown for reference only)





### **Forced Outage Report SOE Print Out**

N/A



Other Work Completed While Unit Was Offline

None





**Operators Event Log** 



Your Touchstone Energy Cooperative



LOG BOOK

DATE 10-4-13

- O REID
- GREEN
- O COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- O CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- SCRUBBER SHIFT SUPERVISOR
- SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- O SOLID WASTE OPERATOR
- O SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

3 ,	APSIN PRECIPS out 10.17.
3-7	20AD 241 Cap 242 3mills D=S/B
	ADS IN 2 PRECIOS OUT
-	ADS IN 2 PRECIPS OUT
	SLAKER - G-1 40N 21.5 22 #2
	G-2 40N 19.6 20.1 #3
	Prep 3 and 76.4% #4
	TUIN A CON BOX C deums #2 FlyAsh 30 TPH
-	#25moot 36% 23' Towks #15116 40' & ELS WIO
	#251/6 52' & E1.0 WA
	The state of the s
21	ALL precips Trippe (- Lights went out - (6-1)
	AUX RESOT A+B INCOMING beegkers - When
	R SIDE RACKED back in Lights and Ale
	IN SORVICE - CANNOT get B" Sipe to go book
-	IN SORVICE - CANNOT get & sipe to go book
100	IN SPRUICE
	Fine Live on
- Pres	up tripped a 0016, dragge DEROOD 2 0047, 0235, 0321, 60757
un	of Africa a 0504, First in a 1035, Unit tudonina
4	Q So Calo land a 1844 2ND
300	Line .









LOG BOOK

DATE 10-4-13

- G REEN O COLEMAN □ WILSON
- SHIFT SUPERVISOR CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- SCRUBBER SHIFT SUPERVISOR
- O SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1213	Took ADS OUT AND dropped to 3 mill mine.
120	
201	G. 1 Asioc precip. Tripped - Reset or
	UNDERFLOW KUN
	1A 14 HR 30mw 2A 8 HR 30min,
	18 14 HR 30MW 2A 8 HR 30MIN 1B 15 HR 30MIN 2B 11 HR 30MIN
	Ill RUN 18HR 30 min
	1A 40+(72) OT-6'10" 2A 35.2 (79) OT-6'10". 1B 31.9 (187) 10T-6'5" 2B 28.7 (242) OT-6'7"
235	G-1 Dropping LOAD to 100 NET
253	G-1 A mill OFF
324	ADS back IN
329	ADS OUT & to 80 NET
352	Deoplose to Imill operation

SUP'R
N/12A-8A









LOG BOOK

DATE 10-4-13

- D REID OF GREEN
- COLEMAN **WILSON**
- SHIFT SUPERVISOR
- CONTROL OPERATOR AUXILIARY OPERATOR
- **UTILITY OPERATOR**
- O SCRUBBER SHIFT SUPERVISOR
- G SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
437	G-1 D mill OFF
504	G-1 UNIT OFF LINE
NOTE	MAIN FW Reg READING 44 % Open - Showing closed AT Reg.
	FW SHAT OFF VALUE Showing double light on DCS
	INST. Walking on it.
	on PRECIPE DAD
	PH'S 1A 6.51 1B 6.82 2A 6.67 2D 6.68

SUP'R
TW 12A-8A

F155.12 R 1/93







Your Touchstone Energy Cooperative



LOG BOOK

DATE 10 4 13

- O REID
- GREEN
- O COLEMAN
- WILSON
- SHIFT SUPERVISOR
- O CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- O SCRUBBER SHIFT SUPERVISOR
- G SCRUBBER OPERATOR
- G SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
- G SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
750	Douthan, Forley, Courence, Un. Helje, Hoaler, Auker, Hort, Hoyos Trais, Temple, Thelton, Topp, Strickland
51	Down By precip trouble
62	Cap 242 /ord 247 502 140 NOE 212 opac 10.1
sh kers	51 0 24/26 52 2 24/24 P 0 87%
Hickney	1A - 06 10 24 06 10 18 5 69 28 5 69
ΙU	In service, A side, B+C Drums, #2-167 Tonks - 24' # 2-367
5.10'5	#1-45' E-1.5 W-1.0 #2-38' E-1.0 W5 5-0 6-0 5-0 6-0
1252	6-1 Tied on-1, ma
प प्प	5-1 Released for FM pressure on fill load
nute	Hothere Notified.

OPER	SUP'R
1ST	Ern Shill
2ND	
3RD	
	SIGNED

F155.12









LOG BOOK

DATE 10/4/13

u	HEID
OK	BREEN
0	COLEMAN
0	WILSON

1	SHIFT	SU	PERVISOR	1
D.	CONT	ROI	OPERATO	10

- AUXILIARY OPERATOR
- **UTILITY OPERATOR**
- O SCRUBBER SHIFT SUPERVISOR
- SCRUBBER OPERATOR
- G SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
  SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME		REMARKS		
600	6-1 Alt South	living safety	1s bad - Mr.	nt to
	Replice it	wy safety will a new on	e	
~ @	2 1/11/	- 11: 41		
80	C Shift here & T	3 Shift beaving		
	11 1 11 10 1/2+	· 1/ 4 24) -1/	D ('IN"	
	18 3/	0 6'8" 20)28-6	10 6'1"	
2 10				
800	Called A-1 Septe	à for Guard	Shack toilet	lugger
~ 10		1	1 /	THE RESIDENCE OF THE PARTY OF T
838	A-1 Septic Call	ed Bock Will B	e here tomorrow	w.
923	Pai: 6-1 80'	to 6.8 Sp?	1/2	
1-3	Musing 6 1 11 2	0 6.0	righ	
	Elwash Silo Cour	els \$1 40'	£) 45'	
	Flyant Silo Kessen	40 1	2	
	Silo	0	0	
_	2 Sofity	15	0	
	Bookons West	The Control of the Co	1.5	
	Dogens	13		1100
	1714 10 0	R. 1 1. 10	10-110-1	1 11 11
Note	Keleased G-2 C	Boiler feed Pupl	uce of UNK-11	Brille side
Note	or Souter bed Pop	4. 1// 1P	leaking alling	Mainteroci
Note	or Souter bed Pop	4. 1// 1P	leaking getting	both side Menteroci
Note	7, , , , , , , , , , , , , , , , , , ,	Next to oil Bup	and guy	SUP'R
Note	or Souter bed Pop	Next to oil Bup	Caking gelling	SUP'R
Note	or Souter bed Pop	Next to oil Bup OPER 1ST	and guy	SUP'R





#### Your Touchstone Energy Coxponence

# Forced Outage Report

### **Estimated Outage Costs**

Labor \$1,016 Material \$ <u>14</u> \$1,030 Total

### **Lost Sales Opportunity Report**

	MISO	DARTR	evenue and	LOS	T OPPOR	RTUNITY		
Unit		Green 1 -	G1-13-07			Product	ion Co	ost
Date & Time Off Line	10/4/13 5:04					MW		\$/MW
Date & Time On Line	10/4/13 12:52					109	\$	27.13
Outage Duration		7 hr. 4	18 min.			163	\$	25.07
Outage Code		U	02			235	\$	24.14
Outage Reason	Remo		vice due to opacity r) problems					
Date	DAL	MP Average	RT LMP Average		ART P&L	Lost Opportunity		
10/4/13 (HE 3-18)	\$	33.69	\$ 33.29	\$	(27,397)	\$ -		
Total				\$	(27,397)	\$ -		
Start Up Fu	el Cost					Total Forced	Outag	ge Cost
S/U Fuel Consumed		13,349				DART P&L	\$	(27,397
S/U Fuel Price	\$	3.12				Lost Opportunity	\$	
S/U Fuel Cost	\$	(41,714)	1			S/U Fuel Cost	\$	(41,714
						Total	\$	(69,111
NOTES:								
NOTES: All negative values are mo DART Revenue is calculate		-						





#### Your Touchstone Energy Cooperative

# **Forced Outage Report**

To: Bob Berry

From: Billy Boarman

Date: 9-Oct-2013

Plant: HMP&L Station Two Unit: 2 GADS Class: UO1

#### **Duration**

Trip Time: 5-Oct-2013 05:46 Tie Time: 7-Oct-2013 01:09

Time Offline: 43:23

#### Outage Description

HMP&L Station Two Unit 2 was removed from service on Saturday, 5-Oct-2013 at 05:46 due to failure of the turbine emergency backup DC lube oil pump motor. While the Auxiliary Operator was completing the weekly oil pump test he noticed the DC Lube Oil Pump motor was smoking. Then the pump started turning slowly and fire flashed out of motor. The Auxiliary called the Control Room Operator to shut off the DC Lube Oil Pump.

#### **Root Cause**

The upper bearing lock washer tang was broken off and this allowed the bearing lock nut to loosen. The pump impeller and shaft had slipped to the bottom and were rubbing the suction bell.

### Failure History

No failures of this nature have been reported in the last three years.

### **Corrective Action**

After removing the motor the pump was inspected and found to be locked up. The upper bearing cap was removed and discovered the upper bearing lock washer tang was broken off. This allowed the lock nut to unscrew and the pump impeller and shaft slipped to the bottom of the suction bell. A new shaft lock washer and lock nut were installed and the pump turned free at this time. The motor was sent to Mohler for testing and repair. After the motor was repaired it was reinstalled and the pump was test run for 5 hours. The pump was approved to be returned to service.



#### Your Touchstone Energy® Cooperative

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 5-Oct-2013 05:46:23:058

5-Oct-2013 05:46:30:635	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
5-Oct-2013 05:46:30:618	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
5-Oct-2013 05:46:30:596	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
5-Oct-2013 05:46:30:403	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
5-Oct-2013 05:46:29:805	ОК	H225DRMTRP	BOILER DRUM LEVEL TRIP
5-Oct-2013 05:46:28:881	ОК	H222HTR3LVLHI	LP HEATER 3-3 LEVEL HIGH
5-Oct-2013 05:46:28:053	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
5-Oct-2013 05:46:27:659	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
5-Oct-2013 05:46:27:531	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
5-Oct-2013 05:46:27:524	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
5-Oct-2013 05:46:27:511	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
5-Oct-2013 05:46:27:421	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
5-Oct-2013 05:46:27:421	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
5-Oct-2013 05:46:27:394	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
5-Oct-2013 05:46:27:390	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
5-Oct-2013 05:46:27:390	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
5-Oct-2013 05:46:24:058	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
5-Oct-2013 05:46:23:559	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
5-Oct-2013 05:46:23:058	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
5-Oct-2013 05:46:22:806	TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP

### Other Work Completed While Unit Was Offline

- · Boiler hydrostatic test and reheat vacuum checks, no issues
- · Repaired coal leaks on mills
- · Calibrated all coal feeders



Your Touchstone Energy Cooperative

# **Forced Outage Report**

### Operators Event Log

10/5/2013															
	12;50AM	AUX DO	ING H2 OIL	L PUMP TES	ST NOTICED	H2 DC LUB	E OIL PUN	MP SMOKI	NG WHILE	CHECKING	PSI 37PSI	THEN START	ED TURNING SI	OW FIRE FLASHED	OU
		HAD C.F	R.OPERATO	OR SHUT O	FF. DID NOT	SEE OR SI							mes described 4		-
	12;58AM				H2 DC LUBE	OIL PUMP.									-
	1;00AM			ST NO ANS	WER										
	1;08AM		D B.CHEA						1						
	2;49AM			LED SAID	).JAGGERS	COMING IN									
	3;51am	H2 OUT		DIEG	F 50 551										
	4;05AM								WOULD NO	T OPEN UP	TRIED 2X	TIMES AFTER	R TIE WAS CLOS	SED	
	NOTE				UT TAKING	ALL B SIDE	4160V EQ	UIP							
	4;17AM		OIL IN BO												
	4;33AM				MMONIA OI										
	4;44AM				ASP,B CON				BBFP						
	5;10AM			ED HZ-B MA	IN 52-321 T	HEN CLOSE	ED 52-324	TIE							
	5;46 AM 5:48AM	H2 OFF		CUADUA	204140		1		-						
				SH&RH S	PRAYS	-									-
	6;25am 6:40AM		BINE BRAK BINE ON GI												
	0,400101	HZ TOK	SINE ON G	LAK		<del> </del>									-
5/2013	8:00AM	CLARK,	BREEDEN,	HIGGINS,	CUTSHAW,	BLANKS, Y	OUNG					B SHIFT - D	PENDLEY		
			AC - ONAN												
		UNIT	LOAD		NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESS	URE	
		R1		50		12 HOUR S	STANDBY							R-1 CTL	18
			405	105	450									PWTL	27
		H1	165	165	153	0.544	10.3	0.076	27.2	90.1	25.03	238	3.9		
		LI 2	0	165	OUTAGE										
		H2	0	165	OUTAGE	-			-					HMPL	15
		C.T.	STANDB	Y 58											
		· · · ·	CIANOD			-					GAUGE G	ASSES		DRYING AGENT	
		ALARM	3:								OK OK			H-1 0%	
		R1	+				ļ				O.			H-2 0%	
		H1	STEAM	SEAL HILLO	BURNER	MANGT EL	PRESSII	DE LO/PUI	AD START	PEO				R-1 0%	
		H2		LEVEL HI	- Comment	11101. 21	11112000	THE EON O	VIII OTALLI	100				14-1 070	
		117							-						
		SOOTBI	OWERS T	AGGED											
		R1								SILO			BOOTHE SYS	TEM	
		H1 20								19			IN		
		H2 1,2,	4,5,7,9,10,	11,15,18,19,	20,21,22,23,	24,43									
			L C.H.	HMPL	NORTH										
		LEVELS	12' 6 1/2'	12' 3"	12' 8 3/4"	8 1/4"									
/E/2012	9.00444	CAFETY	DDIETINO												
/5/2013	8:00AM 8:05AM		BRIEFING		CERVICE	CAID THEY	WEDE OL	0050 505	THE WEE	KEND CO	III D NOT O	ET ANYDOD	. 161		lear.
	8:06AM				PHONE - EX						ULD NOT G	ET ANYBODY	r IN		
	8:10AM				/ILL CALL M		MESSAC	SE FOR HI	W TO CALL	ME					-
	NOTE				ING AIR MO		SES FOR	I D TIDD	INIE						
	NOTE				MMONIA &			L.P. TURB	INE		-				MIT .
	8:15AM							DEW HED	TH SAM S	HINDAY MC	DNING N	OTIFIED J. FR	DANCIE		-
	9:30AM				& VACUUM	LOCOLDIN	GLIAG	KEVV HEIN	- TIE OAN G	DINDAT IVIC	JKINING - IN	OTIFIED J. FR	MINOIS		
	9:45AM				& AIR MO	FRS IN DI	CE	-	-	-					and the same
					HIM THEY										
	NOTE		OUT H-2 F		- / mm 11164			-	+	-					-
	NOTE				ERS FOR C	ALIBRATION	V	h	-						-
	12:00PM			ING AGENT		TEIDINA HOI	1								
			FP ON FOR		JII COAL	-			-						
	1:25PM				SED - F.D. F	ANS OFF	MAINT OP	ENING BO	IL ER DOOR	S					
	1:30PM				OPPER DO		MAINT OF	LIVING BU	LLK DOOR					***	
	1:42PM			PRESSURE		J.KG									
	11.761 (V)				CONDENSE	R VACILIM	PUMPS	N FOR VA	CUUM CHE	CK					-
	1:49PM				MESSAGE										
	1:49PM 1:55PM					. On Airi. V	V		JOIN NILE	,,,					
	1:55PM	CALLED		H WASH					-						
		CALLED H-2 SET	UP FOR A		OK - DRAI	VING BOILE	R TO FIRIN	IG LEVEL							
	1:55PM 2:30PM	H-2 SET	UP FOR A	EAT CHECK	OK - DRAII				A CREW						
	1:55PM 2:30PM 2:45PM 3:00PM	H-2 SET H-2 HYD CALLED	UP FOR A RO & REH INLAND - 1	EAT CHECK	ATCHER IS	TRYING TO	GET IN TO	UCH WITH	A CREW						
	1:55PM 2:30PM 2:45PM 3:00PM	CALLED H-2 SET H-2 HYD CALLED INLAND	UP FOR A RO & REH INLAND - T RETURNED	EAT CHECK		TRYING TO	GET IN TO	UCH WITH	A CREW						
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						PURGED T									PWTL / 2
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															0127 10.0
		C.T.	ON STAND	DBY	58	-									
		ALARMS													
		R1													
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	8;00PM	B.BLAIR	HERE												
	9;37PM			ME - NOT P			-								
	NOTE			GEAR SPR		3:48PM-REA	DINGS EV	/ERY 30 N	MIN						
	11;00PM			ON & MIDW		OAD BKR									
	11;35PM	H2 TURNI	NG GEAR	OIL PUMP	ON DC LUB	E OIL PUMP	OFF AND	O IN AUTO							
6/2013	12;30AM	WEEKIY	SAFETY N	EETING &	ODI PEVIE	NAIS									
	1;50AM			BOILER PO					+						
	2;00AM	PUTTING	15% DRYIN	NG AGENT	ON COAL										
	NOTE					LVE LEAK			B SIDE						
	NOTE 4;27AM					LOW NO A			DED WET	o FEEDER	WETTER O	TILL RAINING			
	5;20AM					WET FUEL		3176766	DER WEI	CFEEDER	VVEITERS	TILL PAINING			
6/2013	8:00AM	CONN. CI	ARK BRE	EDEN HIGH	GINS CUTS	SHAW, BLA	NKS YOU	ING				B SHIFT - D.	DENDI EV		
		BLANKS		EDEN, ING	31110, 0011	Jinatt, DEA	1110, 100					b Shiri - b.	PENDEET		
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		H1	150	165	138	0.544	10.3	0.076	27.2	90.1	25.03	238	3.9	PWTL	27'
				WET FUEL							20.00	200	0.0		
		H2	0	165	OUTAGE									HMPL	15.5'
		C.T.	STANDBY	58			_	-							
											GAUGE GI	ASSES		DRYING AGENT	
		ALARMS:				-		1			OK			H-1 0%	
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# Forced Outage Report 10/6/2013 8;00PM EDMONDS, JACKSON , JOHNSON , HOGAN , ALEXANDER, WADLINGTON S/L UNIT LOAD UNIT CAP NET CAP . SO2 CO2 NOX OPACITY 10/6/2013 05/01

H2 C.T.

ALARMS:

ON STANDBY

CAP NET CAP. SO2 CO2 45 / GENERATOR PURGED TO CO2 138 0.388 9.8 WET FUEL 137

BURNER MANAGEMENT/STEAM SEAL LOW PRESSURE/H1 COOLING TOWER HI / LOW

CK PRESSURE	
	CTL/ 17.5'
2.4	PWTL / 26.0
	CTL / 14.9'
UGE GLASSI	
	UGE GLASSI

		H2	EH RES	LEVEL HI							-		OK OK	00.	
			OWERS TA												
			,6,7,16,17,	18,19,22L,2	28,29,30,31										DRYING AGE
		H1 20													R1-0%
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								12							H2- 0%
		FUEL OIL		-											
		LEVELS		HMPL	NORTH				SILO LVL	16'	BOOTHE S	YSTEM		IN	
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	NOTE 8:00PM			JMP RUI											
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	The state of the s				EPAIRS ARI			OIL PUMP							
	8;35PM				L/M,B.BLAI		IN	-	-						-
					SEALS OFF										
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		B.BLAIR						-							
	and the second second	J.HIGGIN		HOME											
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10/7/2013	NOTE	HAVING L	LOTOFIR	OOBLE WI	TH COAL SY	STEM HAL	COAL SP	ILL AT CRU	SHER HO	JSE					
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		PUTTING													
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	NOTE				ATCHED CO				HOVVED 32	VOLIS	VHEN STING	SCOPE WA	S TURNED ON	ELECTRICAN INVES	IIGATING
	2:35AM	H2 SCR S			A TONED CO	WIFLETELT	KELATON	EU							
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	J.JIMN	THE FLOW	III O ANIN	CIAIN											

### **Estimated Outage Cost**

Open/close boiler doors, Boiler Hydro - Titan

Labor	\$3,	150
Material	\$	0
Total	\$3,	150



Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 2 -	H2-	13-07				Product	ion Co	st
Date & Time Off Line	8	/17/13 1:00 8	8/1	8/13 13:00				MW	\$/MW	
Date & Time On Line	8/	8/18/13 13:00 & 8		8/20/13 22:38				94	\$	29.73
Outage Duration	3	6 hr. 0 min. 8	57	hr. 38 min.				127	\$	28.45
Outage Code		MO 8	UO	1				149	\$	28.13
Outage Reason	UC	MO - Wash 1 - Inspect #	and the same							
Date	DA L	_MP Average RT LMP Av		LMP Average		DART P&L	Lost Opportunity			
8/17/13 (HE 1-24)	\$	31.56	\$	28.84	\$	(630)	\$	(13,484)		
8/18/13 (HE 1-24)	\$	25.45	\$	23.45	\$		\$	-		
8/19/13 (HE 1-24)	\$	29.02	\$	44.78	\$	-	\$	(4,291)		
8/20/13 (HE 1-24)	\$	31.97	\$	40.36	\$	(616)	\$	(14,658)	B	
8/21/13 (HE 1-12)	\$	26.80	\$	27.55	\$	(6,589)	\$	-		
Total					\$	(7,835)	\$	(32,433)		
Start Up Fu	iel Cost							Total Forced	Outag	je Cost
S/U Fuel Consumed	100000	8,428						DART P&L	\$	(7,835)
S/U Fuel Price	\$	3.13					Lo	st Opportunity	\$	(32,433)
S/U Fuel Cost	\$	(26, 376)					S	/U Fuel Cost	\$	(26,376)
								Total	\$	(66,644)

N	0	T	E	S	:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



#### Your Touchstone Energy® Cooperative

# **Forced Outage Report**

To: Bob Berry

From: Bart Boles

Date: 4-Nov-2013

Plant: Wilson Unit: 1 GADS Class: UO3

**Duration** 

Trip Time: 18-Oct-2013 20:40 Tie Time: 20-Oct-2013 11:02

Total Time Offline: 38:22

#### **Outage Description**

Wilson Station was removed from service on Saturday, October 18, 2013 at 20:40 due to a tube leak on the east water wall of the furnace on the 8<sup>th</sup> floor at Elevation 499-0". Titan Contracting replaced a section of water wall tube that was approximately 4' long. This was the 10<sup>th</sup> tube on the north side of IR-32 wall blower. The tube being replaced was 3" O.D. x 0.368" MW, SA-210-C rifled tube material. Additional work completed during this outage is listed in the sections below.

#### **Root Cause**

It appears that the east water wall tube failed as a result of weld overlay that was applied to a tube that was too thin, thus causing a section of the tube to blowout. The failure was approximately 18 inches in length, and covered a 180 degree section of tube (as indicated in the photographs). There have been numerous tube leaks in this area over the past few years. There was supposed to be a 6' x 20' water wall panel installed in the tube leak area during the spring 2012 outage and again in the fall 2013 outage (that were both cancelled), to reduce the risk of this happening again.

### Failure History

The last water wall tube leak in the furnace was on May 18, 2013 on the east water wall on the 8<sup>th</sup> floor at Elevation 500". This leak was three feet north of the IR-32 wall blower between elevations 500'- 507". The May 18<sup>th</sup> tube leak on the east water wall was due to weld overlay that was applied to a tube that was too thin, thus causing a pinhole in the tube.



#### Your Touchstone Energy Cooperative

#### **Corrective Action**

The recommendation is to install six (6) new water wall panels during the spring 2014 Wilson Station Outage. The tube leak location will be included in the water wall sections being replaced.

#### Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

- Completed cooling tower PLC project
- Installed inverter at cooling tower
- Performed work on lab sample chiller

#### INSTRUMENTATION

Short Outage – No major work completed

#### **MECHANICAL**

- Checked for leaks on the condenser baffles
- Performed work on rubber boot on #1 ID fan beck drive
- Stroked and checked for movement on #1 ID fan inlet damper
- · Repaired steam coil piping leaks
- Repaired leak on #1 PA fan inspection door
- Repaired leaks in FGD duct drains
- Reinstalled the drag chain sprocket
- Installed and removed ammonia spool pieces
- Replaced drum glass steam isolation valve on West Side of Drum
- Repaired economizer recirc. Gearbox
- Repaired #9 conveyor backstop





#### Your Touchstone Energy Cooperative

#### **Operators Event Log**

/18/2013 12:00AM

> 5:00AM Unit Status Update 5:00AM S03 in service 6.0/5.4 7:00am Todd in, Mattingly out

> > Current-446 Gross MW 417 Net MW Cap @ 8:00am

SCR in, SO3 in, 1,2,3,4 modules, CSI 14, Ball mill- #1-47 amps

1,2,3,4 Mills Boiler O2-2.9% Windbox- 2.53 Total Coal-362 Total Air-96.27% Control Air Dwpt- -7.4 So2 Removal- 92.0 Nox-.060 Opacity- 2.0%, Ammonia tank levels- 64/28 S02 inlets-5.0/5.1 CO 27/20 H2 Pressure- 59 H2 Purity- 98% Gen. Gas Density- 42% INWC Fan Diff.- 75 Seal Oil Diff.- 15 LBS H2 Dew F Back Press. - 2.64/3.64 Stator Gas Temp. diff. - 6.56 Gen. Voltage - 24.00 Gen. Megavars - 123 Ambient Temp.

McIntyre, J. Stewart, S. Roby, Hall, Drake, Barrett in

8:00am Safety Briefing 8:30am Boiler Walkdown

Tube leak on 8th floor SE side

9:50am Started Hotwell Check 10:30am Communication Meeting 10:50am Lost 2.5 in hotwell check A oxidation tank is empty

Daily Vehicle Checklist

Daily Ash & Sludge Handling Checks

Smoke Run

12:30pm Fly Ash Samples 1:00pm Disaster Alarm Test Cleaned Flyash Pad Cleaned Air handler room

Added 6 barrels balls to #1 Ballmill

8:00 PM Peercy in / Todd out

McCarty, Roby day shift, Wilson, Worley, McElwain, Piper, in

W Eaves out Hotwell Check

Checksheet - Combustion Log

8:40 PM Unit Off Line 9:12 PM Turbine on Gear

9:30 PM Ran call-out list for Ops 11:00 PM Ran call-out list for Ops

12:00 AM

/19/2013

5:16 AM Generator Hold #616 6:00 AM ID & FD Fans R/T 7:00am Todd in/Peercy out

SCR spool pieces out

Cancelled SBS & hyrated lime trucks for Monday

Drag Chain off top sprokets. WO# 6111676 Notified Baker. Drag Chain RT

3

WO# 6111677 CT bypass vlv would not operate. Notified Crume

RT bottom ash for surge tank cleaning

Boiler Set to Hydro





BFPT overspeed test

Unit tied online. Notified HL

#2 mill on, precips in service. Notified HL

Transfering valves

/20/2013

10:45am

10:54am

11:02am

Your Touchstone Energy Cooperative

	· · · · · · · · · · · · · · · · · · ·
	Outer loop back in service
8:00 PM	Peercy in / Todd out
	McCarty, Roby day shift, Wilson, Worley, McElwain, Piper, Caldwell, in
7:37 PM	Ran Call-Out List for Lab / got E Ball will be in at 11:00 PM
9:00 PM	C Poore in
12:00 AM	
4:00 AM	B Tichenor in
4:09 AM	Fire in Boiler / Notified H/L
7:00am	Todd in/Peercy out
8:00am	McIntyre, J. Stewart, Hall, S. Roby, Drake, Barrett in
	Safety briefing
8:00am	PA fans on
8:25am	Sealing turbine
9:17am	Rolling turbine





#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

### **WATERWALL TUBE**

Plant: Wilson Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Thin Lip Failure
Tube Wall Thinning X Other: It appears that the tube leak occurred as result of thinning, then blew a section of tube out.
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow
Other: Tube was too thin when it had weld overlay applied to it.
Type of Repair: (Check One)
Dutchman: X Length of Dutchman: 4' Pad Weld: No
Plug Tube Short Circuit Other:





Your Touchstone Energy Cooperative

## **Forced Outage Report**

### **Description of Repair:**

Tube Size OD: 3" Wall Thickness: 0.368" M.W.

Tube Material: SA-210C, Rifled

Welding Rod Used 7018

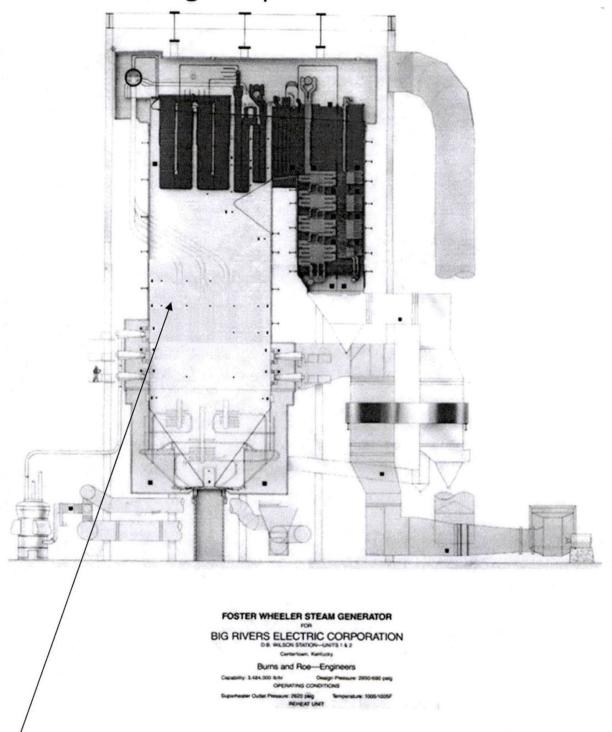
Welded By: <u>Daniel Burden, Jared Burden: Titan Contracting</u>

### **Exact Location of Leak: Be Specific**

East waterwall, 8<sup>th</sup> floor, 10<sup>th</sup> tube on the north side of IR—32 wallblower, Elevation 499'-0". This leak was within 2 feet of the May 18, 2013 tube leak at a slightly different elevation (Approximately 1-2 feet lower).







<u>Tube Leak Here</u> – East Wall (Near Side) 10<sup>th</sup> tube north of IR-32 wall blower,

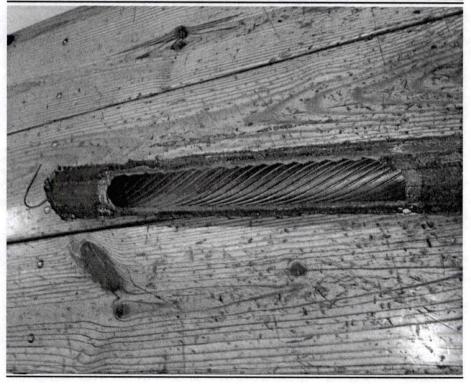




#### Your Touchstone Energy\* Cooperative

### **Photos**









Your Touchstone Energy Cooperative

# Forced Outage Report

**Estimated Outage Cost** 

### **TOTAL OUTAGE COST**

The total outage cost including labor, materials and rental is \$23,193.12

### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY

Unit		Wilson -	W1-13-0	6		1	Produ	ctio	n Co	st
Date & Time Off Line		10/18/1	3 20:40	7 7			MW			\$/MW
Date & Time On Line		10/20/1	3 11:02				280	1	\$	24.05
Outage Duration		38 hr.	22 min.			40	340	1	\$	23.35
Outage Code		U	03		0		420	9	5	22.82
Outage Reason	Unit rer	noved from tube	n service leak	to repair						
Date	DA LMP	Average	RT LMP	Average		DART P&L	Lost Opportunity	1		
10/18/13 (HE 21-24)	\$	27.24	\$	35.36	\$	(8,179)	\$	-		
10/19/13 (HE 1-24)	\$	28.85	\$	34.42	\$	(116,080)	\$	-		
10/20/13 (HE 1-24)	\$	27.27	\$	27.29	\$	(8,240)	\$ (19,84	8)		
Total					\$	(132,500)	\$ (19,84	8)		
Start Up Fu	el Cost						Total Force	ed O	utag	e Cost
S/U Fuel Consumed		46,596					DART P&L	\$		(132,500)
S/U Fuel Price	\$	3.13					Lost Opportunit	y \$	5	(19,848)
S/U Fuel Cost	\$	(145,720)		7 7 7		74 AL	S/U Fuel Cost		3	(145,720)
		The state of					Total	\$	3	(298,067)

3/0 ruei rrice	Ψ	3.13	100	 Lost Opportunity	\$ (19,848)
S/U Fuel Cost	\$	(145,720)		S/U Fuel Cost	\$ (145,720)
				Total	\$ (298,067)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



Your Touchstone Energy' Cooperative 76

## Forced Outage Report

To:

**Bob Berry** 

From: Perry Bowley

Date: 17-Dec-2013

Plant: Green

Unit: 1

GADS Class: UO3

**Duration** 

Trip Time: 26-Nov-2013 23:55

Tie Time: 27-Nov-2013 21:08

Time Offline: 21:13

### **Outage Description**

Green Unit 1 was removed from service on Tuesday, 26-Nov-2013 at 23:55 due to an economizer inlet isolation valve packing leak. While the unit was down, a tube leak was plugged in Feed Water Heater #5.

Fires were established in the boiler on Wednesday, 27-Nov-2013 at 17:30.

The unit was tied online on Wednesday, 27-Nov-2013 at 21:08.

### **Root Cause**

The Economizer inlet isolation valve leak was due to worn out packing related to age and use.

### **Failure History**

There are no failures of this nature recorded for Green Unit 1 in the last three years.





#### Your Touchstone Energy' Cooperative

### **Corrective Action**

Economizer inlet isolation valve was repacked. Feed Water Heater #5 tube leak was located and plugged.

### **SOE Print Out**

N/A

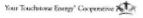
Other Work Completed While Unit Was Offline

None





### **Operators Event Log**





LØG BØØK

DATE 1/24/13

REJU
&DEEN

- O COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
10	Denthus, Cover, Firley, Courance, Wh. Hurlye, Horrer Travis, temple, Shelten, Teggs
	Travis, temple, Shelten, Tagg
	5-0 G-0 = -4.5 W-4 = 2-23' E-2 W-1 = 5-0 G-0
Thoday	11 m 2 7 23 29.4 0 6'0
1100	ACES Colled for G-1 shotderer.
1155	6-1 off line

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2ND	
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	SIGNED

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LOG BOOK

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DATE	_///	127	113	 
	/	/		

- GREEN
- COLEMAN

  WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
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- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

IN The Servery Briefly, Brc Drus, #1-16 T  19' #1-36 70  120 Found GI Field brooker still closed - Heal to trip  G Bracker  1230 G2 clayers at of Source due to broken LSC  20 Hothma Called  20 Biler drum Floodeal 22 - Drawing wow  and BFP R/T  lepus Complited or acoronny inlat value Packing  fivor a 1730, tedane 2 2108 premierout a 2357 SUP'R  1ST  2ND  3RD	TIME	REMARKS
52 Cop 232  502 224  DOZ 252 074  Solvers 61 3 23/23 52 2 23/24 P 2 79 8  Thickens 1A - O 610 24 372 D 611 B 0  1 1 1 0 0 0 2 7 2B 0 2 10 5 7  To The Server, B side, Bre Drive, #1-16 T  191 41-36 70  1204 Found G1 Fald brooker still closed - Heat to trip  G brooker  1230 62 clayers at of source due to broken 150  20 Hilliam Called  20 Biles dum Flacket 12 - Drawing waw and BFP RIT  leque Compliand or economic inlot value packing  Cross 2 1730, tedoned 2108 produced 2357 SUPR  18T  2ND  3RD	1200	
52 Cap 272   saf 232  502 224	61	oft line
502 .224 NOT 250 0/3 (9.0)  5/4 bys 61 3 23/23 52 228/24 P 2 79 %  Thickness 19 - 0 6'0 24 37.2 0 6" B 0  1 1 1 1 0 0 0 2 7 28 0 0 0 0 5 7.  TO TO SENTER, B side, Brc Druss, #1-16 T  19' #1-36 70  120 Found 51 Fuld brookes still closed - Hall to trips  G tracker  1230 62 staters at of Sorate due to bottom 250  250 Hallow Called  200 Biller drum Florabed 22 - Drawing vow  and BFP RIT  Lepus Completed or acomment in last Value Racking  Cross 21730, ted ones 2108 premiont & 2357 SUPR  18T  2ND  3RD		
502 , 224 NOT 250 gAC 9.0  5/4 bers 61 3 23/23 52 2 28/24 P 2 79 %  Thickens 1A - 0 6 0 24 37.2 D 6 1 8 0  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	62	Cap 232 /00 232
Thickens 1A - 0 60 2A 372 0 6" BC  IN OFF 2 7 2B 07 P 0 6" F7.  IN The Server, Brilly, Brc Dalus, #1-16 T  19" #1-36 78  120 Found GI Fuld brooker still closed - Had to trip  G Brooker  1230 62 clayers at of source due to broken LSC  20 Hilling Called  20 Biler from Florbell 12 - Drawing Now  and BFP 2/T  Depute Complited on accommon in lat Value gaching  Cross a 1730, tellane 2 2108 processout a 2357 SUPR  1ST  2ND  3RD		
TV In Servery Brills, Brc Drus, #1-16 T  19' #1-36 70  120 Frend GI Fuld brooker still closed - Had to trip  G Brooker  1230 G2 clayers at of Serve due to broken LSC  200 Hillim Called  200 Biler Sum Florehal X2 - Drawing war and BFP R/T  Repus Complited on accommon inlat value packing  Given 2 1730, tellales 2108 present 2357 SUP'R  1ST  2ND  3RD	Slakers	61 3 23/23 62 2 28/24 P 2 78 %
TV In Servery, Brills, Bre Drus, #1-16 T  19' #1-36 70  120 Found GI Fuld brooker still closed - Had to trip  G Brooker  1230 G2 clokers at of Sorre due to broken LSC  200 Hilliam Called  200 Biler dum Florehal X2 - Drawing war and BFP PAT  Repus Complited or accommon inlat value packing  Given a 1730, tellales 2108 premiont a 2357 SUP'R  1ST  2ND  3RD	Thicken	-5 1A - 0 6'0 ZA 37.2 0 6" BO
19' #1-36 %  120 Found SI Fuld brookes still closed - Had to trip  G Brance  1230 S2 clayers at of Service due to broken L3C  20 Hilliam Called  20 Biler Sum Florated X2 - Draining was and BFP R/T  Pepus Completed on accommon inlat value Packing  Cross a 1730, telonera 2108 present a 2357 SUP'R  1ST  2ND  3RD	4 30	12 OFF 2 7 2B OFF 0 610 F7.
12° Found GI Fuld brooker still closed - Had to trip  G Brooker  12° 62 clayers at of Server due to broken LSC  20 Hitling Called  20 Biler dum Flooded X2 - Drawing Now  and BFP R/T  Lepus Complited on acommen inlat value packing  Grown 2 1730, tellane 2 2108 processon 2357 SUP'R  1ST  2ND  3RD	IU	
1230 62 clayers at of sorre due to broken LSC  200 Hillim Called  200 Boiler dum Flooded XZ - Drawing vow  and BFP R/T  Repus Corpliad or acorony inlet value Roching  First a 1730, telonera 2108 preservant a 2357 SUP'R  1ST  2ND  3RD		19' #1-36%
1230 62 clayers at of sorre due to broken LSC  200 Hillim Called  200 Boiler dum Flooded XZ - Drawing vow  and BFP R/T  Repus Corpliad or acorony inlet value Roching  First a 1730, telonera 2108 preservant a 2357 SUP'R  1ST  2ND  3RD	120\$	Found GI Fuld Book as still closed - Had to trive
1230 62 Electron at of Service due to broken 15C  20 Hilling Called  20 Biler dum Flooded X2 - Drawing wow and BFP R/T  Repus Completed on according inlat value packing  Crosma 1730, tellane 22108 preservout 2357 SUP'R  1ST  2ND  3RD		
20 Hilling Called  20 Biler Sum Flooded X2 - Drawing Now  and BFP R/T  Lepus Complited on accommen inlat value packing  from a 1730, tellales 2108 present a 2357 SUP'R  1ST  2ND  3RD		*
Pepus Corplited or according inlet value packing  Cross a 1730, telonered 2108 preservant a 2357 SUP'R  1ST  2ND  3RD	1230	62 Eleptors at of Service due to broken LSC
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first 21730, telorero 2108 presento 2357 SUP'R  1ST  2ND  3RD	0.000	
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	har los	I Industry 10 /24 AHploggy GRED prossing







LOG BOOK

DATE 11-27-17

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	COLEMAN
	WILSON

3	SHIFT SUPERVISOR
0	CONTROL OPERATOR
0	<b>AUXILIARY OPERATOR</b>
_	LITH ITY ODEDATOD

	<b>SCRUBBER</b>	SHIFT	SUPERVISOR
a	SCRUBBER	OPER	ATOR

- □ SCRUBBER AUXILIARY OPERATOR □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
SA	Host, Hayes, Northington, Butler, J Darron, Turner, Collins, Cook, Combs, R. Porker, T Parker.
	Collins, Cook, Combs R. Porker, T Parker.
61	off-
G2	Lood 230 A, RAC Mills precipe 300
	SOL .27 Nov. 24 opacity 9.5
IV	O conversed Odl Drums = 15:10 20" = 15moot 76
	B conversed D4C Drums #15:10 205 #1 smoot 76".  5:101 25.0 77.0  E4.5 E0
	E 4.5 E O
(1.1.	W 4.0 W.5
Stakers	G1 Jon 23.5 + 22.5 = 15.10
	62 out 21+22.5
	pref 2 on 78".
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	1A 60 of 69" 2A 375 of 69"
	10 - 25 6:11, 50 25 22 52 6.8"
2:42	Doiler Feedgraps on filling Doiler To Fire
0,1-	Weller 10 golf on 4111 18 1001/00 30 PITE
4:57	Duroll called in sick - STapp reporting in
1.01	and the same of th
5:00	Fires Established in GI for STO, TUP
5:Pm	Fires Established in GI for STO, Tup IV out of service 10 in Tanks
	1 The state of the

OPER	SUP'R
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3RD	
	SIGNED

F155.12 R 1/93









LOG BOOK

DATE 11-27-17

- O REID GREEN □ COLEMAN □ WILSON
- □ SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
6:50	Scaled Turbine and pulling Vocum
	· ·
Note	C Front Tourche Will not Move
0.00	
8	Poiles, Reed (HO) Rittmeyer Bachman, Hopkins, Berry Hoover Knhna (S/L) Bell, Rigdon, Gerrell, Duvall (S/L), Tapp
	BERRY HOOVER KNOWA (S/L)
	Bell, Rigdon GORRELL DUVALLESTAPP
811	Closed IN 100-9 disconnect
	Tried to put Voltage an - HAD Temp ALAKM HI,
- 1	2 FIRING ALARMS, ALL PTS BAD, VHL
	Tried to put Voltage an - HAD Temp ALAKM HI, 2 FIRING ALARMS, ALL PTS BAD, VHL Electrician disconnect WIRE - NotiFied M. MALONY
- //	
8 76	Voltage on Gen.
0.0	
908	Tied on Line - B mill on - Trouble with coal
211	
916	Precips in
. 97	
1000	D mill on
	1A 40+ (59) OT-610" 2A 39.1 (77) OT-69" 1B 40+ (172) 2T-7' 2B 35 (202) 15T-6'8"
	18 40+ (172) 2T-7' 2B 35 (202) 15T-6'8"

OPER	SUP'R
1ST	822
2ND	N8P-12A
3RD	
	SIGNED

F155.12 R 1/93









LOG BOOK

DATE	11-27-1	3
DAIL	11 00 1	_

□ REID GREEN □ COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR □ AUXILIARY OPERATOR
  - □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	STACK DRAINS OK FLOC 7.5 Bed.00
	FLOC 7.5 Bed.00
120	
1/20	A mill on
115	OIL Torches ONT
	- And - Constitution of the Constitution of th

OPER	SUP'R
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#### Your Touchstone Energy Coopennies \*

### **Estimated Outage Costs**

Work Order#	Work Order Description	Project	Estimated Labor Cost	Actual Labor Cost
6115038	G-1 USO General Outage work	G1USO	1,235.85	1,251.29
6115060	G-1 Start up Nov 27 2013	G1USO	2,471.70	602.49

**Total Actual Cost** 

\$ 1,853.78

### **Lost Sales Opportunity Report**

	MISO	DARTR	eve	nue and l	LO	ST OPPOR	RTU	NITY		
Unit		Green 1 -	G1-1	3-09				Product	ion C	ost
Date & Time Off Line		11/26/1	3 23:	55				MW		\$/MW
Date & Time On Line		11/27/1	3 21:0	08				163	\$	24.83
Outage Duration	-	21 hr.	13 mir	٦.				199	\$	24.12
Outage Code		U	03					235	\$	23.92
Outage Reason	Repa	air leak on the va	e ecor	nomizer inlet						
Date	DA LI	MP Average	RT L	MP Average		DART P&L	Op	Lost		
11/27/13 (HE 1-24)	\$	41.47	\$	27.23	\$	278	\$	(97,311)		
11/28/13 (HE 1-8)	\$	25.85	\$	28.64	\$	3,646	\$	(1,681)		
Total					\$	3,924	\$	(98,992)		
Start Up Fu	el Cost							Total Forced	Outa	ge Cost
S/U Fuel Consumed		13,531						ART P&L	\$	3,924
S/U Fuel Price	\$	3.13					Lost	Opportunity	\$	(98,992
S/U Fuel Cost	\$	(42,415)					S/I	J Fuel Cost	\$	(42,415
								Total	\$	(137,482
NOTES:										





Your Touchstone Energy Cooperative

To: **Bob Berry** 

From: Bart Boles

Date: 5-Dec-2013

Plant: Wilson Unit: 1 GADS Class: UO3

Duration

Trip Time: 1-Nov-2013 02:10 Tie Time: 2-Nov-2013 10:28

Total Time Offline: 32:18

#### **Outage Description**

Wilson Station was removed from service on Friday, November 1, 2013 at 02:10 to repair a leak in the superheat spray line. While the unit was offline the boiler was hydrostatically tested and a tube leak was discovered in the east water wall of the furnace on the 8th floor at Elevation 500'-0". Titan Contracting replaced a section of water wall tube that was approximately 54" long. This was the 13th tube on the north side of IR-32 wall blower. The tube being replaced was 3" O.D. x 0.368" MW, SA-210-C rifled tube material. Additional work completed during this outage is listed in the sections below.

#### **Root Cause**

It appears that the east water wall tube failed as a result of weld overlay that was applied to a tube that was too thin, thus causing a section of the tube to blowout. The failure was approximately 8 inches in length, and covered a 180 degree section of tube. There have been numerous tube leaks in this area over the past few years. There was supposed to be a 6' x 20' water wall panel installed in the tube leak area during the spring 2012 outage and again in the fall 2013 outage (that were both cancelled), to reduce the risk of this happening again.





#### Your Touchstone Energy" Cooperative

### **Failure History**

The last water wall tube leak in the furnace was on October 18, 2013 on the east water wall of the 8<sup>th</sup> floor at Elevation 499". This leak was the 10<sup>th</sup> tube north of the IR-32 wall blower at elevation 499". The October 18<sup>th</sup> tube leak on the east water wall was due to weld overlay that was applied to a tube that was too thin, thus causing a 18" rupture in the tube.

#### **Corrective Action**

The recommendation is to install six (6) new water wall panels during the spring 2014 Wilson Station Outage. The tube leak location will be included in the water wall sections being replaced.

#### Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

Short Outage – No Major work completed

#### INSTRUMENTATION

• Short Outage - No major work completed

#### **MECHANICAL**

- Repaired Condenser Baffles
- Installed Boot on #1 ID Fan Beck Drive
- Stroked ID Fan Inlet Dampers
- Repaired Steam Coil Piping Leaks
- Repaired Leak on Burner Scrolls
- Repaired Leak on #1 PA Fan Inspection Door
- Repaired Precipitator Door Leaks
- Reinstalled Drag Chain back on the Sprocket
- Replaced #1 ID Fan Lube Pump Valve
- Replaced Drum Gauge Glass Steam Isolation Valve
- Repaired #9 Conveyor Backstop.



#### Your Touchstone Energy Cooperative

### **Operators Event Log**

11/1/2013	12:00AM	
	1:00AM	Taking unit down for leak on superheat spray line
	2:10AM	Unit Off Line
	7:00 AM	Peercy in / Cooper out
		McCarty, Roby, Wilson, Worley, McElwain, Piper, in
	7:12 AM	D Stovall called back / coming in
	7:00pm	Todd, Cooper in/ Peercy, Crowe, Owens out
	7:42pm	Aux BFP on for hydro
	8:00pm	H. Roby, McIntyre, J. Stewart, Baker, Hall, Poore, Drake, Barrett in
		Safety Briefing
		Boiler and Turbine set to fire
		Inspected inner loop and put back in service. Found 1 leak
		Opened BFP knocker valves
		Put BA system back in service
		Debusk deslagging superheats
		Plant Headcount
11/2/2013	12:00am	WO# 6112827 #1 SAH air drive will not run
	3:00am	ID/FD fans on. Purging boiler
	3:58am	Oil fires established. Notified HL
	7:00 AM	Peercy, Crowe in / Todd, Cooper out
	0.00 414	McCarty, Roby, Wilson, Worley, McElwain, Piper, Stovall, in / Baker, Roby, Hall staying
	8:00 AM	over
		Ran Call-Out List for M/M / got no one
	8:36am	Ran Call-Out List for Lab / got J Burnett for 2:30 pm Rolling turbine
	10:12am	W. Eaves called back , coming in at 2:00pm
	10:12am	Precips in service H/L notified
	10:16am	#2 Mill in service
	10:16am	Unit tied online. Notified HL
	10.20a111	Office ded Offinite. Notified TIE



#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

### **WATERWALL TUBE**

Plant: Wilson Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Thin Lip Failure
Tube Wall Thinning X Other: It appears that the tube leak occurred as a result of thinning, then blew a section of tube out.
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow
Other: Tube was too thin when it had weld overlay applied to it.
Type of Repair: (Check One)
Dutchman: X Length of Dutchman: 54" Pad Weld: No
Plug Tube Short Circuit Other:





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## Forced Outage Report

### **Description of Repair:**

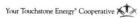
Tube Size OD: 3.00"	_	Wall Thickness:	0.368" M.W.
Tube Material: <u>SA-210C,</u>	Rifled	_	
Welding Rod Used	7018		

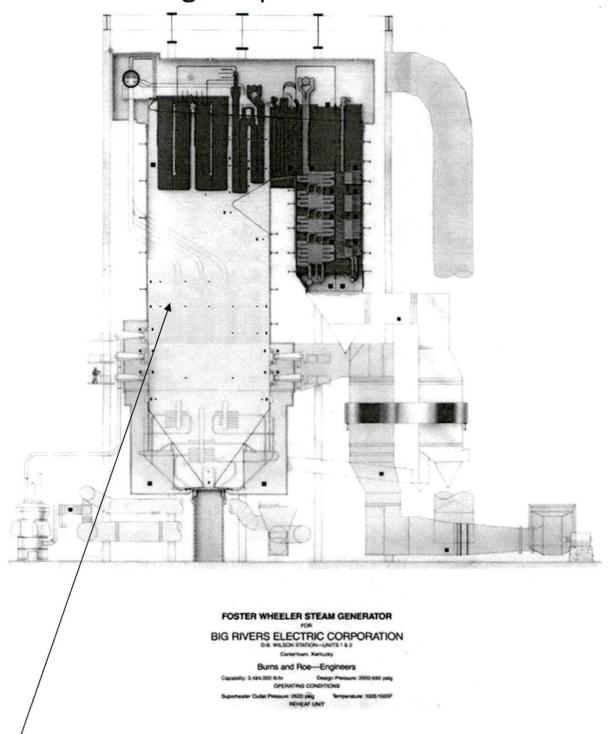
Welded By: Daniel Burden, Jared Burden: Titan Contracting

**Exact Location of Leak: Be Specific** 

Water wall, 8<sup>th</sup> floor east wall, 13<sup>th</sup> tube on the north side of IR—32 wall blower, Elevation 500'-0". This leak was the next tube over from the October 18, 2013 tube leak at a slightly different elevation (Approximately 1-2 feet higher).







<u>Tube Leak Here</u> – <u>East Wall</u> (Near Side) 13<sup>th</sup> tube north of IR-32 wall blower





### Forced Outage Report **ESTIMATED OUTAGE COST**

TOTAL OUTAGE COST = \$14,677.40



Your Touchstone Energy Cooperative

### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-13-07	Production Cost				
Date & Time Off Line	11/1/13 2:10	MW		\$/MW		
Date & Time On Line	11/2/13 10:28	300	\$	23.96		
Outage Duration	32 hr. 18 min.	340	\$	23.52		
Outage Code	UO2	420	\$	23.00		
Outage Reason	Repair leak in superheater spray line					

Date	DA LM	IP Average	RT LN	/IP Average	D	ART P&L	Орј	Lost portunity
11/1/13 (HE 1-24)	\$	29.46	\$	24.46	\$	(17,494)	\$	-
11/2/13 (HE 1-22)	\$	29.52	\$	38.61	\$	(94,878)	\$	(9,642)
Total					\$	(112,372)	\$	(9,642)

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		31,533	DART P&L	\$	(112,372)
S/U Fuel Price	\$	3.13	Lost Opportunity	\$	(9,642)
S/U Fuel Cost	\$	(98,613)	S/U Fuel Cost	\$	(98,613)
			Total	\$	(220,628)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To:

**Bob Berry** 

From: Perry Bowley

Date: 28-Jan-2014

Plant: Green

Unit: 1

GADS Class: UO1

#### Duration

Trip Time: 2-Dec-2013 07:26

Tie Time: 3-Dec-2013 06:57

Time Offline: 23:31

#### **Outage Description**

Green Unit 1 tripped from service on Monday, 2-Dec-2013 at 07:26 due to a tube leak on the south east burner wall. "C" Mill, south east burner, center tube at the bottom of the burner, after bend tube straightens out below burner at an original construction field weld.

Fires were established in the boiler on Tuesday, 3-Dec-2013 at 04:45.

The unit was tied online on Tuesday, 3-Dec-2013 at 06:57.

### **Root Cause**

Leak was in an original construction weld line.

### Failure History

There is no water wall tube failures of this type recorded in the period from 2007 to present for Green Unit 1.

1





### Your Teachstone Energy Cooperative

## Green Boiler Tube Leak Record

Unit Green Unit 1
Date and Time Unit Off 2-Dec-2013 07:26
Date and Time Unit On 3-Dec-2013 06:57
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Crack Thin Lip Failure
Tube Wall Thinning Other
Orientation of Rupture: (Check One)
Longitudinal CircumferentialX
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion Weld Failure X (Shop Field X )
Internal Obstruction to Flow Sootblower Erosion
Other
Type of Repair: (Check One)
Dutchman X (Length of Dutchman 8" Pad Weld
Plug Tube Short Circuit Other





#### Your Touchstone Energy Cooperative

### Description of Repair:

Tube Size OD_	2 ½"	Wall Thickness _	.203	_ Tube Material SA210A1
Welding proced	lure	GS-P1-1L		
Welded By:	Titan			

### Exact Location of Leak: Be Specific

C Mill South East Burner Center tube bottom of burner, after bend tube straightens out below burner



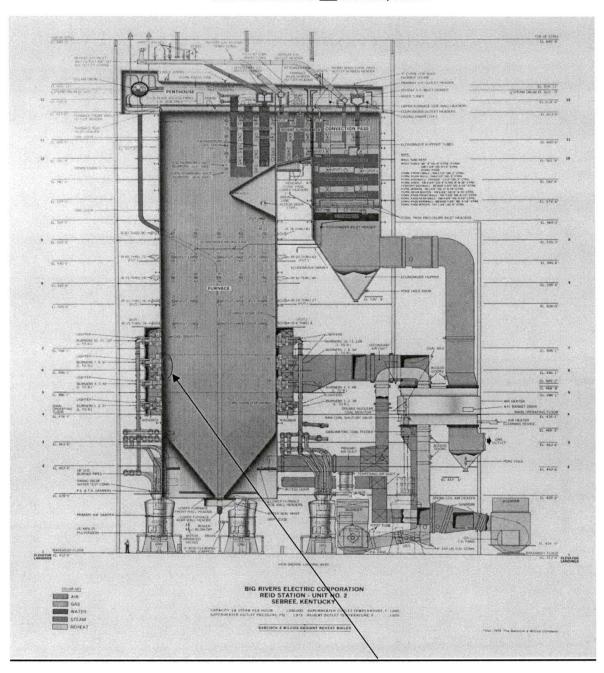


#### Your Touchstone Energy' Cooperative X

### **GREEN STATION UNIT 1** 2013

### TUBES INVOLVED

Date and Time Unit On\_\_\_



G1 C Mill South East burner center tube below burner 8" dutchman installed



E it is scholar George Congression, And A

**SOE Print Out** 

Not Available

Other Work Completed While Unit Was Offline

None

5



**Operators Event Log** 



Your Teachstone Energy Cooperative



LOG BOOK

DATE	-/2.	-2-13	
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D	GREEN

- □ COLEMAN □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

12 MN - 8A THIS FORM TO BE COMPLETED IN INK
TIME REMARKS
12 Mr. Barron- Leer (voc)- Hayes - Tuener - Denton - Butter - Strickland-
Mahan Thomas (Um) - Townsend - Novan - Hologood - R. Parker
G-1 Lord 247 Cap 250 3 Mills on Coff
Nox.157 582.313 Operation 7.30
ADS Control in Service 2 preops out of Service
0 0
G-2 Startup
tuil . DC . ABD . to M
I'll in Service - B Conveyor - A+B Drums - #1 Syash
Site e 22 tons of Och pel hour - #1 Smoot System le
36 plume Note - in Devolge lands
Slakers - # 1 Building in Sewin 4 on 24.5/238 #1 Silo
#2 Bulding out of Struct. 22.7/22.7
Prop Building in Service 20 79.6 % #4 Silo
Underflows 1A) 40+ 0 6'9" 2A) off 0 6'10"
18 of 2 7' 28 of 0 6' 10"
Bed O.OU Block 7.5 Stock Drains OK
12 4 Puttering Condengate System & in Service & I.D. Fano &
t. D. Faro in Service
2 - +221 AC
GI type a 0726 Thurse pare the lad WW SE side around
SH-7.43 Burner 1ST Livers 12MW-8A
2ND
3BD 3 1 1 1 1 EN
62 free en a 0215 , tiel or line a 0702 problem with Fo regulator
1052 FW reg report 1235 All al times out of traile F155.12
CA-1 SS-1 WOB-7.03 SH-11.97 NO DEPARE







LOG BOOK

DATE	12-2-13
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- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
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- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	I'll run time 14 hours
	Underflow Pumps pun time IA) 20 hours +30 Minutes
	(B) 5 hours + 30 Minutes
	2A) 3 hours + 30 Minutes
	2B) 4 hours
Note	Cannot get Purge on G-2 Boder - C Mill east rear Secondary air running to high to get Purge. Letterin
	Inst. department to assist
146	Purge started on G-Z
25	Fires established in G-Z Boiler - Notified H/L
345	I'll Down 6'in Sludge tanka
400	Underflows 1A) 40+ 0 6'9" 2A) off 0 6'10"
	1B) off 2 7' 2B) off 0 6'10"
	Bool 0.00 Flock 7.5
446	Released Hold #755 - Closed in 110-9 Generator
	disconnect - Operator Closed in field breaker & Startes
	De puttere Vottage on Generally + 110-9 luipe open
	OPER SUP'R
	2ND
	3RD
	SIGNED F155.1







LOG BOOK

DATE 12-2-13

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- □ WILSON

4	SHIFT SUP	ERVISOR

- CONTROL OPERATOR
- AUXILIARY OPERATOR
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- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
Note	Getting electrical Department & Electrical engineer
	to cheat
78	Tied G-Z Gererator - Put B"mill on
726	G-1 TRIPPED - Tube LEAK Appr. between
	G-2 Trouble with F.W. Reg - INST. Changing
	OUT Positionar

OPER	SUP'R
1ST	Suers 12MN-87
2ND	
3RD	
	SIGNED

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**LOG BOOK** 

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- **UTILITY OPERATOR**

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- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
8 Am	Poiles Reed (VAC) Rittneyer Bachman Hopkins, Berry Kuhna (S/C) Bell, Rigdon, Grexell, Dnuall Don, than Farley 726 Tube leak
_	Berry KuhnA (S/C) Bell Rigdon, Grexell DouAll
7	Don, than, FARley
6-1	726 Tube leak
	START-UP LOAD 40 Bm. II on SOZ .03 Nox .25 operates 6.4 ADS out 4 Pacerps out
	502.03 Nox. 25 Opacitic 6.4
	ADS out Y Paceigns out
	G.Z F.W. Reg. INST, chansing out Position-
	IU out 13' Tonks
	IU out 13' Tonks #1 silo 34' silo + SAFE+ 5 E1.5 W1.0 #2 silo 28' silo + SAFE+ 1 E.5 WO
	#25,10 28' 3,10 & SAFET 1 E.5 WO
804	G-1 Turbine ON SEAR
1050	G-2 F.W. Regulator Repaired
1115	G-2 D'mill on
10.35	
12%	G-2 OIL FIRED OUT OF boiler - START-up Complete
1203	A mill on

OPER		SUP'R
1ST	RJ 8A	-8P
2ND		
3RD		
	SIGNED	***************************************

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**LOG BOOK** 

DATE 12-2-13

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- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	1A N/A (51) OT-69" 2A OFF OT-610"  1B OFF 5T-611" 2B OFF OT-69"
	1B OFF ST-611" 2B OFF OT-6'8"
	FLOC 7.5 Red, 00
	STACK DRAINS OK
	SLAKERS 6-1 OUT 25 25 G-2 10N 25 25 #3 PRED 2 ON 837, #4
	PRED 2 ON 837. #4
ton	Lime 51/0's 11/2 5/2 9/3 23/14 Dig. 17'6"
	Added Freloit D.T. 14'738"
328	CALLED M. Tunnen - called back will be in @ gam
	1A N/A (74) OT-6'8" 2A 31.7 (89) OT-6'0"  1B N/A (169) 8T-6'11" 2B 33.6 (248) OT-6'8"  Floc 7.5 Bed. 00
9:20	1A off 07 6'8" ZA J4.5 07 6'10" 1B14660 107 6'11" ZB J3.8 07 6'8" Belo FL 7.5

OPER	SUP'R
1ST	
2ND	
3RD	1320
	SIGNED

F155.12 R 1/93









LOG BOOK

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THIS FORM TO BE COMPLETED IN INK

ME	REMARKS
:42	Maint signed off Feed pumps - Filling
	Daile for Hills
	osoner har rigare

SUP'R
13200

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LOG BOOK

DATE 12-7-13

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- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1217	Hust, Hayes D. Barron, Northingson, Busler J Barron, Denson, Haner, Cook, Combs, Collins, R. Parker.
	Wenton, Haner, Cook, Combs, Collins, R. Parker.
61	Filling Doller for Hydro
62	Load 242 A, D&D M:11s precige your SO2, 19 Nov. 20 apacity 5.8
Slaken	G1 OUT 23.8 + 23.8
	GZ 3 on 23.8 + 23 #3 r.d.
IV	Deopueyors Add Drums #15:10 19 #1 smoot 76".  12:5 in Tanks Siles J2:0 30 IV 11hu 45min
	12:5 in Tanks Siles J2:0 30 IVIIhos 45mit 1A21 Los 2A5.5 Los E2.0 E2.0 1B 5.5 Los 2B 4.5 Los W 1.0
1:00	1A- OT 6'9" 2A JOS OF 6'10" 1B 162° 47 6'9" 2B JJ. 8 O' 6'8"
	Hydro Complete setting Soler To Fire
4:00	IV Down & in Tanks

Gs hydrogood a 0130/ fre	PER 20445, U	nut [	SUP'R	
tud on lue a 0657, 8000 for	1stall pessene at	1320	NO DE	RANE
401-695 SH-17.05 SA-158-1	2ND			
GIMOX ROED 249 mus	3RD	152	D.	
	SIGN	NED		
G2 mex local - 242 nus				F155.12 R 1/93









LOG BOOK

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- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
4:45A	Dil Fires established in GI Doiler
6:57	GI Tied on Line - D millow

	SUP'R
1ST	
2ND	
3RD	63200
	SIGNED

F155.12 R 1/93





### Your Touchstone Energy Cooperative

# Forced Outage Report

### **Estimated Outage Costs**

Outside Contractor \$31,094

Material

\$46.00

Labor

\$2,842

**Total Actual Cost** 

\$33,982





Your Touchstone Energy Cooperative

**Lost Sales Opportunity Report** 

### FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Green 1 - G1-13-10							Product	on Co	st		
	12/2/13 7:26 <b>MW</b>					12/2/13		MW			\$/MW
12/3/13 6:57							91	\$	27.72		
23 hr. 31 min.							181	\$	24.33		
	U	<b>D1</b>					235	\$	23.84		
Rep	oair water	wall tube	leak								
DA LMP	Average	RT LMF	Average	DA	ART P&L	Or	Lost				
\$	35.17	\$	37.05	\$	(51,395)	\$	-				
\$	34.12	\$	33.34	\$	32,387	\$	(56,974)				
				\$	(19,008)	\$	(56,974)				
	DA LMP	12/2/1 12/3/1 23 hr.: Ut Repair water  DA LMP Average \$ 35.17	12/2/13 7:26 12/3/13 6:57 23 hr. 31 min. UO1 Repair waterwall tube DA LMP Average RT LMF \$ 35.17 \$	12/2/13 7:26 12/3/13 6:57 23 hr. 31 min. UO1  Repair waterwall tube leak  DA LMP Average RT LMP Average \$ 35.17 \$ 37.05	12/2/13 7:26 12/3/13 6:57 23 hr. 31 min. UO1  Repair waterwall tube leak  DA LMP Average RT LMP Average DA \$ 35.17 \$ 37.05 \$ \$ 34.12 \$ 33.34 \$	12/2/13 7:26 12/3/13 6:57 23 hr. 31 min. UO1  Repair waterwall tube leak  DA LMP Average RT LMP Average DART P&L  \$ 35.17 \$ 37.05 \$ (51,395) \$ 34.12 \$ 33.34 \$ 32,387	12/2/13 7:26 12/3/13 6:57 23 hr. 31 min. UO1  Repair waterwall tube leak  DA LMP Average RT LMP Average DART P&L  \$ 35.17 \$ 37.05 \$ (51,395) \$ \$ 34.12 \$ 33.34 \$ 32,387 \$	12/2/13 7:26   MW   12/3/13 6:57   91   181   235	12/2/13 7:26       MW         12/3/13 6:57       91       \$         23 hr. 31 min.       181       \$         UO1       235       \$         Repair waterwall tube leak         DART P&L       Lost Opportunity         \$ 35.17       \$ 37.05       \$ (51,395)       \$ -         \$ 34.12       \$ 33.34       \$ 32,387       \$ (56,974)		

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		17,171	DART P&L	\$	(19,008)
S/U Fuel Price	\$	3.14	Lost Opportunity	\$	(56,974)
S/U Fuel Cost	\$	(53,915)	S/U Fuel Cost	\$	(53,915)
			Total	\$	(129,897)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



Your Touchstone Energy Cooperative

To:

**Bob Berry** 

From: Perry Bowley

Date: 19-Jan-2014

Plant: Green

Unit: 2

### **Outage Type**

□ Planned

MOH

Delayed

Extended

□ Other

GADS Class: MO

Duration

Trip Time: 30-Nov-2013 00:02

Tie Time: 2-Dec-2013 07:02

Total Time Offline: 55:00

MO Hours 48:00

UO3 Hours 07:00

### Outage Description

Green Unit 2 was removed from service on Saturday, 30-Nov-2013 at 00:02 for air heater washing and to repair a reheater tube leak. While the unit was offline, a boiler hydro was performed and a weeper tube leak was located and repaired in the west furnace wall area. Other work items were addressed as listed below.

Fires established in boiler on 2-Dec-2013 at 02:15

The unit was tied online 2-Dec-2013 at 07:02

#### **Root Cause**

1st Boiler tube leak was caused by a cracked intermediate reheater tube attributed to external corrosion. The intermediate reheater tube leak impinged on an adjacent tube in the reheater outlet section causing another tube leak.

2<sup>nd</sup> Boiler waterwall tube leak was

See tube leak report and location map below.







### **Failure History**

This is the first Reheater outlet bank tube leak since the replacement of the Reheater Outlet tube bundle in 2009. Intermediate tube bank was not replaced.

There has been one outage attributed a water wall tube leak since 2007.

#### **SOE Print Out**

N/A

### Other Work Completed While Unit Was Offline

#### Mechanical

Replaced MOV 1444 that was leaking through
Repacked several Valves on boiler that were leaking
Industrial Valve Inc. reseated 3 of the 4 drum safeties that were leaking through
Air Heater Wash Completed
Inspected boiler tube shielding
Inspected and cleaned scrubber nozzles and chevron panels

#### Instrument

Blow back furnace pressure and air heater differential taps Cleaned scanners / igniter packages Stroked ID & PA Fan dampers

#### **Electrical**

Southern Environmental repaired precipitators as required.



**Operators Event Log** 

N/A









## Green Boiler Tube Leak Record

Unit Green Unit 2
Date and Time Unit OffNovember 30, 2013 12:02 A.M
Date and Time Unit On December 2, 2013 07:02 AM
Type of Leak: (Check One)
Pin Hole Thick Lip Failure CrackX Thin Lip Failure
Tube Wall Thinning Other
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion Other
Type of Repair: (Check One)
Dutchman X (Length of Dutchman 3 FT) Pad Weld
Plug Tube Short Circuit Other





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Your Touch	stone Ener	gy <sup>s</sup> Coop	perative X	Dr	

Description of Repair: Tub	be Size OD2.5"	Wall Thickness	.148
Tube Material <u>SA213-T</u>	11		
Welding procedureG	S-P5-P5-NSR		
Welded By: <u>Titan</u>			

### Exact Location of Leak: Be Specific

Reheat Intermediate Bank 30th element from the east. Lead tube.

Reheat Outlet Bank 30th element from the east, last tube in the bundle. Both located in IK 34 and IK 35 Sootblower lane at approximate elevation 606'. Titan installed a 3 ft. dutchman. The Reheat Intermediate tube was an original tube that failed and washed the Reheat Outlet Bank tube that was installed in 2008.





#### Your Touchstone Energy Cooperative

## Green Boiler Tube Leak Record

Unit Green Unit 2
Date and Time Unit OffNovember 30, 2013 12:02 A.M
Date and Time Unit On December 2, 2013 07:02 AM
Type of Leak: (Check One)
Pin Hole Thick Lip Failure CrackX _ Thin Lip Failure
Tube Wall Thinning Other
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower ErosionX Other
Type of Repair: (Check One)
Dutchman (Length of Dutchman) Pad Weld X
Plug Tube Short Circuit Other





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Your Touch	stone Energy <sup>a</sup> Cox	operative X

Description of Repair: Tube Size OD 2.5" Wall Thickness
Tube Material: SA210-A1
Welding procedureGS-P5-P5-NSR
Welded By:
Exact Location of Leak: Be Specific: West Wall at IP 30





#### Your Touchstone Energy Cooperative

### **Pictures**



New 2008 Reheat Outlet Bank tube, 30th bundle from East, lead tube at IK 34-35 Sootblowing Lane. Tube was shielded. Leak from Intermediate bank washed through the shield into tube.







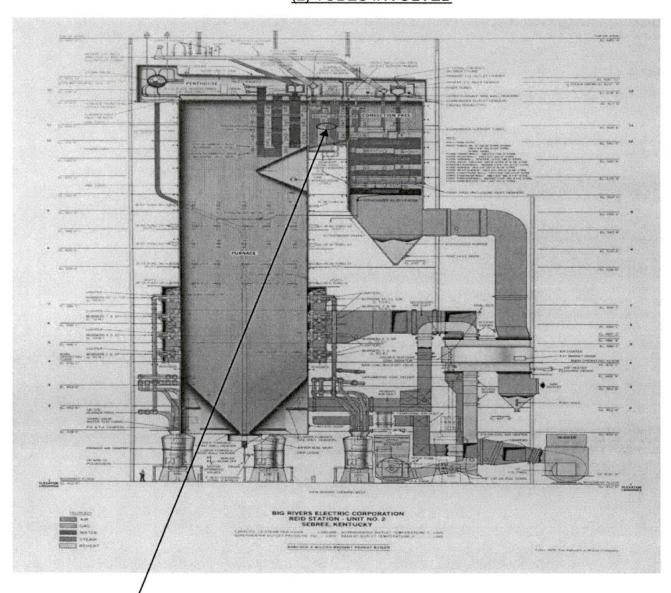


Original installed Reheat Intermediate tube, 30 from East. 1st tube in bundle. IK 34-35 Sootblowing lane.





**GREEN STATION UNIT 2** 2013 (2) TUBES INVOLVED



Reheat Intermediate Bank Lead 30st bundle from east (near) side at elevation 606'.

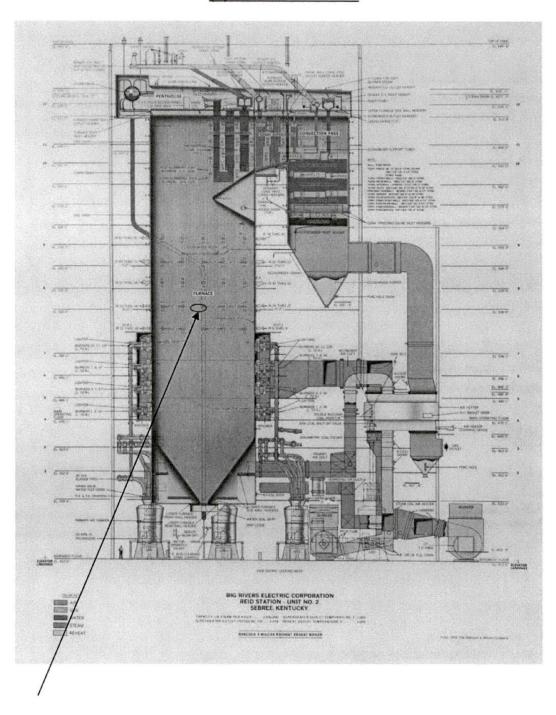
Reheat Outlet Bank 30<sup>th</sup> Bundle from east in IK 34-35 Sootblower lane at elevation 606'.







**GREEN STATION UNIT 2** 2013 (1)TUBE INVOLVED



West (far side) water wall at IR 39 at elevation 537'.



### **Estimated Outage Costs**

Labor & Materials \$212,784

## Your Touchstone Energy\* Cooperative

### **Lost Sales Opportunity Report**

## MAINT. & FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 2 - G2-13-03	Produ	uction Cos	st
Date & Time Off Line	11/30/13 0:02 & 12/1/13 0:02	MW		5/MW
Date & Time On Line	12/1/13 0:02 & 12/2/13 7:02	89	\$	28.68
Outage Duration	48 hr. 0 min. & 7 hr. 0 min.	174	\$	24.90
Outage Code	MO & UO3	225	\$	24.42
Outage Reason	Removed from service to wash air heaters (MO). While off, a leak was discovered and repaired on circulating water header at SW corner of condenser.			

Date	DA LM	P Average	RT LN	/IP Average	D	ART P&L	Op	Lost portunity
11/30/13 (HE 1-24)	\$	29.20	\$	34.06	\$	690	\$	(25,596)
12/1/13 (HE 1-24)	\$	33.13	\$	26.06	\$	-	\$	(46,634)
12/2/13 (HE 1-24)	\$	32.69	\$	37.70	\$	(44,049)	\$	(2,002)
Total					\$	(43,359)	\$	(74,232)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		20,018	DART P&L	\$	(43,359)
S/U Fuel Price	\$	3.14	Lost Opportunity	\$	(74,232)
S/U Fuel Cost	\$	(62,855)	S/U Fuel Cost	\$	(62,855)
			Total	\$	(180,446)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To: Bob Berry

From: Perry Bowley

Date: 10-Jan-2014

Plant: Green Unit: 2 GADS Class: UO1

### Duration

Trip Time 7-Dec-2013 01:48 Tie Time: 7-Dec-2013 19:12

Time Offline: 17:24

Fire were established on 7-Dec-2013 at 15:00.

### **Outage Description**

Green Unit 2 was removed from service on Saturday, 7-Dec-2013 at 01:48 due to failure of the steam seal header supply line between the main steam line and the steam seal supply isolation valve.

### **Root Cause**

The Main Steam Supply Header to the Steam Seal Root Valve was found to be the incorrect material. The piping material that failed was A106 XXS and should have been SA335-P22 XXS.





### Your Touchstone Energy" Cooperative

## **Forced Outage Report**

### **Failure History**

There have been no similar failures documented for Green Unit 2 in the last three years.

### **Corrective Action**

Titan Contracting replaced the section of pipe with the correct material. Removed remaining insulation and inspected complete steam seal line to the steam seal regulator header. Titan Quality Control technicians used a portable metallurgy instrument to verify the piping materials. All other piping sections were found to be correct material.

### Other Work Completed While Unit Was Offline

Removed insulation and inspected the high temperature turbine drain lines for proper material while the unit was off line. Titan's Quality Control technicians used a portable metallurgy instrument to verify the piping materials. All piping was found to be correct material.

#### **SOE Print Out**

Not Available



**Operators Event Log** 





LOG BOOK

DATE 12-7-13

- GREEN
- □ COLEMAN □ WILSON
- SHIFT SUPERVISOR O CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	12 mil REMARKS
G-1	10AD 250 CAP 250 4 mills
	SOZ 31 Nox 40 opacty 8.7% ADS IN 2 PRECIPIONIT
	ADS IN 2 TRECIPOSONT
6-2	LOAD 242 CAP 242 4 mills SOL 14 NOX 32 OPACITE 9.87 ADS IN PRECIPIONT
	SOL, 14 Nox, 32 opacite 9.8%
	ADS IN TREUDI OUT
	SLAKERS G-1 3 ON 24 24 #1
	(9-2 3 W 22 22 #3
	PRED 20N 877. #4
	TU 1 0 1 1 1 1 1 2 1 7 2 1
	# 2 Short 219
	#1 51/0 49' From F1.5 W1.0
	IUIN BCOND A+ B drums #1 Flyash 21TP# # 2 Smoot 36% 29' TANKS #1 SI/O 49' Froze E+ W.5 #2 SI/O 31' Froze E+ W.5
100	
	Aux, Report - Leak on STEAM SEAL
130	
1	called by
	CALLY on majory - STANTING to drop  PROSC ON boiler -
	The Waller

G1 max loca - 251	OPER	SUP'R	
	1ST	Time line	>
	2ND		
G2 - Aux regarted lead on tules 14	son seas line	JU 12A-SA	
00106, line blew apart a 0140.	tryping Bula of G	Remeine	
martenance released breila @ 134	7, fires establis	a a 1500, F155.12	i
G2 - Aux regated lead on tulu 14 a 0106, line blew apart a 0140. markenine released breele a 134 lint tul online a 1912, G2 to 2 release free a 214	2 Let of 2073	due to An corpusation	_







LOG BOOK

DATE	12	-7	-1	フ	

- O REID GREEN
- O COLEMAN
- □ WILSON
- □ SHIFT SUPERVISOR
- □ CONTROL OPERATOR □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
198	Live blew - Tripped G-2 Boilex Turbine
220	G-2 TWOINE ON GEAR
315	2A21 Back IN SPENICE - HAR TO RACK OUT  ALL BEE. ON 2A21 MCC AND put back IN  1AT ATIME - ALL pumps back IN SERVICE
322	6-2 Cooling Tower bypass are open
	1A N/A (49) 2T-6'9" 2A 39.1 (71) OT-6'10"  1B N/A (202) 3T-6'11" 2B 32.5 (224) 8T-67"  Floc 7.5 B-D.00

OPER		SUP'R
1ST	•	
2ND		
3RD		
	SIGNED	







LOG BOOK

DATE /2-7-17

O REID GREEN □ COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
SA	Hust, Hage, Northington, DuTler, J Darron, Turner, Haner, Combi, Cook, R. Barker, Collins
	Haner, Combi Cook, R. Parker, Collins
GI	Load 249 A, D( ND M:11)
	Load 249 A. B. CAD M:11s SO2. TO NOX. T9 opacity 7. J
62	off-leak in steam seal Headler
Sluker	G1 3on 25.2 + 24.4 #15:10 G2 10- 25.7 + 25.6 #3
	62 10. 25.7 +25.6 #3
	graf Out 85.7
Iv	Oconveyors A+13 Drum: #1 5:16 25' 25 noof 36"
2:00	Fly Ash 77-0 76.0 ES.S E.S WS.O W.O
	MainT Released Boler + Turbine.
7:00	Fire established in G2 Boler
	Fire established in G2 Boler

OPER	SUP'F
1ST	Bion
2ND	
3RD	
	SIGNED







LOG BOOK

DATE 12-7 - 17

BEID GREEN O COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
2:00	1A 68601 7 6.7" ZA 37.7 0 6.9"
	18 210 5 1 6'10' 28 32x 9 6.8°
	Red O FL 7.1
Lime	70 - 4 - 75 - 40
7:12	Frecips Put IN SERVICE
800	Polles Reed, Rithmeyer, Bachman, Hopkins, Berry Kuhnia (SL) Bell, Rigdon, Gorrell, Duvall
823	G-2 Tripped Air Comp Trinble, G-2 Tripped Hot TEmp G-1- Tripped Ecco+
919	G-2 ON TURNING GEAR
NOTE	THANSFERRY LOSE OF A EQUIPMENT
925	A'CIRC. DALK ON

OPER	SUP'R
1ST	D352
2ND	
3RD	
	SIGNED



### Your Touchstone Energy\* Cooperative

## **Forced Outage Report**

**Estimated Outage Cost** 

Work Order 6115827

Total Material Cost(USD) 4,310.44

Total Labor Cost(USD) 4,943.69

> 82.00 **Total Actual Hours**

Total Equipment Cost(USD) 0.00

Total Asset Maintenance Cost(USD) 9,254.13





Lost Sales Opportunity Report

### Your Touchstone Energy\* Cooperative

F	ORC	ED O	UTA	AGEC	O	ST ANA	ALYSIS		
	MISO D	ARTR	even	ue and	_05	T OPPOR	RTUNITY		
Unit		Green 2 -	G2-13-	04			Product	ion Co	est
Date & Time Off Line			3 1:48				MW		\$/MW
Date & Time On Line		12/7/1	3 19:12				72	\$	30.12
Outage Duration		17 hr.	24 min.				174	\$	25.12
Outage Code		U	01				225	\$	24.64
Outage Reason	Repair	leak on s	team se	al header					
Date	DA LMP	Average	RT LM	P Average		OART P&L	Lost Opportunity		
12/7/13 (HE 3-21)	\$	36.24	\$	36.55	\$	(47,901)	\$ -		
Total					\$	(47,901)	\$ -		
Start Up Fu	el Cost						Total Forced	Outag	je Cost
S/U Fuel Consumed		15,000					DART P&L	\$	(47,901
S/U Fuel Price	\$	3.14					Lost Opportunity	\$	
S/U Fuel Cost	\$	(47,099)					S/U Fuel Cost	\$	(47,099
							Total	\$	(95,000
NOTES:									
All negative values are mo	ney out of	pocket.							
DART Revenue is calculate	ed from dif	ferences I	between	the DA awa	rd ar	nd RT events			





To: Bob Berry

From: Perry Bowley

Date: 10 Jan-2014

Plant: Green Unit: 2 GADS Class: UO1

### **Duration**

Trip Time 7-Dec-2013 20:23 Tie Time: 8-Dec-2013 03:50

Time Offline: 07:27

Fire were established on 8-Dec-2013 at 21:42

### **Outage Description**

Green Unit 2 tripped from service on Saturday, 7-Dec-2013 at 20:23 due to high cooling water temperature to the plant air compressors.

### **Root Cause**

The unit had just returned to service from a steam seal header repair. The circulating water system was set up to bypass the cooling tower due to cold ambient temperature. The operators were in the process of restoring the circulating water system to normal operation when the high temperature of the closed cooling water system resulted in high oil temperature tripping the air compressors.

### Failure History

There have been no similar failures documented for Green Unit 2 in the last three years.

### **Corrective Action**

Returned all systems to normal operation



## Forced Outage Report **SOE Print Out**

Not Available

## Your Touchstone Energy\* Cooperative

## Other Work Completed While Unit Was Offline

G2 Air Heater Sootblowing header line started leaking at the flange of the safety valve. Weld repair was completed.





### **Operators Event Log**





LOG BOOK

DATE 12-7-13

- O REID
- GREEN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- **UTILITY OPERATOR**
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

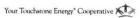
THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
SA	Hust, Hage, Northington, DuTler, J Darron, Turner,
	Hust, Hages, Northington, DuTler, J Darron, Turner, Haner, Combs, Cook, R. Barker, Collins
GI	Load 249 A, D( ND M:1/s
	Load 249 A, D(AD M:1/s 502.70 Nox. 79 ofacity 7.7
6-2	Off-leak in steam seal Headler
0/1	
Stuker	G1 3on 25.2 + 24.4 #15:10 G2 10. 25.7 + 25.6 #3
	62 10- 25.7 +25.6 #3
	gref out \$5.7
10	Oconveyors A+13 Drum: #1 5:10 25 "25 not 76"
	25.6 4 29.5 in lanks
2.00	Fly A1h 37-0 36.0
	ET.S E.S
	W 5.0 W, 0
1:47	24 601 101 151
1.7/	Main T Released Boler + Turkine.
3.00	Fire established in G2 Boler

OPER	SUP'R
1ST	Dion
2ND	
3RD	
S	BIGNED









LOG BOOK

DATE	12-7-13	
DAIL	14 / / )	

REID GREEN □ COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	1A OFF OT-68" 2A OFF OT-6'9"  1B OFF 3T-6'11" 2B OFF 14T-6'8"
	1B OFF 3T-611" 2B OFF 14T -68"
	STACK DEAN OF G-1 Floc 7.5 Bed. 00
942	Fires IN G-2 boiler
1053	SEAled Turbine
1/30	Seals OFF Due to DIFF. 2 Spansion . 344
11 55	SEAL Tuchine

OPER	SUP'R
1ST	
2ND	W8A-12MN
3RD	
	SIGNED









LOG BOOK

DATE 12-8-13

O BEID GREEN □ COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

### THIS FORM TO BE COMPLETED IN INK

TIME	12 mil
6-1	LOAD 249 CAD 250 4mills
	LOAD 249 CAP 250 4 mills 502.26 Nox.38 opacity 9.5%
	ADSIN 2 PRECIPSION
6-2	START-Up
	R/T 2 A mill 40 Pump - OIL LEAK
1220	Tripped G-2 Turbine - DIFF expasion
1230	ON GEAR
1237	SEALS OFF
	SLAKERS G-1 3 ON 23.6 23.9 #1
	G-Z / ON 23.3 22.5 #3 Prep / ON 75.7 7, #4
	IUIN BCONU A+B drums #2 FlyAsh 18TPH
	# Smoot 36% 23 TANKS
	#2 SMOOT 367 23 TANKS #1 SI/O 40' & E1.5 W1.5 #2 SI/O 21' & E+ W.5
	to all the Wig

61 max load - 253	OPER	TIM SUPPTINE
	1ST	
62 tue orline a 0350, had t	rosible u	the mills/cod Clow
Oil los out à 0946, 8000	O PR Lie	2 prosent 12A-PA
loss a 1454, 2200 Som	Deale o	AN Southbourgh 200001
2364 Stating Down wi	th unt	and of 2325, And of 23218









LOG BOOK

DATE 12-8-13

- GREEN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR O CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	Add Frel oil to Daylank 14'714"
	UNDERFION RUN
	1A 22 HRS 2A 5 HRI 30 MIN
	1B 7 HRS 2B 8 HMs 30 min
	IURUN 24 MS
130	1A N/A (66) OT-68" 24 OFF OT-69
	1A N/A (66) 0T-6'8" 2A OFF OT-69  1B OFF JT-6'11" 2B OFF 13T-6'8"  Floc 7.5 Bed. 00
- 177.	
246	G-2 A VACKUM Pump on + putseals on
305	ROSET TURBINE of Rolling
336	switch yano closeo in 110-9 Discovinet
350	Tied on Live - B mill on
hig	The on Line - B mill on Put precipe, w
447	D mill on - NO COAL
510	Cmillon - NO COAL

OPER	SUP'R
1ST	
2ND	
3RD	W 12A-8A
	SIGNED





### Your Touchstone Energy Cooperative

## **Forced Outage Report**

## **Estimated Outage Cost**

Work Order 6115841

Total Material Cost(USD) 9,980.99

Total Labor Cost(USD) 2,081.10

Total Actual Hours 33.00

Total Equipment Cost(USD) 0.00

Total Asset Maintenance Cost(USD) 12,062.09





Lost Sales Opportunity Report

### Your Touchstone Energy Cooperative

## FORCED OUTAGE COST ANALYSIS

## MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 2 - G2-13-05						Product	ion C	ost	
Date & Time Off Line		12/7/1	3 20:23					MW		\$/MW
Date & Time On Line		12/8/1	13 3:50					72	\$	30.12
Outage Duration		7 hr. 2	27 min.					174	\$	25.12
Outage Code		U	01					225	\$	24.64
Outage Reason	Issues	with plant	air comp	ressors						
Date	DA LMP	Average	RT LMP	Average	1	DART P&L	0	Lost pportunity		
12/7/13 (HE 22-24)	\$	37.96	\$	41.64	\$	(10,874)	\$	-		
12/8/13 (HE 1-16)	\$	36.06	\$	37.73	\$	(11,890)	\$	(8,435)		
Total					\$	(22,764)	\$	(8,435)		
Start Up Fu	el Cost							Total Forced	Outa	ge Cost
0/11510		04.455					-	ADT DOL		(00 704

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		21,155	DART P&L	\$	(22,764)
S/U Fuel Price	\$	3.14	Lost Opportunity	\$	(8,435)
S/U Fuel Cost	\$	(66,425)	S/U Fuel Cost	\$	(66,425)
			Total	\$	(97,624)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





Your Touchstown Energy Cooperative

## Forced Outage Report

To:

**Bob Berry** 

From: Perry Bowley

Date: 19-Dec-2013

Plant: Green

Unit: 2

GADS Class: UO2

### Duration

Trip Time: 9-Dec-2013 00:24

Tie Time: 10-Dec-2013 06:54

Time Offline: 30:30

### **Outage Description**

Green Unit 2 was removed from service under a controlled shutdown on Monday, 9-Dec-2013 at 00:24 to repair an air heater soot blowing header steam leak. Operators established fires in the boiler following a good hydro-test on Tuesday, 10-Dec-2013 at 00:03. The unit was tied online on Tuesday, 10-Dec-2013 at 06:54.

### **Root Cause**

The G-2 Air Heater Soot blowing supply header failure was due to fatigue of the piping at the main steam header. The pressure regulator sensing line broke and caused excessive lifting of the safety valve.

### Failure History

There have been no similar failures documented for Green Unit 2 in the last three years.

## **Corrective Action**

Maintenance replaced the air heater soot blowing header piping from the main steam header connection to the first 90° elbow with SA335, F22 schedule XXS material from inventory. Maintenance also rebuilt the pressure-reducing valve with spare parts from inventory, and replaced the air heater soot blowing supply isolation root valve.



### Your Touchstone Energy Cooperative A

## **Forced Outage Report SOE Print Out**

N/A

Other Work Completed While Unit Was Offline

None

2



### **Operators Event Log**



Your Touchstone Energy Compensation A



LOG BOOK

DATE 12-9-13

O REID GREEN O COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR
  - □ AUXILIARY OPERATOR
  - UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	12 mil REMARKS
Q-1	LOAD 249 CAP 250 4mills
	502.25 NOX .33 OPACITY 11 %
	ADSIN 2 PRECIPS
G-2	TAKING UNIT OFF
12"	62 D mill OFF
1224	G-Z OFF LINE
	SLAKERY G-1 4 ON 24'24' #1
774 1911 1911 1911	G.2 3 on 23 24' #3 Prep 2 on 607, #4
	JUIN BCONU AAC OKKIMS #1 FlYASh 18TPH #25MOOT 36% 22 TANKS
	1A N/A (68) OT-66" 2A 33.5 (84) OT-6'16"  1B OFF 4T-6'10" 2B OFF OT-6'7"
	Floc 7.5 Bed .00
	UNDERFLOW
	1B 10 HR 30 min 2A 8 HR 1B 10 HR 30 min 2B 12 HR 30 min

G1 - 250 max	OPER	SUP'R	
0 - 200	1ST		
	2ND		
G2 of lene 20024 for AH south	lough headen reg	gain pl 12A-8A	
2220 hydro sood/bailede	y	SIGNED	
			F

SH-0.4 UOZ-23.6







LOG BOOK

	_	
DATE	17-9-17	

GREEN O COLEMAN

**WILSON** 

- SHIFT SUPERVISOR □ CONTROL OPERATOR AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	IU Rus 23 HK
530	1A N/A (64) OT-6'7"  1B OFF +T-6'10"
	1B OFF 4T-6'10"
	2// // // //
	PH 1A 6.53 1B 6.58

OPER	SUP'R
1ST	
2ND	
3RD	N 12A-8A
	SIGNED







LOG BOOK

	-
DATE	17 0 17
DATE	12-7-15

- O REID GREEN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	IU Rus 23 HR
530	1A N/A (64) OT-6'7"  1B OFF 4T-6'10"
2	PH 1A 6.53 1B 6.58
-	

OPER	SUP'R
1ST	
2ND	
3RD	N 12A-8A

F155.12







LOG BOOK

DATE 12-9-13

- O REID
- GREEN
- □ COLEMAN
- O WILSON
- SHIFT SUPERVISOR
- O CONTROL OPERATOR □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
Note	Filling G-2 Doiler for Hydro
800	Chift here + B Shift leaving
	Undufaus 17) off 0 6'9" 20 off 0 6'10"
***************************************	Undufous 19) off 0 6'9" 20 off 0 6'10" 18) off 2 6'10" 28) 32.5 0 6'9"  Red 0.00 Flick 7.5
****	Bed 0.00 Flick 7.5
939	1600 lbs on G-Z Boile -
10 20	G-2 Has Dry Boiler - Drawing Pressure off Boiler + Setting Boder to fire
	Setting Boller to fire
Note	Valued out G-2 D.A Regulator for Maintenace to
	refork regulator
	DH TO DE
1113	Putting on ID + FD Fans + Purging Boiler
*****	

OPER	SUP'R
1ST	•
2ND	
3RD	Scieno 8p-12m
	SIGNED







LOG BOOK

THIS FORM TO BE COMPLETED IN INK

	SCRUBBER SHIFT SUPERVISOR
_	SCHUBBER SHIFT SUPERVISOR
	SCRUBBER OPERATOR
	SCRUBBER AUXILIARY OPERATOR
0	SOLID WASTE OPERATOR

□ SCRUBBER UTILITY OPERATOR

	REID
P	GREEN
a	COLEMAN
17	MUS IIM

W	SHIFT SUPERVISOR
2	CONTROL OPERATOR
1	<b>AUXILIARY OPERATOR</b>
0	UTILITY OPERATOR

12MN-8AM TIME REMARKS 1200 G-1 Lood 238 OPER SUP'R 1ST 2ND

G1 - maxlow 251

62 Time la onbook

3RD SIGNED









LOG BOOK

DATE	12-10-13
-,	17

_	REID
V	GREEN
0	COLEMAN
	WILSON

d	SHIFT SUPERVISOR
	CONTROL OPERATOR
0	<b>AUXILIARY OPERATOR</b>

U	UTILIT	Υ	OF	'EF	AI	OF	{
0							

- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	, REMARKS
Note	Valved out Crostie on sir heater & Maintenace Checking to see if they have pasts to regain lask
	to see if they have parts to repair leak
. 70	
420	Maintenance released & air Heater Soolblower -
	Blowed OK
	Fly sun Time 21 hours
	Underflow Pumpo pun times 1A) 15 hours + 30 Minutes
	1D) & pour + 30 Minutes
	2A) Thouse
	2B) 13 hours
Hay	Undallan 18/01 + 1/9" 2A) with a 1/2"
	(Industrous 1A) off 0 6'9" 2A) ups 0 6'10"
	(Induflows 1A) off 0 6'9" 2A) up 0 6'10"  18) off 2 6'16" 2B) off 0 6'9"  Bed 0.00 Flock 7.5
500	Spoling Turbine & Pulling Turbine
524	Rolling turbine
7 EU	
654	Tied G-Z on Line + Put Preopie in Service - Notified Ha
735	Also 28 Mill on. Raising loud
1 ==	2D Mill on

OPER	SUP'R
1ST	Livers 12MW-8A
2ND	
3RD	
3	SIGNED







**LOG BOOK** 

Q REID
M GREEN
□ COLEMAN
□ WILSON

	/
V	SHIFT SUPERVISOR
0	CONTROL OPERATOR
7	AUXII IARY OPERATOR

	UI	ILII	Y	OPERATOR	
1					

□ SCRUBBER SHIFT SUPERVISOR

SCRUBBER OPERATOR

□ SCRUBBER AUXILIARY OPERATOR

□ SOLID WASTE OPERATOR

□ SCRUBBER UTILITY OPERATOR

	8A-8p THIS FORM TO BE COMPLETED IN INK Tuesday
TIME	REMARKS
8AM	Donithan, Beaven, Farley Lawrence, Whitledge, Hower, 1. Parker
	Trairis, Temple, Shelton, Tapp
8-1	Soud-250 Cap-250 4 Mill Operation 502-29 NOX-27 Opacity 870 AD, S. in service Precips Jul-2
6-2	Unit start up in progress. Load - 95 2B + 2D Mills on 502-, 23 NOX-, 24 Opacity - 970
Slakers	Freen 1 - 3 25/24 Ereen 2 - 3 25/24 Prep Bldg 1 80.7 %
T.U.	Remains in service uf B Conveyors, C Drum, ash from #1 silo@10 toh, #2 5mot system @1870, 16 in studge tanks,
5:165	\$1-47' E-2 W-1.5 #2-25' E-1.5 W5 5-2 6-0 5-10 6-0

OPER	SUP'R
1ST	
2ND	
3RD	
SI	GNED



Your Teachstone Enemy! Cooperative

## Forced Outage Report

## **Estimated Outage Costs**

Materials

\$ 3,934

Labor

\$1,551

Contractor Labor

\$ 17,310

**Total Cost** 

\$ 22,795

### **Lost Sales Opportunity Report**

## FORCED OUTAGE COST ANALYSIS

## MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 2 - G2-13-06	Production Cost			
Date & Time Off Line	12/9/13 0:24	MW	,	\$/MW	
Date & Time On Line	12/10/13 6:54	72	\$	30.12	
Outage Duration	30 hr. 30 min.	157	\$	25.58	
Outage Code	UO2	225	\$	24.64	
Outage Reason	Repair leak on air heater sootblowing				

Date	DA LN	IP Average	RT LN	IP Average	D	ART P&L	Ор	Lost portunity
12/9/13 (HE 1-24)	\$	33.56	\$	52.40	\$	(142,668)	\$	-
12/10/13 (HE 1-11)	\$	48.02	\$	42.73	\$	8,339	\$	(56,064)
Total					\$	(134,329)	\$	(56,064)

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		14,000	DART P&L	\$	(134,329)
S/U Fuel Price	\$	3.14	Lost Opportunity	\$	(56,064)
S/U Fuel Cost	\$	(43,959)	S/U Fuel Cost	\$	(43,959)
			Total	\$	(234,351)

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running

10





Your Touchstone Energy Cooperative

To:

**Bob Berry** 

From: Bart Boles

Date: 14-Jan-2014

Plant: Wilson

Unit: 1

GADS Class: UO3

Duration

Trip Time: 4-Dec-2013 22:58

Total Time Offline: 84:44

Tie Time: 8-Dec-2013 11:42

**Outage Description** 

Wilson Station was removed from service on Wednesday 4-Dec-2013 at 22:58 due to a tube leak in the "B" Platen Superheat Section of the boiler. The leak was on the 4th element from the east wall, and was the 2<sup>nd</sup> tube in from the outside of the bundle. This was on the 13<sup>th</sup> floor at elevation 562'-0". Titan Contracting replaced a section of superheat tube that was 48" long, and also performed six pad welds. The Dutchman was 1.75" x 0.300" M.W. and was SA-213-T22 material. Three of the pad welds were SA-213-T22, while the other three pad welds were SA-213-T91. Additional work completed during this outage is listed in the sections below.

**Root Cause** 

It appears that the "B" Platen Superheat tube failed as a result of erosion from a soot blower over a period of time. The failure was approximately 24-30 inches in length, and covered a 180 degree section of tube.

Failure History

There have been no tube leaks in the "B" Platen Superheat Section since the new elements were installed in 2009.

**Corrective Action** 

The recommendation is to perform an inspection of the "B" Platen Superheat elements during the next major unit outage and add shields as necessary to prevent soot blower erosion.



#### Your Touchstone Energy\* Cooperative

## Forced Outage Report

### Other Work Completed While Unit Was Offline

#### ELECTRICAL

No Major work completed

### INSTRUMENTATION

No major work completed

#### **MECHANICAL**

- Repaired hole in pipe at cooling tower
- Made repairs to the #1 scrubber module top hats
- Replaced #1 module dilution water valve
- Removed and reinstalled ammonia spools
- Replaced 1-1 ME wash valve
- Replaced 2-4 ME wash valve
- Replaced #1 secondary air heater air drive
- Replaced 2<sup>nd</sup> stage west superheat spray packing
- Replaced the gland steam exhauster valve
- Repaired circulating water inlet sample port
- Repaired penthouse ventilation piping
- Replaced #1 ID fan fluid drive oil seal
- Repaired AL1-West top gate seat
- Replaced drag chain submerged idler shields
- Removed scrubber duct drains and reinstalled
- Repaired vacuum pump cooler head

2





### Your Touchstone Energy® Cooperative

### Operators Event Log

Operators	Event Lo	<u>og</u>
12/4/2013	12:00mn	
	9:27am	Started Hotwell check
	10:27am	Lost 2.25 inches local
	10:30am	Communication Meeting
		Weekly drag chain check
	12:00am	Caldwell out
		Ball mill Fineness
		Monthly Qual
	4:50pm	Barry Bowman taking vacation tomorrow. AT submitted
	8:00pm	Owens, Mattingly in Todd out
		McElwain, Tichenor, S.Roby, Daugherty, Wilson, Worley in, Piper on S/L
		Safety briefing
		Working on taking unit off for a tube leak
	10:58pm	Unit off line due to a tube leak. H/L notified
12/5/2013	12:00am	
	7:00am	Crowe, Todd in
		J. Stewart, Caldwell, Hall, Stovall, Drake, Barrett in
	8:00am	Job Briefing
		Start Deslag
		Fire impairment on FPV-139 for #1 conveyor
	8:00pm	Owens ,Cooper in Todd out
		Mcelwain, Poore, S.Roby, B.Jones, Worley in. Piper on S/L Wilson on P/D
		Safety briefing
		Outage
12/6/2013	12:00am	
	7:00PM	Cooper Owens, in Mattingly Todd out
		Roby, Stewart S/L, Baker, Poore, Jones, Calhoun, S Roby, McElwain
	8:42PM	Filling Hotwell
	10:18PM	#1 condensate pump on
10/7/0010	11:52PM	Filling Cooling Tower
12/7/2013	12:00AM	Filing DA
	12:59AM	Filling DA
	6:15AM 6:30AM	Cir water system in
	0.30AIVI	#4 circ water booster pump on Working on weekly and monthly test
	6:40AM	Bottom ash system in
	7:00PM	Cooper Owens, in Mattingly Todd out
	8:00PM	Roby, Stewart S/L, Baker, Poore, Jones, Calhoun. S Roby, McElwain
	7:22PM	Hydro boiler found leak on nose
12/8/2013	12:00AM	Trydro bolier found leak off flose
12/0/2010	1:03AM	Hydro boiler no leaks
	2:12AM	Head Count
	2:34AM	Putting fans on
	4:01AM	Fire in boiler
	7:00am	Mattingly, Todd in Cooper, Owens out



### Your Touchstone Energy® Cooperative

## Forced Outage Report

8:19am PA fans on 8:30am Sealed turbine 9:28am Rolled turbine 11:15am Transferred valves

11:35am Put #4 on 11:42am Unit tied on line





#### Your Touchstone Energy® Cooperative

### **Boiler Tube Leak Record**

### "B" Platen Superheat Tube

Plant: Wilson Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Thin Lip Failure
Tube Wall Thinning X Other: It appears that the tube leak occurred as a result of thinning, and then blew a section of tube out.
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion X Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow
Other:
Type of Repair: (Check One)
Dutchman: <u>X</u> Length of Dutchman: <u>48"</u> Pad Weld: <u>Yes (6 Pad Weld: on adjacent tubes)</u>
Plug Tube Short Circuit Other:





Your Touchstone Energy Cooperative

## **Forced Outage Report**

### **Description of Repair:**

Tube Size OD: 1.75" Wall Thickness: 0.300" M.W. x 0.238 M.W.

Tube Material: <u>SA-213-T22</u>, <u>& SA-213-T91</u>

Welding Rod Used \_\_\_\_\_90-SB3, 9018-CM

Welded By: <u>Daniel Burden, Jared Burden: Titan Contracting</u>

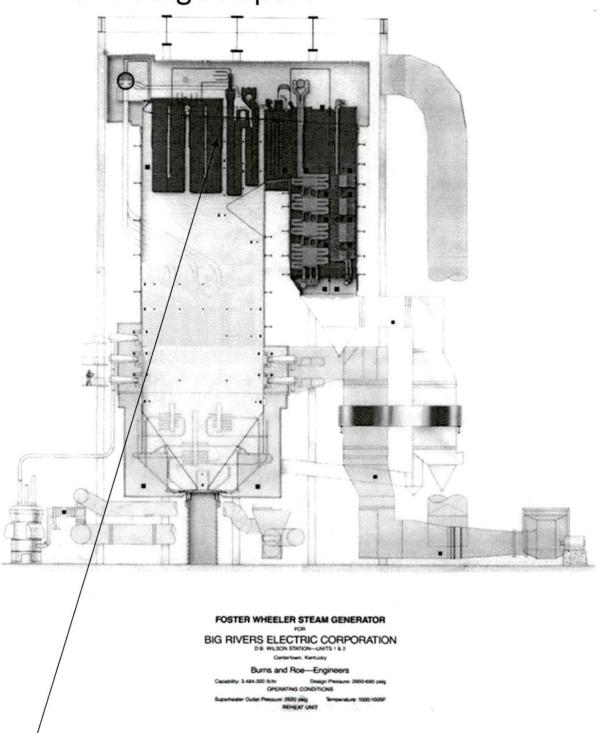
### **Exact Location of Leak: Be Specific**

"B" Platen Superheat Section, 4<sup>th</sup> element from east wall, 2<sup>nd</sup> tube in from the outside of the bundle. In the 13th floor area, elevation 562'-0"





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<u>Tube Leak Here</u> – "B" Platen Superheat Section, 4<sup>th</sup> element from east wall, 2<sup>nd</sup> tube in from the outside of the bundle. 13<sup>th</sup> floor area elevation 562'-0"





#### Your Touchstone Energy® Cooperative

### **TOTAL OUTAGE COST**

**TOTAL OUTAGE COST = \$146,325.98** 

### **Lost Sales Opportunity Report**

### **FORCED OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-13-08	Produ	uction Cos	st
Date & Time Off Line	12/4/13 22:58	MW		\$/MW
Date & Time On Line	12/8/13 11:42	240	\$	24.40
Outage Duration	84 hr. 44 min.	380	\$	22.78
Outage Code	UO3	420	\$	22.58
Outage Reason	Repair superheater tube leak			

Date	DA LN	/IP Average	RT	LMP Average	DART P&L	0	Lost pportunity
2/4/13 (HE 23-24)	\$	23.32	\$	22.12	\$ (297)	\$	-
12/5/13 (HE 1-24)	\$	29.40	\$	27.46	\$ (48,893)	\$	-
12/6/13 (HE 1-24)	\$	41.61	\$	36.51	\$ -	\$	(190,437)
12/7/13 (HE 1-24)	\$	34.99	\$	36.74	\$	\$	(124,148)
12/8/13 (HE 1-24)	\$	36.00	\$	38.33	\$ 68,077	\$	(134,246)
Total					\$ 18,887	\$	(448,831)

Start Up Fuel Cost		Total Forced	Total Forced Outage Cost		
S/U Fuel Consumed		31,770	DART P&L	\$	18,887
S/U Fuel Price	\$	3.13	Lost Opportunity	\$	(448,831)
S/U Fuel Cost	\$	(99,354)	S/U Fuel Cost	\$	(99,354)
			Total	\$	(529,299)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





Your Touchstone Energy' Coopennies 2

## Forced Outage Report

To:

**Bob Berry** 

From: Perry Bowley

Date: 29-Jan-2014

Plant: Green

Unit: 1

GADS Class: UO2

**Duration** 

Trip Time: 6-Jan-2014 09:18

Tie Time: 6-Jan-2014 16:33

Time Offline: 7:15

### Outage Description

Green Unit 1 was removed from service under a controlled shutdown on Monday, 6-Jan-2014 at 09:18 due to a generator voltage problem. Upon investigation it was discovered the center (B) phase of generator disconnect 100-9 did not fully engage into the 'jaw' of the switch when it was closed earlier in the day.

The boiler was bottled and maintained in a pressurized state until unit was ready to return to service.

The unit was tied online on Monday, 6-Jan-2014 at 16:33.

### **Root Cause**

The center (B) phase of generator disconnect 100-9 did not fully engage into the 'jaw' of the switch. The switch was covered with ice from the HMPL Cooling Tower plume.

### Failure History

Green 2 experienced a hot spot on 110-9 Generator disconnect 21-Jul-2012. Time Offline: 06:59.

### Corrective Action

ET&S was dispatched; the buildup of ice was removed. The switch was repaired and returned to service.



### Your Touchstone Energy Cooperative

### Forced Outage Report **SOE Print Out**

Not Available

Other Work Completed While Unit Was Offline

None





**Operators Event Log** 





LOG BOOK

DATE 1-6-14

- O BEID GREEN
- □ COLEMAN □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	12 m N REMARKS
6-1	114D 248 (4x 250 2/m)//
	SOL , 17 Nox , 25 Opacity 10.3%
	SOL , 17 Nox , 25 opacity 10.3%. ADS IN 2 Precips out
1	
6-2	20AD 240 CAP 242 4mills
	LOAD 240 CAP 242 4mills SOL, 14 NOX, 26 opacity 7.9%. ADS IN 2 Precips out
	ADS IN 2 PRECIPS OUT
	SLAKERS G.1 4 ON 24.5 24.1 #2
	G-2 4 AN 24 20.3 #3
	G-2 4 ON 24 20.3 #3 Prep 2 ON 53.2 % #4
	Ill IN A CONU A+ B drums #1 FlyAsh 17TPH
	# 2 SMOOT 36% 25'+26' TANKS #1 SI/O 53' SI/O & SAFET N/A E1.5 W1.0 #2 SI/O 49' SI/O & SAFET N/A E1.0 W1.0
	#1 51/0 53 51/0 & SAFETS N/A E1.5 W1.0
-	# 2 51/0 49 51/6 & SAFET N/A E1.0 W1.0
156	B-1 Town of art 1 111 - Dr. T. Has (108)
1	G-1 Teippel OFF LINE - DRUM TRANSM. HER (LEFT)
245	ON GEAR.
4/12	oil Touches in Boilese Time line
tropped	DO 0156 on drun level, opened on o 412 1 trooks on
06	19, und resound a 15TO 918 to repair disconnect in
0000	1110 descount regression unt to Don la 1683
verjano	1610 descomet regiones, unt tudor-la a 1633 se up in luntiers! 3RD RV 12A-PA
	SIGNED
- 241	F155.12
	X for fuel oil









LOG BOOK

DATE 1-6-14

	BEID
5	GREEN
	COLEMAN
0	WILSON

8	SHIFT SUPERVISOR
0	CONTROL OPERATOR
0	<b>AUXILIARY OPERATOR</b>
	LITH ITY OPERATOR

- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	UNDER Flow Run
	1A 12HR 2A 11 HR
	1B 13 HR 30 mis 2B 12 HR 30 min
	IU RUN 21 HR 30 min
300	J. Dow, than hene
NOTE:	DRUM TRIPS DISABLED ON both WITS PER M. MALONJ -
	IER PVI, MIAIDUS
603	RESET TURKINE
621	@ 3600 APm
1110	
640	Closed IN GEN DISCIN. 109
649	Tied on Line

OPER	SUP'R
1ST	
2ND	
3RD	W 124-8A
	SIGNED

F155.12 R 1/93







**LOG BOOK** 

DATE 1/6/14

- a REID
- GREEN □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

### THIS FORM TO BE COMPLETED IN INK

REMARKS
Trais, Lova, Shelton, Topp
start up
Cap 242 (sad 24) 5157 135 NOX 272 apric 9.1
61 2 20/23 62 4 24/23 P 2 80 %
5 1A B A 2 B
#1-50 E-3 U-2 #2-48 E-1.5 W-1.5 5-0 6-0 5-0 5-0
Collal Hotline Ad int states
In swice, A side, A+B Droms, #2-26T Tarks 25' \$2-36%
51 off love to Repair Disconnect.

Xlila

F155.12



Your Touchstone Energy Cooperative



LOG BOOK

DATE 1/4/14

REID	
GREEN	
00. =	

- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- CONTROL OPERATOR AUXILIARY OPERATOR

0	UTILITY	<b>OPERATOR</b>	
-			

- □ SCRUBBER SHIFT SUPERVISOR
- SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
45	6-1 Gen Disc Repaired and Retraced
y con	
43Z	6-2 Drum Trips back in service.
y 23	51 Tied and Motified H/A
	Transferred fine oil from Reighto Green. Our day tank before 9'7". After 14'3½". This is after we received delivery of Kerosche that went directly in our day tank. Notified Reich Reich of numbers.
800	Chift here B Shift leaving Underflows 1A 40+ O+ 6'0" DA) 37.1 O+ 6'9"
	1B) 40+ 4+ 6'10' 2B) 34.9 50+ 68"  Bed 0.42 Flork 7.5
8 28 913 10 48	G-1 D Mell on 9" G-1 D Mill of G-1 C Mill on G-1 C Mill on

SUP'R
-
80-12m

F155.12



### **Estimated Outage Costs**

Material and Labor \$0

### Your Touchstone Energy Cooperative \*

### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-1	4-01 & G1-14-02			Product	ion (	Cost
Date & Time Off Line	1/6/14 1:56	& 1/6/14 9:18			MW		\$/MW
Date & Time On Line	1/6/14 6:49 8	1/6/14 16:33			91	\$	27.34
Outage Duration	4 hr. 53 min. 8	& 7 hr. 15 min.			163	\$	24.37
Outage Code	UO1 8	& UO2			235	\$	23.46
Outage Reason	(frozen level transr up, generator volta discovered that B p disconnect did not ice. Unit was remo and disconnect sw	ge issues  bhase of fully close due to  oved from service					
Date	DA LMP Average	RT LMP Average	D	ART P&L	Lost Opportunity		
1/6/14 (HE 3-24)	\$ 58.38	\$ 213.39	\$	(843,933)	\$ -		
1/7/14 (HE 1-6)	\$ 80.53	\$ 404.28	\$	(119,037)	\$ -		
Total			\$	(962,970)	\$ -		
Start Up Fu	iel Cost				Total Forced	Out	age Cost
S/U Fuel Consumed	48,914				DART P&L	\$	(962,970)
S/U Fuel Price	\$ 3.11				Lost Opportunity	\$	
S/U Fuel Cost	\$ (152,015)				S/U Fuel Cost	\$	(152,015)
					Total	\$	(1,114,985)





Your Touchstone Energy Cooperative

## Forced Outage Report

To: **Bob Berry** 

From: Billy Boarman

Date: 7-Feb-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO2

### Duration

Trip Time: 31-Jan-2014 19:14 Tie Time: 3-Feb-14 06:03

Time Offline: 58:49

### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Friday, 31-Jan-2014 at 19:14 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

### **Root Cause**

Tube leak on the Radiant SH Outlet, 4th element from the west wall, North side of inner (hair pin) loop above the handcuff, at elevation 542' was caused by external corrosion.







Your Touchstone Energy\* Cooperative

## Forced Outage Report

### **Failure History**

5-Sep-2011	59:12	Tube leak in the high temperature superheater section caused by soot blower erosion.
23-May-2012	56:38	Tube leak in the radiant superheat section caused by soot blower erosion.
7-Sept-2012	42:7	Tube leak in the radiant superheat section caused by soot blower erosion.
5-Oct-2012	53:24	Tube leak in the radiant superheat section caused by soot blower erosion.
26-Jan-2013	33:37	Tube leak on the Radiant SH Outlet 3 <sup>rd</sup> element from the east wall, on the outer loop at elevation 537' – 5" caused by external corrosion

### **Corrective Action**

Installed a 22" Dutchman at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) of the hair pin at elevation 542'



### Forced Outage Report **SOE Print Out**

Your Touchstone Energy Cooperative

Triggered on: 31-Jan-2014 19:13:51:453

			T
31-Jan-2014 19:14:06:718	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:06:457	ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
31-Jan-2014 19:14:05:775	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:14:02:748	ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:02:585	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:02:097	ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:14:01:875	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:13:56:447	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
31-Jan-2014 19:13:56:316	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:56:248	ОК	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:55:624	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
31-Jan-2014 19:13:55:619	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
31-Jan-2014 19:13:55:609	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
31-Jan-2014 19:13:55:516	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
31-Jan-2014 19:13:55:510	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
31-Jan-2014 19:13:55:483	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
31-Jan-2014 19:13:55:482	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
31-Jan-2014 19:13:55:482	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
31-Jan-2014 19:13:52:865	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:52:451	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
31-Jan-2014 19:13:52:022	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:759	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:703	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
31-Jan-2014 19:13:51:653	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:453	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
31-Jan-2014 19:13:51:307	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH



### Other Work Completed While Unit Was Offline

- Your Touchstone Energy Cooperative
- Repaired gas leaks on the bottom ash hopper and the 'B' air heater inlet expansion joint
- Repaired air leak on the 'A' PA fan duct
- Clean 480V transformer
- Repaired packing leak on #5 high pressure heater extraction valve
- Cleaned furnace and PA Fan taps
- Cleaned Wet bottom Seal Trough
- Cleaned Scrubber Mist Eliminator panels and nozzles
- Precipitator inspection
- Back-pass inspection
- Calibrated all coal feeders.
- Changed oil in all FD Fan, PA Fan, and Mill motors
- Repaired coal leaks on "A" Mill
- Repaired coal leaks on "B" Mill
- Replaced damaged section of B4 coal pipe on 5<sup>th</sup> floor
- Replaced boiler manifold header
- Cleaned seal air fan filters
- Replaced A1 burner shroud
- Repaired coal leak on A1 burner
- Replaced 'B' seal air fan motor
- Replaced left hand governor valve cylinder
- Replaced #20 and #23 observation ports
- Replaced EH unit filters
- AH wash, 9 hr. pass
- Installed a new gate on A2 bunker gate
- BMR repairs to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' - 2"





### Your Touchstone Energy Cooperative

### **Operators Event Log**

410410044	2 22111	015571	221551110												
1/31/2014		SAFETY		IC DUE TO S	1110040	05 410	FATERO								
	NOTE:			'S DUE TO P	and the second second second second			C TO CC 7	0 51 5075	041 01105	TD\/#:0 =	OFF IT IOO ATT			
									OELECTRI	CAL SHOP.	TRYING TO	GET IT ISOLATED			
	NOTE:			AM TO GAS											
	8:45AM														
	NOTE:			AK ON BLEE					AKING LO	TO OF ICE					
				RAINER INS						13 OF ICE					
				LEASED AN			COURT AAVI	TIVIII O O IA	TION						
				ON R1 WO			IANS WOR	KING ON S	AME	-					
	NOTE:									ADLY SPOR	CE WITH I	WEST. PARTS ON ORDER			
	1:00PM			SHOOT TH				THE PARTY OF	DIVINIO	ADET. OF O	CL VVIIII O.	WEST. PARTS ON ORDER			
	2:00PM	4		MP ON , A R				TRICIANS	TO SET SU	CTION VALV	E LIMITS				
	2:10PM			ON R1 WO				1							
	2:30PM	R1 CENT	AC BACK	N SERVICE.	AIR SYST	EM SET U	PNORMAL								
	2:40PM	R1 #25L H	HITTING SC	METHING A	ND BACK	NG OUT. N	OTIFY MAI	NT							
	2:45PM	H2 A REC	CYCLE PU	MP ON, B O	FF. B SUC	TION VALV	E NOT CO	MPLETED							
	2:55PM	R1 #22R	CHAIN BRO	OKEN. MAIN	TWORKIN	G ON SAM	E								
	3:00PM	MAINT G	OT POTAB	LE WATER I	INE ISOLA	ATED AT CO	DOLING TO	WERS. A1	SEPTIC W	ILL BE HERE	MONDAY	TO REPAIR LINE			
	3:25PM	R1 25L A	ND 22R NO	T WORKING	. MAINT G	ONE. NOT	TEY J.WES	ST.							
	3:35PM			KSON ARE											
	4:30PM			SURE JUMP											
	5:45PM			L CHECK ON			MINUTES.	SPOKE W	VITH J.FRAN	ICIS. TAKIN	G UNIT OF	F			
	6:00PM			OFF H2, TA											
	6:11PM			ILL HAVE DE				4:00AM							
	NOTE:			ATE WILL NO	OT CLOSE	- W.O. ISS	UED								
	7:14PM	H-2 UNTIE		LIT OF OFF	"05		-								
	7:14PM			UT OF SERV											
	7:15PM	H-2 PREC	CIPS OUT (	OF SERVICE											
1/31/2014	8:00PM	MORRIS,	DENTON,	REYNOLDS	BAKER,	TATE, GA	TTON, EDV	VARDS				D SHIFT - ASKINS			
		UNIT	1040		NET CAR	200	000	NOV	ODAGITY	DEMOVAL	DUCT	**** FLOW BACK BRECOUR	-		
		UNIT R1	LOAD 48	UNIT CAP	45	0.45	CO2	NOX 0.41		REMOVAL	DUST	AMM. FLOW BACK PRESSUR	Œ		
		KI	40	30	40	0.45	10.9	0.41	11						
		H1	165	165	153	0.27	10.5	0.07	22	93	10.99	257 3.5			
						0.2.	10.0	0.01			10.00	207			
		H2	OUTAGE												
		CT	OFF STAN	NDBY	65										
		ALARMS	:									•			
		R1													
		H1			NT/STEAM	A SEAL LO	W PRESSI	JRE/E.H. P	RESSURE	LO START R	EQUIRED	DRUMXMTR MAINT			
		H2	EH RES	LEVEL HI											
								-							
			OWERS T	AGGED					GAUGE G	SLASSES					
		R1 22R,						+	OK			DRYING AGENT			
		H1 20,26	0,29,30		CII O IV		BOOT IT	CVCTT				R1-0%			
		H2 35			SILO LVL 14FT		BOOTHE	SYSTEM				H1-0%			
					1411	+	IIN					H2-0%			
	8:00PM	SAFETY	BRIFFING					+							
	NOTE			ONE FAN FO	OR THE PE	NTHOUSE	ON H-2	-		-					
								W - BRING	ING IN LOW	PRESSURE	ALARM -	POSSIBLE END OF LANCE IS	OFF.		
				ED UP - OP									20.00		
				FOR MAINT					,						
	11.001 191				VES - RAN			T							
	NOTE	CHECKE	U IT-Z AIR	THE PART DIST			+	+	-						
2/1/2014				ACCUM PEN	NTHOUSE										
2/1/2014	NOTE NOTE	INLAND H	HERE TO V			OCATE TH	E TUBE LE	AK							
2/1/2014	NOTE NOTE 12:39AM	INLAND H	HERE TO V	ACCUM PEN	AN NOT L			AK							
2/1/2014	NOTE NOTE 12:39AM 1:40AM 2:01AM	H-2 BOILE EXPRO A	HERE TO V ER FEED F T GUARD	ACCUM PEN PUMP ON - C	AN NOT L	MMONIA T	RAINING.		NING BOILE	R					
2/1/2014	NOTE NOTE 12:39AM 1:40AM 2:01AM 2:30AM	INLAND H H-2 BOILE EXPRO A H-2 BOILE TITAN OP	HERE TO VER FEED FOR THE GUARD FEED FEED FEED FEED FEED FEED FEED FE	ACCUM PEN PUMP ON - C SHACK - TW PUMP OFF, 12 RUBBER DO	CAN NOT L O NEED A 1440 HYDR OORS AND	MMONIA T RO - MAINT.	RAINING. FOUND LI	EAK, DRAII	NING BOILE	R					
2/1/2014	NOTE NOTE 12:39AM 1:40AM 2:01AM 2:30AM 4:30AM	INLAND H H-2 BOILE EXPRO A H-2 BOILE TITAN OP EXPRO S	HERE TO VER FEED FOR THE PENING SCIENT FEED HERED HERE	ACCUM PEN PUMP ON - C SHACK - TW PUMP OFF, RUBBER DC -2 DE SLAG	CAN NOT L O NEED A 1440 HYDR OORS AND	MMONIA T RO - MAINT.	RAINING. FOUND LI	EAK, DRAII	NING BOILE	R					
2/1/2014	NOTE NOTE 12:39AM 1:40AM 2:01AM 2:30AM	INLAND H H-2 BOILE EXPRO A H-2 BOILE TITAN OP EXPRO S TITAN HA	HERE TO V ER FEED F IT GUARD ER FEED F PENING SC STARTED H IS H-2 M.E.	ACCUM PEN PUMP ON - C SHACK - TW PUMP OFF, 12 RUBBER DO	CAN NOT L O NEED A 1440 HYDR OORS AND	MMONIA T RO - MAINT. REMOVIN	RAINING. FOUND LI G M.E. NO	EAK, DRAII ZZLES	NING BOILE	R					







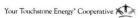
	O,UUAIVI	CECIL, F	ELTY, E	MBRY, HI	LLYARD, E	BLAIR, JAI	MES, DU	ALL				A SHIFT	PAYNE	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSUR	F
		R1	48	50	45	4.6	10.8	0.44	9.5					CTL 18.0'
														PWTL / 27.2
		H1	165	165	153	0.298	10.7	0.079	24.6	94.7	9.7	237	3.6	
		H2		165	OFF FOR	TUBE LEAK	aun Lengthe							CTL / 15.1'
		CT	OFF STAN	NDBY	65									
		ALARMS:											•	
		R1 H1	DIIDNED	MANAGEME	NIT/OTE A MA	SEALLOW	DDECCH	DE/E U DI	DECCURE	OCTABLE	EOLIBED	DRUMXMTR N	AAINIT	
		H2		LEVEL HI	INITOTEAM	SEAL LOV	PRESSU	KE/E.H. P	RESSURE	LUSIAKIR	EQUIRED	DRUMANIR	MAINI	
		R1	OWERS T	AGGED	-			GAUGE C	SLASSES		PWTL/ 2	7	DRYING AGENT	
		H1 20,26	29 30	-	-			OK		-			R1-0% H1-0%	
		H2 35	,20,00										H2-0%	
		FUEL OU	0.11	LIBARI	NODTU	0011711					011 0 111		2007 15 01/07	
		FUEL OIL	C.H. 8' 4"	9' 5 1/2''''	NORTH 14' 9 1/2"	8 5/8"	1				SILO LVL 8FT		BOOTHE SYSTE	M
/1/2014		SAFETY		NCOING										
	NOTE:	STARTED		NGOING H AT SCRUI	BRERS (INI	AND)								
				189 DISCON		AND								
				OMPLETE.		OWN WETB	OTTOM AN	D TAGGIN	IG FOR EN	TRY				
				AND LEAVIN										
				AGGED. NO		ATHAM								
	1:00PM NOTE:			ON H2 ECO		M		-						
-	2:00PM			Y CAN TAKE			F OF WET	воттом						
	2:10PM	WORKING	ON GET	TING PRECI	P DOOR OF	EN AND C	EANED O	UT						
	NOTE:			FOR H2 RE										
	2:35PM 3:00PM			IR TAGGED VER BACK I										
	4:40PM						OK USING	FLUSHING	JETS TO	SEAL OFF	GATE SO V	VE CAN CHEC	CK INSIDE	
	5:00PM			RS CLEAN										
	NOTE:	H2 VOLTA	AGE REGU	JLATOR FIXE	ED									
2/1/2014	8:00PM	MORRIS,	DENTON,	REYNOLDS	, BAKER,	TATE, GAT	TON, EDW	ARDS				D SHIFT - AS	KINS	1.00
		UNIT	LOAD	LINIT CAP	NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSUR	)E
		R1	48	50	45	0.45	10.6	0.38	10.6	KEMOVAL	5001	Allini. I LOW	BACKTRESCO	\ <u></u>
		H1	165	165	153	0.37	10.5	0.06	22	93	8.71	260	3.8	
		H2	OUTAGE											
		H2 CT	OUTAGE	NDBY	65									
		СТ	OFF STA	NDBY	65									
			OFF STA	NDBY	65								,	
		CT	OFF STAI	MANAGEME		SEAL LOV	V PRESSU	RE/E.H. P	RESSURE	LO START F	REQUIRED/	DRUMXMTR I	MAINT	
		CT ALARMS	OFF STAI			SEAL LOV	V PRESSU	RE/E.H. P	RESSURE	LO START F	REQUIRED/	DRUMXMTR I	MAINT	
		CT ALARMS R1 H1 H2	OFF STAI	MANAGEME LEVEL HI		SEAL LOV	V PRESSU	RE/E.H. P	RESSURE GAUGE G		REQUIRED/	DRUMXMTR I	MAINT	
		CT ALARMS R1 H1 H2 SOOT BL R1 22R	BURNER EH RES	MANAGEME LEVEL HI		SEAL LOV	V PRESSU	RE/E.H. P			REQUIRED/	DRUMXMTR I	DRYING AGENT	
		CT  ALARMS: R1 H1 H2  SOOT BL R1 22R H1 20,28	BURNER EH RES	MANAGEME LEVEL HI	ENT/STEAM	SEAL LOV			GAUGE G		REQUIRED/	DRUMXMTR I	DRYING AGENT R1-0%	
		CT ALARMS R1 H1 H2 SOOT BL R1 22R	BURNER EH RES	MANAGEME LEVEL HI	ENT/STEAM		BOOTHE		GAUGE G		REQUIRED/	DRUMXMTR I	DRYING AGENT R1-0% H1-0%	
		CT  ALARMS: R1 H1 H2  SOOT BL R1 22R H1 20,28	BURNER EH RES	MANAGEME LEVEL HI	ENT/STEAM				GAUGE G		REQUIRED	DRUMXMTR I	DRYING AGENT R1-0%	
		CT  ALARMS: R1 H1 H2  SOOT BL R1 22R H1 20,28	BURNER EH RES	MANAGEME LEVEL HI	ENT/STEAM		BOOTHE		GAUGE G		REQUIREDA	DRUMXMTR I	DRYING AGENT R1-0% H1-0%	
	8:00PM	CT  ALARMS: R1 H1 H2  SOOT BL R1 22R H1 20,23 H2 35	BURNER EH RES OWERS T	MANAGEME LEVEL HI	ENT/STEAM		BOOTHE		GAUGE G		REQUIREDA	DRUMXMTR I	DRYING AGENT R1-0% H1-0%	
		CT  ALARMS R1 H1 H2  SOOT BL R1 22R H1 20,25 H2 36	BURNER EH RES OWERS T	MANAGEME LEVEL HI	SILO LVL 2' BELOW		BOOTHE		GAUGE G		REQUIRED/	DRUMXMTR I	DRYING AGENT R1-0% H1-0%	





/2/2014	2:20AM		P ON FOR											
	3:25AM		RO 1440 lbs	S										
	3:55AM	H-2 DRY												
	4:15AM		TR WASH											
	NOTE			TING H-2 BO										
	NOTE	REMOVE	D 32 BAR	RELS OF AIR	R HTR BAS	KET MATER	RIAL H-2							
2/1/2014	8;00AM	CECIL,	FELTY, E	MBRY, HII	LLYARD, I	BLAIR, JA	MES, DU	VALL				A SHIFT P	PAYNE	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	RE
		R1	48	50	45	4.34	10.9	0.392	10.3					CTL 18.0'
														PWTL / 27.2'
		H1	165	165	153	0.396	10.5	0.081	19.7	92.6	8.97	256	3.1	
		H2		165	OFF FOR	TUBE LEAK	(							CTL / 15.1'
		CT	OFF STAN	NDBY	65									
		ALARMS	:											
		R1												
		H1	BURNER	MANAGEME	NT/STEAM	SEAL LOV	V PRESSL	RE/E.H. PE	RESSURE	LOSTARTE	REQUIRED/	DRUMXMTR M	AINT	
		H2	EHRESI						LOUGINE	LO OMACTI	LGONCEDI	DICOMPANIIC	Aut.	
		1117		7										
		SOOT BL	OWERS T	AGGED				GAUGE G	LASSES		PWTL / 2	7	DRYING AGENT	
		R1		T				OK					R1-0%	
		H1 20,2	6,29,30					77.0					H1-0%	
		H2 35								-			H2-0%	
		T												
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	M
				9' 5 1/2""			1	-			6.5FT		OUT	
		100000000000000000000000000000000000000												
2/2/2014	8:00AM	SAFETY	BRIEFING				-			1				
	NOTE:			N H2 ECON	S AND AIR	HEATER W	ASH							
	10:00AM			H HEADER			1711							
				RKING ON C		80V LOAD	CENTERS							
				RS FLUSED.										
			VAC ON H											
	11:50AM	INLAND V	WORKING (			NT WORKIN	NG ON H2	SEAL AIR I	AN. THE	RE WORK IS	POSTPON	ING WET SEA	L JOB	
				ON H2 WET	SEAL. MAI			SEAL AIR I	AN. THE	RE WORK IS	POSTPON	IING WET SEA	L JOB	
	12:15PM	TRANSFE	ERRED FU	ON H2 WET EL OIL TO H	SEAL. MAI			SEAL AIR I	AN. THE	RE WORK IS	POSTPON	IING WET SEA	L JOB	
		TRANSFE H2 VAC F	PUMPS OF	ON H2 WET EL OIL TO H F	SEAL. MAI			SEAL AIR I	AN. THE	RE WORK IS	POSTPON	IING WET SEA	L JOB	
	12:15PM 1:15PM 2:00PM	TRANSFE H2 VAC F H2 480V	PUMPS OF LOAD CEN	ON H2 WET EL OIL TO H F ITERS BACK	SEAL. MAI	FOR STAR	TUP							T.JACKSON-LM
	12:15PM 1:15PM	TRANSFE H2 VAC F H2 480V CALLING	PUMPS OF LOAD CEN IN HELP F	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH	SEAL. MAI IMPL TANK ( IN IT, JW WAD	FOR STAR	T UP M, T.ALEX	ANDER-LM	, A.HOGAN	N-LM, J.BOV				, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN-	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT CON	ON H2 WET EL OIL TO H F ITERS BACK FOR TONIGH ME IN, AT HO	SEAL. MAI IMPL TANK (IN IT, JW WAD DSPITAL WI	FOR STAR DLINGTON-L TH FATHER	M, T.ALEX	ANDER-LM	, A.HOGAN	N-LM, J.BOV				, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND D	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULI	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH ME IN, AT HO LING HEADS	SEAL. MAI IMPL TANK (IN IT, JW WAD SPITAL WI SOUT OF A	FOR STAR DLINGTON-L TH FATHER IR HEATER	M, T.ALEX IN LAW (	ANDER-LM SETTING RE	, A.HOGAN	N-LM, J.BOV	VLEY-LM, C	.GRIFFIN-LM, [		, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND D WORKING	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT CON DONE PULL G WITH MA	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH ME IN, AT HO LING HEADS	SEAL. MAI IMPL TANK (IN IT, JW WAD OSPITAL WI S OUT OF A S TO GET A	FOR STAR DLINGTON-L TH FATHER IR HEATER IR DRIVES	M, T.ALEX IN LAW (	ANDER-LM SETTING RE	, A.HOGAN	N-LM, J.BOV	VLEY-LM, C	.GRIFFIN-LM, [		, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE:	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND E WORKING WASHING	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULL G WITH MA G H2 STEA	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH E IN, AT HO LING HEADS AINT TRYING	SEAL. MAI IMPL TANK (IN IT, JW WAD OSPITAL WI SOUT OF A STO GET A ND FD FANS	PLINGTON-L TH FATHER IR HEATER IR DRIVES	M, T.ALEX IN LAW (	ANDER-LM SETTING RE	, A.HOGAN	N-LM, J.BOV	VLEY-LM, C	.GRIFFIN-LM, [		, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND D WORKIN WASHINI H2 WET	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULI G WITH MA G H2 STEA SEAL COM	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH ME IN, AT HO LING HEADS AINT TRYING M COILS AN	SEAL. MAI MPL TANK  (IN IT, JW WAD DSPITAL WI S OUT OF A B TO GET A ND FD FANS OTIFY MAIN	FOR STAR  LINGTON-L  TH FATHER  IR HEATER  IR DRIVES  S  IT	M, T.ALEX IN LAW (	ANDER-LM SETTING RE	, A.HOGAN	N-LM, J.BOV	VLEY-LM, C	.GRIFFIN-LM, [		, T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND D WORKIN WASHIN H2 WET D.EDMOI	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULI G WITH MA G H2 STEA SEAL COM NDS CALLE	ON H2 WET EL OIL TO H FF ITERS BACK FOR TONIGH ME IN, AT HC LING HEADS AINT TRYING IM COILS AN IPLETED. NO ED. WILL BE	SEAL. MAI MPL TANK  (IN IT, JW WAD DSPITAL WI S OUT OF A TO GET A ND FD FANS OTIFY MAIN E IN TONIGI	FOR STAR	M, T.ALEX IN LAW ( . NOTIFY TO WORK	ANDER-LM BETTING RE MAINT FOR THEM	, A.HOGAI EADY TO P	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	T.JACKSON-LM
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND D WORKIN WASHIN H2 WET D.EDMOI	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULI G WITH MA G H2 STEA SEAL COM NDS CALLE OOTBLOW	ON H2 WET EL OIL TO H FF ITERS BACK FOR TONIGH ME IN, AT HC LING HEADS AINT TRYING IM COILS AN IPLETED. NO ED. WILL BE	SEAL. MAI MPL TANK  (IN IT, JW WAD DSPITAL WI S OUT OF A TO GET A ND FD FANS OTIFY MAIN E IN TONIGI	FOR STAR	M, T.ALEX IN LAW ( . NOTIFY TO WORK	ANDER-LM BETTING RE MAINT FOR THEM	, A.HOGAI EADY TO P	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND E WORKING WASHING H2 WET : D.EDMOI R1 24L S THEY CA	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT CON DONE PULI G WITH MA 3 H2 STEA SEAL COM NDS CALLE OOTBLOW N	ON H2 WET EL OIL TO H F ITERS BACK FOR TONIGH ME IN, AT HO LING HEADS AINT TRYING M COILS AN IPLETED. NO ED. WILL BI EER KEEPS	SEAL. MAI IMPL TANK (IN IT, JW WAD SEPITAL WI SOUT OF A TO GET A ND FD FANS OTIFY MAIN E IN TONIGI BRINGING	FOR STAR	M, T.ALEX R IN LAW ( . NOTIFY TO WORK	CANDER-LM GETTING RE MAINT FOR THEM	, A.HOGAI EADY TO P	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND E WORKING WASHING H2 WET : D.EDMOI R1 24L S THEY CA WORKING	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT CON DONE PULI G WITH MA 3 H2 STEA SEAL COM NDS CALLE OOTBLOW N	ON H2 WET EL OIL TO H F ITERS BACK OOR TONIGH ME IN, AT HO LING HEADS AINT TRYING M COILS AN IPLETED. NO ED. WILL BE IEER KEEPS	SEAL. MAI IMPL TANK (IN IT, JW WAD SEPITAL WI SOUT OF A TO GET A ND FD FANS OTIFY MAIN E IN TONIGI BRINGING	FOR STAR	M, T.ALEX R IN LAW ( . NOTIFY TO WORK	CANDER-LM GETTING RE MAINT FOR THEM	, A.HOGAI EADY TO P	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM 4:00PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAN- INLAND I WORKIN WASHING H2 WET I D.EDMOI T1 24L S THEY CA WORKIN H2 ECON	ERRED FUI PUMPS OF LOAD CEN IN HELP F COANT COM DONE PULI G WITH MA G H2 STEAL SEAL COM NDS CALLE OOTBLOW N G WITH INS IS COMPLE	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH ME IN, AT HC LING HEADS AINT TRYING M COILS AN IPLETED. NO ED. WILL BI ER KEEPS STRUMENTA	SEAL. MAI MPL TANK  ( IN IT, JW WAD DSPITAL WI S OUT OF A N D FD FAN OTIFY MAIN E IN TONIGI BRINGING	FOR STAR	M. T.ALEX IN LAW (  I. NOTIFY TO WORK  ESSURE /	CANDER-LM GETTING RE MAINT FOR THEM ALARM LIKE	, A.HOGAN EADY TO P I TO WORK	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	
	12:15PM 1:15PM 2:00PM 2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM 4:00PM 4:00PM	TRANSFE H2 VAC F H2 480V CALLING D.ONAND-INL	ERRED FUI PUMPS OF LOAD CEN IN HELP F CANT COM DONE PULI G WITH MA G H2 STEA SEAL COM NOS CALLE OOT N G WITH INS G WITH INS G WITH INS G COMPLE INLAND BA	ON H2 WET EL OIL TO H F ITERS BACK OR TONIGH ME IN, AT HC LING HEADS AINT TRYING M COILS AN IPLETED. NO ED. WILL BI ER KEEPS STRUMENTA	SEAL. MAI MPL TANK  ( IN IT, JW WAD DSPITAL WI S OUT OF A S TO GET A NOT FO FANI OTHER  TONIGH  BRINGING  ATION STRO  R HEATER:	FOR STAR  PLINGTON-L TH FATHER IR HEATER IR DRIVES  IT HT AT 8PM IN LOW PRI  DKING H2 TO S TO VACU	M, T.ALEX R IN LAW (  . NOTIFY TO WORK  ESSURE / URBINE V.	CANDER-LM GETTING RE MAINT FOR THEM ALARM LIKE	, A.HOGAN EADY TO P I TO WORK	N-LM, J.BOV PASS K ON AIR HE	VLEY-LM, C	.GRIFFIN-LM, [	D.EDMONDS-LM	
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	3:49AM	H-2 ROLL	ING TURB	INE											
	3:55AM	H-2 HOLD	DING AT 10	000 RPM FO	R LUBE OIL	TEMPTUR	RE								
	6:03AM	H-2 TIED	ON LINE												
	6:04AM	H-2 PREC	CIPS INSER	RVICE		-									
	7:42AM	H-2 'A' MI	LLON	T				-							-
								-							
/3/2014	8:00AM	CONN. C	ADV DDI	EEDEN UIC	CINC CUT	CHAIN DI	ANIVO O VO	LING				DOLUET DE	NDI EV		
2/3/2014 0	J. OUAIVI			EEDEN, HIG	G145, CU1	SHAVV, BL	MINNO & YC	UNG				B SHIFT - PE	INDLEY		
		JOHNSO		1007						D					
		UNIT	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSU		
		R1	43	50	44	4.5	10.5	0.487	7.9					CTL	
														PWTL	
		H1	165	165	153	0.371	10.8	0.076	31.1	92.9	10.11	215	3.9		
		H2	135	165		0.245	9.9	0.494	9.2	95.1	5.22		3.3		
		C.T.	OFF STAI	NDRY											
		0.1.	011 0174								GAUGE G	LASSES			
		ALARMS	:			-				1	OF	(			
		R1													
		H1	STEAM S	SEAL HI/LO	BURNER	MANGT F	H PRESSI	RE LO/PI	IMP START	REO DRUM	MAINT				
		H2		LEVEL HI		1					1				
			Lilitar				-	+			-				
		SOOTE	OWERS TA	ACCED		-							DRYING AGEN	т	
		R1	OWERS I	AGGED									H-1 10%		
									-	-					
		H1 20,2	A STATE OF THE PARTY OF THE PAR	-				-					H-2 10%		
		H2 32,3	5,37					-		-	-				
		FUEL OIL		HMPL	NORTH	SOUTH					SILO		BOOTHE SYST	EM	
		LEVELS	7' 10 1/4"	9' 9 1/2""	14' 1/2"	8 5/8"					14'		OUT		
/3/2014	8:00AM	SAFETY	BRIEFING												
	8:15AM	TRIED TO	PUT H-2	SCRUBBER	IN SERVIC	E - BOOS	TER FAN T	RIPPED 3	TIMES - FO	UND OUT T	HAT 'A' BO	OSTER FAN P	RESSURE TRAN	NSMITTER	
		WAS BA	D												
	9:40AM	H-2 SCRI	JBBER IN	SERVICE - A	ADDITIVE F	EED ISOLA	ATION VALV	E WILL N	OT OPEN -	INST CHECK	KING				
	9"50AM			OOD FOR 16				1			T				
				D IN SERVIC											
				H-2 BOILER		H/I									
				2 AUXILIARIE		IVL									
						DAIOINIO	0.4445	-							
				OOD FOR 18		KAISING S	SAME								
	11:25AM			7A CONVEY	OR										
				RT SIGNAL											
				OOD FOR FI	ULL PRESS	SURE - RAI	SING SAM								
	1:10PM	H-2 IN A	OS												
	1:42PM	H-2 'B' RE	ECYCLE PI	UMP ON - 'A	OFF FOR	ELECT TO	SET LIMITS	ON 'A' S	UCTION VAI	LVE					
	1:50PM	H-2 #4 E	CONOMIZE	R DUST VA	LVE REPAI	RED									
							ED H/L								
				CE - FLOWIN		IA - NOTIFI	ED H/L								



### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

Plant: HMP&L Station Two	Unit:	2
Type of Leak:		
Pin Hole Thick Lip FailureThin Lip Failure		
Tube Wall Thinning <u>√ (4 RH tubes)</u>		
Orientation of Rupture: Longitudinal <u>√</u> Circumferential		
Probable Cause:		
Stress Overheat ErosionInternal Corrosion _		
External Corrosion Weld Failure (Shop Fi	eld)	
Internal Obstruction to Flow Soot blower Erosion	(4 RH tubes)	)
Other	-	
Type of Repair:		
Dutchmanv Pad Weld <u>v (4 RH tubes)</u> Plug Tube Circuit Other	Short	

### **Description of Repair:**

Installed a 22" Dutchman above the handcuff and hair pin at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) due to steam cutting from the leak at elevation 542'. Also performed BMR's to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' -2"



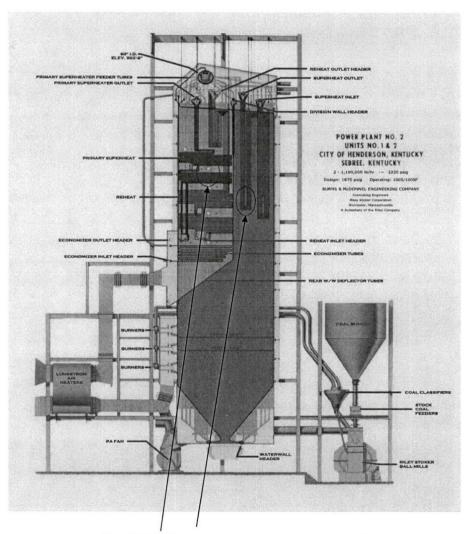


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### **Exact Location of Leaks:**

### HMPL STATION UNIT 2 2014 (6) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 19:14 1-31-14
Date and Time Unit On \_\_\_ 06:03 2-3-14



Installed a 22" Dutchman above the handcuff and hair pin at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) due to steam cutting from the leak at elevation 542'. Also performed BMR's to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' - 2"



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## **Forced Outage Report**

### **Estimated Outage Cost**

Boiler De-Slag

Total

\$9,246.63

• Vacuuming Economizer Hoppers, Wash seal trough, ME panels and the AH's

**Total** 

\$23,041.52

Titan - SH tube leak repair

Labor

\$16,740

Material

\$800

Total

\$17,540

Titan - Misc. repairs (Gas leaks, coal leaks, AH Repairs)

Labor

\$45,240

Material

\$5,353.53

**Total** 

\$50,593.53

**Grand Total** 

\$100,421.68





Lost Opportunity is the lost margins if the unit had stayed running

**Lost Sales Opportunity Report** 

### Your Touchstone Energy Cooperative

						ST ANA				
	MISO	DART R	eve	nue and l	_0	ST OPPOR	TUI	VITY		
Jnit		HMP'L 2 -	H2-1	4-01				Producti	on Co	est
Date & Time Off Line	1/31/14 19:14 MW \$/MW									
Date & Time On Line		2/3/14	4 6:03					72	\$	32.59
Outage Duration		58 hr.	49 mir	١.				127	\$	29.86
Outage Code		U	02					149	\$	29.54
Outage Reason	Re	epair superhe	eater t	ube leak.						
Date	DA LI	/IP Average	RT L	MP Average		DART P&L	Op	Lost		
1/31/14 (HE 20-24)	\$	56.01	\$	36.74	\$	(3,948)	\$	-		
2/1/14 (HE 1-24)	\$	35.28	\$	32.10	\$	(9,039)	\$	(689)		
2/2/14 (HE 1-24)	\$	33.27	\$	40.19	\$	-	\$	(13,589)		
2/3/14 (HE 1-15)	\$	48.87	\$	41.22	\$	(1,431)	\$	(17,233)		
Total					\$	(14,419)	\$	(31,511)		
Start Up Fu	el Cost							Total Forced	Outag	ge Cost
S/U Fuel Consumed		14,102					D	ART P&L	\$	(14,419)
S/U Fuel Price	\$	3.11					Lost	Opportunity	\$	(31,511)
S/U Fuel Cost	\$	(43,911)					S/L	J Fuel Cost	\$	(43,911)
								Total	\$	(89,841)
NOTES:										





To:

**Bob Berry** 

From: Eric Anderson

Date: 30-Apr-2014

Plant: Wilson

Unit: 1

GADS Class: UO2

Duration

Trip Time: 1-Jan-2014 09:43

Total Time Offline: 113:58

Tie Time: 6-Jan-2014 03:41

### **Outage Description**

Wilson Station was removed from service on Wednesday, 1-Jan-2014 at 09:43 following an explosion of combustible vapor inside the front standard of the main turbine and subsequent fire on the insulating blankets of the HP/IP Turbine. The outage time was extensive due to the need to remove the front standard cover and inspect the main oil pump and extension shaft. The initial explosion blew the inspection cover off the front standard and allowed turbine oil to get onto the insulation blankets.

#### **Root Cause**

The grounding brushes that normally collect the static electricity from the rotor shaft were not sufficiently discharging the rotor because they were dirty. Combustible oil mist vapor inside the front standard of the turbine was ignited by static electrical arcing between the rotor shaft and the oil seals on #1 turbine bearing.

### Failure History

There has never been a failure of this nature reported on this unit.

### **Corrective Action**

The turbine rotor shaft was cleaned in the grounding area and the grounding brushes were replaced. The generator loop seal vapor extractor and the turbine lube oil vapor extractor pressure were reduced to minus three inches (-3" H2O) vacuum to improve vapor removal from the lube oil system. Going forward the grounding brushes will be inspected and cleaned each time the unit is removed from service. The main oil pump and extension shaft will be refurbished during the 2014 spring outage.



### **Forced Outage Report SOE Print Out**

N/A



### Other Work Completed While Unit Was Offline

### **ELECTRICAL**

- · Unit freeze protection
- · Rotor grounding brush repairs

### INSTRUMENTATION

· Unit freeze protection

### **MECHANICAL**

- · Inspected turbine front standard
- Unit freeze protection





# Forced Outage Report Operators Event Log

### Your Touchstone Energy Cooperative

1/1/2014	12:00mn	HADDY NEW YEAR
1/1/2014		HAPPY NEW YEAR
	1:00am	1st day of month misc checks
		WO# 6117952 #1 Bottom ash Recirc pump is making a lot of noise and vibrating
	2:40am	Changed out lube oil strainer and cleaned dirty one.
	5:00am	SO3 system in service
		Unit Status Update
	7:00am	Todd in, Mattingly out
		Current-448 Gross MW 417 Net MW Cap @ 8:00am
		SCR in, SO3 in, 1,2,3,4 modules, CSI 12', Ball mill- #2-49 amps
		1,2,4,5 Mills Boiler O2-3.1% Windbox- 2.72 Total Coal-367 Total Air- 93.65% Control Air Dwpt71.9
		So2 Removal- 2.0 Nox064 Opacity- 5.2%, Ammonia tank levels- 47/46 S02 inlets- 5.2/5.0 CO 162/227
		H2 Pressure- 57 H2 Purity- 98% Gen. Gas Density- 39% INWC Fan Diff 72 Seal Oil Diff 14 LBS H2 Dew Point out112
		Back Press 2.92 avg. Stator Gas Temp. diff 7.54 Gen. Voltage- 24.04 Gen. Megavars- 107 Ambient Temp 27
	-	McIntyre, J. Stewart, Hall, Drake, Barrett in
	8:00am	Safety Briefing
	o.ooaiii	Swift to water plant
	8:15am	
	-	Scott to water plant
	8:30am	Boiler Walkdown
	9:00am	Flushed Wet Seal
		Oil leak on front standard
	9:43am	MFT
		WO# 6117963 West reheat inlet drain knocker viv will not open all the way
		WO# 6117962 Both finshing outlet drains on 2nd fl leaking below iso viv
		WO# 6117961 Exciter door seal falling off
	8:00pm	Owens in Todd out
		McCarty, Mcelwain, S. Roby, Wilson, Worley in. Piper on S/L
		Safety Briefing
		Working on blowing out steam coils
		Working on draining the waterwalls
1/2/2014	12:00am	
	1	Daily report
		Purged generator with CO2
	_	Working on main bowser filters
	7:00am	Todd in Owens out
	8:00am	McIntyre, J. Stewart, Hall, Drake, Barrett, Caldwell, in
	0.00am	
	0.00	Safety Briefing
	8:00pm	Owens in Todd out
		McCarty, Mcelwain, S. Roby, Wilson, Worley in. Piper on S/L
		Safety briefing
1/3/2014	12:00am	
		Daily report
	4:45am	V.Norris taking his P/D today.A&T filled out
		Changed filter 2 times on B lift pump
	7:00PM	Cooper,in Mattingly out
		MW KPPH SO2 NOX OPAC REMOV CO2 4 MILLS 4 MODULES 15 CIRC PUMPS
		MVARS SLURRY FEED TANKS CO Sludge tanks VOLTAGE BED LEVEL 96"
	8:00PM	Roby, Stewart S/L, Baker, Poore, Jones, Calhoun P/D Hall
		Safety briefing
		Unit off line
	7:00PM	Cooper,in Mattingly out
		MW KPPH SO2 NOX OPAC REMOV CO2 4 MILLS 4 MODULES 15 CIRC PUMPS
		MVARS SLURRY FEED TANKS CO Sludge tanks VOLTAGE BED LEVEL 96"
	8:00PM	
	J. UUF IVI	Roby, Stewart S/L, Baker, Poore, Jones, Calhoun Hall
		Safety briefing
		Unit off line
		Cleaning Main lube oil tank
		Filling Lube oil tank
		Filling hotwell up to tube



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1/5/2014	12:00mn	
	7:00am	Mattingly in Cooper out
	8:00am	Tichenor, Daugherty, Caldwell, Render Blandford on vac, A/T submitted, Stovall sick A/T submitted
		Safety Briefing
		Setting boiler to fire
		Set turbine bldg to fire
	6:00pm	Oil fire in boiler. Notified HL
	7:00pm	Cooper/Todd in, Mattingly/Owens out
		H. Roby, Baker, J. Stewart, Hall, B. Jones, Calhoun in
	8:00pm	Safety Briefing
1/6/2014	12:00am	
	3:05am	#1 mill on, precips in service
	3:41am	Unit tied online
	3:49am	Steve Waltrip taking personal day. AT submitted
	5:00am	Unit Status Update
		WO# 6118374 WWP32 seal water switch froze and busted
		WO# 6118375 #1 FD fan discharge damper solenoid will not work
	8:00am	Owens, Mattingly in Todd, Cooper out
		Tichenor, McCarty, Mcelwain, S. Roby, Daugherty, Caldwell, Piper, Wilson, Render, Worley in
		Safety briefing
		Working on going to 5 mills
	4:45pm	SCR system in service. Notified H/L
	7:00pm	Todd/Cooper in, Owens/Mattingly out
		Current-448 Gross MW 417 Net MW Cap @ 8:00pm
		SCR in, SO3 in, 1,2,3,4 modules, CSI 4', Ball mill- #2-50 amps
		1,2,3,4,5 Mills Boiler O2-3.3% Windbox- 2.25 Total Coal-369 Total Air- 90.38% Control Air Dwpt- 9.7
		So2 Removal- 89.3 Nox094 Opacity- 6.8%, Ammonia tank levels- 45/64 S02 inlets- 4.7/4.8 CO 23/98
		H2 Pressure- 59 H2 Purity- 98% Gen. Gas Density- 44% INWC Fan Diff 79 Seal Oil Diff 14 LBS H2 Dew Point out128
		Back Press 3.30 avg. Stator Gas Temp. diff 6.36 Gen. Voltage- 24.03 Gen. Megavars- 174 Ambient Temp -1
		McIntyre, H. Roby, Baker, J. Stewart, Hall, Drake, B. Jones, Barrett in
	8:00pm	Safety Briefing
		Freeze protection
	9:30pm	Boiler Walkdown
		Checked all boiler valving
	10:00pm	CSI in service



**Estimate Outage Cost** 

TOTAL OUTAGE COST = \$59,000

### Your Touchstone Energy Cooperative

### **Lost Opportunity**

### FORCED OUTAGE COST ANALYSIS

MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-14-01	Production Cost				
Date & Time Off Line	1/1/14 9:43	MW		5/MW		
Date & Time On Line	1/6/14 3:41	240	\$	26.43		
Outage Duration	113 hr. 58 min.	300	\$	25.50		
Outage Code	UO2	420	\$	24.48		
Outage Reason	Repair oil leak and resulting damage from fire on turbine front standard					

Date	DA LN	P Average	RT LI	MP Average	DART P&L	Op	Lost oportunity
/1/14 (HE 11-24)	\$	32.79	\$	25.02	\$ (3,320)	\$	-
1/2/14 (HE 1-24)	\$	40.58	\$	36.25	\$ -	\$	(161,133)
1/3/14 (HE 1-24)	\$	35.94	\$	52.29	\$ -	\$	(114,708)
1/4/14 (HE 1-24)	\$	34.62	\$	30.32	\$ -	\$	(101,448)
1/5/14 (HE 1-24)	\$	32.13	\$	24.31	\$ -	\$	(76,565)
1/6/14 (HE 1-18)	\$	52.07	\$	113.84	\$ 253,706	\$	(171,352)
Total					\$ 250,386	\$	(625,206)

Start Up Fu	el Cost		Total Forced Outage Cost			
S/U Fuel Consumed		34,947	DART P&L	\$	250,386	
S/U Fuel Price	\$	2.98	Lost Opportunity	\$	(625,206)	
S/U Fuel Cost	\$	(104,310)	S/U Fuel Cost	\$	(104,310)	
			Total	\$	(479,130)	

### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



#### Your Touchstone Energy\* Cooperative

### **Forced Outage Report**

To: Bob Berry

From: Bart Boles

Date: 28-Jan-2014

Plant: Wilson Unit: 1 GADS Class: UO2

### Duration

Trip Time: 7-Jan-2014 23:16 Tie Time: 12-Jan-2014 12:47

Total Time Offline: 109:31

The unit tripped on low load one minute after it tied on.

### **Duration**

Trip Time: 12-Jan-2014 12:48 Tie Time: 12-Jan-2014 13:53

Total Time Offline: 1:05

### **Outage Description**

Wilson Station was removed from service on Wednesday 7-Jan-2014 at 23:16 due to a tube leak in the Finishing Superheat Section of the boiler. The leak was on the 12<sup>th</sup> element from the west wall, and was the 1<sup>st</sup> tube in from the outside of the bundle. This was on the 13<sup>th</sup> floor at elevation 562'-0". An additional leak was found on the crossover loop between the inlet and outlet bundles of the same finishing superheat section. On the first leak, Titan Contracting replaced a complete loop (35 feet) of the finishing superheat section starting on the outside (primary side) of the loop and going 6 foot up the inside of the loop. The loop section was 2" x 0.293 M.W. and was SA-213-T91. On the second leak, Titan Contracting installed a 24" Dutchman. The Dutchman was 2.25" x 0.300 M.W. and was SA-213-T91. Titan also pad welded six tubes adjacent to the loop tube that was replaced. The pad welds were all SA-213-T91 material.

After performing a hydro test on the boiler, an additional leak was found in the B-Platen superheat section of the boiler. This leak was on the 4<sup>th</sup> B-Platen superheat element and was the first tube on the outside of the bundle. Titan contracting installed an 18" Dutchman in this area. The tube material was 1.75" x .300 M.W. and was SA-213-T91. Additional work completed during this outage is listed in the sections below.



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### **Root Cause**

It appears that the Finishing Superheat tube failed as a result of thinning caused by erosion from a soot blower over a period of time. The failure was approximately 18 inches in length.

### **Failure History**

The last tube leak in the boiler was in the "B" Platen Superheat Section and was on December 4, 2013. The last tube leak in the Finishing Superheat Section was on September 13, 2011.

### **Corrective Action**

The recommendation is to replace all 32 Finishing Superheat Elements during the next major unit outage. The new elements are on site and are located in the laydown area.

### Other Work Completed While Unit Was Offline

#### ELECTRICAL

No Major work completed

#### INSTRUMENTATION

No major work completed

#### **MECHANICAL**

- Removed and reinstalled ammonia spools
- Repaired steam coils
- Repaired #6 alternate drain
- Repaired penthouse ventilation piping
- Repaired circulating water inlet sample port
- Performed back pass inspection and replaced shielding
- Installed handcuffs on superheat elements
- Repaired #2 ID fan inlet dampers that were locked up
- Repaired water wall tube membrane on 7<sup>th</sup>/8<sup>th</sup> floor north wall
- Repaired #2 condensate drain tank
- Repaired #6 economizer hopper



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## Forced Outage Report

### **Operators Event Log**

1/7/2014 12:00am Updated red tag file

Trash

FREEZE PROTECTION

WO# 6118474 Water Treatment Plant fire alarm will not clear

WO# 6118477 #2 BA recirc pump solenoid busted

WO# 6118468 T353 1A drn clr level lo alarming constant

WO# 6118476 AL3W bottom gate solenoid bad

WO# 6118485 Both centac LO cooler TCVs leaking thru WO# 6118480 Diesel generator rm fire panel will not reset WO# 6118483 Control Air tank outlet filter needs to be changed

5:00am Unit Status Update

8:00am Owens, Mattingly in Todd, Cooper out

Tichenor, McCarty, Mcelwain, S. Roby, Daugherty, Caldwell, Piper, Wilson, Render, Worley in

Safety Briefing

Drag chain came off.M/M working on

Fire tank is empty. Put 2nd pump on at water plant

Freeze protection

Working on ice at cooling tower

The SCR soot blowing line is frozen from the boiler bldg, to the control valves

WR#6118537 on A side SCR line needs to be insulated from the reg to the handrail

Set hydrogen at 60 psi and valved out the scavenger for test 2:11pm

Drag chain back in service

Poore called back and will be here tomorrow night at 8:00pm

Smoke run

3:30pm Put drum gauge glass in

7:00pm Todd/Cooper in, Owens/Mattingly out

Current-444 Gross MW 417 Net MW Cap @ 8:00pm

SCR in, SO3 in, 1,2,3,4 modules, CSI 8', Ball mill- #2-50 amps

1,2,3,4,5 Mills Boiler O2-3.4% Windbox- 2.80 Total Coal-392 Total Air- 95.40% Control Air Dv So2 Removal- 90.9 Nox-.081 Opacity- 8.3%, Ammonia tank levels- 39/64 S02 inlets- 5.2/4.8 C H2 Pressure- 60 H2 Purity- 98% Gen. Gas Density- 44% INWC Fan Diff.- 79 Seal Oil Diff.- 14 Back Press.- 3.47 avg. Stator Gas Temp. diff.- 6.90 Gen. Voltage- 24.05 Gen. Megavars- 161

McIntyre, H. Roby, Baker, J. Stewart, Hall, Drake, B. Jones, Barrett in

8:00pm Safety Briefing

Freeze protection

8:45pm Boiler Walkdown

9:32pm Hotwell check started

11:16pm Unit trip

1/8/2014 12:00am tube leak repair preparation

> 5:00am Unit Status Update

7:00am Owens, Mattingly in Todd, Cooper out

Tichenor, McCarty, Mcelwain, S. Roby, Daugherty, Caldwell, Piper, Wilson, Render, Worley in

Safety Briefing

8:00am checked coal feeder chutes to be clean

Checked air heater hoppers, all are clean



Your Touchstone Energy Cooperative

Pulled down flyash hoppers Cleaned out bottom ash chute

Cleaned mixer at CSI

Working on wkly and monthly testing

Checking and cleaning Main lube oil strainer every 4 hrs. if needed

5:00pm cleaning boswer

7:00pm Todd/Cooper in, Owens/Mattingly out

McIntyre, H. Roby, Baker, J. Stewart, Hall, Drake, B. Jones, Blandford, Poore in

Cleaning main bowser Cleaning #4 module

Cleaning FD fan suction screen

1/9/2014 12:00am

Flushing slop drain 2 and 4 bearing could not get anything out of them

Daily report

7:00am Owens, Mattingly in Todd, Cooper out

Tichenor, McCarty, Mcelwain, S. Roby, Daugherty, Caldwell, Piper, Wilson, Render, Worley in

Safety Briefing

8:15am Filling hotwell up to tube

7:00pm Todd/Cooper in, Owens/Mattingly out

McIntyre, H. Roby, Baker, J. Stewart, Hall, Drake, B. Jones, Blandford, Poore in

Cleaning 2 and 5 deck oil guns Setting turbine building up for fire

Working on slop drains

1/10/2014 12:00AM

Setting all steam coil to normal

4:00AM Herman Roby out 4hrs vac a&t submitted

5:00AM Daily report

8:00am Owens, Mattingly in Todd, Cooper out

Tichenor, McCarty, Mcelwain, S. Roby, Daugherty, Caldwell, Piper, Wilson, Render, Barrett in

Safety Briefing

Both east and west lime day tanks at CSI are empty .Started new pile

Safety meeting with A and B shift

Flyash silo 40'

1:00pm Weekly Disaster Alarm

Service water outage to repair leak on waste water sump pumps

4:00pm Caldwell, Tichenor, Daugherty, Render out

4:40pm Service water system back in service

8:00pm Todd/Cooper in, Owens/Mattingly out

McIntyre, H. Roby, J. Stewart, Baker, Hall, Poore, Drake, B. Jones, Worley in

Safety briefing

Monthly Fire Protection

1/11/2014 12:00am

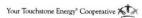
> 2:26am Release to Hydro 3:16am At 1800# drum

3:48am Wet boiler

8:00am Owens in Todd, Cooper out







S.Roby, McCarty, Piper, Wilson, Barrett in. McElwain on vacation. A&T filled out

Safety Briefing

WR#6118889 on #1 fire hydrant is leaking underground

Need to leave the outside air dryer valved out until M/M installs new valves on Monday. Hollar Crain removed the bad solenoid on the drag chain water spray. Will have to valve in spray now

solenoid

8:00pm Todd in, Owens out

McIntyre, H. Roby, J. Stewart, Hall, Baker, Poore, Drake, B. Jones, Worley in

Safety Briefing

Centac/control air problems

12:00am 1/12/2014 WO# 6118927 #1 centac lube oil filters need to be changed

2:50am Release to Hydro 3:40am At 1800# drum

3:50am Dry Boiler

5:55am Release to fire

Plant Headcount

6:18am ID and FD fans on

7:24am Fire in boiler.H/L notified 8:00am Owens, Mattingly in Todd out

Tichenor, McCarty, Mcelwain, Daugherty, S. Roby, Caldwell, Piper, Wilson, Render, Barrett in

Safety Briefing

12:43pm Precips in service.H.L notified 12:47pm Unit tied online.H/L notified





#### Your Touchstone Energy® Cooperative

# **Boiler Tube Leak Record Finishing Superheat Tube**

Plant: <u>Wilson</u> Unit: <u>1</u>
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Thin Lip Failure
Tube Wall Thinning X Other: It appears that the tube leak occurred as a result of thinning, and then blew a section of tube out.
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion X Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow
Other:
Type of Repair: (Check One)
Dutchman: X Length of Dutchman: Entire Loop – Approximately 35' & and a 24" Ductchman.
Pad Weld: Yes (6 Pad Welds on adjacent tubes)
Plug Tube Short Circuit Other:





Your Touchstone Energy Cooperative

# Forced Outage Report

**Description of Repair:** 

Tube Size OD: 2" & 2.25"	Wall Thickness:	0.293" M.W.	& 0.300"	M.W.
Tube Material: <u>SA-213-T91</u>				
Welding Rod Used90-SB3				
Welded By: _Daniel Burden, Ja	red Burden: Titai	n Contracting		

**Exact Location of Leak: Be Specific** 

Finishing Superheat Section, 12<sup>th</sup> element from west wall, 1st tube in from the outside of the bundle. In the 13<sup>th</sup> floor area, elevation 562'-0". The other finishing superheat leak was in the same element in the crossover section.





#### Your Touchstone Energy' Cooperative

# Boiler Tube Leak Record B-Platen Superheat Tube

Plant: Wilson Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Thin Lip Failure
Tube Wall Thinning Other: X
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow
Other: Considering that was a very large bulge in the tube, it appears that the tube may have had water in it, froze, and busted. This is just a theory.
Type of Repair: (Check One)
Dutchman: X Length of Dutchman: 18" Pad Weld: No
Plug Tube Short Circuit Other:



### Your Touchstone Energy® Cooperative

# Forced Outage Report

**Description of Repair:** 

Tube Size OD: <u>1.75"</u>	Wall Thickness: _	0.300" M.W.	
Tube Material: <u>SA-213-T91</u>			
Welding Rod Used90-SB	3		
Welded By: <u>Daniel Burden, J</u>	ared Burden: Titan	Contracting	

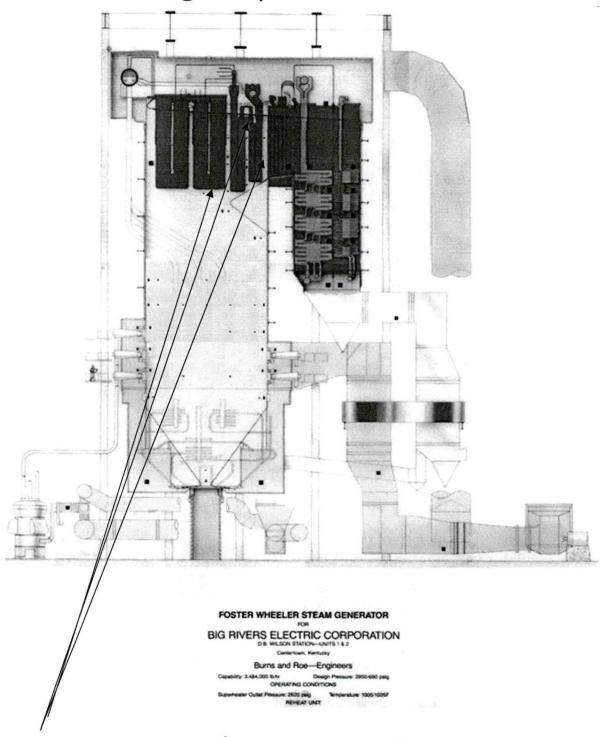
**Exact Location of Leak: Be Specific** 

"B" Platen Superheat Section, 4<sup>th</sup> element from east wall, 1<sup>st</sup> tube in from the outside of the bundle, bottom of the loop, In the 13th floor area, elevation 562'-0".









<u>Tube Leaks Here</u> – Finishing Superheat section 12<sup>th</sup> element from west wall, 1<sup>st</sup> tube, and crossover tube: "B" Platen Superheat Sections, 4<sup>th</sup> element from east wall, 1<sup>st</sup> tube in from the outside of the bundle, bottom of the loop. 13<sup>th</sup> floor area elevation 562'-0"

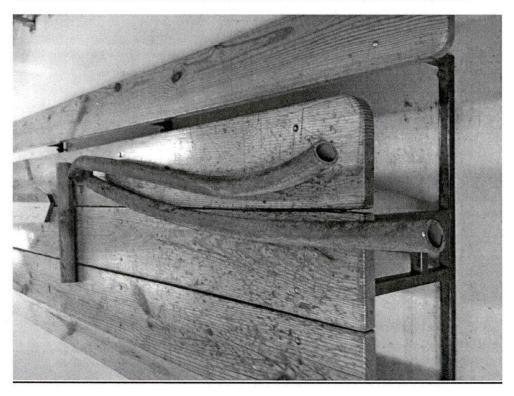


### Your Touchstone Energy® Cooperative

# Forced Outage Report **PICTURES**

### FINISHING SUPERHEAT TUBE LEAK









### Your Touchstone Energy® Cooperative

# Forced Outage Report B- PLATEN SUPERHEAT TUBE LEAK







# **Forced Outage Report** TOTAL OUTAGE COST

TOTAL OUTAGE COST = \$90,635



### **Lost Opportunity**

### **FORCED OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit Wilson - W1-14-02 & W1-14-03		Prod	uction Cos	st
Date & Time Off Line	1/7/14 23:16 & 1/12/14 12:48	MW	,	\$/MW
Date & Time On Line	1/12/14 12:47 & 1/12/14 13:53	240	\$	26.43
Outage Duration	109 hr. 31 min. & 1 hr. 5 min.	340	\$	25.03
Outage Code	UO2 & UO1	420	\$	24.48
Outage Reason	Repair tube leak in finishing superheater. Unit tripped on low load shortly after it tied on.			

Date	DA LMP	Average	RT LMP	Average	DART P&L	O	Lost portunity
1/7/14 (HE 24)	\$	71.70	\$	44.80	\$ (1,743)	\$	-
/14 (HE 1-24)	\$	96.88	\$	77.25	\$ (526,037)	\$	-
14 (HE 1-24)	\$	56.57	\$	30.24	\$ -	\$	(321,153)
0/14 (HE 1-24)	\$	31.67	\$	33.95	\$ -	\$	(71,945)
1/14 (HE 1-24)	\$	29.91	\$	27.89	\$ (20,592)	\$	(22,147)
1/14 (HE 1-21)	\$	28.84	\$	30.51	\$ 123	\$	(20,997)
Total					\$ (548,249)	\$	(436,241)

Start Up Fue	el Cost		Total Forced	Out	age Cost
S/U Fuel Consumed		29,652	DART P&L	\$	(548,249)
S/U Fuel Price	\$	2.98	Lost Opportunity	\$	(436,241)
S/U Fuel Cost	\$	(88,505)	S/U Fuel Cost	\$	(88,505)
			Total	\$	(1,072,996)





To:

**Bob Berry** 

From: Perry Bowley

Date: 7-Feb-2014

Plant: Green

Unit: 1

GADS Class: UO1

### **Duration**

Trip Time: 7-Feb-2014 06:59

Tie Time: 7-Feburary-2014 14:18

Time Offline: 07:19

### **Outage Description**

Green Unit 1 tripped offline on Friday, 7-Feb-2014 at 06:59 due to a low drum level. Fires were established at 07:22. At 08:10, startup was delayed due to the B phase blade on 100-9 MOD not functioning. ET&S Technicians arrived at plant and repaired.

### **Root Cause**

The 1D Mill pyrite sluice water backed up through the pyrite tank into the pulverizer causing loss of flame to burners. The resulting boiler upset caused 1B Mill to trip on flame instability. Two mills off caused a low level in the boiler drum resulting in the unit trip.

### Failure History

There have been no failures of this nature recorded for Green Unit 1 in the last three years.





#### Your Touchstone Energy Cooperative

# Forced Outage Report

### **Corrective Action**

The pyrite tank was isolated from the mill and the mill was cleaned out. Fires were established at 07:22, but at 08:10, start-up was delayed because Operators discovered that the blade for B phase of the generator disconnect switch did not open when the unit tripped. ET&S Technicians were dispatched to make repairs. While they were en route, the unit was bottled up and a clearance was issued to isolate the switch for repair. Repairs to the disconnect switch were completed and the unit was returned to service at 14:18.





# **Forced Outage Report SOE Print Out**

Your Touchstone Energy\* Cooperative

Report Type Standard Report Number Report Title SOE STANDARD Recorder Number Triggered on.... 7-Feb-2014 06:59:51:906

Number of Event Records 223

	Event Time	State	AID	Tag Name	Tag Description	SER Index
	7-Feb-2014 07:00:17:412	CLOSED	А	G125ANN404SOE	HEATER 5 BS ISOL VALVE CLOSED	66
	7-Feb-2014 07:00:14:917	CLOSED			C MILL RATING DAMPER CLOSED<	132
	7-Feb-2014 07:00:12:852	RUNNG	A		TURN GEAR OIL PMP RUNNING<	91
	7-Feb-2014 07:00:09:972	RUNG	A		EMGNCY BRNG OIL PMP STATUS	105
	7-Feb-2014 07:00:05:228	TRIPPD	A		BOILER TRIP TO TCS<	229
	7-Feb-2014 07:00:05:228	OPENED			1B PA FAN STATUS	226
	7-Feb-2014 07:00:05:228	CLOSED			G1 B BUS 1T2 TIE STATUS	203
	7-Feb-2014 07:00:05:228	CLOSED			G1 A BUS 1T1 TIE STATUS	188
1	7-Feb-2014 07:00:05:228	OPENED			1C PULVERIZER STATUS	186
-	7-Feb-2014 07:00:05:228	OPENED			1A PULVERIZER STATUS	157
	7-Feb-2014 07:00:05:228	OPENED			1A PA FAN STATUS	212
	7-Feb-2014 07:00:05:227	CLOSED	A		A MILL RATING DAMPER CLOSED<	94
	7-Feb-2014 07:00:05:227	OPENED	•		G1 B MAIN STATUS	130
	7-Feb-2014 07:00:05:227	OPENED			G1 A MAIN STATUS	126
	7-Feb-2014 07:00:05:227	RESET			G1 A MAIN TRIP	125
	7-Feb-2014 07:00:05:227	NORMAL			EMGNCY FURN PRS CNTRLR OPER	122
-	7-Feb-2014 07:00:05:227		Α	G133ANN319SOE	MASTER FUEL TRIP	78
	7-Feb-2014 07:00:05:227	OK		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
	7-Feb-2014 07:00:05:227		Α		HEATER 6 BS ISOL VALVE CLOSED	65
	7-Feb-2014 07:00:05:227	TRIPPD	A	G150ANN070SOE	GEN EXCITER FLD BKR AUTO TRIP	3
	7-Feb-2014 07:00:05:226	TRIPPD	A	G150ANN058SOE	GENERATOR RELAY 86G1 TRIP	2
	7-Feb-2014 07:00:05:226	TRIPPD	A	G140ANN158SOE	TURBINE TRIP	41
>>>	7-Feb-2014 07:00:05:226 7-Feb-2014 06:59:51:906	TRIPPD	A	G103AMNTRPSOE	G1 A MAIN TRIP	125
	7-Feb-2014 06:59:44:202	ACTIVE	A	G132ANN288SOE	EMGNCY FURN PRS CNTRLR OPER	122
	7-Feb-2014 06:59:44:202 7-Feb-2014 06:59:35:129	NORMAL	A		HTR 3 LVL HI OR DRAINS BYP	115
	7-Feb-2014 06:59:35:129 7-Feb-2014 06:59:29:045		^	G122ANN188SOE		93
_	7-Feb-2014 06:59:23:337	ALARM TRIPPD	A	G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	139
				G133ANN344SOE	DRUM LEVEL TRIP<	46
	7-Feb-2014 06:59:18:594	LOW	A	G125ANN237SOE	DRUM LEVEL LOW<	61
	7-Feb-2014 06:59:13:645	NORMAL	^	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	
	7-Feb-2014 06:59:12:392	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
	7-Feb-2014 06:59:06:895 7-Feb-2014 06:59:02:624	NORMAL TRIPPD	٨		CONTROL SYSTEM RUNDOWN REQD	220 138
	7-Feb-2014 06:59:02:624 7-Feb-2014 06:59:01:372	TRIPPD	A	H133ANN465SOE	BLR MSTR TRP TO MAN< FUEL MSTR TRP TO MAN<	135
		TRIPPD	A	H133ANN463SOE	AIR FLW MSTR TRP TO MAN	137
	7-Feb-2014 06:59:01:122 7-Feb-2014 06:58:29:034	CLOSED		H132ANN464SOE		
	7-Feb-2014 06:58:29:034 7-Feb-2014 06:58:27:776		A	G133ANN349SOE	D MILL RATING DAMPER CLOSED	117
		NCLSD		G133ANN349SOE	D MILL RATING DAMPER CLOSED	117 249
	7-Feb-2014 06:57:52:757	CLOSED		G132ANN329SOE	B MILL RATING DAMPER CLOSED	
_	7-Feb-2014 06:57:45:227	ALARM OPENED	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
	7-Feb-2014 06:57:24:184	LOW			1B PULVERIZER STATUS	170
	77-Feb-2014 06:56:41:358		A	G155ANN313SOE	MAIN STEAM PRESSURE LOW	76
*	7-Feb-2014 06:56:26:845	RNDOWN			CONTROL SYSTEM RUNDOWN REQD	220 117
_	7-Feb-2014 06:55:50:827		A	G133ANN349SOE	D MILL RATING DAMPER CLOSED<	
	7-Feb-2014 06:55:35:009	OPENED			1D PULVERIER STATUS	201
4	7-Feb-2014 06:54:15:580	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
. /	7-Feb-2014 06:54:14:327	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
1000	7-Feb-2014 06:40:24:742	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
\" X	7-Feb-2014 06:40:22:488	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGHS	61
100	7-Feb-2014 06:40:03:452	NORMAL HIGH	^	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGHS	61 61
U	7-Feb-2014 06:40:03:199 7-Feb-2014 06:36:56:094	NORMAL	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGHS	61
	7-Feb-2014 06:36:56:094 7-Feb-2014 06:36:51:334	HIGH	۸	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH< SEC AIR DUCT PRESSURE HIGH<	61
			A	G132ANN284SOE		61
	7-Feb-2014 06:36:14:514	NORMAL	۸	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	61
	7-Feb-2014 06:36:13:762	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	61
	7-Feb-2014 06:24:10:881 7-Feb-2014 06:24:06:874	NORMAL HIGH	۸	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	61
	7-Feb-2014 06:24:06:874 7-Feb-2014 06:16:51:041	NORMAL	A	G132ANN284SOE G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
	7-1 60-2014 00, 10.01.041	NORWAL		O ISZANINZO4SUE	SEO AIR DOO! FRESSORE HIGHS	01



Your Touchstone Energy Cooperative

Other Work Completed While Unit Was Offline

None





### **Operators Event Log**





LOG BOOK

DATE 2-7-14

- O REID
- GREEN
- O COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
12M	Lawrence Combs, to Tagge, & Parker, T. Parker, Shellow
	Lawrence Combi, to Tapp, A Bar Ker, T. Barker, shellow
G1	Load 249 4 Mill operation ADS in service
	502.46 Nox 25 Opacity 7.5
G2	Load 240 4 Mill operation ADS in service
	Load 240 4 Mill operation ADS in service SOE 117 Nox 32 opacity 9.6
Slaver	G1 4on 20.6 + 20.1 = 25:10
) id just	62 3on 24.9 + 22.6 = 45:10
	G2 3on 24.9 + 22.6 = 45:10 prep 3on 56.6" = 35:10
IU	Aconveyors AdC Druns #15:10 25" #25 noot 76"
	25: n Tanks 5:10, 59-26 46-0 IU 27 1-
	1BDL, 20056 21.5 EZS
	18 Dl., 20 D.5h, 21.5 21.0
2 A	
	10 40+ 10- 6.9" 2D 36.1 49 66°
17	GIPH 4 TO 6.6 SO2, 46 718
6'501	CI T I T 1 32 /
	GI Turbin Tripped
	ie solablished in G-1 OPER SUP'R
52 Box	. 1
812065	12- lost 2 mills, Fres - 2 0 722 / unit to gras 141B, Sins of 3RD 3RD 3RD 7272
1632	SIGNED SIGNED
- 242	F15 R









LOG BOOK

DATE \_\_ 2-7-14 □ SCRUBBER SHIFT SUPERVISOR □ SCRUBBER OPERATOR SCRUBBER AUXILIARY OPERATOR

a REID GREEN □ COLEMAN □ WILSON

SHIFT SUPERVISOR □ CONTROL OPERATOR □ AUXILIARY OPERATOR □ UTILITY OPERATOR

□ SOLID WASTE OPERATOR □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK 8AM-8PM TIME REMARKS 800 Nox.317

OPER	SUP'R
1ST	
2ND	Sciens 8A-8p
3RD	
	SIGNED

F155.12 R 1/93









LOG BOOK

DATE 2-7-14

	REID
W	GREEN
0	COLEMAN
	WILSON

	/
W	SHIFT SUPERVISOR
0	CONTROL OPERATOR
	AUXILIARY OPERATOR

	UTILITY	<b>OPERATOR</b>	
-			

- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
930	W. Hust going home
1005	B. Beaven @ Plant
1015	S. Bochman @ Plant
1075	
1015	P. W. Butter going from
20	
10 30	Transmission & Glant
1/44	Taggedout 100-3 + 106-1 Dus Disconnects + Bus CCVT
1200	1/4 dr. 1/24 DA) all D 1/24 DA) all a 1/24
	1B) 25 G =+ 1/0" ( 2) 2/2 1/2/
	Underflows th) off 0 6'9" 2A) off 0 6'9"  1B) 35.9 5+ 6'8" 2B) 36.2 40+ 6'8"  Bed 0.00 Flock
1256	Released Hold # 052 - 100-3 + 106-1 Bus Disconnect
70.	Bus CCIT
218	G-1 Tied on line + But Chengs in Service - Notited 18/2
	G-1 Tied on line + Out Cheeps in Service. Notified Hold
400	Mode Noves 1A) all 0 1'0" 2A1 3916 A 1'0"
	Underflows IN off 0 6'9" 2A) 39.4 0 6'9"  1B) 35.6 5+ 6'8" 2B) 37.6 42+ 6'8"
-	Red 0.00 Flort -
	Dear V. OV Floor
	OPER SUP'R

OPER	SUP'R
1ST	
2ND	Swero-8A-8p
3RD	0
	SIGNED

F155.12 R 1/93









LOG BOOK

DATE	7-7-14
DATE	2-6.17

- a REID GREEN Q COLEMAN □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR □ AUXILIARY OPERATOR □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
432	Pulled oil out of G.1 Biles
T	6-1 in ADS
(2)	
800	Donithan, Dayes, Lawrence Whittedge Hower, Barrow, Honer Travis, Covan, Shelton, Tapp, Parker
	Travis, Covar, Shelton, Tapp, Parker
5,69	#1-52 E-1.5 W-1.5 #2-54 E-1.5 W-1
	5-0 G-0 S-0 T-0
Theline	15 14 21 5 19 50 50 50 50 50 50 50 50 50 50 50 50 50
mage	15 1Am 34. 0 69 2A on 38.8 0 610 1 BOFF 35.4 5 69 2BOFF 34.6 40 69
	1211 35,4 3 6 CB OFF 34. 6 40 CF

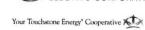
OPER	SUP'R
1ST	
2ND	Sciens 84-8p
3RD	Siles
	SIGNED

F155.12 R 1/93





Lost Opportunity is the lost margins if the unit had stayed running



### **Lost Sales Opportunity Report**

						T OPPOR	ALYSIS		
Unit		Green 1 -	G1-14	-03			Product	tion C	ost
Date & Time Off Line		2/7/14	4 6:59				MW		\$/MW
Date & Time On Line		2/7/14	14:18				73	\$	28.41
Outage Duration		7 hr. 1	9 min.				181	\$	23.95
Outage Code		U	01				235	\$	23.46
Outage Reason		tripped on low ler upset fron							
Date	DA L	MP Average	RT LN	IP Average	D	ART P&L	Lost Opportunity		
2/7/14 (HE 8-22)	\$	77.35	\$	74.57	\$	(90,927)			
Total					\$	(90,927)			
Start Up Fu	el Cost					. Zac	Total Forced	Outa	ge Cost
S/U Fuel Consumed		19,002					DART P&L	\$	(90,927
S/U Fuel Price	\$	3.10					Lost Opportunity	\$	
S/U Fuel Cost	\$	(58,935)					S/U Fuel Cost	\$	(58,935
							Total	\$	(149,861
NOTES:				7		74			





#### Your Touchstone Energy\* Cooperative

# **Forced Outage Report**

To: Bob Berry

From: Billy Boarman

Date: 17-Feb-2014

Plant: Reid Station

Unit: 1

GADS Class: UO1

### **Duration**

Trip Time: 14-Feb-2014 08:12

Tie Time: 16-Feb-2014 02:37

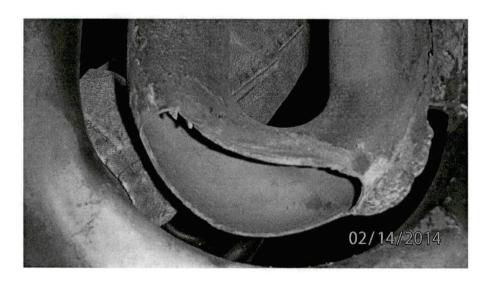
Time Offline: 42:25

### **Outage Description**

Reid Station Unit 1 was removed from service on Friday, 14-Feb-2014 at 08:12 due to a suspected tube leak in the High Temp Superheat Area of the boiler.

### **Root Cause**

Tube leak on the High Temp SH, 8<sup>th</sup> element from the east wall, inner (hair pin) loop, on the 3<sup>rd</sup> set of loops from the south wall at elevation 517' was caused by external corrosion.





### Your Touchstone Energy Cooperative

### **Failure History**

6-Aug-2010	56:38	Tube leak in the Super heat in the 8th bundle from the east wall - 2nd loop at elevation 523'
11-Aug-2011	23:51	Tube leak at elevation 520' in the Hi-Temp Super heater on the 7th panel from the east
2-Jul-2012	46:10	Field Weld Failure on the 7 <sup>th</sup> Super heat element from the east, 3 <sup>rd</sup> loop from the north

### **Corrective Action**

A new hair pin loop was installed on the 8th element from the east wall on the 3rd set of loops from the south wall at elevation 517'. Also installed a 24" Dutchman on the 8th SH element from the east wall, 1st set of loops from the south (the tube was swollen in an area) at elevation 518'. A BMR was performed on the 8th SH element from the east wall, 3rd set of loops from the south, outer loop at elevation 516' - 5". Handcuffs were replaced on the 5<sup>th</sup>, 6<sup>th</sup>, and 8th elements from east wall.

### Other Work Completed While Unit Was Offline

 Repaired gas leaks on the bottom ash hopper seal skirt and the economizer hoppers

2

- Cleaned seal trough
- Precipitator inspection
- Calibrated all coal feeders
- Repaired steam leak on the platen header drain
- Burner deck inspections
- Changed oil in all FD Fan, PA Fan, and Mill motors





#### Your Touchstone Energy Cooperative

## **Operators Event Log**

2/14/2014	8:12AM	R-1 OFF	LINE												
	8:13AM	R-1 PREC				-		-	-						
	11:50AM	R-1 BFP	ON TO LO	CATE LEAK	PUMP OF	F AT 12:40	- LEAK LO	CATED							
	NOTE	R-1 COAL	FEEDER	S TAGGED F	OR INST	EPT TO CA	L.								
	NOTE			ON R-1 PA F		CED PLATE	S OVER B	URNER IN	SPECTION	PORTS FO	R BOILER	DE SLAG.			
	3:00PM	STARTED	R-1 BOIL	ER DE SLAC	3										
	NOTE	MAINTEN	IANCE TRA	AINING 7B C	DAL CONV	EYOR.									
	5:05PM			ILER - NOT		- GOING TO	WATER E	BLAST SO	ME MORE.						
	NOTE			FAN MOTO											
	5:45PM			R-1 BOILER											
	5:48PM			1 BOTTOM A											
	NOTE	TRANSFE	RRED FU	EL OIL TO H	MP'L TANK										
		-		-											
2/14/2014	8:00AM	CECIL,	FELTY, E	MBRY, HIL	LYARD, I	BLAIR, JA	MES, DU	/ALL				A SHIFT	PAYNE		
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PE		
		R1		50										C	TL 18.0'
															PWTL / 25'
		H1	165	165	153	0.382	10.8	0.063	16.5	93.3	10.45	219	3.6	6	
			105	100					0.000			С			
		H2	165	165	152	0.302	11	0.083	19.2	93.8	7.43	255	3.5	5 C	TL / 15.1'
		CT	ONICTAN	DDV	ee.							С			
		CT	ON STAN	DBY	65										
		ALARMS													
		R1													
		H1	BURNER	MANAGEME	NT/STEAM	SEALLON	V DDECCII	DE/E U D	DECCURE	OSTABLE	EOUIDED	DRUMXMTR N	AAIAIT		
		H2		LEVEL HI	INTO TEMIN	SEAL LOV	* LUE220	KE/E.H. P	NEGOURE	LUSIARIE	CUUIKED!	UKUMXMIR N	MINI		
			LITTLO	tota V bels I II											
		SOOT BI	OWERS T	AGGED				GALIGE	GLASSES		PWTL/ 2	7	DRYING	ACENT	
		R1 27R	CIVERO	ACOLD				OK	DLAGGEG		FVVIL / 2	. /	R1-0%	AGENT	
		H1 30.44	4					OK					H1-0%		
			0,33,35,37,	40.41.47									H2-0%		
		,.	,,00,00,01,	10,11,11									112-070		
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE	SYSTEM	
			10' 4"		10' 4"	8 5/8"	1				7FT		IN		
2/14/2014	8:00PM	SAFETY	BRIEFING												
	8:45PM		YSTEM O												
				ING ON H1/H		ICA. NO FL	OW ON TR	ANSMITTE	RS						
				RKING , H2 I											
				ER WONT											
				ER KEEPS	COMING O	UT PAST LI	MIT								
	NOTE:	WEEKLY							-						
011510011				TT, S.HALLN											
2/15/2014	2:45AM			WORKING.			E FROM L	AB CHECK	WHEN TH	EY COME I	N A FEW H	HOURS			
				IN SICK FOR			-								
	3:45AM			IN SICK FO		RNING									
	4:00AM			R UP FOR H	YDRO	-		-							
	6:00AM	RANDY G	ENIRYH	ERE											
						-									
2/15/2014					04770**	DAVED T	TE E0					D 011155	14110		
	Q-OOALA	MODDIC											M I KISC		
DIGIZOTA	8:00AM	MORRIS,	DENTON,	REYNOLDS,	GATTON,	DANER, IA	I'E, EDVVA	RDS,				D SHIFT - AS	KING		
3 10/2014	8:00AM								00400	DEMONT	Direc			DE0 6 : :=	
210/2014	8:00AM	UNIT	LOAD	UNIT CAP	NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST			RESSURE	
71072014	8:00AM				NET CAP.				OPACITY	REMOVAL	DUST			RESSURE	
21012014	8:00AM	UNIT R1	LOAD OFF	UNIT CAP TUBE LEAK	NET CAP.	SO2	CO2	NOX				AMM. FLOW	BACK PF		
10/2014	8:00AM	UNIT	LOAD	UNIT CAP	NET CAP.				OPACITY	REMOVAL 92	DUST				
10.2014	8:00AM	UNIT R1 H1	LOAD OFF 165	UNIT CAP TUBE LEAK 165	NET CAP.	SO2 0.37	CO2	NOX 0.07	18	92	11.11	AMM. FLOW 228	BACK PF	В	
	8:00AM	UNIT R1	LOAD OFF	UNIT CAP TUBE LEAK	NET CAP.	SO2 0.37	CO2	NOX				AMM. FLOW	BACK PF	В	
	8:00AM	UNIT R1 H1	LOAD OFF 165 165	UNIT CAP TUBE LEAK 165	NET CAP.	SO2 0.37	CO2	NOX 0.07	18	92	11.11	AMM. FLOW 228	BACK PF	В	
	8:00AM	UNIT R1 H1	LOAD OFF 165	UNIT CAP TUBE LEAK 165	NET CAP.	SO2 0.37	CO2	NOX 0.07	18	92	11.11	228 239	BACK PF	B B	
	8:00AM	UNIT R1 H1 H2 C.T.	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165	NET CAP.	SO2 0.37	CO2	NOX 0.07	18	92	11.11 7.6 GAUGE G	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN
	8:00AM	UNIT R1 H1 H2 C.T.	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165	NET CAP.	SO2 0.37	CO2	NOX 0.07	18	92	11.11	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165 165	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165 165 65	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165 165 65	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2	LOAD OFF 165 165 STANDBY STEAM S EH RES	UNIT CAP TUBE LEAK 165 165 65	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLG	LOAD OFF 165 165 STANDBY	UNIT CAP TUBE LEAK 165 165 65	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLG R1 25L	LOAD OFF 165 165 STANDBY STEAM S EH RES	UNIT CAP TUBE LEAK 165 165 65	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLC R1 25L H1 30,44	LOAD OFF 165 165 STANDBY STEAM SEH RES	UNIT CAP TUBE LEAK 165 165 65 8EAL HI/LO LEVEL HI	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN' H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLC R1 25L H1 30,44	LOAD OFF 165 165 STANDBY STEAM S EH RES	UNIT CAP TUBE LEAK 165 165 65 8EAL HI/LO LEVEL HI	NET CAP. 153 152	0.37 0.33	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGENT H-1 0% H-2 0%
	8:00AM	UNIT R1 H1 H2 C.T. ALARMS R1 H1 H2 SOOTBLC R1 25L H1 30,44	LOAD OFF 165 165 STANDBY STEAM S EH RES I OWERS TA	UNIT CAP TUBE LEAK 165 165 65 8EAL HI/LO LEVEL HI	NET CAP. 153 152	0.37 0.33 MANGT. EH	CO2 10.5 11.2	NOX 0.07 0.07	18 29	92	11.11 7.6 GAUGE GI	AMM. FLOW 228 239 LASSES	BACK PF	B B	RYING AGEN' H-1 0% H-2 0%





2/15/2014	8-00AM	SAFETY	BRIEFING												
	8:30AM			ON R-1 BOIL	FR										
				D GOING TO		IRF									
	9:15AM						I BOW	EV C G	DIEEIN D DI	ANKS T V	OUNG I H	ICCINE I DE	EEDEN, S. CU	TCHAM	
	0.10/110												EEDEN, S. CC	ISHAW,	
	9:45AM	D. EDMONDS, T. JACKSON, M. CONN, D. CLARK. LEFT MESSAGE TO CALL PLANT - M. JOHNSON - NO ANSWER.  M. T. JACKSON RETURNED CALL - WILL BE IN AT 8:00PM													
	NOTE														
		AM R-1 ECON HOPPERS AND WET SEAL ARE FINISHED - MAINTENANCE NOTIFIED.													
		M. C. GRIFFIN RETURNED CALL - WILL BE IN AT 8:00PM													
	NOTE														
		M FILLING R-1 WET SEAL													
	NOTE														
	222PM					D DI ANK	C T VOI	INC LEE	THECCACE	TO CALL D	LANT				
	2:34PM	The state of the s													
				ELEASED R											
				JRNED CALL		5 10 IES1.									
						CED				-					
	5:20PM	M R-1 WETBOTTOM AND F.D. FANS RELEASED M R-1 F.D. FAN ON FOR BOILER DOOR AIR TEST.													
	NOTE			L NOT STAF											
			EST GOOD												
	NOTE:														
	6:15PM	R1 A FD FAN ON. HAD TO USE BREAKER OUT OF A BOILER FEED PUMP													
	6:53PM	FIRE ESTABLISHED IN R1 BOILER  FILE OIL ALARM STUCK ON R1 TRANSEED DIMOS FUEL OIL OUT THE VENT OF THE DAY TANK. PERM IS HOLDING FUEL OIL IN JUST MODIVING ON CAM													
	7:45PM	FUEL OIL ALARM STUCK ON R1 TRANSFER PUMPS FUEL OIL OUT THE VENT OF THE DAY TANK. BERM IS HOLDING FUEL OIL IN. INST WORKING ON SAM													
		CECIL EELTV EMPRY HILLVARD BLAIR JAMES BUYALL													
2/15/2014	8:00PM												A SHIFT PAYNE		
		T.JACKS	ON, C.GRI	FFIN, T.YOU	UNG HERE	FOR START	T UP								
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESS	URE	
		R1		50		START UP								CTL 18.0'	
											-			PWTL / 25'	
		H1	155	165	153	0.312	10.6	0.067	11.1	93.6	10.97	220	3.4		
											10.01	C			
		H2	155	165	152	0.247	11.1	0.063	12.1	93.9	6.91	204	3.4	CTL / 15.1'	
			100				1.00	0.000	14.1	00.0	0.01	C	0.4	0127 10.1	
		CT	ON STAN	DBY	65							0			
		ALARMS	3:												
		R1													
		H1	BURNER	MANAGEME	ENT/STEAN	SEAL LOV	V PRESS	URE/E.H.	PRESSURE	LO START F	REQUIRED/	DRUMXMTR N	MAINT		
		H2		LEVEL HI											
		SOOT B	LOWERS T	AGGED				GAUGE	GLASSES		PWTL / 2	7	DRYING AGE	NT	
		R1 27R						OK	02.0000				R1-0%		
		H1 30.44										H1-0%			
			0,33,35,37,	40 41 47									H2-0%		
			-,,,,										1.2-0/0		
		FUEL OI	L C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYS	TEM	
		***	9' 11 1/2'		11' 3 3/4"		1	-			14FT		OUT	1 - W	
		LLVLLO	0 11 11/2	12 0	11 3 3/4	0 0/0					1951		001		
2/15/2014	8-00DM	SAFETY	BRIEFING												
10/2014					4					-					
	8.30444														
	8:30AM		R1 B FD FAN SHUT OFF DAMPER WILL NOT OPEN. MAINT/INST WORKING ON SAME												
	NOTE:	R1 B FD		A1,B1,B2 OIL GUNS IN. HAVING SEVERAL DRUM SWELLS R1 B FD ON. SHUTOFF DAMPER WORKING											
	NOTE: 8:55PM	R1 B FD A1,B1,B3	OIL GUNS												
	NOTE: 8:55PM 9:00PM	R1 B FD A1,B1,B3 R1 B FD	OIL GUNS	OFF DAMP											
	NOTE: 8:55PM 9:00PM 9:00PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C	OIL GUNS ON. SHUT IN R1 BOIL	OFF DAMPI ER	ER WORKI	NG									
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING	OIL GUNS ON. SHUT IN R1 BOILE R1 BOILE	OFF DAMPI ER ER VENTS.	ER WORKI	NG									
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING R.GENT	OIL GUNS ON. SHUT IN R1 BOILI GR1 BOILE RY GOING	TOFF DAMPI ER ER VENTS. S HOME	ER WORKIN	NG ESSURE									
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM	R1 B FD A1,B1,B1 R1 B FD 40LBS C CLOSING R.GENTI 187LBS	OIL GUNS ON. SHUT IN R1 BOILI G R1 BOILE RY GOING PRESSURE	OFF DAMPI ER ER VENTS. ! HOME E R1 BOILEF	ER WORKING 50 LBS PRE R. DRAINS (	NG ESSURE CLOSED									
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING R.GENTI 187LBS 4B CON	OIL GUNS ON. SHUT IN R1 BOILE OR1 BOILE RY GOING PRESSURE VEYOR CH	FOFF DAMPI ER ER VENTS. S HOME E R1 BOILER UTE PLUG A	ER WORKING 50 LBS PRE R. DRAINS ( ALARM IS IN	NG ESSURE CLOSED		TURNING	. NOT BUILD	UP. S.HALL	MAN WOR	KING ON SAN	IE		
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM 11:00PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING R.GENT 187LBS 4B CON R1 AT 50	2 OIL GUNS ON. SHUT IN R1 BOILE G R1 BOILE RY GOING PRESSURE VEYOR CH IOLBS BLO	FOFF DAMPI ER VENTS. S HOME E R1 BOILER UTE PLUG A WING ELEC	ER WORKING 50 LBS PRE R. DRAINS ( ALARM IS IN TROMATIC	NG ESSURE CLOSED N. BENDICA	TOR NOT								
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM 11:00PM 11:20PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING R.GENT 187LBS 4B CON R1 AT 50 DARREL	2 OIL GUNS ON. SHUT IN R1 BOILE G R1 BOILE RY GOING PRESSURE VEYOR CH 10LBS BLO BENNET C	FOFF DAMPI ER ER VENTS. S HOME E R1 BOILER UTE PLUG A WING ELEC GOING HOMI	ER WORKIN 50 LBS PRE R. DRAINS ( ALARM IS IN TROMATIC E SICK. SP	SSURE CLOSED BENDICA OKE WITH	TOR NOT	JONES. S.	AID WE DID!	N'T NEED AI		KING ON SAN			
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM 11:00PM 11:20PM 11:25PM	R1 B FD A1,B1,B: R1 B FD 40LBS C CLOSING R.GENT 187LBS 4B CON R1 AT 50 DARREL R1 C BO	2 OIL GUNS ON. SHUT IN R1 BOILE G R1 BOILE RY GOING PRESSURE VEYOR CH IOLBS BLO BENNET C ILER FEED	TOFF DAMPI ER ER VENTS. S HOME E R1 BOILEF UTE PLUG A WING ELEC GOING HOMI D PUMP WOI	ER WORKING 50 LBS PRE R. DRAINS ( ALARM IS IN TROMATIC E SICK. SP NT START.	SSURE CLOSED BENDICA OKE WITH RACKED B	TOR NOT	JONES. S.		N'T NEED AI					
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM 11:20PM 11:20PM 11:30PM	R1 B FD A1,B1,B3 R1 B FD 40LBS C CLOSING R.GENT 187LBS 4B CON R1 AT 50 DARREL R1 C BO RUNNING	2 OIL GUNS ON. SHUT IN R1 BOILE RY GOING PRESSURE VEYOR CH 10LBS BLO BENNET C ILER FEED 3 ELECTRIC	FOFF DAMPI ER ER VENTS. S HOME E R1 BOILEF UTE PLUG A WING ELEC GOING HOMI D PUMP WOI CIAN LIST- J	ER WORKING 50 LBS PRE R. DRAINS ( ALARM IS IN TROMATIC E SICK. SP NT START. I.ARNOLD-A	SSURE CLOSED I. BENDICA OKE WITH RACKED B INSWERED	TOR NOT GERALD BREAKER WILL BE	JONES. S. OUT AND	AID WE DID! IN TWICE. N	N'T NEED AI					
	NOTE: 8:55PM 9:00PM 9:00PM 9:15PM 9:15PM 9:55PM 10:55PM 11:20PM 11:20PM 11:30PM	R1 B FD A1,B1,B: R1 B FD 40LBS C CLOSING R.GENTI 187LBS 4B CON' R1 AT 50 DARREL R1 C BO RUNNING R1 C BO	2 OIL GUNS ON. SHUT IN R1 BOILE RY GOING PRESSURE VEYOR CH IOLBS BLO BENNET C ILER FEED ILER FEED ILER FEED	TOFF DAMPI ER ER VENTS. S HOME E R1 BOILEF UTE PLUG A WING ELEC GOING HOMI D PUMP WOI	ER WORKING 50 LBS PRE R. DRAINS ( ALARM IS IN TROMATIC E SICK. SP NT START. J. ARNOLD-A PULLED 41	CLOSED  BENDICA  OKE WITH RACKED B INSWERED  160 OUT OF	TOR NOT GERALD BREAKER WILL BE R1 B CO	JONES. S. OUT AND	AID WE DID! IN TWICE. N	N'T NEED AI					





0/40/0044	40.40414	LADMO	D 11505											
2/16/2014	12:10AM													
				LING VACU	JM ON R1									
			G STEAM	70.00										
	1:00AM	B.JONES	, L.BARNE	TT LEAVING	3									
	1:04AM	ROLLING	R1 TURBI	NE										
	115AM	1000RPN	I. TEN MIN	UTE HOLD										
	125AM	ROLLING	R1 TURBI	NE TO 3600	RPM									
	140AM	3600RPM	R1 TURBI	NE										
	NOTE:	R1 A MIL	L WONT S	TART AND F	R1 B PA FAI	N WONT S	TART. J.AR	NOLD W	ORKING ON	SAME				
	2:15AM	R1 B PA	FAN AND I	MILL ON										
	2:37AM	R1 TIED	ON LINE											
	2:46AM	R1 TRIPP	ED OFF -L	OW VACUL	JM									***************************************
	3:00AM	B.WILLE	T, R. EDG	E HERE										
	3:05AM	BREAK \	AC AND T	AKE SEALS	OFF-400R	PM								
	3:15AM	4B CONV	EYOR BAC	CK IN SERV	ICE									
			INE ON GE				-							
				LING VACUL	IM ON R1			-		-				
			R1 TURBI			-								-
		AT 1000F		-										
			UP TO 360	OPPM										
		AT 3600		JOI'U IVI										
		R1 B PA												
		R1 B MIL						-						
		R1 TIED												
			IPS IN SEF	DVICE				-	_					
				KVICE		-		-						
		R1 A PA		TART IACO	N ADMOLD	WORKING	ONICAME							
				TART. JASO	IN ARNOLD	WORKING	UN SAME							
	0.18AW	RIAMIL	L RUNNING	)			-	-		-				
				-	-	-	-	-						
2/16/2014	8:00AM	MODDIC	DENTON	DEVAIOL DO	CATTON	DAVED T	ATE EDW	1000				D 0111FT 40	N/INA	
2/10/2014	0.UUAIVI	MORRIS	DENTON,	REYNOLDS	, GATTON,	DANER, I	ATE, EDWA	ARDS,				D SHIFT - AS	SNIN2	
		UNIT	LOAD	LIMIT CAD	NET CAP.	SO2	coa	NOX	ODACITY	REMOVAL	DUCT	AMM. FLOW	DACK DDE	COURT
		R1	45	48	42	3.7	10.6	0.37	7	KEWOVAL	ופטע	AIVIIVI. FLOVV	BACK PRE	SOURE
		KI	43	40	42	3.1	10.0	0.37						
		H1	165	165	153	0.33	10.5	0.07	242	02	0.24	240	2.0	
		nı	100	103	100	0.33	10.5	0.07	212	93	8.34	240	3.8	
		LIA	160	405	450	0.00	44.0	0.07	07	0.4	0.00	201		
		H2	100	165	152	0.28	11.2	0.07	37	94	6.89	221	3.6	
		C.T.	STANDBY	65										
											GAUGE 0			DRYING AGENT
		ALARMS	:								OF	(		H-1 0%
		R1		L.,										H-2 0%
		H1			BURNER N	MANGT. E	H PRESSU	RE LO/P	UMP START	REQ, DRUM	MAINT			R-1 0%
		H2	EH RES I	LEVEL HI										
		SOOTBL	OWERS TA	AGGED										
		R1 27R												
		H1 30,4	4											
			0,33,35,37,4	40,41										
		FUEL OIL	CH	HMPL	NORTH	SOUTH								
				9' 11 1/2"	-		-	-						





#### Your Touchstone Energy" Cooperative

### **Boiler Tube Leak Record**

Plant: Reid Station Unit: 1
Type of Leak:
Pin Hole _√_ Thick Lip FailureThin Lip Failure _√
Tube Wall Thinning
Orientation of Rupture: Longitudinal Circumferential
Probable Cause:
Stress Overheat ErosionInternal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Soot blower Erosion
Other
Type of Repair:
Dutchman V Pad Weld V Plug Tube Short Circuit Other

### **Description of Repair:**

A new hair pin loop was installed on the 8th element from the east wall on the 3rd set of loops from the south wall at elevation 517'. Also installed a 24" Dutchman on the 8th SH element from the east wall, 1st set of loops from the south (the tube was swollen in an area) at elevation 518'. A BMR was performed on the 8th SH element from the east wall, 3rd set of loops from the south, outer loop at elevation 516' - 5". Handcuffs were replaced on the 5<sup>th</sup>, 6<sup>th</sup>, and 8th elements from east wall.





Your Touchstone Energy\* Cooperative

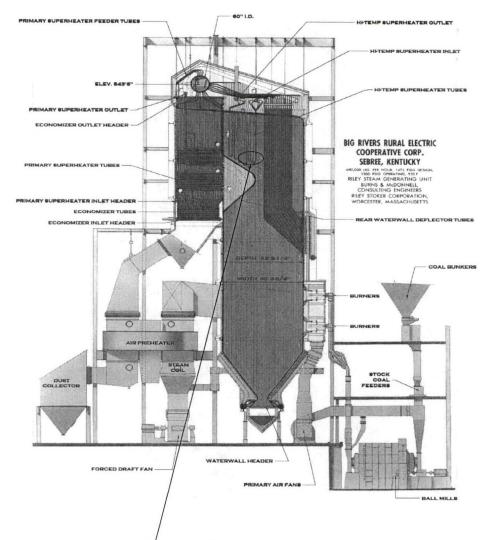
# Forced Outage Report

**Exact Location of Leaks:** 

### Reid Unit 1 2014

### (3) TUBES INVOLVED

Date and Time Unit Off \_\_\_ 2/14/14 @ 0812
Date and Time Unit On \_\_\_ 2/16/14 @ 0237



A new hair pin loop was installed on the 8th element from the east wall on the 3rd set of loops from the south wall at elevation 517'. Also installed a 24" Dutchman on the 8th SH element from the east wall, 1st set of loops from the south (the tube was swollen in an area) at elevation 518'. A BMR was performed on the 8th SH element from the east wall, 3rd set of loops from the south, outer loop at elevation 516' - 5". Handcuffs were replaced on the 5th, 6th, and 8th elements from east wall.



#### Your Touchstone Energy\* Cooperative

### **Estimated Outage Cost**

Vacuuming Economizer Hoppers, Wash seal trough, Boiler De-Slag

Total

\$3,992.61

Titan – SH tube leak repair

Labor

\$11,240

Material

\$408.81

Total

\$11,648.81

Titan - Misc. repairs (Gas leaks, coal leaks, AH Repairs)

Labor

\$3,360

Material

\$300

Total

\$3,660

**Grand Total** 

\$19,301.42





**Lost Sales Opportunity Report** 

Note: Report includes Outages R1-14-03 and R1-14-04.

# Your Touchstone Energy® Cooperative

# FORCED OUTAGE COST ANALYSIS

MISO DART Revenue and LOST OPPORTUNITY

Unit	Reid 1 - R1-14-03 & R1-14-04	Production Cost				
Date & Time Off Line	2/14/14 8:12 & 2/16/14 2:46	MW	\$/MW			
Date & Time On Line	2/16/14 2:37 & 2/16/14 6:03	20	\$	31.53		
Outage Duration	42 hr. 25 min. & 3 hr. 17 min.	35	\$	30.27		
Outage Code	UO2 & UO1	45	\$	29.73		
Outage Reason	Repair tube leak in superheat section.  Tripped on low vacuum shortly after tying on.					

Date	DA LN	IP Average	RT LM	IP Average	DART P&L	Lost Opportunity		
2/14/14 (HE 10-24)	\$	48.06	\$	34.77	\$ (3,093)	\$	-	
2/15/14 (HE 1-24)	\$	44.97	\$	39.93	\$ -	\$	(15,367)	
2/16/14 (HE 1-11)	\$	38.18	\$	40.05	\$ 206	\$	(899)	
Total	-				\$ (2,886)	\$	(16,266)	

Start Up Fu	el Cost		Total Forced Outage Cost					
S/U Fuel Consumed		7,988	DART P&L	\$	(2,886)			
S/U Fuel Price	\$	3.11	Lost Opportunity	\$	(16,266)			
S/U Fuel Cost	\$	(24,873)	S/U Fuel Cost	\$	(24,873)			
			Total	\$	(44,025)			

N	0	Т	E	S	

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



### Your Touchstone Energy® Cooperative

# **Forced Outage Report**

To: Bob Berry

From: Billy Boarman

Date: 7-Feb-2014

Plant: HMP&L Station Two

Unit: 2

GADS Class: UO2

### **Duration**

Trip Time: 31-Jan-2014 19:14

Tie Time: 3-Feb-14 06:03

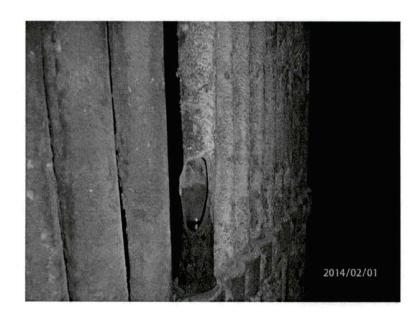
Time Offline: 58:49

### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Friday, 31-Jan-2014 at 19:14 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

### **Root Cause**

Tube leak on the Radiant SH Outlet, 4<sup>th</sup> element from the west wall, North side of inner (hair pin) loop above the handcuff, at elevation 542' was caused by external corrosion.





Your Touchstone Energy Cooperative

# Forced Outage Report

### **Failure History**

5-Sep-2011	59:12	Tube leak in the high temperature superheater section caused by soot blower erosion.
23-May-2012	56:38	Tube leak in the radiant superheat section caused by soot blower erosion.
7-Sept-2012	42:7	Tube leak in the radiant superheat section caused by soot blower erosion.
5-Oct-2012	53:24	Tube leak in the radiant superheat section caused by soot blower erosion.
26-Jan-2013	33:37	Tube leak on the Radiant SH Outlet 3 <sup>rd</sup> element from the east wall, on the outer loop at elevation 537' – 5" caused by external corrosion

### **Corrective Action**

Installed a 22" Dutchman at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) of the hair pin at elevation 542'



Your Touchstone Energy Cooperative

# Forced Outage Report

**SOE Print Out** 

Triggered on: 31-Jan-2014 19:13:51:453

31-Jan-2014 19:14:06:718	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:06:457	ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
31-Jan-2014 19:14:05:775	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:14:02:748	ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:02:585	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
31-Jan-2014 19:14:02:097	ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:14:01:875	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
31-Jan-2014 19:13:56:447	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
31-Jan-2014 19:13:56:316	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:56:248	ОК	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:55:624	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
31-Jan-2014 19:13:55:619	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
31-Jan-2014 19:13:55:609	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
31-Jan-2014 19:13:55:516	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
31-Jan-2014 19:13:55:510	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
31-Jan-2014 19:13:55:483	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
31-Jan-2014 19:13:55:482	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
31-Jan-2014 19:13:55:482	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
31-Jan-2014 19:13:52:865	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
31-Jan-2014 19:13:52:451	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
31-Jan-2014 19:13:52:022	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:759	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:703	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
31-Jan-2014 19:13:51:653	ОК	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
31-Jan-2014 19:13:51:453	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
31-Jan-2014 19:13:51:307	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH



### Other Work Completed While Unit Was Offline

- Your Touchstone Energy Cooperative
- · Repaired gas leaks on the bottom ash hopper and the 'B' air heater inlet expansion joint
- Repaired air leak on the 'A' PA fan duct
- Clean 480V transformer
- Repaired packing leak on #5 high pressure heater extraction valve
- Cleaned furnace and PA Fan taps
- Cleaned Wet bottom Seal Trough
- Cleaned Scrubber Mist Eliminator panels and nozzles
- Precipitator inspection
- Back-pass inspection
- Calibrated all coal feeders.
- Changed oil in all FD Fan, PA Fan, and Mill motors
- Repaired coal leaks on "A" Mill
- Repaired coal leaks on "B" Mill
- Replaced damaged section of B4 coal pipe on 5<sup>th</sup> floor
- Replaced boiler manifold header
- Cleaned seal air fan filters
- Replaced A1 burner shroud
- Repaired coal leak on A1 burner
- Replaced 'B' seal air fan motor
- Replaced left hand governor valve cylinder
- Replaced #20 and #23 observation ports
- Replaced EH unit filters
- AH wash, 9 hr. pass
- Installed a new gate on A2 bunker gate
- BMR repairs to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' - 2"





#### Your Touchstone Energy® Cooperative

## Operators Event Log

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AIR SYST           1:42PM         14 A RECYCLE PUMP ON , B OFF. B SUC           2:55PM         R1 #22R CHAIN BROKEN. MAINT WORKING           3:00PM         MAINT GOT POTABLE WATER LINE ISOUA           4:30PM         H2 FURNACE PRESSURE JUMPED UP TO           5:45PM         R1 #25L AND 22R NOT WORKING. MAINT G           6:00PM         MAMONIA TRIPPED OFF H2, TAKING UNIT           6:11PM         CALLED EXPRO. WILL HAVE DE SLAG C           7:14PM         CALLED EXPRO. W	NOTE: H2 DERATED 5 MW'S DUE TO PLUGGAGE OF AIR IN OTE: NOTE: MAILE WATER LEAK AT COOLING TOWERS. LIN NOTE: TAGGING OUT STEAM TO GAS TURBINE TRAP AT V.  NOTE: MAINT SETTING PRESSURES ON H2 AIR HEATER SETTING PRESSURES ON H2 AIR H2 ACCOUNTY OF THE PRINT PRESSURE SETTING PRESSURE PRINT PRINT PRESSURE PRINT PRINT PRESSURE PRINT PRINT PRESSURE PRINT PRINT PRINT PRINT PRESSURE PRINT PRIN	NOTE: H2 DERATED 5 MWS DUE TO PLUGGAGE OF AIR HEATERS NOTE: POTABLE WATER LEAK AT COOLING TOWERS. 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SO2 CO2 NOX R1 48 50 45 0.45 10.99 0.41  10:00FM SAFETY BRIEFING NOTE COULD ONLY FIND ONE FAN FOR THE PENTHOUSE ON H2 2 EH RES LEVEL HI  8:00PM SAFETY BRIEFING NOTE COULD ONLY FIND ONE FAN FOR THE PENTHOUSE ON H2 2:39AM R-1 GRINDER LOCKED UP - OPENED DOOR - FOUND SOOTBLOWING THE 10:30PM R-	NOTE: H2 DERATED 5 MWS DUE TO PLUGGAGE OF AIR HEATERS  NOTE: POTABLE WATER LEAK AT COOLING TOWERS. LINE APPEARS TO GO TO ELECTRI  NOTE: TAGGING OUT STEAM TO GAS TURBINE TRAP AT WARNING STATION  NOTE: MAINT SETTING PRESSURES ON H2 AIR HEATER STEAM CLEANERS  8.45AM TAGGED OUT RI CENTAG AIR COMPRESSOR TO CHANGE FILTERS  NOTE: SISUED WO ON LEAK ON BILEED DISCHARGE LINE BEHIND BUILDING LEAKING. LO  10:00AM NEW TRAP AND STRAINER INSTALLED ON GAS TURBINE WARNING STATION  10:30AM 7A CONNEYOR RELEASED AND IN SERVICE  10:35AM 22R SOOTBLOWER ON RI WONT BLOW. ELECTRICIANS WORKING ON SAME  NOTE: SISUED WO ON LEAK ON BILEED DISCHARGE LINE BEHIND BUILDING LEAKING. 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SCOTELOWER ON RY WONT BLOW ELECTRICIANS WORKING ON SAME NOTE: 10.00PM INLAND ON SITE TO SHOOT THE DRAIN BY THE RY STACK 20.00PM (12.00PM) ON A PROFECULE PUMP OF FOR ELECTRICIANS TO SET SUCTION VALV. 21.00PM 22R SOOTBLOWER ON RY WORKING AGAIN 22.00PM (22.00PM) ON A SERVICE BUMP OF FOR ELECTRICIANS TO SET SUCTION VALV. 23.00PM (24.00PM) ON A PROFECULE PUMP OF FOR POR ELECTRICIANS TO SET SUCTION VALV. 24.00PM (24.00PM) ON A PROFECULE PUMP OF FOR POR ELECTRICIANS TO SET SUCTION VALV. 24.00PM (24.00PM) ON A SERVICE AIR SYSTEM SET UP NORMAL 24.00PM (24.00PM) ON A SERVICE AIR SYSTEM SET UP NORMAL 24.00PM (24.00PM) ON A SERVICE AIR SYSTEM SET UP NORMAL 24.00PM (24.00PM) ON A SERVICE AIR SYSTEM SET UP NORMAL 25.00PM (24.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (24.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (24.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR SECURION VALVE NOT COMPLETED 25.00PM (25.00PM) ON A SERVICE AIR S	NOTE: DERATED 5 MWS DUE TO PLUGGAGE OF AIR HEATERS  NOTE: DYABLE WATER LEAK AT COOLING TOWERS. 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		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSUR	5E
		R1	48	50	45	4.6	10.8	0.44	9.5			7	DAGKT KEGGG	CTL 18.0'
														PWTL / 27.
		H1	165	165	153	0.298	10.7	0.079	24.6	94.7	9.7	237	3.6	
		H2		165	OFF FOR	TUBE LEAR	<							CTL / 15.1'
		СТ	OFF STA	NDBY	65									
		AL ADMC												
		ALARMS R1					-		-	STATE CHARACTER				
		H1	BURNER	MANAGEME	NT/STEAM	SEALLOW	V DDESSII	DE/E H D	DECCUDE	OSTABLE	BEOLUBED	DRUMXMTR N	AA INIT	
		H2		LEVEL HI	INTOTEAN	SLAL LOV	VFILLOSU	NE/E.H. F	RESSURE	LUSIAKIR	REQUIREDI	DRUMANIK	MAINT	
		SOOT BL	OWERS 1	TAGGED				GAUGE (	SLASSES		PWTL/ 2	27	DRYING AGENT	
		R1						OK					R1-0%	
		H1 20,26	5,29,30										H1-0%	
		H2 35											H2-0%	
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		FUEL OIL		9' 5 1/2''''	NORTH	SOUTH 8 5/8"	1				SILO LVL	-	BOOTHE SYSTE	:M
		LEVELS	0 4	3 0 1/2	14 5 1/2	0 0/8			ļ		8FT		OUT	
/1/2014	8:00AM	SAFETY	BRIEFING						-	ļ				
	NOTE:	BOILER							-					
	8:15AM			H AT SCRUE	BERS (INL	AND)	-							
	11:01AM	ISSUE HO	DLD ON #0	0189 DISCON	NECT	T								
	11:30AM	BOILER D	DESLAG C	COMPLETE. F	PULLING DO	OWN WETE	SOTTOM AN	ID TAGGIN	IG FOR EN	TRY				
				AND LEAVIN										
				AGGED. NO		ATHAM								
	1:00PM			ON H2 ECOI										
	NOTE: 2:00PM			AROUND H2 EY CAN TAKE			FF OF WE	DOTTON						
	2:10PM			TING PRECI										
	NOTE:			FOR H2 RE		LITANDO	LEMILEDO	01						
	2:35PM			AIR TAGGED										
	3:00PM	H1 # 26 S	OOTBLO	WER BACK I	N SERVICE									
	4:40PM				CCHECKE	D MOTOR.	OK USING	FLUSHIN	G JETS TO	SEAL OFF	GATE SO V	WE CAN CHEC	K INSIDE	
	5:00PM			RS CLEAN	ED									
	NOTE:	H2 VOLTA	AGE REGI	ULATOR FIXE										
2/1/2014	8:00PM	MORRIS,	DENTON,	REYNOLDS	BAKER,	TATE, GAT	TON, EDW	ARDS				D SHIFT - AS	KINS	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	RE
		R1	48	50	45	0.45	10.6	0.38	10.6					
			405	105	150	0.07								
		H1	165	165	153	0.37	10.5	0.06	22	93	8.71	260	3.8	
		H2	OUTAGE											
		CT	OFF STA	NDBY	65									
		ALARMS	-											
		R1												
		H1 H2	FUDEO	MANAGEME LEVEL HI	NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. P	RESSURE	LO START F	REQUIRED/	DRUMXMTR N	MAINT	
			OWERS 1	TAGGED					GAUGE G	LASSES				
		R1 22R							OK				DRYING AGENT	
		H1 20,29	,30		CII O I V		DOCTUE	CVOTEN					R1-0%	
		H2 35			SILO LVL	1	BOOTHE	SYSTEM					H1-0%	
					2' BELOW		IN						H2-0%	
							-		-					
							<del> </del>		-					
	8:00PM	SAFETY	BRIEFING											
	8:45PM	H-2 VACC	CUM PUMPS ON FOR H		ON H-2									
		The state of the s		ARE FINISHE										





2/2/2014	2:20AM	H-2 B BF	P ON FOR	HYDRO										
	3:25AM		RO 1440 lbs				-		-	-	-			
	3:55AM	H-2 DRY												
	4:15AM		TR WASH	STARTED		-				-				
	NOTE	WORKIN	G ON SETT	TING H-2 BC	ILER TO FI	RE		<del></del>		-				
	NOTE	REMOVE	D 32 BARF	RELS OF All	R HTR BAS	KET MATER	RIAL H-2							
2/1/2014	8:00AM	CECIL,	FELTY, E	MBRY, HI	LLYARD.	BLAR, JA	MES. DU	VALL				A SHIFT PA	YNE	
				1										
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW B	ACK PRESSUE	RE .
		R1	48	50	45	4.34	10.9	0.392	10.3				HON I NEGOGI	CTL 18.0'
														PWTL / 27.2'
		H1	165	165	153	0.396	10.5	0.081	19.7	92.6	8.97	256	3.1	
		H2		165	OFF FOR	TUBE LEAK	(							CTL / 15.1'
		CT	OFF STAN	NDBY	65									
		ALARMS	:									,		
		R1												
		H1			ENT/STEAM	SEAL LOV	V PRESSL	JRE/E.H. P	RESSURE	LO START F	REQUIRED/	DRUMXMTR MA	INT	
		H2	EH RES L	EVEL HI										
			OWERS T	AGGED				GAUGE (	GLASSES		PWTL / 2		RYING AGENT	
		R1						OK					1-0%	
		H1 20,2	6,29,30										1-0%	
		H2 35										н	2-0%	
		FUE: C			Menn									
		FUEL OII		HMPL	NORTH			-			SILO LVL		OOTHE SYSTE	M
		LEVELS	8 2 3/8	9' 5 1/2""	14 9 1/2	8 5/8"					6.5FT	0	UT	
2/2/2014	8:00AM	CAEETV	BRIEFING		-	-	-	-	-	-				
21212014	NOTE:			N H2 ECON	C AND AID	HEATER W	ACH							
				H HEADER		HEATER W	АОП			-				
						80V LOAD	CENTERS	-						
						CHEATHAM								
				2 FOR MAIN		CHEATHAN								
						INT WORKIN	IG ON H2	SEAL AIR	EAN THE	DE WORK IS	POSTDON	ING WET SEAL	IOP	
				EL OIL TO H				OLAL AII	AN. ITIE	L WORK IS	FOSIFON	IIING WEI SEAL	JOB	
	1:15PM													
			PUMPS OF			TORSIAN	IUP	-			-			
	2:00PM		PUMPS OF	F		TORGIAN	I UP							
	2:00PM 2:00PM	H2 480V	LOAD CEN	F TERS BACK	( IN			ANDER-LM	A HOGAN	J-I M .I BOV	VIEY-IM C	GRIFFINI M D	EDMONDS-I M	T. IACKSON-I M
	2:00PM 2:00PM	H2 480V CALLING	IN HELP F	F TERS BACK OR TONIGH	C IN IT, JW WAD	DLINGTON-L	M, T.ALEX	ANDER-LM	I, A.HOGAN	N-LM, J.BOV	VLEY-LM, C	.GRIFFIN-LM, D.	EDMONDS-LM	, T.JACKSON-LM
		H2 480V CALLING D.ONAN-	LOAD CENT IN HELP FO CANT COM	F TERS BACK OR TONIGH IE IN, AT HO	( IN IT, JW WAD DSPITAL W	DLINGTON-L ITH FATHER	M, T.ALEX	SETTING R	I, A.HOGAN EADY TO P	N-LM, J.BOW	VLEY-LM, C	.GRIFFIN-LM, D.	EDMONDS-LM	, T.JACKSON-LM
	2:00PM	H2 480V CALLING D.ONAN- INLAND I	LOAD CENT IN HELP FO CANT COM DONE PULL	F TERS BACK OR TONIGH IE IN, AT HO ING HEADS	( IN IT, JW WAD DSPITAL WI S OUT OF A	DLINGTON-L ITH FATHER LIR HEATER	M, T.ALEX IN LAW O	SETTING RI	EADY TO P	ASS			EDMONDS-LM	, T.JACKSON-LM
	2:00PM 2:30PM	H2 480V CALLING D.ONAN- INLAND I WORKIN	LOAD CEN' IN HELP FO CANT COM DONE PULL G WITH MA	F TERS BACK OR TONIGH IE IN, AT HO ING HEADS	CIN IT, JW WAD OSPITAL WI SOUT OF A	DLINGTON-L ITH FATHER LIR HEATER IR DRIVES	M, T.ALEX IN LAW O	SETTING RI	EADY TO P	N-LM, J.BOV ASS CON AIR HE			EDMONDS-LM	, T.JACKSON-LM
	2:00PM 2:30PM NOTE:	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHIN	LOAD CENT IN HELP FO CANT COM DONE PULL G WITH MA G H2 STEAL	F TERS BACK OR TONIGH IE IN, AT HO LING HEADS LINT TRYING	CIN IT, JW WAD DSPITAL WI SOUT OF A TO GET A ND FD FAN	DLINGTON-L ITH FATHER IR HEATER IR DRIVES	M, T.ALEX IN LAW O	SETTING RI	EADY TO P	ASS			EDMONDS-LM	, T.JACKSON-LM
	2:30PM NOTE: 2:45PM 3:30PM 3:40PM	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHIN H2 WET D.EDMOI	LOAD CENT IN HELP FOR CANT COM DONE PULL G WITH MA G H2 STEAL SEAL COM NDS CALLE	F TERS BACK OR TONIGH IE IN, AT HO LING HEADS INT TRYING M COILS AN PLETED. NO ED. WILL BI	( IN IT, JW WAD DSPITAL WI S OUT OF A TO GET A ND FD FAN: OTIFY MAIN E IN TONIG	DLINGTON-L ITH FATHER IR HEATER IR DRIVES 'S S VT HT AT 8PM	M, T.ALEX IN LAW C . NOTIFY I TO WORK	GETTING RI MAINT FOR THEM	EADY TO P	ASS CON AIR HE	EATER BAS	KET		
	2:30PM NOTE: 2:45PM 3:30PM 3:40PM	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHIN H2 WET D.EDMOI	LOAD CENT IN HELP FOR CANT COM DONE PULL G WITH MA G H2 STEAL SEAL COM NDS CALLE	F TERS BACK OR TONIGH IE IN, AT HO LING HEADS INT TRYING M COILS AN PLETED. NO ED. WILL BI	( IN IT, JW WAD DSPITAL WI S OUT OF A TO GET A ND FD FAN: OTIFY MAIN E IN TONIG	DLINGTON-L ITH FATHER IR HEATER IR DRIVES 'S S VT HT AT 8PM	M, T.ALEX IN LAW C . NOTIFY I TO WORK	GETTING RI MAINT FOR THEM	EADY TO P	ASS CON AIR HE	EATER BAS	KET		
	2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHIN H2 WET D.EDMOI R1 24L S THEY CA	LOAD CENTER IN HELP FOR CANT COME PULL GOVERNMENT MAGENTA STEAL COME IN THE CONTRIBUTION OF THE CONTRIBUTI	F TERS BACK OR TONIGH E IN, AT HO LING HEADS INT TRYING M COILS AN PLETED. N ED. WILL BI ER KEEPS	( IN IT, JW WAD DSPITAL WI S OUT OF A S TO GET A ND FD FANS OTIFY MAIN E IN TONIGI BRINGING	DLINGTON-L ITH FATHER LIR HEATER IN DRIVES S S NT HT AT 8PM IN LOW PRI	M, T.ALEX IN LAW C NOTIFY I TO WORK	SETTING RI MAINT FOR THEM	EADY TO P	ASS CON AIR HE	EATER BAS	KET		T.JACKSON-LM
	2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHINI H2 WET D.EDMOI R1 24L S THEY CA	LOAD CENTER IN HELP FOR CANT COME PULL GOODE PULL GOODE SEAL COME OF THE COME	F TERS BACK OR TONIGH E IN, AT HO LING HEADS LINT TRYING M COILS AN PLETED. NO ED. WILL BI ER KEEPS STRUMENTA	( IN IT, JW WAD DSPITAL WI S OUT OF A S TO GET A ND FD FANS OTIFY MAIN E IN TONIGI BRINGING	DLINGTON-L ITH FATHER IR HEATER IR DRIVES 'S S VT HT AT 8PM	M, T.ALEX IN LAW C NOTIFY I TO WORK	SETTING RI MAINT FOR THEM	EADY TO P	ASS CON AIR HE	EATER BAS	KET		
	2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM 4:00PM 4:05PM	H2 480V CALLING D.ONAN- INLAND I WORKIN WASHINI H2 WET D.EDMOI R1 24L S THEY CA WORKIN H2 ECON	LOAD CEN' IN HELP FOR CANT COME PULL G WITH MAG G H2 STEAL SEAL COME NDS CALLE OOTBLOW IN G WITH INS IS COMPLE	F TERS BACK OR TONIGH IEE IN, AT HC LING HEADS INT TRYING M COILS AN PLETED. N ED. WILL BI ER KEEPS STRUMENTA	( IN IT, JW WAC IT, JW WAC IT, JW WAC IN SOPITAL WI IN TO GET A IN TO FD FAN: OTIFY MAIN E IN TONIG BRINGING ATION STRO	DLINGTON-L ITH FATHER IR HEATER IR DRIVES S NT HT AT 8PM IN LOW PRI	M, T.ALEX IN LAW ( NOTIFY I TO WORK ESSURE A	GETTING RI MAINT FOR THEM ALARM LIKI	EADY TO P	ASS CON AIR HE BA HOLE IN	EATER BAS	KET		
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	2:00PM 2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM 4:00PM 4:05PM 4:10PM 4:40PM 5:06PM 5:27PM 5:30PM	H2 480V CALLING D.ONAN- INLAND: WORKIN WASHIN H2 WET D.EDMOI R1 24L S THEY CA WORKIN H2 ECON MOVING STEAM C R. DENTT T.JACKS INLAND: INLAND: STROKIN	LOAD CEN' IN HELP FICANT COM ONE PULL G WITH MA SEAL COM NDS CALLE OOTBLOWIN G WITH INS IS COMPLE INILAND BA COILS AND ON CALLED ON CALLED ON CALLED G MIZE G HZ B MIL	F TERS BACK OR TONIGH IE IN, AT HC ING HEADS ING TERM M COILS AF PLETED. N ID. WILL BI ER KEEPS STRUMENTA TED CK INTO AN FD FANS C D BACK. WI OUBLE WIT	(IN IT, JW WAE SPITAL WI SOUT OF A SO FO FAN: OTHEY MAIN E IN TONIGE BRINGING ATION STRO R HEATER: LEAN ON H RSONAL D LL BE IN A H AIR HEAT DAMPERS	DUNGTON-LITH FATHER IR HEATER IR DEVICES S NT HIT AT 8PM IN LOW PRI DKING H2 TI S TO VACU 12. NOTIFY IN 8PM IT 8 CLEAN	M, T.ALEX IN LAW ( I. NOTIFY I TO WORK  ESSURE A JRBINE V  UM OUT A MAINT  UP, LINE I	GETTING RI MAINT FOR THEM ALARM LIK ALVES REAS IN F	EADY TO P	ASS CON AIR HE S A HOLE IN	EATER BAS	KET REND IS GONE.		
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2/2/2014	2:30PM NOTE: 2:45PM 3:30PM 3:40PM 3:45PM 4:00PM 4:05PM 4:10PM 4:40PM 5:06PM 5:27PM 5:35PM NOTE:	H2 480V CALLING D. ONAN- INLAND I WORKIN WASHIN' H2 WET D.EDMOI R1 24L S THEY CA WORKIN H2 ECON MOVING STEAM C R. DENT T. JACKS INLAND I STROKIN R. JENKII H1 H2 CT ALARMS R1 H1 H2	LOAD CEN IN HELP FICANT COMPONE PULL G WITH MA G H2 STALL COMPONE PULL G WITH MA G H2 B MIL NS ON VACUATION OF STALL COMPONE PULL COMPONE	F TERS BACK OR TONIGH E IN, AT HC, ING HEADS, INT TRYING M COILS AN PLETED. N. ID. WILL BI ER KEEPS STRUMENTA TED D BACK. WI OD BACK. WI ODBLE WIT L BYPASS CATION MOI  165  165  MANAGEME EVEL HI	(IN T, JW WAD T, JW WAD SPITAL WI S TO GET A TO	DLINGTON-LITH FATHER IIR HEATHER IIR DRIVES S S INTO VACUU 12. NOTIFY JAY, OK T 8PM WITH INST WITH INST S TO VACUU 14. NOTIFY JAY, OK T 8PM WITH INST S O2 4.4	M, T.ALEX RIN LAW C NOTIFY I TO WORK  ESSURE A URBINE V UM OUT A MAINT  UP. LINE I RUMENTA  GATTON,  CO2 10.6	MAINT FOR THEM LIKE ALVES REAS IN F REEPS PLITION  EDWARDS NOX 0.45 0.06	EADY TO P TO WORK TO WORK E THERE IS RONT OF A UGGING UP TO WORK OPACITY 10.6 33	ASS CON AIR HE S A HOLE IN AIR HEATER WITH MET REMOVAL 93	LANCE OR  S  AL AND IS I  DUST  10.31	REND IS GONE.  FREEZING UP  D SHIFT - ASKII  AMM. FLOW B.  236	NOTIFY MAINT NS ACK PRESSUR 3.8	T. THEY WILL GET TO IT W
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	8:00PM	SAFETY	BRIEFING	3										
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				FOR DOOR		FIDE T IF (								
		H-2 - FIR		KS ARE GOO	DU - OK TO	FIRE THE	BOILER	-						
					TOLINE	-	-			-		-		
				YING AGENT			-							
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03/2014				SEC SUPER	HEATODA	INIC								
							. =							
				TER OUT OF	SERVICE,	POSSIBLE	LEAK.	-			-	-		
		H-2 PULI			-			-	-					
		H-2 ROLL			DILIDE OF	TEMPTIO	-	-						
		H-2 TIED		000 RPM FO	K LUBE OIL	- IEMPIUR	E							
		H-2 PRE		EDVICE.		-								
		H-2 'A' M		EKVICE										
	7.42/101	TPZ A IVI	ILL ON											
/3/2014	8:00AM	CONN. C	LARK. BR	REEDEN, HIG	GINS. CUT	SHAW, BLA	ANKS & YO	DUNG				B SHIFT - PE	NDI EY	
		JOHNSO												
		UNIT	LOAD	UNIT CAP	NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	IRE
		R1	43	50	44	4.5	10.5	0.487	7.9					CTL
														PWTL
		H1	165	165	153	0.371	10.8	0.076	31.1	92.9	10.11	215	3.9	
		H2	135	165		0.245	9.9	0.494	9.2	95.1	5.22		3.3	
		C.T.	OFF STA	MDDV										
		U. I.	OFF STA	ANDBT			-			-	GAUGE G	LASSES		
		ALARMS	:			-					OK			
		R1									incention.			
		H1	STEAM	SEAL HILO	BURNER	MANGT. EH	HPRESSU	JRE LO/PI	JMP START	REQ. DRUM	MAINT			
		H2		LEVEL HI			-							
			OWERS T	TAGGED									DRYING AGEN	T
		R1											H-1 10%	
		H1 20,2											H-2 10%	
		H2 32,3	5,37											
		FUEL OI	L C.H.	HMPL	NORTH	SOUTH					SILO		BOOTHE SYST	ЕМ
				9' 9 1/2""	14' 1/2"	8 5/8"					14'		OUT	
/3/2014	8:00AM	SAFETY	BRIEFING	2		-				-				
J.E. 17	8:15AM				IN SERVIC	F - BOOST	ER FAN T	RIPPED 3	TIMES - FO	IND OUT T	HAT'A' BO	OSTER EAN D	RESSURE TRAN	SMITTEP
	O. TOPAIN	WAS BA		CONODDER	OLIVIC	- 50001	-IVI AIV I	SII I ED 3	IMILO - FU	0.40 001 11	MI A BU	OU ILK PAN P	NEGOURE INA	NOMITTER.
	9-40AM			SERVICE - A	ADDITIVE E	FED ISOLA	TION VALV	/E WILL	OT OPEN	INST CHEC	KING			
				SOOD FOR 16			IIOI4 VAL	VE VVILL	OT OF EN	INTO I CHECK	VII 4G			
				D IN SERVIC										
				H-2 BOILER		H/I								
				-2 AUXILIARIE										
				300D FOR 18		DAISING S	AME							
				7A CONVEY		- CAIGING S	CIVIL							
				ART SIGNAL	OIL									
				SOOD FOR FI	III DDECC	IDE DAIS	ING CALL	_						
		H-2 SILIC		SOOD FOR FI	ULL PRESS	ORE - RAIS	DING SAM	-						
				DUMP ON 1A	OFF FOR	ELECT TO	CETIME	CONTAC	LICTIONIA	VE				
				PUMP ON - 'A			SE I LIMIT	S ON A'S	OCTION VAL	.VE				
				ER DUST VAI			D 11/1							
				CE - FLOWIN EAK IN H-2 #6		A - NOTIFIE	D H/L							





#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

Plant: HMP&L Station Two	Unit:	2
Type of Leak:		
Pin Hole Thick Lip FailureThin Lip Failure _√_		
Tube Wall Thinning <u>√ (4 RH tubes)</u>		
Orientation of Rupture: Longitudinal <u>√</u> Circumferential		
Probable Cause:		
Stress Overheat ErosionInternal Corrosion _		
External Corrosion Weld Failure (Shop Fi	eld)	
Internal Obstruction to Flow Soot blower Erosion	(4 RH tubes	s)
Other	_	
Type of Repair:		
Dutchman <u>√</u> Pad Weld <u>√ (4 RH tubes)</u> Plug Tube Circuit Other	Short	

### **Description of Repair:**

Installed a 22" Dutchman above the handcuff and hair pin at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) due to steam cutting from the leak at elevation 542'. Also performed BMR's to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' -2"



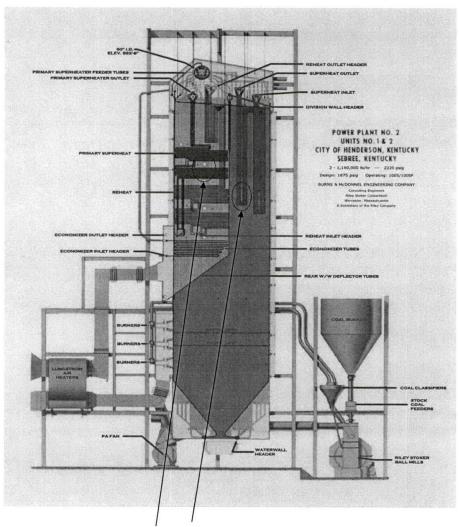


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#### **Exact Location of Leaks:**

HMPL STATION UNIT 2 2014 (6) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 19:14 1-31-14
Date and Time Unit On \_\_\_ 06:03 2-3-14



Installed a 22" Dutchman above the handcuff and hair pin at the leak location (north tube) and also a 22" Dutchman on the tube in front of the leak (south tube) due to steam cutting from the leak at elevation 542'. Also performed BMR's to 4 Reheat tubes in the #36 soot blower path that were found during the back pass inspection at elevation 545' - 2"



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### Forced Outage Report

### **Estimated Outage Cost**

Boiler De-Slag

Total

\$9,246.63

· Vacuuming Economizer Hoppers, Wash seal trough, ME panels and the AH's

Total

\$23,041.52

Titan - SH tube leak repair

Labor

\$16,740

Material

\$800

**Total** 

\$17,540

Titan – Misc. repairs (Gas leaks, coal leaks, AH Repairs)

Labor

\$45,240

Material

\$5,353.53

**Total** 

\$50,593.53

**Grand Total** 

\$100,421.68





Lost Sales Opportunity Report

#### Your Touchstone Energy® Cooperative

### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 2 - H2-14-01	Production Cost MW \$/MW		st
Date & Time Off Line	1/31/14 19:14			\$/MW
Date & Time On Line	2/3/14 6:03	72	\$	32.59
Outage Duration	58 hr. 49 min.	127	\$	29.86
Outage Code	UO2	149	\$	29.54
Outage Reason	Repair superheater tube leak.			

Date	DA LN	IP Average	RT L	MP Average	DART P&L	Ор	Lost portunity
1/31/14 (HE 20-24)	\$	56.01	\$	36.74	\$ (3,948)	\$	-
2/1/14 (HE 1-24)	\$	35.28	\$	32.10	\$ (9,039)	\$	(689)
2/2/14 (HE 1-24)	\$	33.27	\$	40.19	\$ -	\$	(13,589)
2/3/14 (HE 1-15)	\$	48.87	\$	41.22	\$ (1,431)	\$	(17,233
Total		119			\$ (14,419)	\$	(31,511)

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		14,102	DART P&L	\$	(14,419)
S/U Fuel Price	\$	3.11	Lost Opportunity	\$	(31,511)
S/U Fuel Cost	\$	(43,911)	S/U Fuel Cost	\$	(43,911)
			Total	\$	(89,841)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



#### Your Touchstone Energy® Cooperative

### **Forced Outage Report**

To: Bob Berry

From: Perry Bowley

Date: 17-Mar-2014

Plant: Green Unit: 1 GADS Class: UO2

#### <u>Duration</u>

Trip Time: 15 Mar-2014 15:48 Tie Time: 16-Mar-2014 21:42

Time Offline: 29:54

#### Outage Description

Green Unit 1 was removed from service on Saturday, 15-Mar-2014 at 15:48 by controlled shutdown due to a reheater tube leak.

#### Root Cause

The Green Unit 1 intermediate reheater outlet tube 21st element from east wall 1<sup>st</sup> tube to the south failed causing the lead tube in the 22<sup>nd</sup> element to fail. These leaks caused the last tube to the south in the 21<sup>st</sup> and 22<sup>nd</sup> elements in the reheat outlet section to fail. Titan completed ultrasonic thickness testing of the area tubes. All tubes thickness looked good. Heavy coal ash corrosion on lead tube across the intermediate reheater elements caused the failure.

#### Failure History

There have been four tube leaks in the intermediate reheater section in the last four years.

25-May -2010 Offline 26 hours 25 minutes

04-February -2011 Offline 38 hours 50 minutes

15-October - 2012 Offline 59 hours 20 minutes

10-July-2013 Offline 36 hours 56 minutes



Your Touchstone Energy Cooperative

### **Forced Outage Report**

#### **Corrective Action**

Intermediate reheater 21st element from east 1st tube 75 inch dutchman Intermediate reheater 22<sup>nd</sup> element from east 1<sup>st</sup> tube 75 inch dutchman Outlet reheater 21st element from east 1st tube base metal repair (pad weld) Outlet reheater 22<sup>nd</sup> element from east 1<sup>st</sup> tube 17 inch Dutchman Titan completed UT of area tubes. All tube thickness looked good.

#### Other Work Completed While Unit Was Offline

None





#### Your Touchstone Energy Cooperative

### **Forced Outage Report SOE Print Out**

Report Type Standard Report Number SOE STANDARD Report Title Recorder Number

15-Mar-2014 15:47:54:874 Triggered on....

Number of Event Records 230

4/9					
Event Time	State	AID	Tag Name	Tag Description	SER Index
15-Mar-2014				HEATER 3 BS ISOL VALVE	
15:49:10:404	CLOSED	Α	G122ANN406SOE	CLOSED	68
15-Mar-2014				TURB OIL PUMP SUCTION PRS	
15:48:51:989	OK		G140ANN110SOE	LOW	6
15-Mar-2014				TURB LO MTR SUCT PMP	
15:48:50:721	RUNG	Α	G148ANN130SOE	STATUS	11
15-Mar-2014	1.004/		0440455440005	TURB OIL PUMP SUCTION PRS	
15:48:40:251	LOW	Α	G140ANN110SOE	LOW	6
15-Mar-2014 15:48:27:944	CLOSED	Α	G125ANN404SOE	HEATER 5 BS ISOL VALVE CLOSED	66
15-Mar-2014	CLUSED	A	G125ANN40450E	GEN EXCITER FLD BKR AUTO	00
15:48:26:436	RESET		G150ANN070SOE	TRIP	3
15-Mar-2014	KLOLI		G100/11110/0002	TAIL	Ū
15:48:17:496	RUNNG	Α	G140TGOPRUNSOE	TURN GEAR OIL PMP RUNNING<	91
15-Mar-2014					-
15:48:15:487	TRIPPD	Α	G133ANN344SOE	DRUM LEVEL TRIP<	139
15-Mar-2014				EMGNCY FURN PRS CNTRLR	
15:48:13:644	NORMAL		G132ANN288SOE	OPER	122
15-Mar-2014					
15:48:13:390	RUNG	Α	G141ANN172SOE	EMGNCY BRNG OIL PMP STATUS	105
15-Mar-2014				and the second of the second	
15:48:10:243	LOW	Α	G125ANN237SOE	DRUM LEVEL LOW<	46
15-Mar-2014	NODMAI		04004111050005	IONITION OF PRESS FROM OWA	50
15:48:06:383 15-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15:48:03:924	TRIPPD	Α	G150ANN070SOE	TRIP	3
15-Mar-2014	IKIFFU	^	GISOANNOTOSOE	TRIF	3
15:48:02:870	RESET		G140CVNOLOADSOE	CV #1 NO LOAD TRIP<	234
15-Mar-2014			311001110101	ov a rivo zorio riva	
15:48:02:870	RESET		G140MSVNOLOADSOE	MSV #2 NO LOAD TRIP<	233
15-Mar-2014					
15:48:02:584	RESET		G150ANN440SOE	GEN TRP ON REVERSE POWER	86
15-Mar-2014					
15:48:02:578	TRIPPD	Α	G150ANN058SOE	GENERATOR RELAY 86G1 TRIP	2
15-Mar-2014					
15:48:02:572	TRIPPD	Α	G150ANN440SOE	GEN TRP ON REVERSE POWER	86
15-Mar-2014 15:47:57:128	TRIPPD	^	G133BLRTR2TRBSOE	BOILER TRIP TO TCS<	229
15-Mar-2014	IKIPPU	Α	GISSBLRIRZIRBSUE	BOILER TRIP TO TOSC	229
15:47:56:613	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014	ALAKINI	^	G130AN123000E	TURB TRIP PB OR OPER DCS	55
15:47:55:866	RESET		G140PBORDCSTTSOE	TRIP	221
15-Mar-2014				EMGNCY FURN PRS CNTRLR	
15:47:55:860	ACTIVE	Α	G132ANN288SOE	OPER	122
15-Mar-2014					
15:47:55:625	TRIPPD	Α	G140CVNOLOADSOE	CV #1 NO LOAD TRIP<	234
15-Mar-2014					055
15:47:55:625	TRIPPD	Α	G140MSVNOLOADSOE	MSV #2 NO LOAD TRIP<	233

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	cca Gata	DC 1	SP.			
	15-Mar-2014 15:47:55:624	OPENED		G103APASTSSOE	1A PA FAN STATUS	212
	15-Mar-2014 15:47:55:614	OPENED		G103BPASTSSOE	1B PA FAN STATUS	226
	15-Mar-2014 15:47:55:563	TRIPPD	Α	G133ANN319SOE	MASTER FUEL TRIP	78
	15-Mar-2014 15:47:55:307	CLOSED	Α	G125ANN403SOE	HEATER 6 BS ISOL VALVE CLOSED	65
	15-Mar-2014 15:47:54:874	TRIPPD	Α	G140PBORDCSTTSOE	TURB TRIP PB OR OPER DCS TRIP	221
>>>	15-Mar-2014 15:47:54:874	TRIPPD	Α	G140ANN158SOE	TURBINE TRIP	41
	15-Mar-2014 15:45:52:625	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
	15-Mar-2014 15:42:10:184	ALARM	Α	G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	15-Mar-2014 15:41:24:958	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:40:20:974	NORMAL		G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	15-Mar-2014 15:37:42:721	NORMAL		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	15-Mar-2014 15:36:55:360	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:55:103	ок	,,	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:54:108	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:53:851	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:53:610	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:53:352	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:52:608	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:52:350	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:52:106	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:51:848	ок	^	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014 15:36:51:608	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15-Mar-2014		A			
	15:36:51:349 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:50:607 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:50:347 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:50:102 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:49:845 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:49:605 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:49:346 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:49:101 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:48:844 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
	15:36:48:602	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43



Your Touchstone	Enorms	Cooperative	×D
rout rouchstone	Lineigy	Cooperative	600

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15-Mar-2014 15:36:48:344	ok		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014					
15:36:48:100 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:47:843	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:47:603	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:46:594	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:46:349	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:46:090	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014		^			
15:36:45:848 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:45:592 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:45:347 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:45:089	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:44:845	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:44:591	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:44:095	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014					
15:36:43:338 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:43:094 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:42:836 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:42:596	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:42:337	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:42:093	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:41:835	ок		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014					
15:36:41:595 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:41:083 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:40:840 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:40:586	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:40:429	ALARM	Α	G125ANN185SOE	HTR 6 LVL HI OR DRAINS BYP	116
15-Mar-2014 15:36:40:341	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:40:082	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014 15:36:39:840	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014		^			
15:36:38:331 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:38:088 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:37:829	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43





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15-Mar-2014 15:36:37:589	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15-Mar-2014					
15:36:36:581 15-Mar-2014	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:36:36:338 15-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
15:35:44:272	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:44:175	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:42:613	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014					
15:35:42:540 15-Mar-2014	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:35:35:474 15-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:35:35:382	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:34:053	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:33:969	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:33:222	NORMAL		C125ANN177COF	DEAEDATOR I VI. HI HI BE ISOI	27
15.35.33.222 15-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	21
15:35:33:129	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:28:184	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:28:092	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:26:969	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014					
15:35:26:876 15-Mar-2014	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:35:26:143 15-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:35:26:042	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:24:714	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:24:622	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:35:12:130	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014	NORWAL		GIZSANNITISOE	DEALITY OF EVE HI-HI B3-130E	21
15:35:12:051 15-Mar-2014	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:34:23:372	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:34:23:302	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:34:22:923	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014					
15:34:22:829 15-Mar-2014	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:34:21:592 15-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15:34:21:525	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:34:14:303	NORMAL		G125ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
15-Mar-2014 15:34:14:274	ALARM	Α	G125ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
15-Mar-2014 15:31:52:085	ALARM		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
10.01.02.000	ALAKINI	Α	G IZZANIN 1003UE	TITL O EVETII ON DIVAING DIF	113



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Tour Touchstone	Energy	Cooperative	W. W.

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15-Mar-2014 15:31:48:555	NORMAL		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
15-Mar-2014			012211111100002		
15:30:10:843 15-Mar-2014	RESET		G103BMNTRPSOE	G1 B MAIN TRIP	129
15:30:10:823	OPENED		G103BMNSTSSOE	G1 B MAIN STATUS	130
15-Mar-2014 15:30:10:789	TRIPPD	Α	G103BMNTRPSOE	G1 B MAIN TRIP	129
15-Mar-2014 15:30:10:011	CLOSED		G1031T2TIESTSSOE	G1 B BUS 1T2 TIE STATUS	203
15-Mar-2014					
15:29:47:320 15-Mar-2014	RESET		G103AMNTRPSOE	G1 A MAIN TRIP	125
15:29:47:303 15-Mar-2014	OPENED		G103AMNSTSSOE	G1 A MAIN STATUS	126
15:29:47:260	TRIPPD	Α	G103AMNTRPSOE	G1 A MAIN TRIP	125
15-Mar-2014 15:29:46:397	CLOSED		G1031T1TIESTSSOE	G1 A BUS 1T1 TIE STATUS	188
15-Mar-2014 15:28:35:959	CLOSED	Α	G133ANN349SOE	D MILL RATING DAMPER CLOSED<	117
15-Mar-2014					
15:27:19:441	OPENED		G103DPULVSTSSOE	1D PULVERIER STATUS	201
15-Mar-2014 15:19:15:928	CLOSED	Α	G122ANN405SOE	HEATER 4 BS ISOL VALVE CLOSED	67
15-Mar-2014	A1 ADM		04054111400005	LITE S LVII LII OD DDAINO DVD	00
15:19:10:212 15-Mar-2014	ALARM	Α	G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP B MILL RATING DAMPER	93
15:17:50:426 15-Mar-2014	CLOSED	Α	G132ANN329SOE	CLOSED<	249
15:17:39:507	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:17:39:468	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
15-Mar-2014 15:15:46:484	OPENED		G103S02SWSTSSOE	S02 SOLID WASTE STATUS	238
15-Mar-2014 15:15:46:472	CLOSED		G103S02SWSTSSOE	S02 SOLID WASTE STATUS	238
15-Mar-2014					
15:15:46:432 15-Mar-2014	OPENED		G103BPULVSTSSOE	1B PULVERIZER STATUS	170
15:06:50:158 15-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15:05:23:994	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014 15:03:32:033	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014 15:03:05:733	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014					
14:56:32:985 15-Mar-2014	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
14:56:32:487	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 14:55:19:363	CLOSED	Α	G132ANN328SOE	A MILL RATING DAMPER CLOSED<	94
15-Mar-2014 14:52:24:015	LOW	Α	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
15-Mar-2014					
14:50:47:596 15-Mar-2014	OPENED		G103APULVSTSSOE	1A PULVERIZER STATUS	157
14:41:33:267	OK		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
15-Mar-2014 14:41:33:017	LOW	Α	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
15-Mar-2014 14:41:32:769	ок		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
15-Mar-2014					
14:41:30:013	LOW	Α	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76



Your	Touchstone	Energy*	Cooperative	XIX

	50	96			
15-Mar-2014 14:41:29:513	ок		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
15-Mar-2014			31007 WWW 101000E	WANT OF EARTH RESCONE ESVA	70
14:39:15:256 15-Mar-2014	LOW	Α	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
14:34:33:973	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014			04004111004005	050 115 51105 5550155 11101	
14:34:31:215 15-Mar-2014	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
14:34:30:463	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 14:34:26:959	шсц	Α	C1224NINI284COE	SEC AID DUCT DESCRIPE LICHA	64
15-Mar-2014	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
14:34:26:206	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 14:34:25:204	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	111011	^	G102/111120400L	OLO AIN DOOT I NEGOCINE THOM	01
14:34:06:417	TRIPPD	Α	H133ANN465SOE	BLR MSTR TRP TO MAN<	138
15-Mar-2014 14:34:05:166	TRIPPD	Α	H133ANN463SOE	FUEL MSTR TRP TO MAN<	135
15-Mar-2014					
14:34:04:918	TRIPPD	Α	H132ANN464SOE	AIR FLW MSTR TRP TO MAN<	137
15-Mar-2014 14:32:02:934	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014					
14:31:49:661 15-Mar-2014	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
14:31:45:902	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	NORMAL		0.400.4111.0500.05	IONITION OF PRESCRIPTION	
14:30:58:813 15-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
14:29:01:838	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014	NORMAL		C120ANINGEGGGE	ICNITION OIL PRESS HIGH/LOW/	53
14:28:54:825 15-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	55
14:28:49:566	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
15-Mar-2014 14:28:21:013	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	HOMMAL		CTOZANIZOTOCE	OLO AIR BOOT I RESOURE HIGH	01
14:28:19:758	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 14:27:40:684	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
14:27:38:680 15-Mar-2014	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH< C MILL RATING DAMPER	61
12:54:21:600	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014	NO. OD		0.400.41.11.100.00.00	C MILL RATING DAMPER	400
12:54:20:343 15-Mar-2014	NCLSD		G133ANN339SOE	CLOSED<	132
11:36:47:266	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	шон	^	C4224NN204COE	SEC AIR DUCT PRESSURE HIGH<	61
11:36:47:014 15-Mar-2014	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	01
11:10:35:244	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 11:10:34:741	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	111011	,,	0102/1111204002	C MILL RATING DAMPER	
10:47:16:147	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014 10:47:14:640	NCLSD		G133ANN339SOE	C MILL RATING DAMPER CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
10:19:05:940 15-Mar-2014	CLOSED	Α	G133ANN339SOE	CLOSED< C MILL RATING DAMPER	132
10:19:03:931	NCLSD		G133ANN339SOE	CLOSED<	132



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Your	Touchstone	Energy*	Cooperative	XIDA

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15-Mar-2014 10:02:54:705	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014			0102711111201002	OLO AIR BOOT I REGOONE MONT	01
10:02:54:200	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014			0.0220.002	C MILL RATING DAMPER	01
09:50:48:223	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
09:50:46:215	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014					
09:49:05:860	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
09:49:04:857	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
09:39:25:748	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014		100			
09:39:24:244	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
09:24:13:003	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014			040045151004005	OFO AID DUOT DEFOUNDE HIGH	
09:24:12:501	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 09:20:05:030	NORMAL		C1224NIN294COE	SEC AIR DUCT PRESSURE LIIOU	C4
15-Mar-2014	NORWAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
09:20:03:777	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014	HIGH	^	G132ANN20430E	C MILL RATING DAMPER	01
09:18:48:719	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014	OLOGED	,,	01007111110000002	C MILL RATING DAMPER	102
09:18:46:461	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
08:47:04:739	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
08:47:02:483	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
08:14:30:688	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
08:14:29:933	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014	0==				
08:00:01:977	OFF		G1MANTRIGSOE	MANUAL SOE TRIGGER	215
15-Mar-2014	ON	^	CAMANITRICCOE	MANUAL COE TRICOER	045
07:59:59:733 15-Mar-2014	ON	Α	G1MANTRIGSOE	MANUAL SOE TRIGGER C MILL RATING DAMPER	215
07:44:40:099	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014	CLUSED	^	G133ANN33930E	C MILL RATING DAMPER	132
07:44:37:593	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014	110200		01007111110000002	C MILL RATING DAMPER	102
07:15:34:819	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
07:15:34:062	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014					
07:03:44:323	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
07:03:43:569	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014					
06:58:53:262	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
15-Mar-2014 06:58:52:760	HIGH	۸	C1224NIN294COE	SEC AIR DUCT PRESSURE HIGH	61
15-Mar-2014	півп	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH< C MILL RATING DAMPER	01
06:46:49:815	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014	JEGGED	,,	C.507.111103000E	C MILL RATING DAMPER	102
06:46:47:555	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
06:17:46:287	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
06:17:44:027	NCLSD		G133ANN339SOE	CLOSED<	132



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15-Mar-2014				C MILL RATING DAMPER	
05:49:50:846	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
05:49:48:337	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
05:21:32:876	CLOSED	A	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
05:21:30:868	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
04:54:41:517	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
04:54:39:509	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
04:27:44:655	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
04:27:42:646	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014					
04:00:39:004	RESET		H133ANN465SOE	BLR MSTR TRP TO MAN<	138
15-Mar-2014				C MILL RATING DAMPER	
04:00:13:000	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
04:00:10:991	NCLSD		G133ANN339SOE	CLOSED<	132
15-Mar-2014					
03:58:34:513	TRIPPD	Α	H133ANN465SOE	BLR MSTR TRP TO MAN<	138
15-Mar-2014				C MILL RATING DAMPER	
03:32:48:599	CLOSED	Α	G133ANN339SOE	CLOSED<	132
15-Mar-2014				C MILL RATING DAMPER	
03:32:46:843	NCLSD		G133ANN339SOE	CLOSED<	132



#### Your Touchstone Energy Cooperative

#### **Operators Event Log**



LOG BOOK

DATE 7-15-14

- REID GREEN
- Q COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
12M	Hust, Hayer, Northington, Butler, J Barron, Haner,
	Hust, Hayes, Northington, Butler, J Barron, Haner, Combs, Cook, R. Parker, Collins
61	SOZ. SO Nov. 14 opacity 3.5
	502.50 Nov. 14 ofacity 3.5
	,
62	load ZYZ A, OtC M.MIS ADS in service
	SO2.22 Nox.19 of outy 7.6
Sloker	61 40n 27.5 +27.8 = 1+2 sila
	Gr 40n 20.0 + 24.6 = 7 s./0  pref 1 on \$6.7". = 4 s./0
	pref ) on 06.7 7 3:10
TU	Aconveyors A46 Drums \$15:10 JOT \$1 52005 J6".
	16:2 Tanks (1/01 46 0/0 48 0/0
	16:n Tanks Silos 460/0 48-6/0 1ABAU 2A 9AU E3.5 E2.0 IV 2JAN
	10115kg 209.5kg W2.5 W1.0
12:20	Jim Smith - Tronsmission Dept finished checking
	Relay VolTages in control room
12145	10 1. Az e.t., 50 53 des 02 9.10.
	10 1. 41 62 20 52800 0+ 8.7.
550	IV Donn 8: in Tank
27 (1.1	leah discovered at 1410 OPER SUP'R
2+ 4m	1ST
Started	about unt unt

off-lue a 1548 SH-15.8 UD2-8.2 3RD

G2-241

F155.12 R 1/93









LOG BOOK

DATE 3-15-14

- a REID
- PEREN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
Sam	Reaven Reed Rithmeyer Housens Berry manan
	Beaver Reed Rithmeyer Hopkins Berry MAHAN Bell, Rigdon, Gorrell, Duvall
6-1	LOAD 252 CAP 250 3 mills C=S/B SOL, 44 NOX, 16 opecity 3.8% ADS IN 2 PRECIPS OUT
	SOL, 44 Nox, 16 apacity 3.8%
	ADS IN 2 PRECIPIONT
7	
G-1	LOAD 242 CAJO 242 3 mills D=S/B
	SOL, 22 NOX, 20 Opacity 7.9%
	LOAD 242 CAJO 242 3 m.//s D=S/B SOL, 22 NOX. 20 Opacity 7.9% ADS IN 2 PRECIPS ONT
	SLAKERS G-1 4 ON 25 25 #1
	SLAKERS G-1 4 ON 25'25' #1 G-2 4 ON 24'25' #4 Prep OUT 8276
	PREP OUT 82%
	IU OUT 14/2 TANKS #1 silo 52' silo+ SAFOLY & E1.5 W1.5 #2 SILO 45' SILO+ SAFOLY & E1.0 W1.0
	#1 51/0 32 51/0+ SAFELY & E1.5 W1.5
	2) 5110 45 S110 + SAFETY & E1.0 W1.0
100	11 25 25 10" 21 340 (00) - 11"
9-	1A OFF OT-69" 2A 34.9 (89) OT-6'10"  1B OFF 4T-6'9" 2B 33.4 (237) OT-6'9"
	11) OFF 41-69 213 55.7 (251) 01-64
	STACK GRAINS OK
	SIACK CRAINS OF

SUP'R
The 8A-8P

F155.12 R 1/93







LOG BOOK

DATE 3-15-14

_	REID
2	GREEN
0	COLEMAN

□ WILSON

- V
- SHIFT SUPERVISOR
  CONTROL OPERATOR
  AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- D\_\_\_\_\_
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
12 30	1A OFF OT-69" 2A 36 (86) OT-6'10"
	1B OFF 4T-6'9" 2B 33.6 (237) 6T-6'9"
200	G. Tube Leak boiler West Pos. CAN
	NOT LOOK INSIDE to tell where Leaking
	CALLED K. WEST - CALLED B. Vowels
212	STAXTED drapping LOAD
250	A mill OFF
715	2 11 -
32	B mill OFF
327	D mill off
248	G-1 OFF LINE
	61 011 2110
417	ON THENING GEAR
9:05	ID + FD Fans RJT
Gine	E D 11 2 E D 11 W
8.10	J Don: Than Reporting on J-16-14 - 12N-12M
9:0	17) 28.9 0° 6.9 2AJS9 0° 19" 2Boff 10 69"
	IP off 47 6.9" OPER SUP'R
	1ST The SA-PP
	2ND
	3RD 53222
	SIGNED
	GIGHED







LOG BOOK

DATE 3-16-14

REID
6

- GREEN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
12 M	Hust, Hayes, Northington, Dutler, J Barron, Haner Combs, Cook, R. Parker, Collins
	Combs, Cook, A. Parker, Collins
G-1	Donn - Tube leak
62	Load 242 A, B+C Mills ADS in service 502 .13 Nov. 19 opacity 7.2
	302 .13 Nov. 19 Opacity 7.2
Slaken	G1 2 on 24.0 + 24.0 \$1 5:16
	62 30n 23.1+245 =45.16
	prep out 75.7"
IV	Aconveyors A4D Drums 2/5:10 345 2/5moot 3612
	16'in Tanks 5:101 520/0 49 6/0
	IU15.5 hou E7.5 E2.0 1A7hou ZA7.5 hou
	W7.5 W1.0 1072-1 2072-1
1An	1A 35.7 0° 6.9" 2A 35.9 0 6.9"
	IB off 4+ 6.6. 50 Off 2+ 6.6.

G1	Bon	de h	y duo	800	4	1 15	000
fine	6 20	tall	laulan	at	19	20	
uni	* +	0	- line	at	2	142	
UO	2-	21.7	SH	-2	.3	-42	22

OPER	SUP'R
1ST	
2ND	
3RD	Bzm
	SIGNED

62-242

F155.12 R 1/93







LOG BOOK

DATE 3-16-14

- GREEN
- □ COLEMAN □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
pan	Beaven Reed, R. Hmeyer LAWRENCE, THRNER,
	Hopkins, Berry, maxim
	BeAUEN Reed, Rithmeyer, LAWRENCE, TURNER, Hopkins, Berry, MAHAN Bell, Rigdon, Gorrell, Duvall
G-1	OUTAge - Tube leak
G-2	LOAD CAP 3mills SOZ NOX OPACITY ADSIN PROCIPS ONT
	SOZ NOX OPACITY ADSIN PROCIPS ONT
	ADSIN TROCIPS ONT
	SLakers G-1 2 ON 23.5 23,9 #1
	G-2 3 ON 23.2 22.6 #4
	Prep out 83,9%
	IU out 12' TANKS
	51/0 #1-39' SILO XSAF Q- E1.5 WI.O
	IU OUT 12' TANKS 51/0 #1-39' SI/0 + SAF & E1.5 W1.0 51/0 #2-50' SI/0 + SAF & E1.5 W1.5
	1A OFF OT-69" 2A OFF OT-6'10"
	1A OFF OT-69" 2A OFF OT-6'10" 1B OFF 4T-6'8" 2B OFF 2PT-6'8"
	STACK DRAINS OK

18A-8P
-

F155.12







LOG BOOK

DATE 3-16-14

O REID
GREEN
D COLEMAN

□ WILSON

Z	SHIFT	SUF	ERV	ISOR	

- □ CONTROL OPERATOR □ AUXILIARY OPERATOR
- D UTILITY OPERATOR

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0							

- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
930	IU IN A CONU C drum #2 Flyash 20TPN #2 Smoot 18% 14 TANKS
	#2 SMOOT 18% IX TANKS
1/20	Filling Hotwell
10/5	
12-	Releasing RIT on G-1 B.F.P.
100	2 + 1 3
1-	Put COND. Pump, on
115	11 "A" DEP 1 - Han 1
/-	GI A BFP ON - HAD BREAKER problem with IC B.F. P. Elect. working on it
	With the second of the second
120	GIB'B.F.P. ON
100	1A OFF OT-6'9" 2A 34.8(87) OT-6'10"  1B OFF 4T-6'8" 2B 34.6 (223) 28T-6'8"
	1A OFF OT-6'9" 2A 34.8 (87) OT-6'10"  1B OFF 4T-6'8" 2B 34.6 (223) 28T-6'8"
200	IU down
734	
530	I'V Back IN SERVICE RUNNING B SIDE
1105	
X-	Lime 51/0's 55/45 42/24 41/23 57/4L Dig 47'1"
	35/45 42/24 41/23 57/46 Dig 47/

OPER	SUP'R
1ST	AV 8A-8P
2ND	
3RD	
	SIGNED

F155.12 R 1/93







LOG BOOK

DATE 3-16-14

Q REID	
GREEN	
□ COLEMAN	

□ WILSON

5	SHIFT	SUF	PERVIS	SOR
	0011		00	

- □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- D LITH ITY OPERATOR

-	OTILITI OF LIMION

- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
413	G-1 Boiler Lypro 1600 Press. BFP's OFF
500	G-1 DRY boiler
フ:フロ	Fires established in GI Doiler
9:10	BI Turkine rolled off Geor
9:42	GI Tied on Line - Precipi in service
10:35	10 Millon - Second Mill
10:42	Run Dack in - Gen grotertice relay alorm in
	inst checking in To problem
	Run Dock in - Gen protective relay alorm in on states unit. Come in at 90 MW. inst checking in To problem

OPER	SUP'R
1ST	TW 8A-87
2ND	
3RD	1520h
	SIGNED

F155.12 R 1/93



#### Your Touchstone Energy Cooperative

### Boiler Tube Leak Record

Plant <u>Green</u> Unit <u>1</u>
Type of Leak: (Check One)
Pin Hole X Thick Lip Failure Thin Lip Failure X
Tube Wall Thinning X Other Crack
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion Other
Type of Repair: (Check One)
DutchmanX (Length of Dutchman <u>see below</u> Pad Weld
Plua Tube Short Circuit Other





#### Your Touchstone Energy\* Cooperative

### **Forced Outage Report**

Description of Repair:

Tube Size OD 2 ½" Wall Thickness 148" Tube Material SA213T11 Welding procedure <u>GS-P1-1L</u> for tube welds Welded By: Titan

Exact Location of Leak: Be Specific

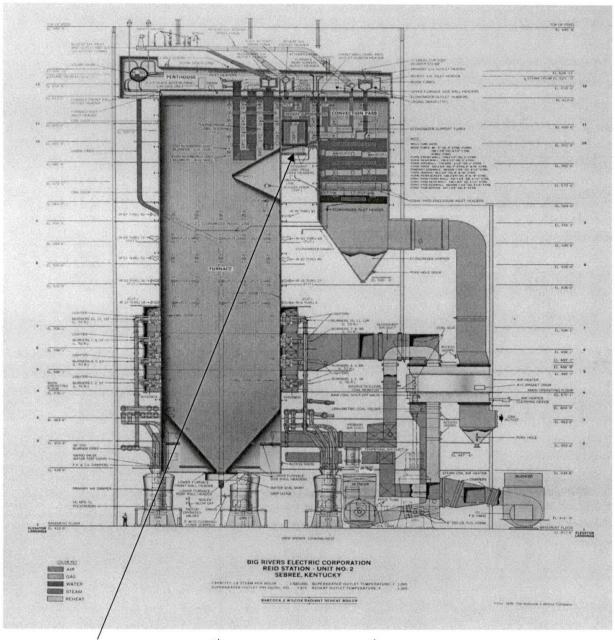
Intermediate Reheater 21st element from East 1st tube 75 inch dutchman Intermediate Reheater 22nd element from East 1st tube 75 inch dutchman Outlet Reheater 21st element from East 1st tube base metal repair (pad weld) Outlet Reheater 22nd element from East 1st tube 17 inch dutchman





# Forced Outage Reportation UNIT 1 (4) TUBES INVOLVED





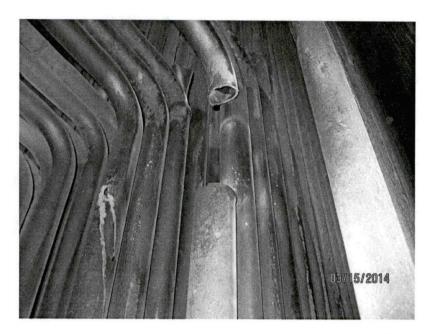
Intermediate Reheater 21<sup>st</sup> element from East 1<sup>st</sup> tube 75 inch dutchman
Intermediate Reheater 22<sup>nd</sup> element from East 1<sup>st</sup> tube 75 inch dutchman
Outlet Reheater 21<sup>st</sup> element from East 1<sup>st</sup> tube base metal repair (pad weld)
Outlet Reheater 22<sup>nd</sup> element from East 1<sup>st</sup> tube 17 inch dutchman





#### Your Touchstone Energy\* Cooperative

#### <u>Pictures</u>



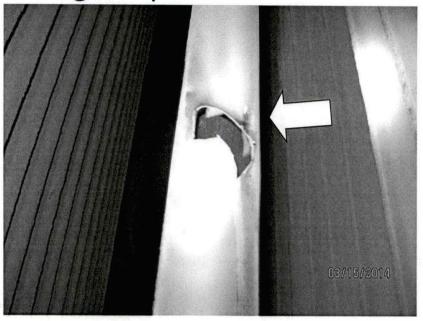
Intermediate Reheater South 21st element from East 1st Tube



Intermediate Reheater South 22<sup>nd</sup> element from East 1<sup>st</sup> Tube







Outlet Reheater South 22<sup>nd</sup> element from East 1<sup>st</sup> Tube



Outlet Reheater South 21<sup>nd</sup> element from East 1<sup>st</sup> Tube





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**O&M Costs** 

Materials:

\$575

Outside Labor \$19,747

Total

\$20,322

**Lost Sales Opportunity Report** 

### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-14-05	Production Cost			
Date & Time Off Line	3/15/14 15:48	MW		5/MW	
Date & Time On Line	3/16/14 21:42	73	\$	29.18	
Outage Duration	29 hr. 54 min.	181	\$	24.82	
Outage Code	UO2	235	\$	24.34	
Outage Reason	Repair intermediate reheater tube leak.				

Date	DA LN	IP Average	RT LN	/IP Average	D	ART P&L	Lost portunity
3/15/14 (HE 14-24)	\$	30.50	\$	33.00	\$	(22,692)	\$ -
3/16/14 (HE 1-24)	\$	35.92	\$	64.27	\$	(219,391)	\$ -
3/17/14 (HE 1-3)	\$	34.31	\$	31.41	\$	2,599	\$ (6,907)
T-4-1						1000 101	

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		11,335	DART P&L	\$	(239,484)
S/U Fuel Price	\$	3.13	Lost Opportunity	\$	(6,907)
S/U Fuel Cost	\$	(35,449)	S/U Fuel Cost	\$	(35,449)
			Total	\$	(281,840)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To:

Bob Berry

From: Perry Bowley

Date: 19-Mar-2014

Plant: Green

Unit: 1

GADS Class: UO2

#### **Duration**

Trip Time: March-2014 04:20

Tie Time: 18-March-2014 15:58

Time Offline: 35:38

#### Outage Description

Green Unit 1 was removed from service on Monday, 17-Mar-2014 at 04:20 via controlled shutdown due to a primary superheater tube leak.

#### **Root Cause**

The Green Unit 1 primary superheater top section, 1st tube from east, bottom tube in element failed. This is a loop tube down to the primary superheater middle section top tube. The top tube of the middle section 2<sup>nd</sup> element from east also failed.

#### **Failure History**

There have been five previous primary superheater tube leaks since 2007.

15-August -2009 Offline 37 hours 18 minutes

29-December -2009 Offline 40 hours 53 minutes

2-January – 2010 Offline 31 hours 1 minute

21-June -2011 Offline 49 hours 13 minutes

13-August -2012 Offline 31 hours 24 minutes





#### Your Touchstone Energy\* Cooperative

### Forced Outage Report

#### **Corrective Action**

Titan installed five dutchman: Primary Superheater Top Bank bottom tube into Middle Primary and 1<sup>st</sup> tube from East wall and Middle Primary top tube 2<sup>nd</sup> element.

- (1) 6' 10" long, (2) 5' 3" long, one, (3) 27 1/2 "long, (4) 1 half loop, 15 1/4" long
- (5) 1 half loop, 15 1/4" long

#### Other Work Completed While Unit Was Offline

G1 #2 Heater tube leak repaired





#### Your Touchstone Energy\* Cooperative

### **Forced Outage Report SOE Print Out**

Report Type

Standard

Report Number

SOE

Report Title

STANDARD

Recorder Number

Triggered on....

17-Mar-2014 04:20:43:671

Number of Event Records

234

		No.	E. St. St. St. St. St. St. St. St. St. St		
Event Time	State	AID	Tag Name	Tag Description	SER Index
			The second secon	A STATE OF THE PARTY OF THE PAR	The same of the same of
17-Mar-2014					
04:21:20:239	DSABLD	Α	G125ANN283SOE	DRUM LEVEL TRIP DISABLED<	60
17-Mar-2014					
04:21:20:225	RESET		G133ANN344SOE	DRUM LEVEL TRIP<	139
17-Mar-2014					
04:21:18:102	ALARM	Α	G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
17-Mar-2014	NODMAN		040041111050005		20
04:21:08:970 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:21:08:716	ALARM	Α	G130ANN256SOE	ICNITION OIL PRESS HIGHE OWA	50
17-Mar-2014	ALARIVI	A	G 130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:21:08:208	TRIPPD	Α	G133ANN344SOE	DRUM LEVEL TRIP<	139
17-Mar-2014	111111111111111111111111111111111111111	^	CIOCANIOTTOCE	DROW LEVEL TRIP	139
04:21:07:462	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:21:06:965	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014				EMGNCY FURN PRS CNTRLR	
04:21:06:712	NORMAL		G132ANN288SOE	OPER	122
17-Mar-2014					
04:21:01:967	LOW	Α	G125ANN237SOE	DRUM LEVEL LOW<	46
17-Mar-2014	NODMAN		04004111050005	IONITION ON PRESSURE OF	
04:21:01:957 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:21:01:201	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	52
17-Mar-2014	ALAKIVI	A	G130ANN23630E	IGNITION OIL PRESS HIGH/LOW	53
04:21:00:954	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	HOTHINE		0100/1111200002	IGNITION OIL I NEGO TIIOTIZOWY	55
04:21:00:701	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:20:59:954	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:20:59:446	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:20:59:199	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NODMAL		04004111400005	LITE OLIVELIU OD DDAINO DVD	445
04:20:54:600 17-Mar-2014	NORMAL		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
04:20:52:792	TRIPPD	Α	G150ANN070SOE	GEN EXCITER FLD BKR AUTO TRIP	3
17-Mar-2014	TRITE	^	GISOANIOTOSOL	GEN EXCITENTED BRICAGIO TRIP	3
04:20:52:168	RESET		G140MSVNOLOADSOE	MSV #2 NO LOAD TRIP<	233
17-Mar-2014			0,10,110,10,10,10,10,10	mor ne mo esta man	200
04:20:52:167	RESET		G140CVNOLOADSOE	CV #1 NO LOAD TRIP<	234
17-Mar-2014					
04:20:51:750	RESET		G150ANN440SOE	GEN TRP ON REVERSE POWER	86
17-Mar-2014					
04:20:51:746	TRIPPD	Α	G150ANN058SOE	GENERATOR RELAY 86G1 TRIP	2
17-Mar-2014	TRIPPD	Α	G150ANN440SOE	GEN TRP ON REVERSE POWER	86
			_		



Your Touchstone Energy Cooperative

04:20:51:739 17-Mar-2014 04:20:47:599 OK G143ANN153SOE **EHC FLUID PRESSURE LOW** 19 17-Mar-2014 04:20:45:675 TRIPPD G133BLRTR2TRBSOE **BOILER TRIP TO TCS<** 229 17-Mar-2014 04:20:44:673 TRIPPD G140MSVNOLOADSOE MSV #2 NO LOAD TRIP< 233 17-Mar-2014 04:20:44:672 TRIPPD A G140CVNOLOADSOE CV #1 NO LOAD TRIP< 234 17-Mar-2014 **EMGNCY FURN PRS CNTRLR** 04:20:44:671 **ACTIVE** G132ANN288SOE **OPER** 122 17-Mar-2014 04:20:44:662 RESET G140PBORDCSTTSOE TURB TRIP PB OR OPER DCS TRIP 221 17-Mar-2014 04:20:44:431 TRIPPD G133ANN319SOE A MASTER FUEL TRIP 78 17-Mar-2014 04:20:44:306 LOW G143ANN153SOE A **EHC FLUID PRESSURE LOW** 19 17-Mar-2014 04:20:43:671 TRIPPD G140PBORDCSTTSOE TURB TRIP PB OR OPER DCS TRIP A 221 17-Mar-2014 TRIPPD >>> 04:20:43:671 G140ANN158SOE TURBINE TRIP 41 17-Mar-2014 04:19:54:121 OK G125ANN227SOE DRUM LEVEL HIGH< 45 17-Mar-2014 04:19:51:118 **ENABLD** G125ANN283SOE DRUM LEVEL TRIP DISABLED< 60 17-Mar-2014 04:19:34:285 ALARM G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:37:681 **NORMAL** G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:37:175 **ALARM** A G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:36:427 NORMAL G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:35:926 ALARM A G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:35:678 NORMAL G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:35:172 **ALARM** G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:33:922 NORMAL G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:33:674 ALARM G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:33:421 NORMAL G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:32:419 ALARM Α G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:31:670 **NORMAL** G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:30:667 **ALARM** A G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:30:415 **NORMAL** G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:28:265 **DSABLD** G125ANN283SOE DRUM LEVEL TRIP DISABLED< 60 17-Mar-2014 04:18:12:882 ALARM G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:12:381 NORMAL G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 04:18:11:879 ALARM A G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 NORMAL G130ANN256SOE 04:18:11:126 IGNITION OIL PRESS HIGH/LOW< 53 17-Mar-2014 G130ANN256SOE IGNITION OIL PRESS HIGH/LOW< ALARM A 53



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04:18:09:628					
17-Mar-2014			0.400.411110.000.00		
04:18:07:873 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:18:01:613	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	712 (11)	,,	0100/111120000L	TOTAL TOTAL OF THE TREE OF	55
04:18:01:107	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:18:00:105 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:17:58:856	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:17:58:101	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:17:57:854	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	
17-Mar-2014	NORWAL		GISUANNESOSUE	IGNITION OIL PRESS HIGH/LOW	53
04:17:57:352	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:17:57:098	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:17:52:843	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	71211111	,,	010071111200002	TOTAL OLD TRESS THOUSEN	00
04:17:47:586	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:17:46:832	ALARM	٨	C120ANN2ECCOE	ICNITION OIL PRESS HIGH! OW	50
17-Mar-2014	ALARIVI	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:17:45:582	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:17:45:076 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:17:43:827	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014			0.000		-
04:17:43:326	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:17:05:908	HIGH	Α	G125ANN227SOE	DRUM LEVEL HIGH<	45
17-Mar-2014	поп	A	G125ANN22750E	DROW LEVEL HIGH	45
04:17:03:148	OK		G125ANN227SOE	DRUM LEVEL HIGH<	45
17-Mar-2014					
04:17:02:554 17-Mar-2014	ALARM	Α	G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
04:17:02:153	HIGH	Α	G125ANN227SOE	DRUM LEVEL HIGH<	45
17-Mar-2014					
04:16:57:608	NORMAL		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
17-Mar-2014 04:16:06:889	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NONWAL		0130AN1123000L	IGITION OILT ILEGG HIGH/LOVV	33
04:16:06:584	LOW	Α	G155ANN312SOE	MAIN STEAM TEMP LOW<	75
17-Mar-2014	AL ADM		CARRANNICCOOF	IONITION OIL PRESS LIIOUVI OIMA	
04:16:06:139 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:16:04:886	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:16:04:136 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:16:03:636	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					-
04:16:03:134	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:16:02:132	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORIVIAL		G ISUAININZSOSUE	IGNITION OIL FRESS HIGH/LOW	55
04:15:41:751	RUNNG	Α	G140TGOPRUNSOE	TURN GEAR OIL PMP RUNNING<	91
17-Mar-2014	OTODDD		04407000001111000	TURN OF AR OU DAYS BURNING	
04:15:41:492	STOPPD		G140TGOPRUNSOE	TURN GEAR OIL PMP RUNNING<	91
17-Mar-2014	RUNNG	Α	G140TGOPRUNSOE	TURN GEAR OIL PMP RUNNING<	91



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04:15:41:251					
17-Mar-2014 04:15:32:824	ALARM	۸	C120ANN2ECCOE	IONITION OIL PRESS LIIOUV OW	
17-Mar-2014	ALAKIVI	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:15:31:074	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:15:29:571	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:15:28:068	NORMAL		C4204NIN256600E	IONITION OIL PRESS LIIGUU OW	
17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:15:26:315	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:15:24:060 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:15:23:310	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014		.,	0100711111200002	TOTAL OLD FREED FREE FREE TOTAL OVER	55
04:15:20:777	RUNG	Α	G148ANN130SOE	TURB LO MTR SUCT PMP STATUS	11
17-Mar-2014 04:13:47:378	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORWAL		G130ANN23030E	IGNITION OIL PRESS HIGH/LOW	55
04:13:46:623	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NODMAN		04004111050005	IONITION ON PRESSURE OF THE PROPERTY OF THE PR	
04:13:44:871 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:13:42:615	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:13:39:061 17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
04:13:38:960	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
17-Mar-2014		300			
04:13:37:110	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:13:36:604	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	ADARW	Α.	0130ANN23000L	IGNITION OIL FILESS HIGH/LOW	55
04:13:36:107	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:13:31:711	NORMAL		C125ANN1778OF	DEAEDATOR IVII HI HI DO ICOI	27
17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
04:13:31:613	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
17-Mar-2014	NODIAN		04054411477005		
04:13:30:788 17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
04:13:30:707	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
17-Mar-2014					
04:13:30:350 17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
04:13:30:240	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
17-Mar-2014					
04:13:17:312	CLOSED	Α	G125ANN403SOE	HEATER 6 BS ISOL VALVE CLOSED	65
17-Mar-2014 04:13:17:063	NORMAL		G125ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
17-Mar-2014	HORWAL		O 120/ANN 17300L	1111 0 EVE 111-111 BO-100E	20
04:13:17:008	ALARM	Α	G125ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
17-Mar-2014 04:13:14:562	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	ALAKIVI	^	G130ANN23030E	IGNITION OIL PRESS HIGH/LOW	55
04:13:14:315	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	AL ADM	^	04204111050005	IONITION OIL PRESS LIIGUY OW.	
04:13:13:560 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:13:11:059	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	AL AD: -		040041111055555	IONITION ON PRESSURE STATE	
04:13:10:807	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53



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04:13:10:057					
17-Mar-2014	41.454		0/00/11/10/2005		
04:13:09:805 17-Mar-2014	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:13:07:801	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014			0.000.0000	TOTAL OLD THE	55
04:13:06:798	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:13:05:544	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NONWAL		GIJOANNIZJOJOE	IGNITION OIL PRESS HIGH/LOW	55
04:13:03:541	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:13:02:292	NORMAL		C120ANNI2ECCOE	ICAUTION OU PRESCUIIOUU OMA	50
17-Mar-2014	NORWAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:13:02:042	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NODMA		04004111050005		
04:13:01:041 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:13:00:288	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NODMAI		04004111050005		
04:13:00:039 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:12:59:785	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:12:59:534 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:12:59:286	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:12:58:035 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:12:57:781	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:12:51:519 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:12:51:271	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:10:58:556 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:58:302	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014			0.400.4111.400.000		
04:10:56:804 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:50:039	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:10:49:790 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:49:285	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORMA		04004111050005	IONITION ON EDECOMMON ON	
04:10:46:032 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:45:782	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORMA		04004111050005	IONITION ON EDECOMMON ON	
04:10:45:530 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:45:277	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORMAL		CARRANNING	IGNITION OIL PRESS HIGH/LOW<	50
04:10:43:026 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW	53
04:10:41:775	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:10:37:767	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NONWAL		G I JUANNINZ JUGOCE	IGNITION OIL FRESS HIGH/LOW	55
04:10:37:015	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
			<u> </u>		



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04:10:36:766					
17-Mar-2014					
04:10:36:514	ALARM	A	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	NODMAL		CARRANNISCOOF	IONITION OF PRESCRIPTION OF	
04:10:29:500 17-Mar-2014	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
04:10:27:997	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014			0 1001 11 11 12 00 00 2	TOTAL TREGOT HOLIZOV	
04:07:58:696	CLOSED	Α	G133ANN349SOE	D MILL RATING DAMPER CLOSED<	117
17-Mar-2014	ODENED		0400004070005		
04:07:41:097 17-Mar-2014	OPENED		G103BPASTSSOE	1B PA FAN STATUS	226
04:07:38:102	OPENED		G103APASTSSOE	1A PA FAN STATUS	212
17-Mar-2014	0. 2.122		010011111010002	7.17.17.11.00	212
04:07:24:401	CLOSED	Α	G133ANN339SOE	C MILL RATING DAMPER CLOSED<	132
17-Mar-2014	NOLOD		04004111000000	0.1111   5.17110   5.11555   6.6655	
04:07:21:893 17-Mar-2014	NCLSD		G133ANN339SOE	C MILL RATING DAMPER CLOSED<	132
04:06:45:804	OPENED		G103DPULVSTSSOE	1D PULVERIER STATUS	201
17-Mar-2014				CONDENSER HOTWELL LEVEL	201
04:05:53:275	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	111011		04004111005005	CONDENSER HOTWELL LEVEL	
04:05:53:028 17-Mar-2014	HIGH	Α	G122ANN225SOE	HIGH<	113
04:05:44:958	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:05:44:707	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014	OK		CARRANNINGECOF	CONDENSER HOTWELL LEVEL	440
04:05:44:263 17-Mar-2014	OK		G122ANN225SOE	HIGH<	113
04:05:43:956	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014					
04:05:43:705	ALARM	Α	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014 04:05:43:012	HIGH	Α	G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
17-Mar-2014	HIGH	^	G122ANN22550E	HIGH	113
04:05:42:704	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:42:261	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014 04:05:41:262	HIGH	Α	G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
17-Mar-2014		,,	O IZZZ WWZZOOOZ	CONDENSER HOTWELL LEVEL	110
04:05:40:008	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	HIGH		04004111005005	CONDENSER HOTWELL LEVEL	440
04:05:39:260 17-Mar-2014	HIGH	Α	G122ANN225SOE	HIGH< CONDENSER HOTWELL LEVEL	113
04:05:38:506	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:37:507	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014 04:05:36:756	OK		CARRANNINGECOF	CONDENSER HOTWELL LEVEL	440
17-Mar-2014	OK		G122ANN225SOE	HIGH<	113
04:05:36:051	ALARM	Α	G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
17-Mar-2014	70-10-100000			CONDENSER HOTWELL LEVEL	
04:05:34:504	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014 04:05:32:751	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
17-Mar-2014	OK		0122/111122500L	CONDENSER HOTWELL LEVEL	110
04:05:32:000	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	OK		04004111005005	CONDENSER HOTWELL LEVEL	
04:05:31:245 17-Mar-2014	OK		G122ANN225SOE	HIGH< CONDENSER HOTWELL LEVEL	113
04:05:30:247	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL	113
	•		0122711112233001	OC.IDENOLITION WILL LEVEL	110



04:05:27:491				HIGH<	
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:26:994	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:25:989	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:25:745	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:24:988	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:21:486	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:05:20:735	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:28:838	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:28:085	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	HIGH	^	CACCANINICATION	CONDENSER HOTWELL LEVEL	440
04:03:24:334	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
04:03:24:080 17-Mar-2014	OK		G122ANN22550E	CONDENSER HOTWELL LEVEL	113
04:03:22:584	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	HIGH	^	GIZZANNZZSSOL	CONDENSER HOTWELL LEVEL	113
04:03:22:328	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	OIL		G 1227 WWW 22000 E	CONDENSER HOTWELL LEVEL	
04:03:20:077	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	111011	,,	01227 H 111220002	CONDENSER HOTWELL LEVEL	
04:03:19:824	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	•		0,121,11,1220002	CONDENSER HOTWELL LEVEL	
04:03:17:825	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:17:071	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:16:322	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:14:819	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:13:820	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:12:568	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	HIOH		CARRANINGSECOE	CONDENSER HOTWELL LEVEL	110
04:03:11:816	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	OK		C1224NIN22ECOE	CONDENSER HOTWELL LEVEL HIGH<	113
04:03:08:310 17-Mar-2014	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL	113
04:03:07:811	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014	111011	^	GIZZANNZZJJOCE	CONDENSER HOTWELL LEVEL	110
04:03:05:054	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014	OIL		O 1227 HTT22000E	CONDENSER HOTWELL LEVEL	
04:03:04:307	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:03:053	OK		G122ANN225SOE	HIGH<	113
17-Mar-2014				CONDENSER HOTWELL LEVEL	
04:03:02:559	HIGH	Α	G122ANN225SOE	HIGH<	113
17-Mar-2014					
03:59:54:940	NORMAL		G122ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
17-Mar-2014					
03:59:05:742	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
17-Mar-2014					
03:59:05:498	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
17-Mar-2014	OK		CASEANNISSESSE	DEAEDATOR LEVEL HIGH	4
03:59:04:741	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
17-Mar-2014	HIGH	Α	G125ANN226SOF	DEAFRATOR LEVEL HIGH<	4:



03:58:32:957					
17-Mar-2014 03:58:32:698	ОК		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
17-Mar-2014 03:58:32:457 17-Mar-2014	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
03:57:37:847 17-Mar-2014	OPENED		G103BBFPSTSSOE	1B BFP STATUS	258
03:56:29:540 17-Mar-2014	RESET		G103AMNTRPSOE	G1 A MAIN TRIP	125
03:56:29:522 17-Mar-2014	OPENED		G103AMNSTSSOE	G1 A MAIN STATUS	126
03:56:29:480 17-Mar-2014	TRIPPD	Α	G103AMNTRPSOE	G1 A MAIN TRIP	125
03:56:28:080 17-Mar-2014	CLOSED		G1031T1TIESTSSOE	G1 A BUS 1T1 TIE STATUS	188
03:56:14:239 17-Mar-2014 03:56:14:219	RESET		G103BMNTRPSOE G103BMNSTSSOE	G1 B MAIN TRIP G1 B MAIN STATUS	129 130
17-Mar-2014 03:56:14:185	TRIPPD	Α	G103BMNTRPSOE	G1 B MAIN TRIP	129
17-Mar-2014 03:56:13:387	CLOSED		G1031T2TIESTSSOE	G1 B BUS 1T2 TIE STATUS	203
17-Mar-2014 03:55:34:310	CLOSED	Α	G132ANN329SOE	B MILL RATING DAMPER CLOSED<	249
17-Mar-2014 03:54:24:179	OPENED		G103BPULVSTSSOE	1B PULVERIZER STATUS	170
17-Mar-2014 03:47:26:033 17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
03:47:25:932 17-Mar-2014	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
03:47:21:860 17-Mar-2014	CLOSED	Α	G122ANN405SOE	HEATER 4 BS ISOL VALVE CLOSED	67
03:47:15:651 17-Mar-2014	NORMAL		G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
03:47:15:573	ALARM	Α	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27





### **Operators Event Log**





LOG BOOK

DATE 3-17-14

- O REID GREEN
- O COLEMAN
- □ WILSON
- SHIFT SUPERVISOR
- □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- □ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS				
12 M	HUST, Hayes, Don: Than, North instan, Dutler,				
	Hust, Hayes, Don: Than, North instan, Dutler, Darron, Haner, Hoover				
GI	STORT up in progress				
62	Lood 242 A,D+C M.111 ADS: x service 502,114 Nox.19 opac.77 7.6				
- 53	502,114 Nex. 19 Opac. 77 7.6				
Slakers	61 Jon 25.5 \$25.0 =15:10				
	62 3 on 19 + 23.2 #451/1				
	prop or 70.2"				
IU	Beomegars C Drum #25:10 20T #25moot 18" 22'				
	1:101 41 0/0 52 0/0 IUZO. Thes				
	EZO EZS IASLU ZAFLU				
	W1.5 W1-0 10 4.52-1 2013.52~				
12:40	14 M:11 on - 3 M:11 on				
1:20	Jeft Donithan going home				
1:00	Mork Hover going home				

1 R a do lie at Auga dust	OPER	SUP'R
I Books off-line at 0420 due	1ST	
	2ND	
4-4.33 402-19.67	3RD	1822
2 max local - 242		SIGNED









LOG BOOK

DATE 7-17-14

□ REID
GREEN
□ COLEMAN
□ WILSON

	SHIFT SUPERVISOR
	CONTROL OPERATOR
0	<b>AUXILIARY OPERATOR</b>
0	UTILITY OPERATOR

SCRUBBER OPERATOR
SCRUBBER AUXILIARY OPERATOR
SOLID WASTE OPERATOR

OPERATOR

□ SCRUBBER SHIFT SUPERVISOR

□ SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS			
3:20	Taking GI Dock off Line. Found another Tube leak.			
	another Tube leak.			
4:20	61 Back off Line			
	·			

OPER	SUP'R
1ST	
2ND	
3RD	132m
	SIGNED









LOG BOOK

REID GREEN	
GREEN	
D COLEMAN	

□ WILSON

OV	SHIFT SUPERVISOR
0	<b>CONTROL OPERATOR</b>
0	<b>AUXILIARY OPERATOR</b>

	SCRUBBER	SHIFT	SUPERVISOR
_	CODUDDED	ODED	ATOD

-	SCHOODEN OF ENATOR
0	SCRUBBER AUXILIARY OPERATO

UTILITY OPERATOR

SOLID	WAST	E OPE	RATOR	
SCRIB	REDI	ITII ITV	OPER	ATO

THIS FORM TO BE COMPLETED IN INK 8A-8P TIME 8AM 6-2 oail - 242 Cap-242 Slakers (#4 5ilo) 22.3 I.U. service w silo@ 24 Underflows: 2A-0++ 1A-011 Note: Both stack drains are open,

OPER	SUP'R
1ST	West
2ND	
3RD	
S	IGNED









LOG BOOK

D BEID
GREEN
O COLEMAN

□ WILSON

	SHIFT SUPERVISOR
0	CONTROL OPERATOR
	ALIVILIADY OPERATOR

0	UTILITY	<b>OPERATOR</b>

□ SCRUBBER SHIFT SUPERVISO	
G SCHUDDEN SHILL SOLEHVISC	,,

SCRUBBER OPERATOR

□ SCRUBBER AUXILIARY OPERATOR

□ SOLID WASTE OPERATOR

□ SCRUBBER UTILITY OPERATOR

	THIS FORM TO BE COMPLETED IN INK  Monday
TIME	REMARKS
8:45A	to the state of th
707.0	Hyash 51105 #1) 41. #2) 50
Q'ILA	CILIC ON A DESCRIPTION OF
8:45A	Sullair Compressor red tagged to change out oil filter. Heleased + bade on at 1:30 PM
	011 tilter. released & bade on al 1,30774
0.131	GIT: + is of to solve It lake
9:13A	G-1 Equipment signed on to repair tube leak
11:031	Of SI RICE I WILL
11:08A	Load of Sodium Bi-Sulfite here. Will put in G-2 Thickener Return Touck per Keath Balland
	in 9-2 inickener Return Jank per hearn parlara
101-11	111 0
12:00N	Underflows:
	1A-28.2 Ø 6'10" ZA-Off Ø 6'10" 1B-29.0 5 6'9" ZB-33.3 Ø 6'9"
	1B-29.0 5 6'9" 2B-33.3 Ø 6'9"
1:1-0	11 Mill I las 10 1 Pina con of the 10 to 1000 and Own
1:15P	A Mill Lube O, Pump red tagged to replace pump Released + on @ 4:45 PM
	Released + on C +,454711
2:10P	Maintenance replaced 203 Slaker Grit
2.10	The state of the s
	Conveyor,
	CIAwilian Openation add all of the Third
	G-I Auviliary Operator added EttC Fluid to Ett Unit Level @ +1.1
	TO EST OWN SLEVE CO. T IN
7:00P	6-1 #2 Heater tube leale repaired.
1.004	
	OPER SUP'R
	151

OPER	SUP'	7
1ST	West	
2ND		
3RD		
	SIGNED	









LOG BOOK

DATE 3/17/14

REID GREEN □ COLEMAN

□ WILSON

- SHIFT SUPERVISOR □ CONTROL OPERATOR
- □ AUXILIARY OPERATOR
- UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
Sio	Don. Ha, Host, Forlay, Bochman, Baren, Hower, Haver Trais, Lovar, Shottony Paker, Repp
	Trais, Lovan, Shothowy Paker, Algo,
5/103	# - 39' E-2.5 W-1.5 #2-52' E-2.5 W-1.5
	#-39' E-2.5 W-1.5 #2-52 E-2.5 W-1.5 5-0 G-0 5-0 6-0
Thiskney	1BOH B 6 10 2B on 36 0 69
	1BOH B 610 2Bon 36 0 69
832	R. Farkay gory home sick.
and and	
10 00	6-1 #2 - Heater in service
30	
10 30	A. Wilson called in sike - Watson to RIC at A+T
1	

OPER	SUP'R
1ST	Per
2ND	
3RD	
	SIGNED

F155.12









LOG BOOK

DATE 3/18/14	1
--------------	---

- a REID
- GREEN
- □ COLEMAN
- □ WILSON
- SHIFT SUPERVISOR □ CONTROL OPERATOR
- AUXILIARY OPERATOR
- □ UTILITY OPERATOR
- □ SCRUBBER SHIFT SUPERVISOR
- □ SCRUBBER OPERATOR
- □ SCRUBBER AUXILIARY OPERATOR
- □ SOLID WASTE OPERATOR
- SCRUBBER UTILITY OPERATOR

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1200	
61	Car protoce load artage
g g	sup protoge land artage
62	Cop 242 lood 242 502 184 NOV. 210 pac 7.4
	302 101 1008,210 2946 1.01
dakers	51 2 21/25 52 2 23/20 P 0 93 %
Tlaickage	1A cm 40+ 1) 4 2A m 38.4 0 60
Truckiney.	1B cm 38.6 5 618 2B on 36 0 68
IN	In Servine B side, A - Downs, # 2-167 Tanks - 15' # 1-18%
	Tanks - 15'
Que D	e IU- 1A 3.25 2A 9.5
The state of the	18 3.25 28 11
140	B. Townsend collect for Personal Day - Gratech.
2/0	
1-	Filling 6-1 Builer

GI allies in at 1248, unit out at 1800. U02-15.97 SH-8.03 SA-1 SS-1

OPER	SUP'R
1ST	876
2ND	
3RD	
5	SIGNED

F155.12

62-242









LOG BOOK

	REID
W	GREEN
0	COLEMAN
	WILSON

V	SHIFT SUPERVISOR
0	CONTROL OPERATOR
0	<b>AUXILIARY OPERATOR</b>
0	UTILITY OPERATOR

SCRUBBER	SHIFT	SUPERVISO	OR

□ SCRUBBER OPERATOR

SCRUBBER AUXILIARY OPERATOR

□ SOLID WASTE OPERATOR

□ SCRUBBER UTILITY OPERATOR

	8A-8P THIS FORM TO BE COMPLETED IN INK Tuesday
TIME	REMARKS
8AM	D. Barron, Geer, Bolds, Hayes, Turner, Denton, Butler, Mahan, Thomas, Townsend-P/Day, Hobgood-Vac, Strickland, Tapp, Bell
6-2	Load-242 Cap-242 2D Mill on standby 502-,23 NOy-,23 Opacity-8% A.D.S. in service Precips out-2
6-1	Unit down for tube leak repair. Filling 6-1 boiler for hydro.
Slakers	Green   - 3 on. 25.3' / 26.0' (#25ilo) Green 2 - 2 on. 23.4' / 21.1' (#45ilo) Prep Bldg 1 on. 74.4% (#35ilo)
I.U.	Remains in service w/B Conveyors, A Drum, ash from #2 silo @ 184ph, #1 Smoot @ 1870, 18' in tanks
	G-2 Stack drain open. (6-1 Unit offline)
8:30A	Flyash silo levels #1) 42' #2) 481
9:25A	6-1 Drum pressure @ 1600psi. Notified Maint.
	OPER SUP'R
	1ST West
	2ND
	3BD

F155.12 R 1/93

SIGNED









LOG BOOK

A FEID	
GREEN	
□ COLEMAN	Į

□ WILSON

0	SHIFT	SUF	PERV	ISOF	3
0	CONT	ROL	OPE	RAT	OF
-	ALIVII	IADA	ODE	TOAT	0

AUXILIARY OPERATOR

UTILITY	<b>OPERATOR</b>

0	SCRI	JBBER	SHIFT	SI	JPER\	/ISOF

□ SCRUBBER OPERATOR

□ SCRUBBER AUXILIARY OPERATOR

□ SOLID WASTE OPERATOR

□ SCRUBBER UTILITY OPERATOR

	THIS FORM TO BE COMPLETED IN INK THE Sday
TIME	REMARKS -J
10:22A	Maintenance reports G-1 Boiler is dry. Notified N. Hankins.
	Setting up 6-1 Boiler for unit start up.
12:48P	Oil Fires established in G-1 Boiler for unit start up.
3,58P	G-1 tied on line. 1D Mill on. Precips in.
4:36P	13 Mill on. Continuing start up.
5;10P	10 Millon for 3 mill operation
6:00P	Oil fires out of G-1 boiler. Start up complete Load at 200 mw's Drum @ 1600 psi due to sillica, Notified Hotline of all things G-1 Start Up.

OPER	SUP'R
1ST	West
2ND	
3RD	
S	IGNED





### Your Touchstone Energy" Cooperative

### Boiler Tube Leak Record

Plant <u>Green</u> Unit <u>1</u>
Type of Leak: (Check One)
Pin Hole X Thick Lip Failure Crack Thin Lip Failure
Tube Wall Thinning X Other
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat ErosionX Internal Corrosion
External Corrosion <u>X</u> Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other
Type of Repair: (Check One)
Dutchman X (Length of Dutchman <u>see below</u> Pad Weld
Plug Tube Short Circuit Other





#### Your Touchstone Energy® Cooperative

## **Forced Outage Report**

Description of Repair:

Tube Size OD 2"	Wall Thickness <u>.1</u>	65" Tube Mater	ial <u>SA209T1A</u>
Welding procedure	GS-P1-1L for tube we	lds	
Welded By: Titan			

### Exact Location of Leak: Be Specific

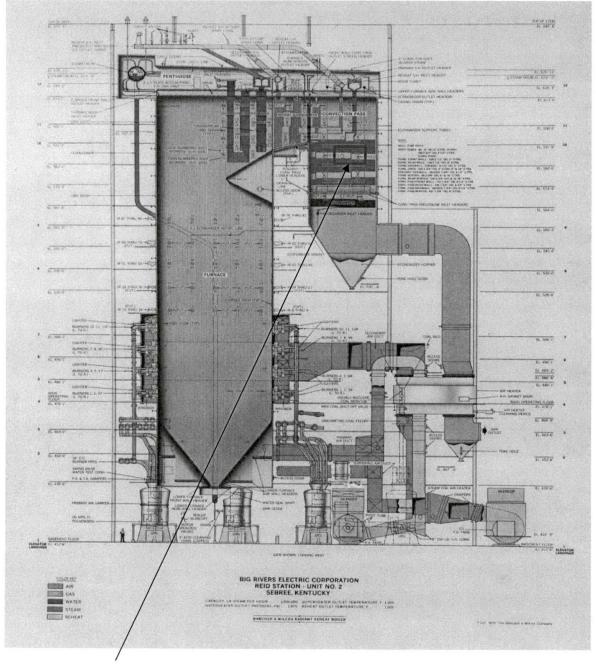
Titan installed five dutchman: Primary superheater top section bottom tube into the middle primary section 1<sup>st</sup> tube from east wall and middle primary top tube 2<sup>nd</sup> element. (1) One dutchman 6' 10" long, (2) one dutchman 5' 3" long, (3) one dutchman 27 1/2 "long, (4) one half loop, 15 1/4" long, (5) one half loop, 15 1/4" long





# Forced Outage Report GREEN STATION UNIT 1 (2) TUBES INVOLVED





Installed five dutchman: Primary superheater top section bottom tube into middle primary section 1<sup>st</sup> tube from East wall and middle primary top tube 2<sup>nd</sup> element (1) 6' 10" long, (2) 5' 3" long, one, (3) 27 1/2 "long, (4) 1 half loop, 15 1/4" long (5) 1 half loop, 15 1/4" long



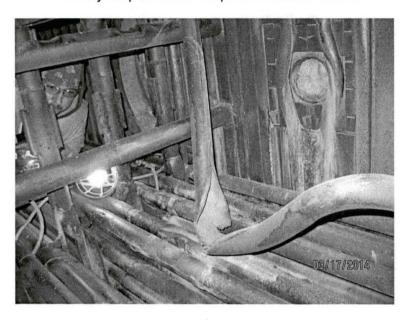


Your Touchstone Energy Cooperative

# Forced Outage Report

**Pictures** 





Middle Primary 2<sup>nd</sup> element top tube

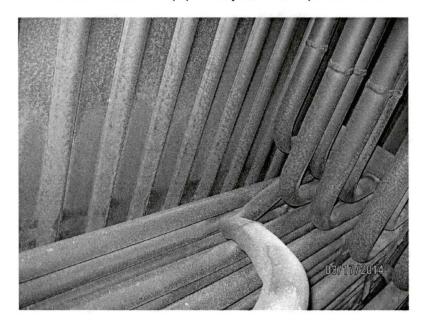








### Bottom Tube of top primary before replacement







#### Your Touchstone Energy Cooperative

# **Forced Outage Report**

**O&M Costs** 

Materials:

803

**Outside Labor** 

\$19,367

Total

\$20,170

### **Lost Sales Opportunity Report**

### **FORCED OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-14-06	Production Cost			
Date & Time Off Line	3/17/14 4:20	MW		\$/MW	
Date & Time On Line	3/18/14 15:58	91	\$	28.14	
Outage Duration	35 hr. 38 min.	199	\$	24.53	
Outage Code	UO2	235	\$	24.34	
Outage Reason	Repair superheater tube leak				

Date	DA LMP Average		RT LMP Average		DART P&L		Lost Opportunity	
3/17/14 (HE 4-24)	\$	47.44	\$	51.46	\$	(91,970)	\$	(36,104)
3/18/14 (HE 1-24)	\$	40.47	\$	42.15	\$	4,353	\$	(89,418)
3/19/14 (HE 1-2)	\$	24.99	\$	20.64	\$	133	\$	
Total					\$	(87,485)	\$	(125,522)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		13,006	DART P&L	\$	(87,485)
S/U Fuel Price	\$	3.13	Lost Opportunity	\$	(125,522)
S/U Fuel Cost	uel Cost \$ (40,675)	(40,675)	S/U Fuel Cost	\$	(40,675)
			Total	\$	(253,681)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



Your Touchstone Energy Cooperative

## Forced Outage Report

To: Jim Garrett

From: Perry Bowley

Date: 8-May-2014

Plant: Green

Unit: 1

GADS Class: UO1

#### **Duration**

Trip Time: 3-May-2014 23:59 Tie Time: 5-May-2014 22:06

Time Offline: 46:07

### **Outage Description**

Green Unit 1 tripped on low drum level due to a water wall tube leak. The leak was two tubes south of previously installed panels. This tube was weld overlaid with alloy 33.

#### **Root Cause**

The Green Unit 1 east water wall, south side, near sootblower IR 2, failed due to wall thinning before overlay.

### **Failure History**

There have been six water wall tube leaks since 2007:

- 21-Feb-2007 Offline 17 hours 50 minutes
- 3-Jun- 2007 Offline 66 hours 37 minutes
- 17-Dec-2008 Offline 18 hours 47 minutes
- 29-May-2010 Offline 19 hours 5 minutes
- 8-Nov-2012 Offline 65 hours 13 minutes
- 2-Dec-2013 Offline 23 hours 31 minutes





### Your Touchstone Energy Cooperative

### **Corrective Action**

Titan Contracting inspected the tubes around the leak area and installed a 72" dutchman.

### Other Work Completed While Unit Was Offline

Replaced #6 heater shell vent isolation valve at #4 Heater (DA)

Replaced Generator stator cooling water low pressure switch (Runback)

Replaced Generator stator cooling water differential switch (Runback)

Repacked #4 RCV shaft

Reseated reheat spray regulator

Inspected boiler tube shields-repaired 2 shields

Inspected recycle nozzles- were clean; all header cleanout plates were intact

Inspected demister panels, were in good condition, cleaned panels while down

2





Your Touchstone Energy Cooperative

Report Type Standard Report Number SOE Report Title STANDARD Recorder Number Triggered on.... 4-May-2014 23:59:32:757

Number of Event Records 267

			A STATE OF THE PARTY OF THE PAR		وأراع والمحاص والمطالب
Event Time	State	AID	Tag Name	Tag Description	SER Index
4-May-2014					
00:01:31:750	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014					
00:01:31:593	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014				HEATER 2 BS ISOL VALVE	
00:01:30:031	CLOSED	A	G122ANN407SOE	CLOSED	69
4-May-2014					
00:01:27:800	NORMAL		G122ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
4-May-2014					
00:01:27:339	ALARM	Α	G122ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
4-May-2014					
00:01:26:173	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014					
00:01:26:154	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014					
00:01:25:719	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014					
00:01:25:620	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014					
00:01:23:854	TRIPPD	Α	G133ANN344SOE	DRUM LEVEL TRIP<	139
4-May-2014		10.			
00:01:19:613	LOW	Α	G125ANN237SOE	DRUM LEVEL LOW<	46
4-May-2014					
00:01:18:526	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014		12			
00:01:18:495	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014				HEATER 4 BS ISOL VALVE	
00:01:09:580	CLOSED	Α	G122ANN405SOE	CLOSED	67
4-May-2014	41.4544		0400411140000		
00:01:07:953	ALARM	Α	G122ANN180SOE	HTR1 DC LVL HI-HI ISOLATION	30
4-May-2014	AL ADM	^	04004111400005	UTD 4 DO 1 / 1   0 D DD 4   10 D DVD	
00:01:04:287	ALARM	Α	G122ANN190SOE	HTR 1 DC LVL HI OR DRAINS BYP	36
4-May-2014	NODMAI		04004111400005	LITE CLIVILLI OR REALIZED DVD	40
00:01:00:893	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014 00:01:00:859	ALARM	Α	CARRANNAROCOE	LITE ALVILLI OR PRAINC BYD	40
4-May-2014	ALAKIVI	A	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
00:00:50:822	OK		G125ANN237SOE	DRUM LEVEL LOW<	46
4-May-2014	OK		G125ANN25750E	DROW LEVEL LOVV	40
00:00:46:067	LOW	Α	G125ANN237SOE	DRUM LEVEL LOW<	46
4-May-2014	LOVV	^	G125ANN25750E	DROW LEVEL LOVV	40
00:00:45:062	OK		G125ANN237SOE	DRUM LEVEL LOW<	46
4-May-2014	OIL		0120AN120100L	TURB OIL PUMP SUCTION PRS	40
00:00:33:268	OK		G140ANN110SOE	LOW	6
4-May-2014			C. TOTAL TITLOUGE	-511	J
00:00:32:789	RESET		G133ANN344SOE	DRUM LEVEL TRIP<	139
		^			
4-May-2014	RUNG	Α	G148ANN130SOE	TURB LO MTR SUCT PMP	11
			3		



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00:00:32:451				STATUS	
4-May-2014				TURB OIL PUMP SUCTION PRS	
00:00:28:414	LOW	Α	G140ANN110SOE	LOW	6
4-May-2014					
00:00:17:100	LOW	Α	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
4-May-2014					
00:00:06:145	ALARM	Α	G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
4-May-2014					
00:00:06:050	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
4-May-2014	AL ADM	^	C1224NN190COE	LITE OLIVILLII OR PRAINC BYE	
00:00:06:015 4-May-2014	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP HEATER 5 BS ISOL VALVE	49
00:00:05:944	CLOSED	Α	G125ANN404SOE	CLOSED	66
4-May-2014	OLOGED	,,	0120/1111404002	EMGNCY FURN PRS CNTRLR	00
00:00:00:570	NORMAL		G132ANN288SOE	OPER	122
3-May-2014					
23:59:58:253	NORMAL		G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
3-May-2014					
23:59:57:860	ALARM	Α	G122ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
3-May-2014 23:59:57:401	RUNNG	۸	C140TCOPPLINGOE	TUDN CEAR OIL DMD DUNNING	91
3-May-2014	KUNNG	Α	G140TGOPRUNSOE	TURN GEAR OIL PMP RUNNING<	9
23:59:56:922	RUNG	Α	G141ANN172SOE	EMGNCY BRNG OIL PMP STATUS	105
3-May-2014	110110		0141/41/1/2002	B MILL RATING DAMPER	100
23:59:52:570	CLOSED	Α	G132ANN329SOE	CLOSED<	249
3-May-2014					
23:59:45:791	NORMAL		G132ANN286SOE	FURNACE VACUUM HIGH<	246
3-May-2014					
23:59:44:789	HIGH	Α	G132ANN286SOE	FURNACE VACUUM HIGH<	246
3-May-2014 23:59:42:341	TRIPPD	Α	G150ANN070SOE	GEN EXCITER FLD BKR AUTO TRIP	3
3-May-2014	IKIFFD	^	G130ANN07030E	INF	,
23:59:41:598	RESET		G140MSVNOLOADSOE	MSV #2 NO LOAD TRIP<	233
3-May-2014					
23:59:41:597	RESET		G140CVNOLOADSOE	CV #1 NO LOAD TRIP<	234
3-May-2014					
23:59:41:462	CLOSED		G1031T1TIESTSSOE	G1 A BUS 1T1 TIE STATUS	188
3-May-2014	DECET		CACCAMATER	O4 A MAIN TRIP	407
23:59:41:342 3-May-2014	RESET		G103AMNTRPSOE	G1 A MAIN TRIP	125
23:59:41:340	CLOSED		G1031T2TIESTSSOE	G1 B BUS 1T2 TIE STATUS	203
3-May-2014	OLOGED		0100112112010002	01 B B 00 112 112 01/1100	
23:59:41:335	RESET		G103BMNTRPSOE	G1 B MAIN TRIP	129
3-May-2014					
23:59:41:323	OPENED		G103AMNSTSSOE	G1 A MAIN STATUS	126
3-May-2014				0	404
23:59:41:315	OPENED		G103BMNSTSSOE	G1 B MAIN STATUS	130
3-May-2014 23:59:41:286	RESET		G150ANN425SOE	GENERATOR DIFF RLY (87G) TRIP	81
3-May-2014	RESET		G150ANN42550E	IKIP	0
23:59:41:285	RESET		G150ANN440SOE	GEN TRP ON REVERSE POWER	86
3-May-2014					
23:59:41:281	TRIPPD	Α	G103AMNTRPSOE	G1 A MAIN TRIP	125
3-May-2014					
23:59:41:281	TRIPPD	Α	G103BMNTRPSOE	G1 B MAIN TRIP	129
3-May-2014	TOLOGO	^	CAFOANINGERCOF	CENEDATOR RELAY 9604 TRIP	
23:59:41:278 3-May-2014	TRIPPD	Α	G150ANN058SOE	GENERATOR RELAY 86G1 TRIP	4
23:59:41:272	TRIPPD	Α	G150ANN440SOE	GEN TRP ON REVERSE POWER	86
3-May-2014				GENERATOR DIFF RLY (87G)	30
23:59:41:272	TRIPPD	Α	G150ANN425SOE	TRIP	81
3-May-2014					
23:59:36:276	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
3-May-2014	TRIPPD	Α	G133ANN344SOF	DRUM I EVEL TRIP<	139



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23:59:35:964 3-May-2014 23:59:34:103 TRIPPD Α G133BLRTR2TRBSOE **BOILER TRIP TO TCS<** 229 3-May-2014 23:59:33:603 TRIPPD A G140MSVNOLOADSOE MSV #2 NO LOAD TRIP< 233 3-May-2014 23:59:33:602 TRIPPD A G140CVNOLOADSOE CV #1 NO LOAD TRIP< 234 3-May-2014 23:59:33:521 TRIPPD A H132ANN464SOE AIR FLW MSTR TRP TO MAN< 137 3-May-2014 HEATER 6 BS ISOL VALVE 23:59:33:264 CLOSED G125ANN403SOE A CLOSED 65 3-May-2014 EMGNCY FURN PRS CNTRLR 23:59:33:019 **ACTIVE** G132ANN288SOE A **OPER** 122 3-May-2014 23:59:32:851 TRIPPD G140ANN158SOE A TURBINE TRIP 41 3-May-2014 23:59:32:841 **OPENED** G103BPULVSTSSOE 1B PULVERIZER STATUS 170 3-May-2014 23:59:32:814 **OPENED** G103APASTSSOE 1A PA FAN STATUS 212 3-May-2014 23:59:32:807 **OPENED** G103BPASTSSOE 1B PA FAN STATUS 226 3-May-2014 23:59:32:757 TRIPPD Α G133ANN319SOE MASTER FUEL TRIP 78 3-May-2014 23:59:32:210 RESET G133ANN344SOE DRUM LEVEL TRIP< 139 3-May-2014 23:59:26:512 **NORMAL** G125ANN186SOE HTR 5 LVL HI OR DRAINS BYP 93 3-May-2014 23:59:21:805 NORMAL G122ANN190SOE HTR 1 DC LVL HI OR DRAINS BYP 36 3-May-2014 D MILL RATING DAMPER 23:59:20:960 CLOSED A G133ANN349SOE CLOSED< 117 3-May-2014 FURNACE PRESSURE HIGH< 23:59:17:741 HIGH A G132ANN285SOE 62 3-May-2014 23:59:17:332 **ALARM** A G125ANN186SOE HTR 5 LVL HI OR DRAINS BYP 93 3-May-2014 23:59:11:684 TRIPPD A G133ANN344SOE DRUM LEVEL TRIP< 139 3-May-2014 23:59:08:723 FUEL MSTR TRP TO MAN< TRIPPD A H133ANN463SOE 135 3-May-2014 23:59:05:218 **NORMAL** G132ANN285SOE FURNACE PRESSURE HIGH< 62 3-May-2014 A MILL RATING DAMPER 23:59:02:226 CLOSED G132ANN328SOE CLOSED< A 94 3-May-2014 23:58:59:527 **OPENED** G103DPULVSTSSOE 1D PULVERIER STATUS 201 3-May-2014 23:58:52:922 LOW G125ANN237SOE DRUM LEVEL LOW< 46 3-May-2014 23:58:51:443 TRIPPD H133ANN465SOE BLR MSTR TRP TO MAN< 138 3-May-2014 23:58:46:682 NORMAL G132ANN284SOE SEC AIR DUCT PRESSURE HIGH< 61 3-May-2014 23:58:41:812 **OPENED** G103APULVSTSSOE 1A PULVERIZER STATUS 157 3-May-2014 23:58:33:909 HIGH G132ANN285SOE FURNACE PRESSURE HIGH< 62 3-May-2014 23:58:32:156 HIGH G132ANN284SOE SEC AIR DUCT PRESSURE HIGH< 61 3-May-2014 23:55:19:036 NORMAL G132ANN284SOE SEC AIR DUCT PRESSURE HIGH< 61 3-May-2014 23:55:18:534 HIGH SEC AIR DUCT PRESSURE HIGH< G132ANN284SOE 61 3-May-2014 C MILL RATING DAMPER 23:39:21:143 G133ANN339SOE CLOSED A CLOSED< 132 3-May-2014 NCLSD G133ANN339SOE C MILL RATING DAMPER 132



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23:39:20:136				CLOSED<	
3-May-2014					
23:11:48:777	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
3-May-2014					•
23:11:47:776	HIGH	Α	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
3-May-2014				C MILL RATING DAMPER	
23:05:56:769	CLOSED	Α	G133ANN339SOE	CLOSED<	132
3-May-2014				C MILL RATING DAMPER	
23:05:55:761	NCLSD		G133ANN339SOE	CLOSED<	132
3-May-2014					
22:35:54:395	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
3-May-2014					
22:35:53:392	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
3-May-2014				C MILL RATING DAMPER	
22:31:57:853	CLOSED	Α	G133ANN339SOE	CLOSED<	132
3-May-2014				C MILL RATING DAMPER	
22:31:56:596	NCLSD		G133ANN339SOE	CLOSED<	132



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		oca oatage	· ·cpc						
5/3/2014	1200AM	UNITS	LOAD	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS 1C ON	PRECIPS OUT
		G-1	248	250	0.358	0.153	4.1	S/B	3
		G-2	240	242	0.14	0.259	7.1	2D ON S/B	2
		UNDERFLOWS	ON/OFF	GPM	SOLIDS	TORQUE	BED LEVEL		
		1A	ON		29.6	0	6' 11"		
		1B	OFF			4	6' 9"		
		2A	ON		34.4	0	6' 11"		
		2B	OFF		31.2	0	6' 9"		
		Both stack drains OK							
					TANK				
		<b>SLAKERS</b>	IN/OUT	# ON	<b>LEVELS</b>	SILO			
		G-1	IN	3	23/21	1			
		G-2	IN	3	23/24	4			
		PREP	OUT	2	86	3			
		<u>ı.u.</u>	CONV.	DRUMS	F/A SILO	F/A TONS	SMOOT	SMT. RATE	SLG. TANKS
		IN	В	A&B	2	28	1	30	18
	500444	UNDERFLOWE	011/055	6014	cours	TOROUS	BED		
	500AM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	LEVEL		
		1A	OFF		22.2	0	6' 11" 6' 9"		
		1B 2A	ON OFF		33.2	4 0	6' 11"		
		2B	ON		30	0	6' 9"		
5/3/2014	8AM	D. BARRON, GEER,TURNE		MAHAN L					
3/3/2014	DALE G.	THOMAS, TOWNSEND, H							
	C SHIFT	<u>UNITS</u>	LOAD	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS 1C ON	PRECIPS OUT
		G-1	249	250	0.229	0.173	4.4	S/B	3





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	G-2	240	242	0.135	0.248	7.6	2D ON S/B	2
	UNDERFLOWS  1A  1B  2A  2B	ON/OFF OFF OFF OFF	<u>GPM</u>	SOLIDS	TORQUE 0 4 0 0	BED LEVEL 6' 10" 6' 9" 6' 10" 6' 9"		
	Both stack drains OK							
	SLAKERS G-1 G-2 PREP	IN/OUT IN IN IN	# ON 4 2 3	TANK LEVELS 25/24 24/24 87	SILO 1 4 3			
	<u>I.U.</u> IN	CONV.	DRUMS B	F/A SILO 2	<u>F/A</u> <u>TONS</u> 25	SMOOT 1	SMT. RATE	<u>SLG.</u> <u>TANKS</u> 18'
	F/A SILOS #1 F/A SILO #2 F/A SILO	48 29	3.5 1.5	2.5 0.5	<b>SILO</b> 0 0	<b>SAFETY</b> 0 0		
8AM	HAVING JOB BRIEFING							
12noon	UNDERFLOWS  1A  1B  2A  2B	ON/OFF ON OFF ON OFF	<b>GPM</b> 63 82	SOLIDS 1.166 30	TORQUE 0 4 0 0	BED LEVEL 6' 10" 6' 9" 6' 10" 6' 9"		
1:00								

P.M. MAINTENANCE REPAIRING OIL LEAK ON G-1 "B" MILL. CLEANING UP OIL AROUND MILL.

G-2 COOLING TOWER OPENED UP ON ( A,B,C ) CELLS ON BOTH SIDES AND CLOSED (H) CELL TO THREE 2:00



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P.M.

INCHES OF WATER ON FLOOR (EAST) SIDE

4:00 P.M.	UNDERFLOWS	ON/OFF	GPM	SOLIDS	TORQUE	BED LEVEL
	1A	ON	63	1.153	0	6' 10"
	1B	OFF			4	6' 9"
	2A	ON	82	30.4	0	6' 10"
	2B	OFF			0	6' 9"
	× .					
4:00						
P.M.	LIME SILO'S					
	#1	65/48				
	#2	16/18				
	#3	14/4				
	#4	40/26				
	DIGITAL	28'6"				

.014

8PM

DONITHAN-VAC, FARLEY, BACHMAN, WHITLEDGE, HOOVER, TRAVIS, LOVAN, TAPP, T. PARKER

SHELTON-S/L ERIC S.

J. BARRON FOR U/O, J.POILES FOR C/O

**B SHIFT** 

F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>
#1 F/A SILO	44	3	2	0	0
#2 F/A SILO	38	2	1	0	0

					BED
UNDERFLOWS	ON/OFF	<b>GPM</b>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>
1A	OFF			0	6' 11"
1B	OFF			4	6' 10"
2A	OFF		29.8	0	6' 11"
2B	OFF			0	6' 9"

11:59PM G-1 BOILER TRIPPED DUE TO A WATER WALL TUBE LEAK, BOILER TRIPPED ON LOW DRUM LEVEL. TUBE LEAK ON WATERWALL, EAST SIDE MID BOILER JUST ABOVE 7TH FLOOR NOTE

5/4/2014	1200AM OFF LINE	<u>UNITS</u> G-1	LOAD 0	<u>CAP.</u> 250	<u><b>SO2</b></u> 0	<u>NOX</u> 0	OPACITY 0	<u>MILLS</u>	PRECIPS OUT 3
		G-2	240	242	0.14	0.259	7.1	2D ON	2



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S/B

LINDEDEL OWS	ON/OFF	CDM	COLIDS	TOROUE	BED
<u>UNDERFLOWS</u>	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	<b>LEVEL</b>
1A	OFF			0	6' 11"
1B	OFF			4	6' 9"
2A	OFF		29.2	0	6' 11"
2B	OFF			0	6' 9"

Both stack drains OK

<b>SLAKERS</b>	IN/OUT	# ON	<b>LEVELS</b>	SILO
G-1	OUT	0	22/23	1
G-2	IN	2	22/24	4
PREP	OUT	2	89	3

				F/A		SMT.	SLG.	
<u>I.U.</u>	CONV.	<b>DRUMS</b>	F/A SILO	TONS	<b>SMOOT</b>	RATE	<b>TANKS</b>	
IN	В	A&B	1	20	2	30	10	

12:15AM CALLED HOTLINE

1:30AM IU DOWN 8'

1:40AM CALLED EXPRO AND WAITING ON A CALL BACK

2:00AM G-1 #5 HEATER ISOLATED

2:04AM EXPRO CALLED BACK AND HEADED THIS WAY

3:00AM G-1 MILLS SWIRLED OUT

						BED
5:00AM	<u>UNDERFLOWS</u>	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	<b>TORQUE</b>	<b>LEVEL</b>
	1A	OFF			0	6' 11"
	1B	OFF		32.6	4	6' 9"
	2A	OFF		31.4	0	6' 11"
	2B	ON		33	10	6' 9"

6:40AM EXPRO CALLED OFF, BUT WILL BE IN HOTEL ON HOT STAND-BY IN HENDERSON



#### Your Touchstone Energy® Cooperative

### **Boiler Tube Leak Record**

Pin Hole Thick Lip Failure Crack Thin Lip Failure  Tube Wall thinningX Other  Orientation of Rupture: (Check One)  LongitudinalX Circumferential  Probable Cause: (Check One)  Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay	Plant: <u>Green</u>	Unit:1
Tube Wall thinningXOther  Orientation of Rupture: (Check One)  LongitudinalXCircumferential  Probable Cause: (Check One)  StressOverheatErosionInternal Corrosion  External CorrosionWeld Failure(ShopField)  Internal Obstruction to FlowSootblower Erosion  OtherTube thinning before weld overlay  Type of Repair: (Check One)	Type of Leak: (Check One)	
Orientation of Rupture: (Check One)  LongitudinalX Circumferential  Probable Cause: (Check One)  Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)	Pin Hole Thick Lip Failure Crack	c Thin Lip Failure
Probable Cause: (Check One)  Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)	Tube Wall thinning X Other	·
Probable Cause: (Check One)  Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)		
Probable Cause: (Check One)  Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)	Orientation of Rupture: (Check One)	
Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)	Longitudinal X Circumferential	
Stress Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)		
External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other Tube thinning before weld overlay  Type of Repair: (Check One)	Probable Cause: (Check One)	
Internal Obstruction to Flow Sootblower Erosion Other Tube thinning before weld overlay  Type of Repair: (Check One)	Stress Overheat Erosion	Internal Corrosion
Other Tube thinning before weld overlay  Type of Repair: (Check One)	External Corrosion Weld Failure	_ (Shop Field)
Dutchman X (Length of Dutchman 72 ) Pad Weid	Type of Repair: (Check One)	) Dod Wold
Plug Tube Short Circuit Other		) Pad Weid





Your Touchstone Energy Cooperative

# Forced Outage Report

## **Description of Repair:**

Tube Size OD 2 ½"	_ Wall Thickness _	.203	_Tube Material _	SA 210A1
Welding procedure	GS-P1-1L			

Welded By: \_\_\_\_\_\_Titan

**Exact Location of Leak: Be Specific** 

East water wall, south side, near soot blower IR 2 at approximate elevation 516'



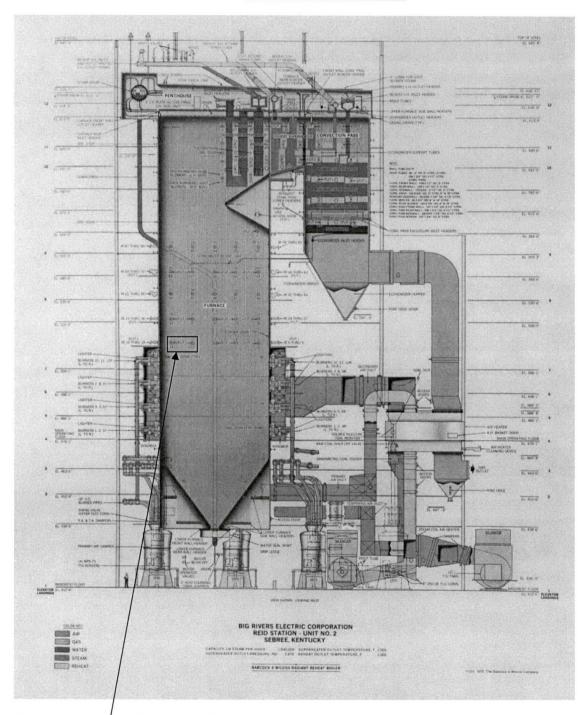


Your Touchstone Energy" Cooperative

# Forced Outage Report

### **GREEN STATION UNIT 1**

### (1) TUBE INVOLVED



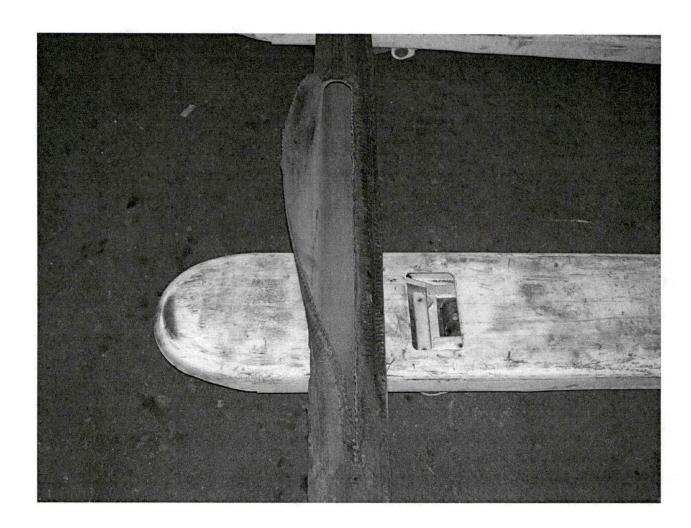
East Wall South Side near IR #2 - appx. Elev. 516' - Installed 72" dutchman





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Failed Water wall tube







#### Your Touchstone Energy\* Cooperative

# **Forced Outage Report**

### **Estimated Outage Cost**

**Material Cost** 

\$2,914

**Outside Labor Cost** 

\$19,293

Total Non-Labor O&M

\$22,207





**Lost Sales Opportunity Report** 

#### Your Touchstone Energy\* Cooperative

·						OST ANA				
	MISO	DART R	eve	enue and l	LC	ST OPPOR	TUN	NITY		¥ .
Unit		Green 1 -	G1-	14-08				Product	ion Co	st
Date & Time Off Line		5/3/14	23:	59				MW	\$/MW	
Date & Time On Line		5/5/14 22:06						163	\$	28.26
Outage Duration		46 hr.	7 mi	n.				199	\$	27.47
Outage Code		UO1						235	\$	27.25
Outage Reason	Unit tr	ipped on low waterwall		m level due to leak.						
Date	DA LM	IP Average	RT	LMP Average		DART P&L	Ор	Lost portunity		
5/4/14 (HE 1-24)	\$	33.93	\$	27.83	\$	(3,218)	\$	-		
5/5/14 (HE 1-24)	\$	38.14	\$	36.63	\$	(1,841)	\$	(52,467)		
5/6/14 (HE 1-18)	\$	39.54	\$	29.52	\$	(5,031)	\$	-		
Total					\$	(10,090)	\$	(52,467)		
Start Up Fu	el Cost							Total Forced	Outag	ge Cost
S/U Fuel Consumed		11,217					D	ART P&L	\$	(10,090
S/U Fuel Price	\$	3.20					Lost	Opportunity	\$	(52,467
S/U Fuel Cost	\$	(35,948)					S/L	J Fuel Cost	\$	(35,948
								Total	\$	(98,505
NOTES:		f li-t								
All negative values are mo DART Revenue is calculate						IDT				





To:

Jim Garrett

From: Perry Bowley

Date: 18-Sep-2014

Plant: Green

Unit: 2

GADS Class: UO1

Duration

Trip Time 23-May-2014 21:32

Tie Time: 24-May-2014

05:58

Time Offline: 08:26

### **Outage Description**

Green Unit 2 tripped off line on Friday, 23-May-2014 at 21:32 due to failure of the internal diaphragm plate on #6 feed water heater while being pressure tested by maintenance technicians.

### **Root Cause**

Maintenance technicians were pressure testing the #6 feed water heater internal diaphragm plate when it failed resulting in a boiler upset causing the unit to trip off line.

### **Failure History**

In the period from 2007 – 2014 there have been no similar failures documented.

### **Corrective Action**

The unit was returned to service with no other issues





Your Touchstone Energy Cooperative

# **Forced Outage Report**

Other Work Completed While Unit Was Offline

None



2



#### Your Touchstone Energy Cooperative

### **Forced Outage Report SOE Print Out**

Report Type

Standard

Report Number

Report Title

SOE STANDARD

Recorder Number

Triggered on....

23-May-2014 21:33:35:763

Number of Event Records

229

	Timber of Ziem Heevins	20 20 2				
	Event Time	State	AID	Tag Name	Tag Description	SER Index
	23-May-2014 21:35:21:890	ALARM	Α	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:35:17:635	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:35:17:532	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:35:17:488	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:35:14:015	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:35:08:829	NORMAL	100	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:35:08:575	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:35:04:136	NORMAL	5. 5.	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:35:03:753	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:53:252	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:34:51:893	NORMAL		G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:51:606	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:49:383	NORMAL	, ,	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:34:49:266	ALARM	A	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:34:49:255	NORMAL	^	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:34:49:102	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:34:49:079	ALARM	A	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:34:39:234		^			115
		NORMAL	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	
	23-May-2014 21:34:39:075	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:30:667	NORMAL		G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:30:467	ALARM	Α	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:21:705	NORMAL		G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:21:649	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:13:288	NORMAL		G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:34:13:182	ALARM	A	G222ANN188SOE	HTR 3 LVL HI OR DRAINS BYP	115
	23-May-2014 21:33:56:492	TRIPPD	Α		DRUM LEVEL TRIP<	138
	23-May-2014 21:33:49:494	HIGH	A	G225ANN227SOE	DRUM LEVEL HIGH<	45
	23-May-2014 21:33:35:790	LOW	A	G222ANN235SOE	CONDENSER HOTWELL LEVEL LOW<	114
>>	23-May-2014 21:33:35:763	TRIPPD	A	G233ANN319SOE	MASTER FUEL TRIP	78
	23-May-2014 21:33:35:763	OK		G256ANN304SOE	REHEAT OUTLET TEMP HIGH<	7.1
	23-May-2014 21:33:35:763	HIGH	A	G255ANN303SOE	MAIN STEAM PRESSURE HIGH<	70
	23-May-2014 21:33:35:763	CLOSED		G222ANN406SOE	HEATER 3 BS ISOL VALVE CLOSED	68
	23-May-2014 21:33:35:763	CLOSED		G222ANN405SOE	HEATER 4 BS ISOL VALVE CLOSED	67
	23-May-2014 21:33:35:763	CLOSED		G225ANN403SOE	HEATER 6 BS ISOL VALVE CLOSED	65
	23-May-2014 21:33:31:995	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:30:141	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:29:989	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:29:812	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:29:643	OK		G222ANN235SOE	CONDENSER HOTWELL LEVEL LOW<	114
	23-May-2014 21:33:29:364	LOW	A	G222ANN235SOE	CONDENSER HOTWELL LEVEL LOW<	114
	23-May-2014 21:33:29:314	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:28:648	NORMAL		G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:28:557	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:28:540	ALARM	A	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:28:280	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:28:255	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:27:973	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:21:178	NORMAL		G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:20:992	ALARM	A	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:20:473	NORMAL		G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:20:456	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:20:439	ALARM	A	G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
	23-May-2014 21:33:20:152	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:15:963	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:15:726	ALARM	A	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
	23-May-2014 21:33:15:554	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29



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23-May-2014 21:33:15:389	ALARM	Α	G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
23-May-2014 21:33:14:254	NORMAL		G222ANN179SOE	HTR 2 LVL HI-HI BS-ISOL	29
23-May-2014 21:33:14:201	NORMAL		G225ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
23-May-2014 21:33:14:093	ALARM	A		HTR 5 LVL HI OR DRAINS BYP	93
이번 얼마 집에 가게 빠지지는 것이 있는 것이 없어 없어졌다면 나이어서 있다면 맛이다.					
23-May-2014 21:33:14:091	ALARM	A		HTR 2 LVL HI-HI BS-ISOL	29
23-May-2014 21:33:13:967	ALARM	A	G222ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
23-May-2014 21:32:48:759	TRIPPD	A	G202ANN056SOE	161 KV OCB 0116 AUTO TRIP	218
23-May-2014 21:32:48:759	TRIPPD	A	G202ANN057SOE	161 KV OCB 0100 AUTO TRP	217
23-May-2014 21:32:48:759	RESET		G233DRMLVLTRPSC		138
Control to the Control of the Contro					
23-May-2014 21:32:48:758	OK			DRUM LEVEL LOW<	46
23-May-2014 21:32:48:757	TRIPPD	Α	G250ANN070SOE	GEN EXCITER FLD BKR AUTO TRIP	3
23-May-2014 21:32:48:757	TRIPPD	A	G250ANN058SOE	GENERATOR RELAY 86G1 TRIP	2
23-May-2014 21:32:23:541	HIGH	A	G232ANN286SOE	FURNACE VACUUM HIGH<	246
23-May-2014 21:32:15:153	NORMAL		G232ANN286SOE		
				FURNACE VACUUM HIGH<	246
23-May-2014 21:32:12:755	CLOSED			G2 B BUS 2T2 TIE STATUS	203
23-May-2014 21:32:12:755	CLOSED		G2032T1TIESTSSOE	G2 A BUS 2T1 TIE STATUS	188
23-May-2014 21:32:12:754	TRIPPD	A	G233DRMLVLTRPSC	DRUM LEVEL TRIP<	138
23-May-2014 21:32:12:754	OPENED		G203BMNSTSSOE	G2 B MAIN STATUS	130
23-May-2014 21:32:12:754	RESET		G243ANN446SOE		148
				HYDR FLUID LOW PRS TRP<	
23-May-2014 21:32:12:754	OPENED		G203AMNSTSSOE	G2 A MAIN STATUS	126
23-May-2014 21:32:12:754	CLOSED	A	G233ANN349SOE	D MILL RATING DAMPER CLOSED<	117
23-May-2014 21:32:12:754	CLOSED	A	G232ANN328SOE	A MILL RATING DAMPER CLOSED<	94
23-May-2014 21:32:12:753	OK		G243ANN153SOE	EHC FLUID PRESSURE LOW	19
23-May-2014 21:32:12:753		^			
(TREE CENTRE # 400.00 NO. 12 UPS TO THE CENTRE IN THE CEN	LOW	A	G225ANN237SOE	DRUM LEVEL LOW<	46
23-May-2014 21:32:12:753	TRIPPD	Α	G240ANN158SOE	TURBINE TRIP	41
23-May-2014 21:31:47:286	TRIPPD	A	G243ANN446SOE	HYDR FLUID LOW PRS TRP<	148
23-May-2014 21:31:44:731	LOW	A	G243ANN153SOE	EHC FLUID PRESSURE LOW	19
23-May-2014 21:31:44:209	OK		G255ANN258SOE	COLD RH DRIP POT 2 LVL HI-HI	245
	HIHI	۸			245
23-May-2014 21:31:44:173		Α	G255ANN258SOE	COLD RH DRIP POT 2 LVL HI-HI	
23-May-2014 21:31:43:886	RUNG		G241ANN192SOE	BEARING OIL PUMP STATUS	179
23-May-2014 21:31:43:708	RUNG	A	G241ANN172SOE	EMGNCY BRNG OIL PMP STATUS	105
23-May-2014 21:31:43:534	TROUBL	A	G243ANN174SOE	EMERGENCY TRIP SYSTEM TROUBLE<	50
23-May-2014 21:31:43:437	OK		G255ANN258SOE	COLD RH DRIP POT 2 LVL HI-HI	245
23-May-2014 21:31:43:370	NORMAL		G222ANN189SOE	HTR 2 LVL HI OR DRAINS BYP	49
		۸			
23-May-2014 21:31:43:363	HIHI	Α	G255ANN258SOE	COLD RH DRIP POT 2 LVL HI-HI	245
23-May-2014 21:31:43:339	OK		G255ANN258SOE	COLD RH DRIP POT 2 LVL HI-HI	245
23-May-2014 21:31:43:288	CLOSED	Α	G240ANN441SOE	ALL GOV VALVES CLOSED	103
23-May-2014 21:31:43:238	OK		G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:43:012	NORMAL		G232ANN330SOE	CCS PS A OR B FAILURE<	145
23-May-2014 21:31:42:977	OPENED		G203APASTSSOE	2A PA FAN STATUS	212
23-May-2014 21:31:42:969	OPENED		G203BPASTSSOE	2B PA FAN STATUS	226
23-May-2014 21:31:42:909	HIHI	A	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:42:859	OK		G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:42:617	HIHI	A	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:42:599	OK		G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
		^			
23-May-2014 21:31:42:576	HIHI	A	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:42:520	OK		G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:42:335	HIHI	A	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 21:31:41:606	HIGH	A	G232ANN286SOE	FURNACE VACUUM HIGH<	246
23-May-2014 21:31:40:248	OPENED			2A PULVERIZER STATUS	157
23-May-2014 21:31:40:248	ALARM	Α	G232ANN330SOE	CCS PS A OR B FAILURE<	145
		^			
23-May-2014 21:31:39:288	NORMAL		G232ANN325SOE	ELECTRIC DRIVE POWER FAILURE<	247
23-May-2014 21:31:38:808	TRIPPD	A	G233ANN465SOE	BLR MSTR TRP TO MAN<	137
23-May-2014 21:31:38:482	CLOSED	A	G232ANN329SOE	B MILL RATING DAMPER CLOSED<	249
23-May-2014 21:31:38:128	<b>OPENED</b>		G203DPULVSTSSOE	2D PULVERIZER STATUS	201
23-May-2014 21:31:37:246	OPENED			2C PULVERIZER STATUS	186
		۸			
23-May-2014 21:31:37:062	TRIPPD	A	G233ANN463SOE	FUEL MSTR TRP TO MAN<	86
23-May-2014 21:31:36:713	TRIPPD	Α	G232ANN464SOE	AIR FLW MSTR TRP TO MAN<	135
23-May-2014 21:31:36:024	NCLSD		G232ANN329SOE	B MILL RATING DAMPER CLOSED<	249
23-May-2014 21:31:35:659	ALARM	A	G232ANN325SOE	ELECTRIC DRIVE POWER FAILURE<	247
23-May-2014 21:31:35:476	OPENED		G203BACSTSSOE	2B AIR COMPRESSOR STATUS	189
23-May-2014 21:31:35:169	OK		G205ANN141SOE	VITAL POWER PANEL TROUBLE	12
		^			
23-May-2014 21:31:34:891	TROUBL	H	G205ANN141SOE	VITAL POWER PANEL TROUBLE	12
23-May-2014 21:31:34:847	NORMAL		G225ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
23-May-2014 21:31:34:747	ALARM	A	G225ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
23-May-2014 21:31:34:679	NORMAL		G225ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
23-May-2014 21:31:34:577	ALARM	Α	G225ANN175SOE	HTR 6 LVL HI-HI BS-ISOL	25
23-May-2014 20:18:27:765	OK	. ,	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	
		^			54
23-May-2014 20:18:27:728	HIHI	A	G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54
23-May-2014 20:11:36:739	OK		G255ANN257SOE	COLD RH DRIP POT 1 LVL HI-HI	54



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## Forced Outage Report

### **Operators Event Log**

5/23/2014

8PM TIM W.

D SHIFT

BEAVEN, REED, RITTMEYER, LAWRENCE, HOPKINS, BERRY, BELL, RIGDON, GORRELL, DUVA REED S/L, W. HUST STAYING TILL MN, J.POILES 12A-8A, BERRY VAC, T.PARKER HERE

	<u>UNITS</u> G-1	LOAD 251	<u>CAP.</u> 250	<u><b>SO2</b></u> 0.14	<u>NOX</u> 0.17	OPACITY 8.40%	MILLS C=R/T	PREC OU 3
	G-2	220	242	0.116	0.255	10.90%	B=S/B	2
				TANK				
8PM	<b>SLAKERS</b>	IN/OUT	# ON	<b>LEVELS</b>	SILO			
	G-1	IN	3	21.5/24.1	2			
	G-2	IN	3	22.6/23.1	4			
	PREP	IN	2	82.30%	3			
					F/A		CNAT	CI C
8PM	<u>ı.u.</u>	CONV.	DRUMS	F/A SILO	<u>F/A</u> TONS	<u>SMOOT</u>	SMT. RATE	<u>SLG</u> TAN
01 141	IN	A	C	1	21	1	15	21
		-	C	-	21	-	13	21
8PM	F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>		
	#1 F/A SILO	40	2	1.5	0	0		
	#2 F/A SILO	40	1	0	0	0		
						BED		
8PM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	<b>LEVEL</b>		
	1A	OFF			0	6' 10"		
	1B	ON	217	34.1	2	6' 9"		
	2A	ON	78	34.2	0	6'9"		
	2B	ON	169	33.4	12	6'8"		
	STACK DRAINS							
	G-1	OPEN						
	G-2	OPEN						

9:32PM G-2 TRIPPED OFF DUE TO TRYING TO PRESSURIZE HEATER FOR MAINT. TO FIND LEAK TO REPAIR. HEATER BLEW DIAPHRAM OUT THE END, HEAD WENT THRU WALL. UPSET THE BOILER WHICH WE HAD FLAME OUT TRIP.





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## Forced Outage Report

11:53PM CALLED HOTLINE

5/24/2014 12:00AM UNDERFLOW RUN TIMES

1A 15HRS.

1B 13HRS. 30MIN.

2A 12HRS. 30MIN.

2B 19HRS.

**IU RUN** 24HRS.

						<u>BED</u>
1:00AM	UNDERFLOWS	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	TORQUE	<b>LEVEL</b>
	1A	ON	65	33.9	0	6'9"
	1B	OFF			2	6' 9"
	2A	OFF			0	6'9"
	2B	ON	145	34.4	12	6'8"

G-2 ESTABLISHED OIL FIRES IN BOILER, CALLED HOTLINE

**FIXATION** 

4:55AM LIME 23'

						BED
5:00AM	<b>UNDERFLOWS</b>	ON/OFF	<b>GPM</b>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>
	1A	OFF			0	6'9"
	1B	ON	221	34.3	2	6' 9"
	2A	OFF			0	6'9"
	2B	ON	178	33.9	8	6'8"
	PH'S	1A	1B	2A	2B	
		6.78	6.69	6.7	6.95	

5:58AM G-2 TIED ON LINE "B" MILL ON

6:05AM PRECIPS IN SERVICE

6:29AM CALLED HOTLINE

6:36AM 2D MILL ON





**Estimated Outage Costs** 

None



### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 2 - G2-14-03	Production Cost					
Date & Time Off Line	5/23/14 21:32	MW		\$/MW			
Date & Time On Line	5/24/14 5:58	89	\$	31.58			
Outage Duration	8 hr. 26 min.	191	\$	27.06			
Outage Code	UO1	225	\$	26.88			
Outage Reason	Unit tripped from boiler upset caused by ruptured diaphragm on #6 heater						

Date	DA LN	IP Average	RT LN	/IP Average	. 1	DART P&L	ost rtunity
5/23/14 (HE 22-24)	\$	30.13	\$	27.87	\$	(1,407)	\$ -
5/24/14 (HE 1-16)	\$	30.46	\$	32.70	\$	3,746	\$ -
Total					\$	2,338	\$ -

Start Up Fu	el Cost	and the second	Total Forced	Outag	ge Cost
S/U Fuel Consumed		11,808	DART P&L	\$	2,338
S/U Fuel Price	\$	3.20	Lost Opportunity	\$	
S/U Fuel Cost	\$	(37,842)	S/U Fuel Cost	\$	(37,842)
			Total	\$	(35,504)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



#### Your Touchstone Energy Cooperative

### Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 5-Jun-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO3

### **Duration**

Trip Time: 30-May-2014 19:40 Tie Time: 2-Jun-14 00:49

Time Offline: 53:09

### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Friday, 30-May-2014 at 19:40 due to a suspected tube leak in the penthouse area of the boiler.

### **Root Cause**

Tube leaks were discovered on the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> roof tubes from the west wall between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8". The leaks were caused by flue gas erosion.







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### **Failure History**

During the 5-Oct-2012, unscheduled outage on H-2 a leak was discovered on a roof tube between the 10th and 11th primary super heater elements. It was the east roof tube at Elev. 579' 8", 56<sup>th</sup> tube from the east wall. This leak was not the result of the outage in this case.

### **Corrective Action**

Tube leaks on the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> from west roof tubes between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8" were all repaired via base metal repairs.

### **SOE Print Out**

Triggered on: 30-May-2014 19:40:25:972

TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
OPEN	H203BFP3ASTS	4160 BKR BFP H2A STATUS
TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
	TRIP TRIP OK OK TRIP OK TRIP OK TRIP OK TRIP OK TRIP OK TRIP LOW OK TRBLE OPEN OPEN OPEN OK LKOUT TRIP TRIP TRIP TRIP TRIP TRIP	TRIP H2500CB182CSTR TRIP H2500CB186CSTR OK H240STPVLVTRP OK H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB182CSTR TRIP H2500CB182CSTR TRIP H2500CB182CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR OK H233LMISTRP TRBLE H246XFERTOMAN OPEN H250FLDBKRSTS OPEN H2500CB186STS OPEN H2500CB186GETR OK H2500CB182GETR LKOUT H240STPVLO86TV TRIP H2500CB182GETR TRIP H2500CB186GETR OPEN H2500CB186GETR OPEN H2500CB186GETR TRIP H2500CB186GETR



#### Your Touchstone Energy Cooperative

### Forced Outage Report

### Other Work Completed While Unit Was Offline

- Repaired gas leaks in the boiler penthouse and also the economizer dead air space.
- Clean 480V transformer
- Cleaned furnace and PA Fan taps
- Cleaned Wet bottom Seal Trough
- Cleaned Scrubber Mist Eliminator panels and nozzles
- Precipitator inspection
- Back-pass inspection
- Calibrated all coal feeders.
- · Changed oil in all FD Fan, PA Fan, and Mill motors
- Repaired coal leaks on "A" Mill
- · Repaired coal leaks on "B" Mill
- Cleaned seal air fan filters





# Forced Outage Report Operators Event Log

#### Your Touchstone Energy\* Cooperative

11013			-											
NOTE	FIRING H	11 BOILER												
8;00AM	SAFETY	BRIEFIN G												
8;01am	H1 FIRES	TRIPPED	LOW DRUM	LEVEL										
8;14AM	H1 FIRES	REESTAE	BLISHED											
9;29AM	H1 VENT	S CLOSED	)											
				NG VACUE	1	-								
					·	<b>+</b>			-	ļ				
					VETEM VA	I VED OUT	FOR BAT	TEDY DED	CEMENT					
							FUR BAT	IERT KEPA	ACEMENT					
				ELUDGE S	TOTEM VA	LVEDIN			-					
					-									
							and the second second							
						MWs @ 2.	5 seconds							
				URBINE HA	ARDWIRE 1	RIP BUTTO	ONS -2 MV	Vs OCBs D	DID TRIP OF	PEN				
	H1 PURG	E STARTE	D											
	H2 SCR	FLOWING A	AMMONIA											
1;29PM	H1 FIRES	REESTAP	BLISHED											
1;34PM	H1 TURB	INE CAUGI	HT 920 RPM											
2;03pm	H1 TIED	ON LINE &	PRECIPS IN	V										
	The second second													
NOTE			LE GETTING	H1-A MIL	COAL FF	EDERS STA	ARTED / IN	ST DEPT H	ELPING					
NOTE										THOUT DUE	HING METAL	INTO GRINDER	ND TIME	
					CLLIN	INC.	***		201140 111		METAL	GRINDER 2	TIME	
									-					
				0 DRIIM		-								
				DRUM										
			SERVICE											
						-								
			CHARRES	AL 0.0	(F. I.ID ===	450/4								
					LE-UP REG	15% OPE	N PENTHO	USE LEAK	ING WORS	E				
						ON AIR DI	RIVE							
	H2 HOTV	VELL CHEC	CK LOST 5"	10 MINUTE	S									
6;20PM	H1 F8EL	OIL OUT C	F BOILER											
6;34PM	H2 FUEL	OIL IN BO	ILER TAKIN	G UNIT OF	F									
7;38PM	EXPRO .	JASON FL	OCKER CAL	LED WILL	CALL BAC	K WITH E.	T.A.							
7:40PM	H-2 UNIT	OFFLINE												
			-					1						
8-00PM	CONN, CLARK, BREEDEN, HIGGINS, CUTSHAW, BLANKS & YOUNG B SHIFT PENDLEY													
0.00F W	CONN,	CLARK, D	REEDEN,	HIGGINS	,CUI SHA	VV, BLANK	13 & TUC	NG			D SHIFT	PENDLEY		
	LIAUT	LOAD	LINIT CAD	NET CAR	000	200	NOV	0010171	DE1101/4/	D.1.0.F				
			The state of the s						REMOVAL	DUST	AMM. FLOW			
	K1	1 50	50	42	42	4.5	10.3	0.440	0.1	1			2.54	CTL
	LIA	140	0.5	150	0.400	44.0	0.074	04.0	00.0	45.00	0.47		18'	
	mi	140	00	153	0.406	11.2	0.071	24.6	92.2	15.09	217	2.6		
	H2	OFF - TUB	BE LEAK										CTL	
													15.5'	
	CT	STAND BY	Y	57										
	<b>ALARMS</b>	:												
	R1													
	R1 H1	BURNER I	MANAGEME	NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. ST	ART REOL	JIRED/DRUI	M TRANS/ C	T. LEVEL			
	H1			NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. ST	ART REQU	JIRED/DRUI	M TRANS/ C	.T. LEVEL			
		BURNER I		NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. ST	ART REQU	JIRED/DRUI	M TRANS/ C	.T. LEVEL			
	H1 H2	EH RES L	LEVEL HI	NT/STEAM	SEAL LOV	V PRESSU			JIRED/DRUI		.T. LEVEL	DRYING AGENT		
	H1 H2 SOOT BL		LEVEL HI	NT/STEAM	SEAL LOV		GAUGE G		JIRED/DRUI	PWTL	.T. LEVEL	DRYING AGENT		
	H1 H2 SOOT BL	EH RES L	LEVEL HI	NT/STEAM	SEAL LOV				JIRED/DRUI		.T. LEVEL	R1- 0%		
	H1 H2 SOOT BL R1 H1 1/24,	EH RES L LOWERS TA	LEVEL HI	NT/STEAM	SEAL LOV		GAUGE G		JIRED/DRUI	PWTL	.T. LEVEL	R1- 0% H1- 0%		
	H1 H2 SOOT BL R1 H1 1/24,	EH RES L	LEVEL HI	NT/STEAM	SEAL LOV		GAUGE G		JIRED/DRUI	PWTL	.T. LEVEL	R1- 0%		
	H1 H2 SOOT BL R1 H1 1/24, H2 9,41,	EH RES L LOWERS TA 42, 46 / 38,45	AGGED				GAUGE G		JIRED/DRUI	PWTL 27'	.T. LEVEL	R1- 0% H1- 0% H2- 0%		
	H1 H2 SOOT BL R1 H1 1/24, H2 9,41,	EH RES L LOWERS T. 42, 46 / 38,45 C.H.	AGGED HMPL	NORTH	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	.T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
	H1 H2 SOOT BL R1 H1 1/24, H2 9,41,	EH RES L LOWERS T. 42, 46 / 38,45 C.H.	AGGED HMPL		SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	.T. LEVEL	R1- 0% H1- 0% H2- 0%		
9,000	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS	EH RES L 42, 46 / 38,45 C.H. 9' 7"	AGGED HMPL	NORTH	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:00PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS	EH RES L 42, 46 / 38,45 C.H. 9' 7" BRIEFING	AGGED  HMPL 13' 8"	NORTH	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:20PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING	EH RES L -OWERS T. 42, 46 / 38,45 	HMPL 13' 8"	NORTH 12' 9 3/4"	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:20PM 8:28PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE	EH RES L  LOWERS TA  42, 46 / 38,45  C.H. 9' 7"  BRIEFING G H-2 BOILE BINE ON TU	HMPL 13' 8"	NORTH 12' 9 3/4"	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	.T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:20PM 8:28PM 9:15PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE	EH RES L  LOWERS T.  42, 46 / 38,45  L C.H. 9' 7"  BRIEFING G H-2 BOILE BINE ON TU ORS HERE	HMPL 13' 8"	NORTH 12' 9 3/4"	SOUTH		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:20PM 8:28PM 9:15PM 9:58PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATI H-1 SCR	EH RES L  OWERS TA  42, 46 / 38,45  C.H.  9' 7"  BRIEFING G H-2 BOILE BINE ON TU  ORS HERE IN SERVICE	AGGED  HMPL 13' 8"  ER JRNING GEA	NORTH 12' 9 3/4"	SOUTH 6 1/2"		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
8:20PM 8:28PM 9:15PM 9:58PM 10:50PM	H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAININC H-2 TURE INSULAT: H-1 SCR H-1 EAST	EH RES L  LOWERS TA  42, 46 / 38,45  C.H.  9' 7"  BRIEFING G H-2 BOILE BINE ON TU OORS HERE IN SERVICE FORUM GAR	HMPL 13' 8"  ER IRNING GEA	NORTH 12' 9 3/4" R	SOUTH 6 1/2"		GAUGE G		JIRED/DRUI	PWTL 27'	T. LEVEL	R1- 0% H1- 0% H2- 0% BOOTH SYSTEM		
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	8;00AM 8;01am 8;01am 9;29AM 10;10AM 10;20AM 12;34PM 12;34PM 12;52PM 1;07PM 1;12PM NOTE 1;13PM 1;14PM 1;21PM 1;21PM 1;29PM 2;03PM 3;34PM 3;34PM 3;35PM 3;35PM 3;35PM 3;55PM NOTE NOTE NOTE NOTE NOTE NOTE NOTE NOTE	8:00AM SAFETY 8:01am H1 FIRES 8:14AM H1 FIRES 9:29AM H1 VENT 10:10AM A1,A3,A4 11:58AM SEALING 12:34PM H1 TURB 12:40PM H1 SEP 12:52PM R1 STEP 1:07PM H1 GENE 1:13PM H1 GENE 1:13PM H1 GENE 1:13PM H1 GENE 1:13PM H1 TURB 1:14PM H1 TURB 1:14PM H1 TURB 2:03pm H1 TURB 2:03pm H1 TIRES 1:34PM H1 TURB 3:35PM H1 SCR / H1 BOO 3:30PM H1 SILIC 3:35PM H1 SCR / H1 BOO 3:35PM H1 BOO	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED 8:14AM H1 FIRES RESETAT 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL G 10:20AM A1,A3,A4,B1 OIL G 12:34PM H1 TURBINE RESET 12:34PM H1 TURBINE RESET 12:52PM R1 STEP-UP TRANN 10:7PM H1 GENERATOR R1 1:12PM H1 GENERATOR R1 1:12PM H1 GENERATOR R1 1:13PM H2 SCR AMMONIA 1:14PM H1 TURBINE TRIPP 1:17PM H2 SCR AMMONIA 1:14PM H1 PURGE STARTE 1:21PM H2 SCR FLOWING 1:29PM H1 FIRES RESETAR 1:24PM H2 SCR FLOWING 1:29PM H1 FIRES RESETAR 1:24PM H2 SCR FLOWING 1:25PM H1 FIRES RESETAR 1:34PM H1 TURBINE CAUG 2:03pm H1 FIRES RESETAR 1:34PM H1 TURBINE CAUG 3:35PM H1 TIGED ON LINE & H1 AWING TROUB NOTE R1 WETBOTTOM G 3:35PM H1 SCRUBBERS IN 3:35PM H1 SCRUBBERS IN 3:35PM H1 SCRUBBERS IN NOTE R1 WETBOTTOM G 6:34PM H2 FUEL OIL IN BO 6:34PM H2 FUEL OIL OUT C 6:34PM H2 FUEL OIL IN BO 6:34PM H3 FUEL OIL OUT C 6:34PM H2 FUEL OIL OUT C 6:34PM H2 FUEL OIL OUT C 6:34PM H3 FUEL OIL OUT C 6:34PM	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED LOW DRUM 8:14AM H1 FIRES REESTABLISHED 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL GUNS IN 11:58AM SEALING H1 TURBINE & PULLI 12:34PM H1 TURBINE RESET ROLLING 12:52PM R1 STEP-UP TRANSFORMER D 1:07PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR REVERSE CUE 1:13PM H2 SCR AMMONIA TRIPPED V SING T 1:14PM H1 TURBINE TRIPPED USING T 1:14PM H1 TURBINE TRIPPED USING T 1:14PM H1 TURBINE TRIPPED USING T 1:12PM H2 SCR FLOWING AMMONIA 1:29PM H1 FIRES REESTABLISHED 1:21PM H2 SCR FLOWING AMMONIA 1:29PM H1 TURBINE CAUGHT 920 RPM 1:34PM H1 TURBINE CAUGHT 930 RPM 1:34PM H1 SCRUBBERS IN SERVICE 1:39PM H1 SCRUBBERS IN SERVICE 1:39PM H1 SCRUBBERS IN SERVICE 1:49PM H2-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NOTIFIED ABOUT H 1-4-A A.H. DRIVE SHEARD COU NOTE RPARKER NO	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED LOW DRUM LEVEL 8:14AM H1 FIRES RESTABLISHED 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL GUNS IN 11:58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP-UP TRANSFORMER DELUDGE S 11:52PM H1 GENERATOR FIELD ON 11:12PM H1 GENERATOR FIELD ON 11:12PM H2 SCR AMMONIA TRIPPED VAPOR INTE 11:13PM H2 SCR AMMONIA TRIPPED VAPOR INTE 11:14PM H1 TURBINE TRIPPED USING TURBINE H2 11:17PM H2 SCR FLOWING AMMONIA 11:29PM H2 SCR FLOWING AMMONIA 11:29PM H3 FRESTABLISHED 11:34PM H1 TURBINE CAUGHT 920 RPM 12:03pm H1 TIED ON LINE & PRECIPS IN H1-A MILL ON NOTE H1 HAVING TROUBLE GETTING H1-A MILL NOTE R1 WETBOTTOM GOOD SPLASH BACK 1: 2:28PM H1 COAL FEEDERS STARTED 3:30PM H1 SILICA 3:89 GOOD FOR 15:00 DRUM 3:35PM H1 SILICA 3:89 GOOD FOR 15:00 DRUM 3:35PM H1 SCRUBBERS IN SERVICE NOTE H2-A A.H. DRIVE SHEARD COUPLINGS CA NOTE H3-AN ON STEPPING HARRES NO FLOCKER CALLED WILL H1 LOAD UNIT CAP NET CAP. R1 50 50 42 H1 148 85 153 H2 OFF - TUBE LEAK CT STAND BY 57 ALARMS:	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED LOW DRUM LEVEL 8:14AM H1 FIRES REESTABLISHED 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL GUNS IN 11:58AM SEALING H1 TURBINE & PULLING VACUM 11:58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP-UP TRANSFORMER DELUDGE SYSTEM VA 1:07PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR FIELD ON 1:12PM H2 SCR AMMONIA TRIPPED VAPOR INTERLOCK 1:13PM H2 SCR AMMONIA TRIPPED VAPOR INTERLOCK 1:14PM H1 FURBINE TRIPPED USING TURBINE HARDWIRE TH17PPED USING TURBINE HARDWIRE TURBINE HARD	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED LOW DRUM LEVEL 8:14AM H1 FIRES RESTABLISHED 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL GUNS IN 11:58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP-UP TRANSFORMER DELUDGE SYSTEM VALVED OUT 1:07PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR FIELD ON 1:12PM H1 GENERATOR REVERSE CURRENT SETTINGS ~24 MWs @ 2 1:13PM H2 SCR AMMONIA TRIPPED VAPOR INTERLOCK 1:14PM H1 TURBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTO 1:21PM H2 SCR FLOWING AMMONIA 1:29PM H2 SCR FLOWING AMMONIA 1:29PM H1 TIRES REESTABLISHED 1:24PM H2 SCR FLOWING AMMONIA 1:29PM H1 TURBINE CAUGHT 920 RPM 2:03pm H1 TURBINE CAUGHT 920 RPM 2:03pm H1 TIED ON LINE & PRECIPS IN H1-A MILL ON NOTE R1 WETBOTTOM GOOD SPLASH BACK 1ST PULLING HAS MET 2:28PM H1 COAL FEEDERS STARTED 3:36PM H1 SILICA .339 GOOD FOR 1500 DRUM 4:35PM H1 SCRUBBERS IN SERVICE 3:39PM H1 SCRUBBERS IN SERVICE 3:39PM H1 SCRUBBERS IN SERVICE NOTE R.PARKER NOTIFIED ABOUT H2 NOTE R.PARKER NOTIFIED ABO	8:00AM SAFETY BRIEFIN G 8:01am H1 FIRES TRIPPED LOW DRUM LEVEL 8:14AM H1 FIRES TRESTABLISHED 9:29AM H1 VENTS CLOSED 10:10AM A1,A3,A4,B1 OIL GUNS IN 10:20AM A1,A3,A4,B1 30 IL GUNS IN 11:58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP-UP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BAT 12:52PM R1 STEP-UP TRANSFORMER DELUDGE SYSTEM VALVED IN 10:7PM H1 GENERATOR FILLD ON NOTE 11:12PM H1 GENERATOR FILD ON NOTE 11:13PM H2 SCR AMMONIA TRIPPED VAPOR INTERLOCK 11:14PM H1 TURBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MV 11:17PM H1 FIRES REESTABLISHED 11:29PM H2 SCR FLOWING AMMONIA 11:29PM H3 FIRES REESTABLISHED 11:34PM H3 FIRES REESTABLISHED 11:34PM H3 FIRES REESTABLISHED 11:34PM H3 FIRES REESTABLISHED 11:34PM H1 TIED ON LINE & PRECIPS IN 11:34PM H1 TIED ON LINE & PRECIPS IN 11:34PM H1 TIED ON LINE & PRECIPS IN H1 HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / IN NOTE 11:34PM H1 SILICA .389 GOOD FOR 1500 DRUM 13:30PM H1 SILICA .389 GOOD FOR 1500 DRUM 13:35PM H1 BOOSTER FAN ON 13:30PM H1 SILICA .389 GOOD FOR 1500 DRUM 13:35PM H1 PA FAN ON 13:35PM H1 PA FAN ON 13:35PM H1 PA FAN ON NOTIC EN LATE AND LATE	8:00AM SAFETY BRIEFIN G 9:01am H1 FIRES TRIPPED LOW DRUM LEVEL 9:29AM H1 FIRES REESTABLISHED 9:29AM A1,A3,A4,B1 OIL GUNS IN 10:20AM A1,A3,A4,B1 OIL GUNS IN 10:20AM A1,A3,A4,B1 OIL GUNS IN 11:58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP-JIP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BATTERY REP. 12:52PM R1 STEP-JIP TRANSFORMER DELUDGE SYSTEM VALVED IN 11:2PM H1 GENERATOR FIELD ON 11:2PM H1 GENERATOR TIED ON NOTE H1 GENERATOR REVERSE CURRENT SETTINGS ~24 MWs @ 2.5 seconds 11:13PM H2 SCR AMMONIA TRIPPED/ VAPOR INTERLOCK 11:17PM H1 FIRES REESTABLISHED 11:17PM H2 SCR FLOWING AMMONIA 11:2PPM H1 FIRES REESTABLISHED 11:2PPM H2 SCR FLOWING AMMONIA 11:2PPM H1 FIRES REESTABLISHED 11:3PM H1 TIED ON LINE & PRECIPS IN H1 TIED ON LINE & PRECIPS IN H1 THE ONLINE & PRECIPS IN H1 AMILL ON NOTE H1 HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT H 0.7EM H1 COAL FEEDERS STARTED 3.3PPM H1 SCRUEBERS IN SERVICE 3.3PPM H1 SULICA .389 GOOD FOR 1500 DRUM 3.35PM H1 SULICA .389 GOOD FOR 1500 DRUM 4.35PM H1 PA FAN ON 3.35PM H1 SULICA .389 GOOD FOR 1500 DRUM 4.34PM H2 FUEL OIL IN BOILER TAKING UNIT OFF 6.20PM H1 PA FAN ON 3.35PM H1 SULICA .389 GOOD FOR 1500 DRUM 4.34PM H2 FUEL OIL IN BOILER TAKING UNIT OFF 6.20PM H1 PA FAN ON 3.35PM H1 PA FAN ON 3.35PM H1 SULICA .389 GOOD FOR 500 DRUM 4.34PM H2 FUEL OIL IN BOILER TAKING UNIT OFF 6.20PM H1 PA FAN ON 3.35PM H3 BMILL ON 0.71CED H2 FIRING HARDER ALSO MAKE-UP REG 15% OPEN PENTHOUSE LEAK 0.71CH H2 H1 PA FAN ON 3.35PM H3 BMILL ON 0.71CED H2 FIRING HARDER ALSO MAKE-UP REG 15% OPEN PENTHOUSE LEAK 0.71CH H2 H1 PA FAN ON 3.35PM H3 BMILL ON 0.71CED H2 FIRING HARDER ALSO MAKE-UP REG 15% OPEN PENTHOUSE LEAK 0.71CH H1 PA FAN ON 3.35PM H3 BMILL ON 0.71CED H3 M1 PA FAN ON 3.35PM H3 BMILL ON 0.71CH H	8.00AM SAFETY BRIEFIN G 8.01am H1 FIRES TRIPPED LOW DRUM LEVEL 8.114AM H1 FIRES REESTABLISHED 9.29AM H1 VENTS CLOSED 10.10AM A1,A3,A4,B1,B3 OIL GUNS IN 10.20AM A1,A3,A4,B1,B3 OIL GUNS IN 11.58AM SEALING H1 TURBINE & PULLING VACUM 12:34PM H1 TURBINE RESET ROLLING TURBINE 12:40PM R1 STEP_UP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BATTERY REPACEMENT 12:52PM R1 STEP_UP TRANSFORMER DELUDGE SYSTEM VALVED IN 1.12PM H1 GENERATOR FIELD ON 1.12PM H1 GENERATOR TIED ON NOTE H1 GENERATOR REVERSE CURRENT SETTINGS ~24 MWs ② 2.5 seconds 1.13PM H2 SCR AMMONIA TRIPPED VAPOR INTERLOCK H1 TURBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS ~2 MWs OCBs DID TRIP OF 1.17PM H1 PURGE STARTED 1.12PM H2 SCR LOWING AMMONIA 1.29PM H3 ESCR FLOWING AMMONIA 1.29PM H1 FIRES REESTABLISHED 1.34PM H1 TURBINE CAUGHT 920 RPM 2.03pm H1 TIED ON LINE & PRECIPS IN H1-A MILL ON NOTE H1 HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE R1 WETBOTTOM GOOD SPLASH BACK 1ST PULLING HAS METAL IN WEST END RODDING WI 1.35PM H1 SICICA .389 GOOD FOR 1500 DRUM 3.35PM H1 SCRUBBERS IN SERVICE H1-A PA FAN ON 3.55PM H1-B MILL ON NOTE R1-PA FAN ON 3.55PM H1-B MILL ON NO	8.01am H IFIRES TRIPPED LOW DRUM LEVEL 8:14AM H FIRES TRIPPED LOW DRUM LEVEL 8:14AM H FIRES TRIPPED LOW DRUM LEVEL 8:14AM H FIRES REESTABLISHED 9:29AM H VENTS CLOSED 10:20AM A1,A3,A4,B1 DI GLINS IN 10:20AM A1,A3,A4,B1,B3 DIL GUNS IN 11:58AM SALINING H TURBINE & PULLING VACUM 12:34PM H TURBINE RESET ROLLING TURBINE 12:40PM R STEP-UP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BATTERY REPACEMENT 10:52PM H GENERATOR TIED ON NOTE 11:2PM H GENERATOR REVERSE CURRENT SETTINGS -24 MWs @ 2.5 seconds 11:1PM H GENERATOR REVERSE CURRENT SETTINGS -24 MWs @ 2.5 seconds 11:1PM H PURGE STATED 11:1PM H PURGE STATED 11:1PM H PURGE STATED 11:1PM H PURGE STATED 12:29PM H TURBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 11:1PM H PURGE STATED 12:29PM H TIED ON LINE & PRECIPS IN H A MILL ON NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE GETTING H1-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE H HAVING TROUBLE SPECIES IN H HAVING TROUBLE SPECIES IN H HAVING TROUBLE SPECIES IN H H HAVI	8.01am H FIRES TRIPPED LOW DRUM LEVEL 8.14AM H FIRES TRIPPED LOW DRUM LEVEL 9.29AM HI VENTS CLOSED 10.10AM A1,A3,A4,B1,B3 OIL GUNS IN 10.20AM A1,A3,A4,B1,B3 OIL GUNS IN 11.29APM H TURBINE RESET ROLLING TURBINE 12.49APM R1 STEP_UP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BATTERY REPACEMENT 12.52PM HI GENERATOR REIGL ON 1.12PM HI GENERATOR REIGL ON 1.12PM HI GENERATOR REIGL ON 1.12PM HI GENERATOR REPORTS CURRENT SETTINGS -24 MWs @ 2.5 seconds 1.13PM HI TURBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI PURGE STARTED 1.12PM HI SCR FLAWING AMMONIA 1.29PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI PURGE STARTED 1.13PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI PURGE STARTED 1.18PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI PURGE STARTED 1.18PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWS OCBS DID TRIP OPEN 1.17PM HI TIRBINE TRIPPED USING TURBINE	8.00AM SAFETY BRIEFIN G 8.14AM HI FIRES TREPED LOW DRUM LEVEL 8.14AM HI FIRES RESTABLUSHED 9.29AM HI VENTS CLOSED 10.10AM A1A,3A,4B B1 01L GUNS IN 11.58AM SEALING HI TURBINE & PULLING VACUM 11.58AM SEALING HI TURBINE & PULLING VACUM 12.34PM HI TURBINE RESET ROLLING TURBINE 12.40PM RI STEP-JP TRANSFORMER DELUDGE SYSTEM VALVED OUT FOR BATTERY REPACEMENT 1.07PM HI GENERATOR FILED ON 1.07PM HI GENERATOR FILED ON NOTE HI GENERATOR FILED ON NOTE HI GENERATOR REVERSE CURRENT SETTINGS -24 MWs @ 2.5 seconds 1.14PM HI TURBINE RESET HIPPED VAPOR INTERLOCK 1.14PM HI TURBINE RIPPED USING TURBINE HARDWIRE TRIP BUTTONS -2 MWs OCBs DID TRIP OPEN 1.17PM HI PURGE STARTED 1.21PM HI SCR FLOWING AMMONIA 1.29PM HI TURBINE CAUCHT 920 RPM 1.34PM HI TURBINE CAUCHT 920 RPM 1.34PM HI TURBINE CAUCHT 920 RPM HI AWAING TROUBLE GETTING HI-A MILL COAL FEEDERS STARTED / INST DEPT HELPING NOTE RI WETBOTTOM GOOD SPLASH BACK 1ST PULLING HAS METAL IN WEST END RODDING WITHOUT PUSHING METAL INTO GRINDER 2 2.28PM HI AWAING TROUBLE GETTING HI-A MILL COAL FEEDERS STARTED 3.28PM HI HISO ON LINE A PRECIPS IN HI-A MILL ON NOTE HISO ON LINE A PRECIPS IN HI-A MILL COAL FEEDERS STARTED 3.29PM HI BOOSTER FAN ON 3.35PM HI 4160 AUX TRANFERED 3.39PM HI 4160 AUX TRANFERED 3.39PM HI BOOSTER FAN ON 3.35PM HI PA FAN ON 3.35PM HI PA FAN ON 3.35PM HI PA FAN ON 5.5PM HI-B MILL ON NOTE RIVER WERD ON THE COAL OF STARTED ALSO MAKE-UP REG 15½ OPEN PENTHOUSE LEAKING WORSE ROTE REVERLED HIS MILL ON NOTE HIS MILL ON SERVICE HIS MILL ON SERVICE HIS MILL ON SERVICE HIS MILL ON SOURCE TO STARTED AND SERVICE HIS MILL ON SERVICE	



Your Touchstone Energy\* Cooperative

5/31/2014	8:00AM	JACKSC	IN, EDMO	MD5, GR	IFFIN,BOV	MLEY, HO	GAN, WA	DLINGIC	IN, ALEXA	NDER		C SHIFT	AYNE	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM, FLOW	BACK PRESSUR	E
		R1	49	50	42	4.51	10.3	0.453	6.2	- LIII O VAL	2301	I LOVV	LAGRI RESSUR	CTL 17.2'
		H1	165	165	153	0.471	10.4	0.127	64	91.1	36.6	217	2.9	
		110		105				RAPPE	RS NOT W	ORKING				
		H2		165 OUTAGE										CTL 15.0'
		CT	ON STANE		57									
		01	ONOTAIL		37									
		ALARMS	:											
		R1												
		H1			ENT/STEAM	SEAL LOV	PRESSU	RE/E.H. S	TART REQU	JIRED				
		H2	EH RES L	EVEL HI										
		COOT DI	OWERS TA	COED				041105.6	1 10050		D1400 1 01			
		R1	OWERS IA	AGGED				GAUGE O	LASSES		PWTL/ 2	5.5	DRYING AGENT	
		H1 1/24,4	12		-			OK					R1-0% H1-0%	
			46 / 38,45										H2-0%	
													112-070	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	М
		LEVELS	9' 4"	10' 4"	12' 9 3/4"	6 1/2"					14FT		IN	
10410011	0.00	04555												
5/31/2014	8:00AM		BRIEFING	ON HA DO	TO AID O	IT OF ACC	COLUMNS							
	8:27AM 8:30AM	H1 BACK		ON HI DUE	IO AIR, O	UT OF ADS	CONTROL							
	8:30AM 8:33AM			ON H1 DITE	TO AIR O	UT OF ADS	CONTROL		-		-			
	9:00AM					DS CONRO								
	9:15AM							WANTS TO	TRY AND	TAKE IT BA	ACK TO 165	MW 1 MW AT	A TIME AND SEE	HOW IT DOES. HE
		THE BTU	COMPENS	ATOR HAS	GOTTEN V	VOUND OUT	AND IS S	LOWLY W	ORKING IT	SELF BACK	1			THE THE DEED. THE
			ONE WITH											
						BACK IN E	BOILER							
			VACUMING			TH SIDE								
			STARTING			DED0 1111								
						BERS. MAIN		IO TAKE C	JUT NOZZL	ES AND EN	DPLATES			
	1:30PM		G COMPLE			OK FULL LO	JAD.							
	1:40PM	EXPRO L		ILD OITHE	DOILLIN									
	2:19PM		SOTTOM TA	GGED. NO	TIFY MAINT									
	2:25PM	DEBUSK	MOVING TO	O SOUTH S	IDE PENTH	OUSE PER	MAINT							
	2:30PM					N SICK FOR								
	3:43PM													
	3:45PM				R. BEAN-LN	, B.DUVAL	L-LM, J.GA	TTON, J.B.	AKER, J.TA	TE				
	4:10PM 4:30PM		OCK, J.TAI		OC LEAVING	C		-						
	6:15PM		ELEASED H		DO LEAVIN	3								
	6:25PM		ON FOR H											
	NOTE:		ERRING FU		MPL TANK			-						
	7:45PM	ELECTRIC	CIANS RUN	NING AIR T	EST ON H-2	PRECIPS								
5/31/2014	8:00PM	CONN,	CLARK, B	REEDEN,	HIGGINS	CUTSHA	N, BLANK	KS & YOU	JNG			<b>B SHIFT</b>	PENDLEY	
			1.045											
		UNIT	LOAD 50		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		R1	50	50	42	4.5	10.6	0.44	13				2.6	CTL 18'
		H1	165	165	153	0.572	10.6	0.081	28.5	89	11.24	217	2.7	18'
					.50	J.012	.5.0	0.001	20.0		11.24	211	2.7	
		H2	OFF - TUB	E LEAK							-			CTL
											-			14'
		CT	STAND BY		57									
		ALARMS												
		R1	DI IDNED .	AANAGERI	NIT/OTT A	CEAL LOS	, DDECC:	DE/E !! O	TA DT DEC	UDED/DO:	4 TDANIO	T 15/5		
		H1 H2	EH RES L		NI/STEAM	SEAL LOV	PRESSU	KE/E.H. S	IARI REQU	JIKED/DRUM	M TRANS/ C	. I. LEVEL		
		174	En RES L	L V L L II	·				+					
		SOOT BI	OWERS TA	AGGED				GAUGE C	LASSES		PWTL		DRYING AGENT	
		R1						OK	_ 10020		27'		R1- 0%	
			H1 1/24,42,				OK 27'						H1- 0%	
		H1 1/24,4	12,										111-070	
			42, 46 / 38,45										H2- 0%	
			46 / 38,45	HMPL	NORTH	SOUTH					SILO LVL			



	CC	uc	Jul	age	CIN	CP	OI (	-				Total Total	stone Energy® Coope	
/31/2014	8:00PM	SAFETY												
	8:02PM	H-2 BOILE	RFEEDP	UMP OFF -	1440LBS									
	8:03PM	STARTED	H-2 COND	ENSER VA	CUUM PUM	PS								
	8:20PM	H-2 PREC	IP AIR TES	T DONE										
	8:20PM	NOTIFIED	K. BROOK	S THAT TH	EY CAN RE	SUME WO	RK IN ECO	NOMIZERS	, PENTHO	USE & AIRH	HEATERS			
	8:30PM	DEBUSK	STARTING	ON 3RD EC	ONOMIZER	HOPPER								- 17 - 12 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
	8:30PM	T. WEST,	J. GLASSO	00 & J. ARN	IOLD LEAV	ING								
	8:50PM	TITAN RE	MOVING H	-2 M.E. NOZ	ZLES & PL	ATES								
	9:55PM	STARTED	H-2 A.H. V	VASH										
	10:03PM	DRAINING	H-2 BOILE	R WATERV	VALLS DOV	VN BELOW	LEAK IN F	ENTHOUS	E					
	10:50PM			YARD-LM, F						TE				
	10:55PM			CALL - CA						·				
1/2014	2:15AM			-2 BFP FOR										
	2:20AM	H-2 BFP	ON FOR HY	DRO										
	2:50AM	PULLED I	DEBUSK O	UT OF PEN	THOUSE &	ECONOMIZ	ER - HYDR	OING BOIL	ER					
	3:24AM	H-2 BFP												
	3:30AM	тоок во	OTHE SYS	TEM OUT -	SILO 5'									
	3:44AM	DEBUSK	BACK IN P	ENTHOUSE	& ECONO	MIZERS								
	3:45AM			VING OFF P			TO FIRING	LEVEL						
	5:00AM		R IS SET											
	6:30AM	J. ARNOL												
		+												
1/2014	8:00AM	JACKSON	I. EDMONE	S, GRIFFIN	BOWLEY.	HOGAN, W	ADLINGTO	ON.				C SHIFT:	PAYNE/CARTER	2
		ALEXAND			,,,									
			LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	MM. FLOW	BACK PRESSUR	2F
		R1	49					0.439		TILLITOTAL	,	Allinii. I LOTT	BACKTINEGOO	-
		111		- 00		1.01	10.7	0.100	10.0					
		H1	150	165	153	0.387	10.5	0.078	15.6	92.5	9.32 2	202/C	2.7	
			100	100	100	0.007	10.0	0.070	10.0	02.0	0.02	0270	2.7	
		H2		165					-					CTL 15.5'
		1114		OUTAGE										012 10.0
		CT	ON STANE		57									
		01	011 0 17 11 10	·	0.									
		ALARMS:			-									
		R1												
		H1	BURNER	MANAGEME	NT/STEAM	SEALLOV	/ PRESSUI	PE/E H S	ART REOL	IIRED				
		H2	EH RES L		TAITOTEAN	OLAL LOV	I ILLOOO	(L/L.II. 0	AINT INEQU	NINCE D				
		1.12	LITTLE D	LVLLIII										
		SOOT BI	OWERS TA	AGGED				GAUGE G	LASSES		PWTL/ 26	O'	DRYING AGENT	
		R1	OVVERSO IX	TOOLD				OK	DIOOLO		1 44127 20	.0	R1-0%	
		H1 1/24,4	12				-	OK	-				H1-0%	
			46 / 38,45	-									H2-0%	
		M2 9,41,	40 / 30,43										H2-070	
		FUEL OIL	C II	LIMPI	NODTU	COLITU					SILO LVL		BOOTHE SYSTE	
		FUEL OIL		HMPL		SOUTH							IN	IVI
		LEVELS	9 1	10' 4"	12' 2 1/4"	6 1/2			-		14FT		IIN	
	8:00	CAFETY	DDIEFING											
	8;00am	SAFETY		A 0 D 01115	TODEDAT	ONO / 055	CALL INC.							
	NOTE			A & D SHIF		UNS / SEE	CALL IN LO	JG						
	8;56AM			IN @ 12NO										
	9;10AM	H2 A.H. V		T DOWN / C										
	0.05111	OI =		M COILS &	F.D.FANS									
	9;25AM	CLEANIN												
	9;35AM	J.TATE C	OMING IN											
	9;35AM 10;00AM	J.TATE C	OMING IN (	N										
	9;35AM	J.TATE C	OMING IN (		CLEANED	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM	J.TATE C H2 WET S H2 PREC H2 STEAL	OMING IN ( SEAL CLEA IP DOORS M COILS &	CLOSED & FD FANS C	LEAN	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CC	OMING IN ( SEAL CLEA IP DOORS M COILS & DUNT CLOS	CLOSED & FD FANS C ING BOILER	LEAN	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CC	OMING IN ( SEAL CLEA IP DOORS M COILS &	CLOSED & FD FANS C ING BOILER	LEAN	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBR	OMING IN ( SEAL CLEA IP DOORS M COILS & DUNT CLOS	CLOSED & FD FANS C ING BOILER AIR HERE	LEAN	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CC M.EMBRY H2 PREC	OMING IN ( BEAL CLEA IP DOORS M COILS & DUNT CLOS Y, BEN BLA IPS LOCKE	CLOSED & FD FANS C ING BOILER AIR HERE	LEAN R DOORS	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBRY H2 PREC DONE ST	OMING IN ( BEAL CLEA IP DOORS M COILS & DUNT CLOS Y, BEN BLA IPS LOCKE	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPE	LEAN R DOORS	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBR' H2 PREC DONE ST H2 WET S	OMING IN ( SEAL CLEA IP DOORS IN COILS & DUNT CLOS IF, BEN BLA IPS LOCKE ROKING SE	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPE	ELEAN R DOORS	& BACK PL	ATES ON							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBR' H2 PREC DONE ST H2 WET S H2 ECON	OMING IN ( SEAL CLEA IP DOORS M COILS & DUNT CLOS Y, BEN BLA IPS LOCKE ROKING SE SEAL FULL S DONE, C	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPE	R DOORS									
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBR' H2 PREC DONE ST H2 WET S H2 ECON DEBUSK	OMING IN ( SEAL CLEA IP DOORS M COILS & DUNT CLOS Y, BEN BLA IPS LOCKE ROKING SE SEAL FULL S DONE, C MOVING D	CLOSED & CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPEI	R DOORS  RS  DOORS  AC OUT AIR	HEATERS								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM 3:10PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CC M.EMBRY H2 PREC DONE ST H2 WET S H2 ECON DEBUSK DEBUSK	OMING IN ( SEAL CLEA IP DOORS IN COILS & UNT CLOS IPS LOCKE ROKING SO SEAL FULL S DONE, C MOVING D STILL WOR	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPEI CLOSING DC	ELEAN R DOORS RS DORS AC OUT AIR	R HEATERS								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM 3:10PM NOTE:	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CC M.EMBRY H2 PREC DONE ST H2 WET S H2 ECON DEBUSK DEBUSK CALLING	OMING IN ( SEAL CLEA IP DOORS IN COILS & UNT CLOS IPS LOCKE ROKING SO SEAL FULL S DONE, C MOVING D STILL WOR	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPEI CR DOWN TO VA RKING ON F	ELEAN R DOORS RS DORS AC OUT AIR	R HEATERS								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM 3:10PM NOTE: 4;40PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M.EMBR H2 PREC DONE ST H2 WET S H2 ECON DEBUSK CALLING H2 AIR H	OMING IN ( BEAL CLEA IP DOORS IF COOLS & IF	CLOSED & FD FANS C ING BOILEF AIR HERE ED CR DAMPEI CR DOWN TO VA RKING ON F	RS  OORS  AC OUT AIR PENTHOUSE	HEATERS								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM 3:10PM NOTE: 4;40PM 4:43PM	J.TATE C H2 WET S H2 PREC H2 STEAL HEAD CO M EMBRS H2 PREC DONE ST H2 WET S H2 ECON DEBUSK DEBUSK CALLING H2 AIR HI H2 FD FA	OMING IN () SEAL CLEA IP DOORS () VI COILS & UNIT CLOS (), BEN BLA IPS LOCKE SEAL FULL S DONE, C MOVING D STILL WOR THRU D SH EATER ON NS ON FO	CLOSED & FD FANS C ING BOILEF AIR HERE C CR DAMPEI CLOSING DC OWN TO V RKING ON F HIFT OPERA	R DOORS  RS  DOORS  AC OUT AIR PENTHOUSE  ATTORS FOR	R HEATERS E R TONITE								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 2:55PM 3:10PM NOTE: 4;40PM 4:43PM 4:48PM	J.TATE C H2 WET S H2 PREC H2 STEAN HEAD CC M.EMBR H2 PREC DONE ST H2 ECON DEBUSK DEBUSK CALLING H12 FD FA H2 B BFF	OMING IN () SEAL CLEAP IP DOORS () IP DOORS () IP OORS () IN COILS () IN COILS () IN COILS () IN END IL IPS LOCKE ROKING SISEAL FULL S DONE, () MOVING D STILL WOF THAT D SI EATER ON NS ON FO IP ON, PUMI	CLOSED & FD FANS C ING BOILEF AIR HERE C CR DAMPEI CLOSING DO OWN TO V RKING ON F	RS OORS AC OUT AIR ENTHOUSE ATORS FOR	R HEATERS E R TONITE								
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 1;15PM NOTE 1;58PM 3:10PM NOTE: 4;40PM 4;43PM 4:43PM 4:51PM	J.TATE C H2 WET 1 H2 PREC H2 STEAL HEAD CC M.EMBR' H2 PREC OONE ST H2 WET 3 H2 ECON DEBUSK CALLING H2 AIR HI H2 FD FA H2 B BFF FIRES ES	OMING IN () SEAL CLEA IP DOORS IF COILS IF DOORS IF COILS	CLOSED & FD FANS C FD FANS C FD FANS C FO FANS	RS  OORS  AC OUT AIR ENTHOUSE ATORS FOR FOR MAIN DILER TO FI	HEATERS T RING LEVE	L							
	9;35AM 10;00AM NOTE 11;55AM 12;00PM 12:05PM 17;55PM 2:55PM 3:10PM NOTE: 4;40PM 4:43PM 4:43PM 5:46PM 5:46PM	J.TATE C H2 WET: H2 PREC H2 STEAL HEAD CC M.EMBR: H2 PREC DONE ST H2 ECON DEBUSK DEBUSK DEBUSK CALLING H2 AIR HI H2 FD FA H2 B BFF FIRES ES SWAPPII	OMING IN () SEAL CLEA IP LOORS IP LOORS SOUNT CLOS OF SOUNT OF	CLOSED & FD FANS CO ING BOILEF AIR HERE CO CR DAMPEI CHOSING DO OWN TO VARIANTE OF THE CONTROLL OF THE CONTROL	RS  OORS  AC OUT AIR  TORS FOR  FOR MAIN  FOR MAIN  FOR MAIN  FOR MAIN  FOR ARNS, A RU	R HEATERS E TONITE T RING LEVE	L UGH, B ON							



				4
V	Touchanne	E	Cooperative	X
10ur	Touchstone	energy	Cooperative	100

5/1/2014	8:00PM		CLARK, E IOHNSON I	REEDEN,	HIGGINS	CUTSHA	W, BLAN	KS & YOU	JNG			B SHIFT	PENDLEY	
		UNIT	LOAD		NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUCT	AMM FLOW	BACK BOTOOLIST	
		R1	51	50	42	4.5	10.6	0.417	6.4	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE 2.7	CTL
		ixi	01	50	72	4.5	10.0	0.417	0.4				2.1	19'
		H1	165	165	153	0.389	10.7	0.081	25.1	93.1	10.08	230	3.05	19
													-	
		H2	FIRING BO	DILER										CTL
		СТ	STAND BY	DOM:	60									15.5'
		CI	STANDE		00		-							
		ALARMS	:	1			1						-	
		R1						-		THE PART OF				
		H1	BURNER	MANAGEME	NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. S	TART REQU	JIRED/DRUM	TRANS/	C.T. LEVEL		
		H2	EH RES I	EVEL HI										
		COOT DI	OWERS T	ACCED				CALICE	GLASSES		PWTL		DOWNS A SELE	
		R1	OWERS I	AGGED			-	OK	JLASSES	26'			DRYING AGENT R1- 0%	
		H1 1/24,	42.			İ	-	-					H1- 0%	
			46 / 38,45										H2- 0%	
		FUEL OIL		HMPL	NORTH	SOUTH		-			SILO LVL		BOOTH SYSTEM	
		LEVELS	9' 1"	10' 4"	12' 2 1/4"	6 1/2"					14'		OUT	
/1/2014	8:00PM	SAFETY	BRIEFING					-						
	8:25PM	MAINT CH	HANGED O	UT FULLER	S EARTH F	ILTERS & P	OLISHING	FILTERS (	ON H-2 E.H.	UNIT				
	10:20PM		D PULL VA											
	10:52PM	ROLLING	H2 TURBIN	NE										
	11:23PM	AT TRAN	SFER SPE	ED ON H2 T	URBINE. W	AITING ON	TEMPS							
	12:24AM	TRANSFE	ERRING VA	LVES ON H	2 TURBINE									
	12:49AM	H2 TIED	ON LINE											
	2:00AM	H-2 SCRI	JBBER IN S	SERVICE										
	2:15AM			A1 BURNE		MAINT CHEC	CKING							
	3:10AM	-		AUXILIARIE										
	NOTE			OAL LEAK	ON H-2 A1	COAL PIPE	ON 5TH F	LOOR						
	4:00AM	WARMIN	G H-2 SCR											
	5:40AM 5:51AM	R JAMES	S CALLED - REQUESTE	ED VACATI	ON DAY FO	P TODAY	LOKID		-	-				
	0.0171111	THE OF HITE	OFFICE	ILL GOLO II		OI DATE OF	TODA!	TORD	1					
/2/2014	8:00AM	FELTY,	CECIL,EN	BRY, BLA	IR, HILLY	ARD, DU	ALL,JAM	ES VAC				A SHIFT	TOW	
		UNIT	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	50	50	42	4.518	10.5	0.415	11.9				2.74	CTL 18' PWTL / 2
		H1	165	165	153	0.418	10.8	0.076	30	92.3	10.09	233	3.5	1 ** IL/ Z
												С		
		H2	164	165	152	1.928	11	0.375	79.7	66.5	4.69	oos	4.3	CTL 15'
		СТ	OFF STAN	NDBY	57			-	-			С		
		12			1									
		ALARMS	:					1						
		R1		L		1								
		H1			NT/STEAM	SEAL LOV	V PRESSU	IRE/E.H. S	TART REQU	JIRED/DRUM	TRANS/	C.T. LEVEL/A	B PA FAN MOTOF	R/B BFP AUX
		H2	EH RES I	LEVEL HI										
		SOOT BI	OWERS T	AGGED				GAUGE (	SLASSES				DRYING AGENT	
		R1 22R					-	H-1 EAS					R1-0%	
			,30,31,33,4	2,43,44			1						H1 0%	
		H2 37,41			1								H2-0%	
												-		
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM	1
		I FVFI S	8' 10 7/8"	11' 2"	12' 2 1/4"	6 1/2"					16.9'		BSO	



BMR's.

### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

Plant: HMP&L Station Two Unit:	
Type of Leak:	
Pin Hole V ( 4 Roof tubes) _ Thick Lip Failure Thin Lip Fa	ilure
Tube Wall Thinning	
Orientation of Rupture: Longitudinal <u>√</u> Circumferential	
Probable Cause:	
Stress Overheat Erosion Internal Corrosion	
External Corrosion Weld Failure (Shop Field)	
Internal Obstruction to Flow Soot blower Erosion	
Other Flue gas erosion	_
Type of Repair:	
Dutchman Pad Weld <u>V (4 Roof tubes)</u> Plug Tube Short Circuit Other	
<b>Description of Repair:</b> Tube leaks on the 7 <sup>th</sup> , 8 <sup>th</sup> , 9 <sup>th</sup> and 10 <sup>th</sup> from west roof tubes between #3 and tube elements to Primary SH outlet header, at elevation 579' 8" were all repair.	





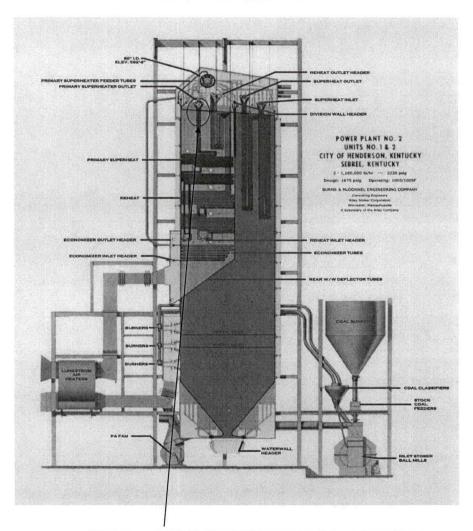
#### Your Touchstone Energy® Cooperative

# **Forced Outage Report**

**Exact Location of Leaks:** 

### HMPL STATION UNIT 2 2014 (4) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 19:40 5-30-14
Date and Time Unit On \_\_\_ 00:49 6-2-14



Tube leaks on the 7th, 8th, 9th and 10th from west roof tubes between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8" were all repaired via BMR's.



### Your Touchstone Energy\* Cooperative

# **Forced Outage Report**

### **Estimated Outage Cost**

Boiler De-Slag

Total

\$16,246.00

Vacuuming Economizer Hoppers, ME panels and the AH's

Total

\$16,024.36

Titan -tube leak repair

Labor

\$10,200

Material

\$106

**Total** 

\$10,306

Titan and Global - Misc. repairs (Gas leaks, coal leaks, etc.) and scaffolding/insulation

Labor

\$13,520

Material

\$1,800

**Total** 

\$15,320

**Grand Total** 

\$57,896.36





Lost Opportunity is the lost margins if the unit had stayed running

Your Touchstone Energy Cooperative

### Lost Sales Opportunity Report

		-/	evei	iue and i	-0:	ST OPPOR	TUN	II Y				
Init		HMP'L 2 -	H2-14	1-03				Product	ion Co	st		
ate & Time Off Line		5/30/14	4 19:40	)				MW		\$/MW		
ate & Time On Line		6/2/14	4 0:49					72	\$ 3			
Outage Duration		53 hr.	9 min.					127	\$	30.31		
Outage Code		U	O3					149	\$	29.99		
Outage Reason	Re	epair tube lea	ık in pe	enthouse								
Date	DA LI	MP Average	RT LI	MP Average		DART P&L		Lost				
5/30/14 (HE 19-24)	\$	32.93	\$	37.39	\$	(3,733)	\$	-				
5/31/14 (HE 1-24)	\$	39.53	\$	43.30	\$	(47,241)	\$	-				
6/1/14 (HE 1-24)	\$	34.98	\$	34.07	\$	-	\$	(18,776)				
6/2/14 (HE 1-12)	\$	34.28	\$	33.45	\$	39	\$	-				
Total					\$	(50,935)	\$	(18,776)				
Start Up Fu	el Cost						T	otal Forced	Outag	je Cost		
S/U Fuel Consumed		9,407					DA	RT P&L	\$	(50,935		
S/U Fuel Price	\$	3.20					Lost (	Opportunity	\$	(18,776		
S/U Fuel Cost	\$	(30,122)					S/U	Fuel Cost	\$	(30,122		
								Total	\$	(99,833		





Your Touchstone Energy Cooperative

### **Forced Outage Report**

To: Jim Garrett

From: Perry Bowley

Date: 22-Sep-2014

Plant: Green Unit: 1 GADS Class: UO2

#### **Duration**

Trip Time: 16-Jun-2014 06:26 Tie Time: 19-Jun-2014 17:33

Time Offline: 83:07 Minutes

#### **Outage Description**

Green Unit 1 was removed from service on Monday, 16-Jun-2014 at 06:26 due to the main shaft failure on "A" ID Fan.

### **Root Cause**

The Green Unit 1 "A" ID Fan Shaft broke in half causing major damage to the fan.

### **Failure History**

There have been no reported failures of this type in the period between 2001 - 2014. A crack was discovered in this fan shaft during an inspection in 1993, and the shaft was removed and sent to a welding shop for repair.

### **Corrective Action**

The unit was set up for half load service. Titan completed the ductwork repairs and sealed off the dampers. The unit was returned to service at half load status. A second outage was scheduled for July 15, 2014 to install MATS Equipment and install the new fan shaft.



### Your Touchstone Energy\* Cooperative

## Forced Outage Report

### Other Work Completed While Unit Was Offline

Inspected B Side recycle nozzles- were clean; all header cleanout plates were intact Inspected B Side demister panels, were in good condition, cleaned panels while down

Washed B Air Heater

Inspected boiler tube shields

Rebuilt top control valve EH actuator cylinder

Repaired a tube in leak in G1 # 2 Heater

Cleaned the flyash hoppers

Repaired "B" side Precipitator fields as required

2





Your Touchstone Energy\* Cooperative

Report Type

Standard

Report Number

Report Title

SOE STANDARD

Recorder Number

Triggered on....

16-Jun-2014 06:26:01:166

Number of Event Records

		-			
Event Time	State	AID	Tag Name	Tag Description	SER Index
16-Jun-2014 06:27:16:755	CLOSED	Α	G122ANN406SOE	HEATER 3 BS ISOL VALVE CLOSED	68
16-Jun-2014 06:27:04:502	NORMAL		G132ANN286SOE	FURNACE VACUUM HIGH<	246
16-Jun-2014 06:26:54:612	OK		G140ANN110SOE	TURB OIL PUMP SUCTION PRS LOW	6
16-Jun-2014 06:26:52:974	RUNG	Α	G148ANN130SOE	TURB LO MTR SUCT PMP STATUS	11
16-Jun-2014 06:26:52:237	OK		G132ANN326SOE	AIR FLOW LOW TRIP<	250
16-Jun-2014 06:26:51:490	LOW	A	G132ANN326SOE	AIR FLOW LOW TRIP<	250
16-Jun-2014 06:26:49:887	ALARM	A	G125ANN177SOE	DEAERATOR LVL HI-HI BS-ISOL	27
16-Jun-2014 06:26:44:050	LOW	A	G140ANN110SOE	TURB OIL PUMP SUCTION PRS LOW	6
16-Jun-2014 06:26:37:952	HIGH	A	G132ANN286SOE	FURNACE VACUUM HIGH<	246
16-Jun-2014 06:26:34:281	CLOSED	A	G125ANN404SOE	HEATER 5 BS ISOL VALVE CLOSED	66
16-Jun-2014 06:26:30:388	CLOSED	A	G133ANN349SOE	D MILL RATING DAMPER CLOSED<	117
16-Jun-2014 06:26:28:131	NCLSD		G133ANN349SOE	D MILL RATING DAMPER CLOSED<	117
16-Jun-2014 06:26:22:776	RUNNG	A		TURN GEAR OIL PMP RUNNING<	91
16-Jun-2014 06:26:18:916	NORMAL		G132ANN288SOE	EMGNCY FURN PRS CNTRLR OPER	122
16-Jun-2014 06:26:13:868	CLOSED	Α	G133ANN349SOE	D MILL RATING DAMPER CLOSED<	117
16-Jun-2014 06:26:10:986	NORMAL		G122ANN190SOE	HTR 1 DC LVL HI OR DRAINS BYP	36
16-Jun-2014 06:26:09:605	TRIPPD	Α	G150ANN070SOE	GEN EXCITER FLD BKR AUTO TRIP	3
16-Jun-2014 06:26:08:661	RESET			CV #1 NO LOAD TRIP<	234
16-Jun-2014 06:26:08:661	RESET			MSV #2 NO LOAD TRIP<	233
16-Jun-2014 06:26:08:498	RESET		G150ANN425SOE	GENERATOR DIFF RLY (87G) TRIP	81
16-Jun-2014 06:26:08:497	RESET		G150ANN440SOE	GEN TRP ON REVERSE POWER	86
16-Jun-2014 06:26:08:493	TRIPPD	A	G150ANN058SOE	GENERATOR RELAY 86G1 TRIP	2
16-Jun-2014 06:26:08:486	TRIPPD	A	G150ANN440SOE	GEN TRP ON REVERSE POWER	86
16-Jun-2014 06:26:08:486	TRIPPD	A	G150ANN425SOE	GENERATOR DIFF RLY (87G) TRIP	81
16-Jun-2014 06:26:06:860	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:06:604	OK	-	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:03:420	TRIPPD	Α		BOILER TRIP TO TCS<	229
16-Jun-2014 06:26:03:355	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:03:097	OK	_	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:02:854	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:02:599	OK	^	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:02:354	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:02:157	RESET	~		TURB TRIP PB OR OPER DCS TRIP	
16-Jun-2014 06:26:02:136	ACTIVE	A	G132ANN288SOE	EMGNCY FURN PRS CNTRLR OPER	221 122
16-Jun-2014 06:26:02:096	OK	^	G125ANN226SOE	DEAERATOR LEVEL HIGHS	43
16-Jun-2014 06:26:01:918	TRIPPD	A		CV #1 NO LOAD TRIP<	234
16-Jun-2014 06:26:01:917	TRIPPD	A		MSV #2 NO LOAD TRIP<	233
16-Jun-2014 06:26:01:889	OPENED	^	G103APASTSSOE	1A PA FAN STATUS	
16-Jun-2014 06:26:01:874	OPENED		G103BPASTSSOE	1B PA FAN STATUS	212
16-Jun-2014 06:26:01:853	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	226
16-Jun-2014 06:26:01:825	TRIPPD	A	G133ANN319SOE	MASTER FUEL TRIP	43 78
16-Jun-2014 06:26:01:628	CLOSED		G125ANN403SOE	HEATER 6 BS ISOL VALVE CLOSED	65
16-Jun-2014 06:26:01:598	OK	~	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:01:353	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:26:01:166	TRIPPD	A	G140ANN158SOE	TURBINE TRIP	43
16-Jun-2014 06:26:01:165	TRIPPD	A		TURB TRIP PB OR OPER DCS TRIP	221
16-Jun-2014 06:26:01:095	OK	^	G125ANN226SOE	DEAERATOR LEVEL HIGH	
16-Jun-2014 06:26:00:102	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGHS	43
16-Jun-2014 06:25:59:842	OK	^	G125ANN226SOE	DEAERATOR LEVEL HIGH	43 43
16-Jun-2014 06:25:59:601	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:25:59:342	OK	^	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:25:59:098	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
16-Jun-2014 06:25:58:841	OK	_	G125ANN226SOE	DEAERATOR LEVEL HIGH	
16-Jun-2014 06:25:58:601	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGHS	43
16-Jun-2014 06:25:58:341	OK	_	G125ANN226SOE	DEAERATOR LEVEL HIGHS	43 43
16-Jun-2014 06:25:58:099	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH	43
.5 55 2014 00.20.00.000	. 11011		O ILUMINIZEUUUL	DETERMINENT THE PROPERTY OF TH	43



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16-Jun-2014 06:25:57:840	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:57:601	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:57:338	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:57:098	HIGH	Α	G125ANN226SOE		
		H		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:53:783	OK		G141ANN209SOE	BFP B LUBE OIL PRESSURE LOW	34
16-Jun-2014 06:25:52:698	LOW	A	G141ANN209SOE	BFP B LUBE OIL PRESSURE LOW	34
16-Jun-2014 06:25:49:713	LOW		G122ANN166SOE	CONDENSER LOW VACUUM	23
16-Jun-2014 06:25:49:180	OPENED				
				1B BFP STATUS	258
16-Jun-2014 06:25:46:578	OK		G125ANN227SOE	DRUM LEVEL HIGH<	45
16-Jun-2014 06:25:15:791	HIGH	A	G125ANN227SOE	DRUM LEVEL HIGH<	45
16-Jun-2014 06:25:10:278	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:10:036	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH	
		M			43
16-Jun-2014 06;25:07:024	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:06:781	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:06:527	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:05:780	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
		^			
16-Jun-2014 06:25:05:271	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:04:778	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:04:524	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:04:028	HIGH	Α	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
		~			
16-Jun-2014 06:25:03:769	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:01:528	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:25:01:266	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:23:11:628	LOW	A	G122ANN235SOE	CONDENSER HOTWELL LEVEL LOW<	114
	LOW	A			
16-Jun-2014 06:22:51:105		A	G155ANN312SOE	MAIN STEAM TEMP LOW<	75
16-Jun-2014 06:22:21:914	OPENED		G103DPULVSTSSOE	1D PULVERIER STATUS	201
16-Jun-2014 06:22:08:799	HIGH	A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:20:20:330	RESET		G103BMNTRPSOE	G1 B MAIN TRIP	129
16-Jun-2014 06:20:20:310	OPENED		G103BMNSTSSOE	G1 B MAIN STATUS	130
16-Jun-2014 06:20:20:275	TRIPPD	A	G103BMNTRPSOE	G1 B MAIN TRIP	129
16-Jun-2014 06:20:19:689	CLOSED		G1031T2TIESTSSOE	G1 B BUS 1T2 TIE STATUS	203
16-Jun-2014 06:20:11:192	RESET		G103AMNTRPSOE	G1 A MAIN TRIP	125
16-Jun-2014 06:20:11:173	OPENED		G103AMNSTSSOE		
				G1 A MAIN STATUS	126
16-Jun-2014 06:20:11:131	TRIPPD	A	G103AMNTRPSOE	G1 A MAIN TRIP	125
16-Jun-2014 06:20:10:552	CLOSED		G1031T1TIESTSSOE	G1 A BUS 1T1 TIE STATUS	188
16-Jun-2014 06:17:41:192	OK		G122ANN236SOE	DEAERATOR LEVEL LOW<	44
16-Jun-2014 06:17:38:943	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:16:21:093	LOW	A	G122ANN236SOE	DEAERATOR LEVEL LOW<	44
16-Jun-2014 06:16:20:840	OK		G122ANN236SOE	DEAERATOR LEVEL LOW<	44
16-Jun-2014 06:16:20:594	LOW	A	G122ANN236SOE	DEAERATOR LEVEL LOW<	44
16-Jun-2014 06:16:04:242	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:16:02:239	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:37:848	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:36:345	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:06:540	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:04:032	HIGH	Α			
		A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:03:783	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:12:02:780	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:11:57:270	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:11:51:760	HIGH	A	G132ANN284SOE		
		~		SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:11:44:245	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:11:29:469	NORMAL		G133ANN335SOE	CONTROL SYSTEM RUNBACK REQD<	177
16-Jun-2014 06:10:47:389	HIGH	A	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:10:45:386	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:08:05:199	HIGH	A	G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:08:04:942	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:08:04:444	HIGH	A	G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:08:04:196	OK		G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:08:02:441		٨			
	HIGH	A	G122ANN225SOE	CONDENSER HOTWELL LEVEL HIGH<	113
16-Jun-2014 06:04:18:988	OPENED		G103AIDSTSSOE	1A ID FAN STATUS	290
16-Jun-2014 06:04:12:635	HIGH	A	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:04:11:131	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:56:856	RNBACK	A	G133ANN335SOE	CONTROL SYSTEM RUNBACK REQD<	177
16-Jun-2014 06:03:54:409	OPENED	-			
			G103AFDSTSSOE	1A FD FAN STATUS	183
16-Jun-2014 06:03:45:835	HIGH	A	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:42:327	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:34:563	HIGH	A	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:01:753	NORMAL		G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:01:250	HIGH	Α			
		M	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:03:00:800	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43



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16-Jun-2014 06:03:00:498	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:02:59:549	HIGH	Α		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:59:294	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:58:804		A	G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:58:747		A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:02:58:543	OK		G125ANN226SOE	DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:37:455	NORMAL			FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:02:36:452	NORMAL			SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:02:35:200		A	G132ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:02:34:448	HIGH	A		SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:02:32:944	NORMAL			FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:02:32:445	NORMAL			SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:02:23:759	HIGH	Α		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:23:497	OK			DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:22:758	HIGH	A		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:22:496	OK			DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:22:254	HIGH	Α		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:21:749	OK			DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:02:21:502	HIGH	A		DEAERATOR LEVEL HIGH<	43
16-Jun-2014 06:01:40:845	HIGH	Α		SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:01:38:592	NORMAL			SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:01:26:569	HIGH	A		FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:01:23:313	HIGH	A		SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:01:02:773	NORMAL			FURNACE PRESSURE HIGH<	62
16-Jun-2014 06:00:56:010	NORMAL		G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:00:54:758	HIGH	A		SEC AIR DUCT PRESSURE HIGH<	61
16-Jun-2014 06:00:51:752	HIGH	Α		FURNACE PRESSURE HIGH<	62
16-Jun-2014 05:59:44:375 16-Jun-2014 05:59:42:371	NORMAL HIGH	Α		FURNACE PRESSURE HIGH<	62
16-Jun-2014 05:58:42:759	NORMAL	A		FURNACE PRESSURE HIGH<	62
16-Jun-2014 05:58:10:697	NORMAL		G132ANN284SOE	FURNACE PRESSURE HIGH< SEC AIR DUCT PRESSURE HIGH<	62
16-Jun-2014 05:58:10:196	HIGH	A	G132ANN284SOE		61
16-Jun-2014 05:56:47:140	NORMAL	^	G125ANN186SOE	SEC AIR DUCT PRESSURE HIGH< HTR 5 LVL HI OR DRAINS BYP	61
16-Jun-2014 05:55:43:933	NORMAL			CONTROL SYSTEM RUNDOWN REQD	93 220
16-Jun-2014 05:55:39:663		A	H133ANN465SOE	BLR MSTR TRP TO MAN<	138
16-Jun-2014 05:55:38:663	RESET		H133ANN465SOE	BLR MSTR TRP TO MAN<	138
16-Jun-2014 05:55:38:411	TRIPPD	A	H133ANN463SOE	FUEL MSTR TRP TO MAN<	135
16-Jun-2014 05:55:38:161	TRIPPD	A	H132ANN464SOE	AIR FLW MSTR TRP TO MAN	137
16-Jun-2014 05:55:12:110	TRIPPD	A	H133ANN465SOE	BLR MSTR TRP TO MAN<	138
16-Jun-2014 05:55:11:875	RNDOWN			CONTROL SYSTEM RUNDOWN REQD	220
16-Jun-2014 05:55:08:103	RESET		H133ANN465SOE	BLR MSTR TRP TO MAN<	138
16-Jun-2014 05:55:07:866	NORMAL			CONTROL SYSTEM RUNDOWN REQD	220
16-Jun-2014 05:54:17:638	ALARM	A	G125ANN186SOE	HTR 5 LVL HI OR DRAINS BYP	93
16-Jun-2014 05:53:06:873	TRIPPD	A	H133ANN465SOE	BLR MSTR TRP TO MAN<	138
16-Jun-2014 05:53:06:639	RNDOWN	A	G1RUNDWNRQDSO!	CONTROL SYSTEM RUNDOWN REQD	220
16-Jun-2014 05:52:44:595	CLOSED	A	G132ANN329SOE	B MILL RATING DAMPER CLOSED<	249
16-Jun-2014 05:52:32:039	<b>OPENED</b>			1B PULVERIZER STATUS	170
16-Jun-2014 05:49:03:705	ALARM	A	G132ANN325SOE	ELECTRIC DRIVE POWER FAILURE<	247
16-Jun-2014 05:47:32:999	<b>OPENED</b>		G103CPULVSTSSOE	1C PULVERIZER STATUS	186
16-Jun-2014 05:46:55:678	LOW	A	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:46:54:425	OK		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:46:53:924	LOW	A	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:43:06:998	OK		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:42:44:958	ALARM	A	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
16-Jun-2014 05:41:53:111	NORMAL		G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
16-Jun-2014 05:41:50:855	ALARM	A	G130ANN256SOE	IGNITION OIL PRESS HIGH/LOW<	53
16-Jun-2014 05:38:17:451	NORMAL		G131ANN336SOE	FUEL-AIR HIGH/LOW LIMITING<	244
16-Jun-2014 05:34:01:714	LOW	A	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:34:01:465	OK		G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:33:58:209	LOW	A	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:33:57:207	OK	۸	G155ANN313SOE	MAIN STEAM PRESSURE LOW<	76
16-Jun-2014 05:33:56:205	LOW	A	G155ANN313SOE	MAIN STEAM PRESSURE LOW	76
16-Jun-2014 05:32:55:840 16-Jun-2014 05:32:48:826	ALARM NORMAL	Α	G131ANN336SOE	FUEL-AIR HIGH/LOW LIMITING	244
16-Jun-2014 05:32:48:826 16-Jun-2014 05:32:33:048	ALARM	Λ	G131ANN336SOE	FUEL-AIR HIGH/LOW LIMITING	244
16-Jun-2014 05:32:36:785	NORMAL	A	G131ANN336SOE G131ANN336SOE	FUEL-AIR HIGH/LOW LIMITING < FUEL-AIR HIGH/LOW LIMITING <	244
16-Jun-2014 05:32:15:763	ALARM	Α	G131ANN336SOE	FUEL-AIR HIGH/LOW LIMITING<	244 244
16-Jun-2014 05:20:04:629	HIGH	A	G131ANN285SOE	FURNACE PRESSURE HIGH<	62
16-Jun-2014 05:20:04:377	NORMAL	^	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	61
16-Jun-2014 05:19:53:356	HIGH	A	G132ANN284SOE	SEC AIR DUCT PRESSURE HIGH	61
				The state of the s	01



Your Touchstone Energy® Cooperative

## Forced Outage Report

D SHIFT

### **Operators Event Log**

	12:00							
6/16/2014	AM	UNDERFLOW RU	JN TIMES					
		1A	12HRS.					
		1B	11HRS.					
		2A	12HRS.					
		2B	20HRS.					
		IU RUN	24HRS	15MIN				
							BED	
	1:00AM	UNDERFLOWS	ON/OFF	<b>GPM</b>	SOLIDS	TORQUE	LEVEL	
		1A	ON	65	40+	0	6'10"	
		1B	OFF			8	6'10"	
		2A	ON	85	32.3	0	6'10"	
		2B	ON	215	35.1	7	6'8"	
	1:30AM	G-1 MAGNET M	OTOR IS TR	IPPED AND	WILL NOT RI	ESET. RUNNII	NG G-2 SIDE C	NLY
	4:15AM	WEEKLY DIESEL	FIRE PUMP	CHECK. O	К			
							BED	
	4:30AM	<b>UNDERFLOWS</b>	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	<b>TORQUE</b>	LEVEL	
		1A	ON	66	40+	0	6'10"	
		1B	ON	188	35.4	8	6'10"	
		2A	ON	80	34	0	6'10"	
		2B	ON	189	35.2	6	6'8"	

5:20AM G-1 BOILER WENT POSITIVE. FOUND 1A ID FAN DESTROYED. TAKING UNIT OFF LINE

6:26AM G-1 TRIPPED OFF LINE DUE TO ID FAN. ALL OIL FIRES OUT OF BOILER CALLED HOT LINE

6/16/2014 8AM BEAVEN, REED, RITTMEYER, LAWRENCE, HOPKINS, BERRY, BELL, RIGDON, GORRELL, D
TIM W. SMITH IN TRAINING UTILITY

UNITS LOAD CAP. SO2 NOX OPACITY MILLS
G-1 OUTAGE



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	G-2	240	242	0.13	0.22	13.20%	C=S/B
0.444	C! AVED.			TANK			
8AM	SLAKERS	IN/OUT	# ON	LEVELS	SILO		
	G-1	OUT	_	25.1/26.4			
	G-2	IN	2	25.7/24.9	3		
	PREP	IN	2	86.40%	4		
					F/A		SMT.
8AM	<u>I.U.</u>	CONV.	<b>DRUMS</b>	F/A SILO	TONS	<b>SMOOT</b>	RATE
	OUT						
8AM	F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>	
	#1 F/A SILO	30'	0	0	0	0	
	#2 F/A SILO	34'	1	0.5	0	0	
8AM	UNDERFLOWS	ON/OFF	GPM	COLIDS	TORQUE	BED	
OAIVI	1A	OFF	GFIVI	SOLIDS	0	<u>LEVEL</u> 6'9"	
	1B	OFF			14		
	2A	OFF				6'9"	
	2B	OFF			0 7	6'9"	
	26	OFF			/	6'8"	
	STACK DRAINS						
	G-1						
	G-2	<b>OPEN</b>					
1:00PM	THOMPSON VA	CUUMING	OUT G-1 AI	R HEATER HO	PPERS		
						250	
1:00PM	UNDERFLOWS	ON/OFF	GPM	SOLIDS	TORQUE	BED	
1.001 101	1A	OFF	GFIVI	301103	0	6'9"	
	1B	OFF			12	6'9"	
	2A	OFF			0	6'9"	
	2B	OFF			8	6'8"	
3:00PM	I.U. IN SERVICE				0	0 0	
2:58PM	G-1 "B" SIDE FAI		AND DED	TAAGING OU	т		
2.301101	S-I D SIDE FAI	NO AILE OF	AND RED	IAAGING OU	1.		
5:00PM	UNDERFLOWS	ON/OFF	<u>GPM</u>	<b>SOLIDS</b>	TORQUE	BED	





Your	Touchstone	Energy*	Cooperative	XD
11/01	TOTAL	Littigy	Conferance	16.2

					LEVEL
1A	ON	63	40+	0	6'9"
1B	ON	83	34.6	16	6'9"
2A	ON	85	33.1	0	6'9"
2B	ON	173	35.6	10	6'8"

6/16/2014

8:00PM

HUST, HAYES, NORTHINGTON, BUTLER, BARRON, HANER, COMBS, COOK, R. PARKER, COMBS, COOK, COOK, COOK, R. PARKER, COMBS, COOK, COOK, R. PARKER, COMBS, COOK, COOK, COOK, COOK, COOK

BRIAN

M.

**HUST- VAC BOLDS HERE** 

A SHIFT

	UNITS G-1	<u>LOAD</u> OUTAGE	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS
	G-2	240	242	0.09	0.27	9.9	2D ON S/B
8:00PM	SLAKERS G-1	IN/OUT	# ON	<u>TANK</u> <u>LEVELS</u> 20.2/25.7	SILO		
	G-2	IN	4	23.6/23.6	3		
	PREP	IN	1	82.0%	4		
8:00PM	<u>ı.u.</u>	CONV.	DRUMS	F/A SILO	F/A TONS	SMOOT	SMT. RATE
0.001 111	<u>1.0.</u> IN	В	B&C	2	23	1	28%
8:00PM	F/A SILOS	LEVEL	EAST	WEST	SILO	SAFETY	
	#1 F/A SILO	30	1.5	1	0	0	
	#2 F/A SILO	27	1.5	1.5	0	0	
0.00004	LINDERE OWG	011/055	6014	cours	<b>TODOUS</b>	BED	
9:00PM	UNDERFLOWS 1A	ON/OFF	GPM F7	SOLIDS	TORQUE 0	LEVEL 61.11"	
	1B	ON ON	57 142	40+ 35.2	9	6' 11" 6' 8"	
	2A	ON	76	34.3	0	6' 10"	
	2B	ON	142	36.4	14	6' 8"	
		( T. 1.5					

11:40PM RED TAGGED G-1 GENERATOR DISCONECT 0100-9



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	12:00									
6/17/2014	AM	UNDERFLOW RI	JN TIMES							
		1A	9HRS.	<b>30MIN</b>						
		1B	13HRS.	<b>30MIN</b>						
		2A	8HRS.							
		2B	13HRS.							
		IU RUN	15HRS							
							BED			
	1:00AM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>			
		1A	OFF			0	6' 10"			
		1B	OFF			9	6' 8"			
		2A	OFF	200		0	6' 10"			
		2B	ON	206	32.6	13	6' 8"			
	5:15AM	RELEASED AIR D	RELEASED AIR DRIVES ON AIR HEATERS FOR THOMPSON TO START WASH							
	5:21AM	JOHN LEE CALLED IN SICK								
	NOTE	SWAPPED VALV	ES AT ASH	POND TO I	W POND					
6/17/2014	8AM TIM W. D SHIFT	BEAVEN, REED, SMITH IN TRAIN			ICE, HOPKINS	S, BERRY, BE	LL, RIGDON,	GORRELL	., D	
		UNITS G-1	<u>LOAD</u> OUTAGE	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS		
		G-2	240	242	0.11	0.22	12.00%	C=S/B		
	8AM	SLAKERS G-1	IN/OUT	# ON	<u>TANK</u> <u>LEVELS</u> 25.2/25.2	SILO				
		G-2	IN	4	23.2/23.8	3				
		PREP	IN	3	75.60%	4				
						F/A		SMT.		
	8AM	<u>I.U.</u>	CONV.	<b>DRUMS</b>	F/A SILO	TONS	<b>SMOOT</b>	RATE	1	
		IN	В	A&B	1	20	1	30		





F/A SILOS

**LEVEL** 

**EAST** 

WEST

MA8

6/17/2014

8:00PM **BRIAN** M.

A SHIFT

Your Touchstone Energy Cooperative

SILO

**SAFETY** 

	#1 F/A SILO	22'	0	0	0	0				
	#2 F/A SILO	31'	1.5	0.5	0	0				
						BED				
8AM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	LEVEL				
	1A	ON	97	1.163	0	6'9"				
	1B	OFF			8	6'9"				
	2A	ON	68	34	0	6'9"				
	2B	ON	229	32.7	5	6'8"				
	STACK DRAINS									
	G-1									
	G-2	OPEN								
9:00AM	IU SWAPPED OVER TO #2 SILO									
10:30AM	UNPLUGGED DR	RAIN LINE BY	Y THE FAR	EAST AIR HEA	ATER HOPPER	l .				
1:00PM	UNDERFLOWS	ON/OFF	CDNA	COLLDC	TODOUE	BED				
1.000101		ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	LEVEL CIO!!				
	1A	OFF			0	6'9"				
	1B	OFF			8	6'9"				
	2A	OFF			0	6'9"				
	2B	OFF			5	6'8"				
3:30PM	INCOCCTED C 1	CHANDDI	. CECTION	DOUED 40T		V. I.T. E. D. III. D. I.I.D.				
3.30PW					H FLOOK VEK	Y LITTLE BUILD UP,				
	NO BIG CLINKER	SPREITYG	OOD SHAF	Ł.						
5:00PM	G-1 "A" SIDE PR	ECID HODDE	DC CLEANI	TD OUT						
5:30PM					CID DOORS	AT DELLY				
3.30111	CALLING IN ELEC			A SIDE PRE	CIP DOORS A	AT DELLY				
6:05PM	CHRIS DENTON									

**UNITS LOAD** CAP. **SO2** <u>NOX</u> **OPACITY MILLS** 

HUST, HAYES, NORTHINGTON, BUTLER, BARRON, HANER, COMBS, COOK, R. PARKER, C

10

**HUST-VAC DONITHAN HERE** 



6/18/2014

Your Touchstone Energy Cooperative

2D ON S/B

SMT. RATE 14%

	G-1	OUTAGE					
	G-2	240	242	0.07	0.2	10.8	
8:00PM	SLAKERS G-1 G-2 PREP	IN/OUT IN IN IN	# ON 1 4 1	TANK LEVELS 21.2/25.5 24.0/22.7 83.2%	SILO 1 3 4		
8:00PM	<u>I.U.</u> IN	CONV.	DRUMS A	F/A SILO 2	<u>F/A</u> <u>TONS</u> 14	SMOOT 1	
8:00PM	F/A SILOS #1 F/A SILO #2 F/A SILO	<u>LEVEL</u> 24 22	<b>EAST</b> 1.5	<u>WEST</u> 0	<b>SILO</b> 0 0	0 0	
8:30PM	UNDERFLOWS  1A  1B  2A  2B	ON/OFF OFF OFF OFF	<u>GPM</u>	SOLIDS	TORQUE 0 9 0	BED LEVEL 6' 10" 6' 8" 6' 10" 6' 8"	
8:30PM	MAINT DONE W ALSO BYPASSED			ETTING UP NO	DRNAL		
10:45PM 11:29PM	MAINT RELEASE CONDENSATE A						
12:MN	UNDERFLOW RU 1A 1B 2A 2B	JN TIMES 5HRS. 5HRS. 11HRS. 17HRS.	30MIN				



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							<u>BED</u>		
	12:30AM	<u>UNDERFLOWS</u>	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	<b>TORQUE</b>	LEVEL		
		1A	OFF			0	6' 10"		
		1B	OFF			9	6' 8"		
		2A	OFF			0	6' 10"		
		2B	OFF			0	6' 8"		
6/19/2014	12:44AM 1:00AM 2:45AM	THOMPSON OUT OF AIR HEATERS. SWAPPING VALVES AT ASH POND BACK TO ASH PO IU DOWN 7' IN TANKS HYDRO COMPLETE. BOILER IS OK PER NEIL WATSON							
6/18/2014	8:00AM DALE G. C SHIFT	THOMAS, TOW				I, MAHAN, R	ITTMEYER,SMITH, STRIC		

<u>UNITS</u> OFF	LOAD	CAP.	<u>SO2</u>	<u>NOX</u>	<u>OPACITY</u>	MILLS
G-2	240	242	0.124	0.224	11.4	2C ON S/B
SLAKERS G-1 G-2 PREP	IN/OUT IN IN IN	# ON 1 3 1	TANK LEVELS 21.7/25.5 23.3/21.1 73.5%	SILO 1 3 4		
<u>I.U.</u> OUT	CONV.	DRUMS	F/A SILO	F/A TONS	<u>SMOOT</u>	SMT. RATE
UNDERFLOWS  1A  1B  2A  2B	ON/OFF OFF ON OFF 12	<b>GPM</b> 67	<b>SOLIDS</b> 33.9	TORQUE 0 10 0 8	BED LEVEL 6'10" 6'10" 6'10" 6'	



Your Touchstone Energy® Cooperative

STACK DRAINS

G-1 **OPEN** G-2 **OPEN** 

F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>
#1 F/A SILO	32	off			
#2 F/A SILO	29	off	off	0	0

9:20 AM IW POND SET BACK UP FOR PRECP. WASH

9:24 AM THOMPSON WASHING IN PRECPS

NOTE TAGGING OUT G-1 AIR HEATER SOOTBLOWERS TO REPAIR CONDUIT

9:52 AM PUT ON G-1 E.H. PUMP FOR MAINTENANCE TO CHECK LEAK ON CYLINDER LEAKING TO

11:10

AM SHUT OFF E.H. PUMP ( MAINTENANCE ORDERING PARTS )

12						BED
NOON	<b>UNDERFLOWS</b>	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	<b>TORQUE</b>	<b>LEVEL</b>
	1A	ON	88	28.2	0	6'10"
	1B	ON	229	28.4	8	6'10"
	2A	ON	68	34	0	6'10"
	2B	ON	219	30.6	8	6'2"

1:05 PM STARTED G-1 A DIRECT COOLING WATER PUMP (B OFF)

1:10 PM SHUT OFF 1B STATOR COOLING WATER PUMP(BACK ON)

1:15 PM OPENED 4160 FEEDER BREAKER 1B1 FEEDING 1B11

1:41 PM ELECTRIC DEPT. RELEASED 1B11 (BACK IN SERVICE)

					F/A		SMT.	
2:00 PM	<u>I.U.</u>	CONV.	<b>DRUMS</b>	F/A SILO	<b>TONS</b>	<b>SMOOT</b>	RATE	
	IN	Α	A&B	1	18	1	30%	

NOTE SETTING G-1 BOILER TO FIRE

4:00 PM	UNDERFLOWS	ON/OFF	<b>GPM</b>	SOLIDS	TORQUE	LEVEL
	1A	ON	74	37.3	0	6'10"
	1B	ON	225	28.8	8	6'10"
	2A	ON	63	33.8	0	6'10"
	2B	ON	160	35.2	8	6'2"

RED



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6/18/2014

8PM

DONITHAN, FARLEY, BACHMAN, WHITLEDGE, HOOVER, TRAVIS, LOVAN, TAPP, T. PAR

**ERICS** HANER HERE

**B SHIFT** 

	<u>UNITS</u>	LOAD	CAP.	<u>SO2</u>	NOX	<b>OPACITY</b>	MILLS	
STARTUP	G-1	0	250	0	0	0	1D OFF	
	G-2	180	240	0.21	0.221	10.9	2A OFF	
	CLAVEDO	IN/OUT	# ON	TANK	CII O			
	SLAKERS	IN/OUT	# ON	LEVELS	SILO			
	G-1	IN	1	25/24	2			
	G-2	IN	3	25/25	3			
	PREP	IN	1	86.00%	4			
					F/A		SMT.	
	<u>I.U.</u>	CONV.	<b>DRUMS</b>	F/A SILO	<b>TONS</b>	<b>SMOOT</b>	RATE	,
	IN	Α	A,B	1	19	1	28	
	F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>		
	#1 F/A SILO	25	RT	RT	0	0		
	#2 F/A SILO	32	1	2	0	0		
						BED		
	UNDERFLOWS	ON/OFF	<b>GPM</b>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>		
	1A	OFF	91		0	6' 11"		
	1B	OFF	248		8	6' 10"		
	2A	ON	74	32.2	0	6' 11"		
	2B	ON	163	29.6	10	6' 8"		
	STACK DRAINS							
	G-1	OUTAGE						

G-2

10:00PM AFTER STARTING FANS ON G1 WE FOUND LOTS OF DUST BLOWING OUT TOP OF THE PF IVESTIGATION IS ON GOING AS TO WHY

UNDERFLOWS ON/OFF 12:00AM **GPM SOLIDS TORQUE BED** 

**OPEN** 

14





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			<b>LEVEL</b>
1A	OFF	0	6' 11"
1B	OFF	8	6' 10"
2A	OFF	0	6' 11"
2B	OFF	8	6' 8"

12;30AM SWAPPED WASTE WATER BACK TO ASH POND UNTIL PRECIP WASH BEGINS

3:00AM 1A SIDE AIR HEATER OUTLET DUCT DAMPER NOT CLOSING OFF, MAINT TO CUT IT LOOS

CLOSE, IF THEY DO THEY WILL BE WELDED SHUT

3:00AM SENT THOMPSON HOME, WE WONT BE READY FOR THEM TO START WASH UNTIL THER

						BED
12:00AM	UNDERFLOWS	ON/OFF	<b>GPM</b>	<b>SOLIDS</b>	<b>TORQUE</b>	<b>LEVEL</b>
	1A	OFF	92		0	6' 11"
	1B	OFF	242		8	6' 10"
	2A	OFF	89	28	0	6' 11"
	2B	OFF	180	31.6	8	6' 8"

6/19/2014

8:00AM DALE G.

D. BARRON, GEER, BOLDS, TURNER (VAC), DENTON, MAHAN, SMITH, STRICKLAND, NO THOMAS, TOWNSEND, HOBGOOD, PARKER

C SHIFT

<u>UNITS</u> OFF	LOAD	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS	
G-2	240	242	0.243	0.23	11.4	2C ON S/B	
			TANK				
<b>SLAKERS</b>	IN/OUT	# ON	LEVELS	SILO			
G-1	IN	1	21.7/25.5	1			
G-2	IN	3	23.3/21.1	3			
PREP	IN	1	73.5%	4			
<u>I.U.</u> OUT	CONV.	DRUMS	F/A SILO	F/A TONS	SMOOT	SMT. RATE	<u> </u>



9:01 AM 9:28 AM NOTE NOTE

6:00 PM

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4	5c ricport						
	UNDERFLOWS  1A  1B  2A	ON/OFF ON ON ON	GPM 63 221 82	SOLIDS 40+ 29.7 30.2	TORQUE 0 10 0	BED LEVEL 6'10" 6'10" 6'11"	
	2B	ON	45	32.8	10	6'6"	
	STACK DRAINS G-1 G-2	OPEN OPEN					
	F/A SILOS	<b>LEVEL</b>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>	
	#1 F/A SILO	30	off				
	#2 F/A SILO	31	1.5	0	0	0	
	G-1 B F.D. FAN ON G-1 A IGNITION OIL PUMP ON STARTED PUMP @ IW POND GOT AN ALARM IN ON G-1 BURNER DECK GETTING INST. TO ASSIST						

12:09 PM	GOT A FIRE IN G	6-1 BOILER N	NOTIFIED H	H/L		
12 NOON	UNDERFLOWS	ON/OFF	GPM	SOLIDS	TORQUE	BEC LEVE

12						BED
NOON	<u>UNDERFLOWS</u>	ON/OFF	<b>GPM</b>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>
	1A	ON	61	40+	0	6'10"
	1B	ON	226	28.2	8	6'10"
	2A	ON	79	28.4	0	6'11"
	2B	ON	138	31.6	10	6'6"

2:50 PM ELLIOT BERRY CALLED OFF FOR 8P-8A SHIFT TONITE

NOTE	CLOSED ALL DOORS ON "A" SIDE DUCT EXCEPT 2 TOP AND 1 BOTTOM AIR HEATER DOO
3:36 PM	STARTED "A" AIR HEATER ELECTRIC DRIVE
4:50 PM	RELEASING HOLD #310 ON GENERATOR DISCONNECT 100-9
5:33 PM	G-1 TIED ON LINE AND PRECP'S IN SERVICE AND NOTIFIED H/L
6:00 PM	G-1 CROSS OVER TEMPERATURE @ 350 DEGREES 1 HOUR HOLD
	BED

**GPM** 

**TORQUE** 

**LEVEL** 

**SOLIDS** 

UNDERFLOWS ON/OFF



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# Forced Outage Report

OFF			0	6'10"
OFF			8	6'10"
ON	79	28	0	6'11"
ON	188	29.6	10	6'6"
	OFF ON	OFF ON 79	OFF ON 79 28	OFF 8 ON 79 28 0

7:18PM G1 D MILL IN SERVICE

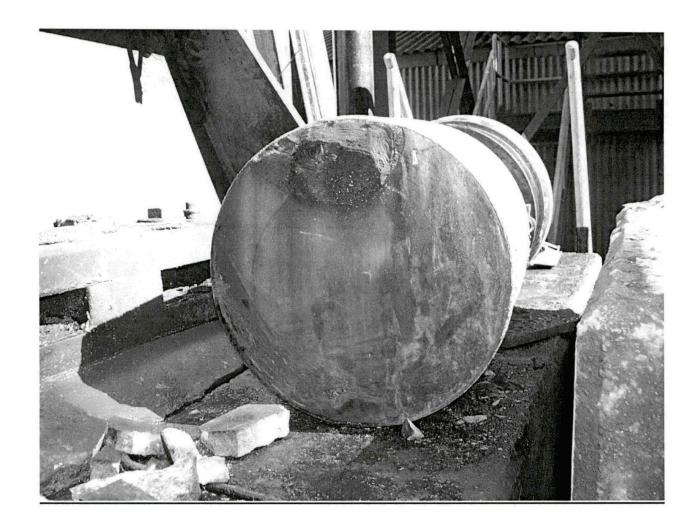
### **Pictures**













### **Estimated Outage Cost**

All Costs we captured on Capital Project BP14G089F

Big Rivers Labor \$14,502

Material and Outside Labor \$949,000

Your Touchstone Energy Cooperative

### **Lost Sales Opportunity Report**

# FORCED OUTAGE COST ANALYSIS

MISO DART	Revenue and LO	ST OPPORTUNITY
-----------	----------------	----------------

Unit	Green 1 - G1-14-09	Production Cost
Date & Time Off Line	6/16/14 6:26	MW \$/MW
Date & Time On Line	6/19/14 17:33	91 \$ 29.8
Outage Duration	83 hr. 7 min.	181 \$ 26.2
Outage Code	UO2	235 \$ 25.7
Outage Reason	A ID fan rotor failed; installed blanks in duct work; started unit up at half load	

Date	DA LMP	Average	RT	LMP Average	I	DART P&L	Oį	Lost portunity
6/16/14 (HE 6-24)	\$	41.26	\$	78.95	\$	(234,025)	\$	-
6/17/14 (HE 1-24)	\$	45.51	\$	58.74	\$	-	\$	(109,707)
6/18/14 (HE 1-24)	\$	56.26	\$	35.09	\$	-	\$	(169,330)
6/19/14 (HE 1-24)	\$	45.06	\$	57.08	\$	(56,987)	\$	(74,476)
Total	3				\$	(291,012)	\$	(353,513)

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		20,043	DART P&L	\$	(291,012)
S/U Fuel Price	\$	3.21	Lost Opportunity	\$	(353,513)
S/U Fuel Cost	\$	(64,380)	S/U Fuel Cost	\$	(64,380)
			Total	\$	(708,904)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To: Jim Garrett

From: Billy Boarman

Date: 30-Jun-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO1

### **Duration**

Trip Time: 18-Jun-2014 06:00 Tie Time: 22-Jun-14 01:37

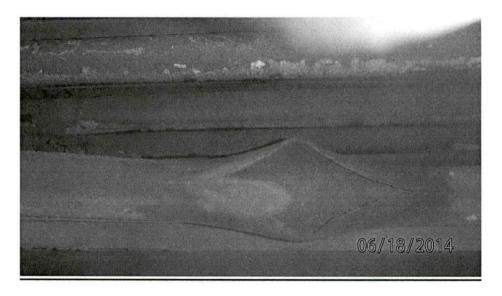
Time Offline: 91:37

### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Friday, 18-Jun-2014 at 06:00 due to a suspected tube leak in the primary superheater area.

### **Root Cause**

Tube leak in the top tube in the 37<sup>th</sup> element from the east wall in the primary superheat section of the boiler at elevation 560'.





1



Your Touchstone Energy Cooperative

## Forced Outage Report

### **Failure History**

17-May-2011

HMP&L Station II Unit 2 was removed from service at 09:51 on Tuesday, 17-May-2011 due to a high furnace pressure MFT. Tube leak on the 10<sup>th</sup> element-top tube from the west wall in the primary superheat section of the boiler. Duration 34:39

#### **Corrective Action**

Titan installed a 5' 5" dutchman in the 37<sup>th</sup> element-top tube. The 37<sup>th</sup> element-2<sup>nd</sup> tube and 3<sup>rd</sup> tube also had 2' 4" dutchmen installed due to them being kinked from the leak in the top tube. Sample of the top tube will be sent out for further analysis to determine failure cause.

### **SOE Print Out**

Triggered on: 18-Jun-2014 05:58:20:157

		•
OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
ОК	H225DRMTRP	BOILER DRUM LEVEL TRIP
TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
ОК	H232FURNPRSTRP	FURNACE PRESSURE HIGH TRIP
ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
LOW	H245SEALSTMLOW	TURBINE SEAL STEAM PRESS
TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
ОК	H203M3ATRP	4160 BKR MILL H2A TRIP
OPEN	H203M3BSTS	4160 BKR MILL H2B STATUS
TRIP	H203M3ATRP	4160 BKR MILL H2A TRIP
OPEN	H203M3ASTS	4160 BKR MILL H2A STATUS
OPEN	H203PAF3BSTS	4160 BKR PA FAN H2B STATUS
CLOSED	H203M3BSTS	4160 BKR MILL H2B STATUS
TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
TRIP	H232FURNPRSTRP	FURNACE PRESSURE HIGH TRIP
ОК	H243HYDOILHITE	TURB HYD FLUID HIGH TEMP
	OK OK OK TRIP TRIP LOW OK TRIP OK LOW OK LOW TRIP TRIP TRIP OK OCH TRIP TRIP OCH OPEN TRIP OPEN CLOSED TRIP TRIP	OK         H2500CB182GETR           OK         H2500CB186GETR           TRIP         H2500CB182GETR           TRIP         H2500CB186GETR           LOW         H222HTR2LVLLO           OK         H225DRMTRP           TRIP         H225DRMTRP           OK         H240STPVLVTRP           LOW         H232FURNPRSTRP           OK         H233LMISTRP           LOW         H245SEALSTMLOW           TRIP         H240STPVLVTRP           OK         H203M3ATRP           OPEN         H203M3ATRP           OPEN         H203M3ASTS           OPEN         H203M3ASTS           OPEN         H203M3BSTS           TRIP         H203M3BSTS           TRIP         H203M3BSTS           TRIP         H203M3BSTS           TRIP         H203M3BSTS           TRIP         H233EMERBLRTRP           TRIP         H232FURNPRSTRP



#### Your Touchstone Energy\* Cooperative

### Forced Outage Report

### Other Work Completed While Unit Was Offline

- Repaired gas leaks in the boiler penthouse and also the economizer hopper area
- Clean 480V transformer
- Checked battery charger connections
- Cleaned furnace taps
- Repaired SCR Seal Air Fan ducting
- Cleaned Wet bottom Seal Trough
- Back-pass inspection
- Boiler Reheat vacuum check
- Repaired coal leaks on "A" Mill
- Repaired coal leaks on "B" Mill
- Cleaned seal air fan filters
- Performed high pressure wash on the economizer tubes due to ash accumulation
- Repaired boiler roof refractory in between the reheat outlet and screen wall tubes
- From the initial boiler hydro-test, it was discovered that the initial repairs on the primary superheat tubes were good but there were also leaks in the Superheat outlet elements the 3<sup>rd</sup> and 6<sup>th</sup> from the east wall. Leak in the 3<sup>rd</sup> element was in the 3<sup>rd</sup> loop from the inner at elevation at 539', this loop was replaced. While the 6<sup>th</sup> element was on the inner (hair pin) loop on the north side at elevation 549'-6", this was repaired via installation of a 5' 4" Dutchman.





#### Your Touchstone Energy® Cooperative

### Operators Event Log

6/18/2014	12:00AM	J.ARNOL	LD, A.YOU	NG LEAVING	3									
			NG H1 SCR		1-0									arteri transadorna de como de
			IG AMMON		-	-				-	-			
				JEL OIL TO										
	NOTE:			KS FOR JIM										
			PED HIGH											
			NG H2 BOIL											
					DCT TO DC		IF 0\(0)							
	NOTE:	KI,HI,H	2 & BOOTF	E SYSTEM	RITORE	AIR BOOT	HE SYSTEM	M B SIDE	EQUALIZING	3 LINE				
014010044		EDMONDS, JACKSON, GRIFFIN, BOWLEY, HOGAN, ALEXANDER, WADLINGTON, KURZ												
6/18/2014	8;00AM	EDMON				, HOGAN ,	ALEXANDE	R,WADL	INGTON, KU	RZ		C SHIFT	CARTER	
				NES JOHNS										
		UNIT	LOAD		NET CAP.	-	CO2	NOX	1.4	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	50	50	42	4.67	10.7	0.385	9.8					
		H1	165	165	153	0.164	11.1	0.063	25.5	96.7	10.23	216/C	3.3	
		H2		165	152	OUTAGE 7	TUBE LEAK							
		CT	65	57		ON STAND	DBY							
		ALARMS	S:										•	
		R1												
		H1	BURNER	MANAGEME	ENT/STEAM	SEAL LOW	PRESSUE	RE/E.H. P	RESSURE L	O START RE	QUIRED/ D	RUMXMTR MA	INT	
		H2		LEVEL HI										
			LOWERS					GAUGE	GLASSES		PWTL 26.0	)'	DRYING AGENT	
			19,28,29,3			-		OK					R1-0%	
		177.57		27,29,30,31	33.34.43	1	-	0.1					H1-0%	
		H2 9,4		_,,,,00,01									H2-0%	
			IL C.H.	HMPL	NODTU	COUTU					CHOLM			
				-	NORTH		1				SILO LVL		BOOTHE SYSTEM	
	0.00444		10' 1"	14'	12' 4 1/4"	6 1/2"	4	-			12'		IN	
			SAFETY BRIEFING											
	NOTE	AUXILIARY FOUND H1 -B2 COAL FEEDER BELT IN BAD SHAPE / B.SHARTUNG NOTIFIED												
	9;00AM													
	NOTE	OPENIN	G H2SCR	MID LAYER	DOORS FO	OR INSPEC	TION							
	NOTE	TAGGIN	IG OUT H2	BLEED PU	MPS									
	12;33PM	DEBUS	K HERE / S	SETTING UP	TO VACUE	A H2 PENTH	HOUSE							
	1;25pm	R1,H1,H	2 & BOOTH	E SYSTEM	RELEASE	1								
	1;40PM	воотн	E SYSTEM	IN & HMPL	FLYASH									
	2;10PM	H2 BOIL	ER SET F	OR HYDRO	& VACUM	CHECK								
	NOTE	W/O ON	6A CONV	PLOW TO	R1 BUNKE	RS								
	2;25PM	CALLED	MURPHY	ELEVATOR	HMPL ELE	VATOR ST	OPPING O	N EVERY	FLOOR					
	NOTE			ORE VACUE	Charles Carlo Carl			-						
	NOTE			DBY AT HOT				-			1			
	5:00PM		LEVATOR								-			
	NOTE			ST FOR OP	FRATORS	A SHIFT I	м							
	6:45PM		NG H2 WE		LIMIONS	A Shiri Li	IWI		-					
	7:20PM				EDATORS	D CUIET!		-	+					
	7.20PM	CALLING	G INKU LI	ST FOR OP	EKATOKS	Daniel	IVI							
6/40/0044	0.00014	OL ABIS	DDEEDE	Lucono	DI ANICO	(OLING					-		DENIN EX	
6/18/2014	8:00PM	7		, HIGGINS,		TOUNG		-			-	B SHIFT	PENDLEY	
				W VAC - ON										
		UNIT	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	49	50	42	4.6	10.8	0.383	6.5				3.68	
		H1	144	165	153	0.196	10.5	0.063	17.8	96.3	6.14	207	3	
		H2	OFF TUE	BE LEAK										
		CT	STAND E	3Y	56									
		ALARMS	S:											
		R1												
		H1	BURNER	MANAGEME	ENT/STEAM	SEAL LOW	/ PRESSUR	RE/E.H. S	TART REQUI	RED/DRUM	TRANS/ C.	T. LEVEL		
		H2	EHRES	LEVEL HI										
			LOWERS					GAUGE	GLASSES		PWTL		DRYING AGENT	
		R1 22R						OK			27'		R1- 0%	
				34,42,43,44				J.					H1- 0%	
		H2 37,4		, - 1, 12, 10, 17							·		H2- 0%	
			IL C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTH SYSTEM	
			10' 1"	14'	12' 4 1/4"		1						IN	
		LEVELS	10 1	14	12 4 1/4	0 1/2					11'		IN	



Your Touchstone Energy® Cooperative

•			- 0.0	age		SP.	J . C							C. S.	
6/18/2014	8:00PM	SAFETY	BRIEFING												
	8:53PM	G. CALL	HOUN RETUR	RNED CALL	- COMING	IN									
	NOTE		G UP 2 TRUC				- PULLING	DEBUSK	FROM PEN	THOUSE					
	10:30PM		HOUN HERE					DEBOOK	THOM TEN	MINOCOL				-	
	11:00PM													***	
			SH - HAD BRE	C DISPATCH											
		M H-1 - R-1 FLYASH WONT START - ELECT FOUND VOLTAGE HIGH ON SCRUBBER WHICH FEEDS DRY FLYASH - HAD BREC DISPATCH LOWER VOLTAGE ON SCRUBBER TRANSFORMER - FLYASH STARTED													
/19/2014	1:00AM		ES - DO NO												
			T SEAL CLE												
			NG LEAVING												
			K FINISHED												
			OF OUR PE												
	4:25AM		K STARTING				OI IOI WAY	/ ILLIVA	,						
	T. EOT UIT	DEDOO	Committee	OHITZEO	ONOMIZZEN	TIOI I LINO									
/19/2014	8;00AM	FDMON	DS,JACKS	C CUIET	CARTER										
10/2014	0,0071111	LDIVION		ES JOHNS		, HOGAN ,	LEXANDE	IN, WADLI	NGTON, NO	INZ.		CSHIFT	CARTER	-	
		UNIT		UNIT CAP	7	802	CO2	NOX	OBACITY	DEMOVAL	DUCT	ARMA ELOIM	DACK PRESSURE		
		R1	48	50	42	4.66		0.399		REMOVAL	0051	AMIN. FLOW	BACK PRESSURE		
						1222	10.5		8.5	04.0	7.40	20212			
		H1	165	165		0.293	10.9	0.066	37.4	94.6	7.46	202/C	3.6		
		H2	05	165	152	OUTAGE 1			-						
		CT	65	56		ON STANE	)R.A		-	-					
		ALARM	5:		-				-	-					
		R1	B. (B. )					]							
		H1			NT/STEAM	SEAL LOW	PRESSUF	RE/E.H. PR	ESSURE L	O START RE	QUIRED/ D	RUMXMTR MA	NT		
		H2		LEVEL HI											
			BLOWERS 1					GAUGE (	GLASSES		PWTL 25.9	,	DRYING AGENT		
		R1 16,	,19,28,29,30	),31/22R				OK					R1-0%		
		H1 1-	24 ,42,44 / 2	27,29,30,31,	33,34,43								H1-0%		
		H2 9,	41,46/37										H2-0%		
		FUEL O	IL C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM		
		LEVELS	S 9' 10 1/2"	14'	12' 4 1/4"	6 1/2"					12'		OUT		
	7;00AM	MONTH	LY SAFETY	MEETING											
	8;00AM	SAFETY	BRIEFING												
	NOTE	D C.T. C	CWP OFF												
	NOTE	H2 CON	IDENSOR V												
	NOTE	UNLOA	DING FUEL	OIL TRUCK	(S										
	9;11AM														
	9;15AM	воотн	E SYSTEM	OUT / 6'											
	10;30AM	H2 ECO	NS CLEAN	INSIDE B.C	HEATHAM	NOTIFIED									
	NOTE		K STILL DR												
	11:45am		LLIOTT AIR				ТОТ			1				70-170	
								H2 SCR SI	EAL AIR HE	ADERS & 1	TRUCK B	ACK TO H2 PE	NTHOUSE		
			STILL ON S					iz don di	LAL PURCH	The Little G	THOUSE DA	OR TO HETE	MINOSOL		
					STATE OF THE PARTY										
		OPENING H2 CONDENSOR WATER BOXES  ACES CALLED FOR GAS TURBINE													
			ART SIGNAL			-	+			-					
			RES ESTABL					†	-	1					
			D ON LINE	LISHED											
				EOD FONET	- AMA/C		-	-							
	3;39PM 3;59PM		ADS GOOD			DING CC	E IN A1 65	MA AID III	05 0 5411	ONIT					
			A FAN MOTO					W AIR HO	SE & FAN	ONII				-	
		1	NG DEBRIS							OUEO: DE	1.00:1-				
	4;15PM					SUME / MA	IN I GOING	10 100	AI AND	CHECK BRO	LOCK DO	WNS			
	4;50PM		R.JONES												
	4;55PM														
	5;30PM														
	6;56PM	H2-B BF	FP ON FOR	HYDRO			-	-							
		]												-	
19/2014	8:00PM	CLARK, BREEDEN, HIGGINS, BLANKS, YOUNG										B SHIFT	PENDLEY		
			& CUTSHAW												
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE		
		R1	50	50	42	4.6	10.6	0.409	10.4				3.57		
		R1 H1	143	165	42 153	4.6 0.223	10.6	0.409	10.4 17.7	95.7	5.06	228	3.57 2.5		
				165						95.7	5.06	228			





Your	Touchstone	Energy*	Cooperative	X
	10 months	2110167	Confermence	1.60.0

		ALARMS:												
		R1												
		H1		MANAGEME	NT/STEAM	SEAL LOW	/ PRESSI	URE/E.H. ST	ART REQUI	RED/DRUM	TRANS/ C.	T. LEVEL		
		H2	EH RES											
			OWERS 1	TAGGED					GLASSES		PWTL		DRYING AGENT	
		R1 22R						OK			27'		R1- 0%	
				34,42,43,44									H1- 0%	
		H2 37,41											H2- 0%	
		FUEL OIL		HMPL	NORTH	SOUTH	_				SILO LVL		<b>BOOTH SYSTEM</b>	
		LEVELS	9' 10 1/2"	14'	16' 1 3/4"	6 1/2"					15'		OUT	
6/19/2014	8-00PM	SAFETY I	RRIFFING											
011012014				PRESSOR E	BACK IN ST	ANDRY							-	
				ENTS CLOS										
		H-2 'A' BF												
				TE HOLD - 'A	BEP OFF	AT 8:52								
				SUPERHEA										
				WASHING I		RES - PULL	ED PEOF	PLE OFF OF	DESSICAN	T AIR DRYE	R TO STAF	T WASH		
				ER - EVER			201201	LL OIT OI	DECOIONII	AINDINE	IN TO OTAL	II WAOII		
				OR DE-SLAG		HERE IN A	BOUT AN	HOUR						
									O VACULIN	REST OF F	ESSICANT	C& SEND THE	REST OF THEM	
		HOME												
	10:40PM	CALLED	K. BROOK	S (DEBUSK	WILL HAV	E 2 CREW	SINATE	SAM TOMOR	ROW MORN	NING FOR E	CONOMIZE	R WASH & PE	NTHOUSE VACUUM	
				SHACK - TA								AL CONTRACTOR OF THE PARTY OF T		
	10:51PM	STARTED	H-2 'A' F.	D. FAN										
		EXPRO S												
6/20/2014				VACUUMIN	G DESSICA	NT AIR DR	YER							
				RST CHARG										
		DEBUSK	-											
				ME THEY H	AVE TO SH	UT DOWN	BECAUS	E OF VISIBI	E LIGHTNIN	NG - THEY A	RE GOING	TO SHOOT EY	EBROWS OFF OF	
		EXPRO INFORMED ME THEY HAVE TO SHUT DOWN BECAUSE OF VISIBLE LIGHTNING - THEY ARE GOING TO SHOOT EYEBROWS OFF OF BURNERS												
	2:15AM	PUT 2 BA	RRELS OF	BALLS IN	H-1 'B' MILL									
	2:52AM	EXPRO R	ESUMED F	BLASTING										
	3:00AM	A. YOUNG	A. YOUNG LEAVING - M. PEYTON & N. STIFF HERE											
	5:10AM	TITAN INSPECTING H-2 BOILER												
	NOTE	GREEN S	TATION TE	RANSFERRE	D FUEL OI	Ĺ								
	5:00AM	DEBUSK HERE - TOLD JEFF GARDNER DE-SLAG STILL GOING ON - BE READY TO GO IN WHEN I CALL THEM												
	5:59AM	CALLED .	JEFF GAR	DNER - TOL	D HIM THE	Y COULD G	O TO WO	ORK IN ECC	NOMIZER F	IN TUBES				
	6:35AM	DEBUSK	FINALLY S	SHOWED UP	AT THE FI	N TUBES -	AFTER T	THEY FINISH	ED THEIR	COFFEE - I	WAS ON T	HE BOILER WA	TCHING	
6/20/2014	8:00AM	FELTY,C	ECIL EMB	RY, BLAIR,	HILLYARD.	DUVALL.J	AMES					A SHIFT		
					,								TOW	
		LEE, JON	NES				I.							
		UNIT	LOAD		NET CAP.	SO2	CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		UNIT R1	LOAD 49	48	NET CAP.	SO2 4.625	10.4	0.42	9.3				BACK PRESSURE 3.56	
		UNIT R1 H1	LOAD 49 165	48 165	NET CAP. 42 153	SO2				REMOVAL 95.1	DUST 6.37	AMM. FLOW 263	BACK PRESSURE	
		UNIT R1 H1 H2	LOAD 49 165 UNIT OFF	48 165 155	NET CAP. 42 153 142	SO2 4.625	10.4	0.42	9.3				BACK PRESSURE 3.56	
		UNIT R1 H1 H2 CT	LOAD 49 165 UNIT OFF ON STAN	48 165 155	NET CAP. 42 153	SO2 4.625	10.4	0.42	9.3				BACK PRESSURE 3.56	
		UNIT R1 H1 H2 CT ALARMS:	LOAD 49 165 UNIT OFF ON STAN	48 165 155	NET CAP. 42 153 142	SO2 4.625	10.4	0.42	9.3				BACK PRESSURE 3.56	
		UNIT R1 H1 H2 CT ALARMS:	LOAD 49 165 UNIT OFF ON STAN	48 165 155 DBY	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256	10.4	0.42	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6	
		UNIT R1 H1 H2 CT ALARMS:	LOAD 49 165 UNIT OFF ON STANI	48 165 155 DBY	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256	10.4	0.42	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56	
		UNIT R1 H1 H2 CT ALARMS: R1 H1	LOAD 49 165 UNIT OFF ON STANI	48 165 155 DBY MANAGEME OIL	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256  SEAL LOW	10.4	0.42	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6	
		UNIT R1 H1 H2 CT ALARMS: R1 H1	LOAD 49 165 UNIT OFF ON STANI BURNER I BFP AUX EH RES I	48 165 155 DBY MANAGEME OIL LEVEL HI, G	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256  SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6	
		UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL	LOAD 49 165 UNIT OFF ON STANI	48 165 155 DBY MANAGEME OIL LEVEL HI, G	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256  SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT	
		UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES I	48 165 155 DBY MANAGEME OIL LEVEL HI, G	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256  SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0%	
		UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES I OWERS 1	48 165 155 DBY MANAGEME OIL LEVEL HI, G	NET CAP. 42 153 142 56	<b>SO2</b> 4.625 0.256  SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37	263	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0%	
		UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41	LOAD 49 165 UNIT OFF ON STANI BURNER BEP AUX EH RES I .OWERS 1 .30,31,33,3,46	48 165 155 DBY MANAGEME OIL LEVEL HI, G FAGGED 34,42,43,44	NET CAP. 42 153 142 56  NT/STEAM	\$02 4.625 0.256 SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6,37	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0%	
		UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES I OWERS 1 ,30,31,33,3 ,46 C.H.	48 165 155 DBY MANAGEME OIL LEVEL HI, G TAGGED 34,42,43,44 HMPL	NET CAP. 42 153 142 56 ENT/STEAM SEEN MAIN S	SO2 4.625 0.256 SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37  TRANS/ C.	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	
	B.OOAL	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL LEVELS	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES OWERS 1 ,30,31,33,3 ,46 C.H. 9' 3 1/2"	48 165 155 DBY MANAGEME OIL LEVEL HI, G TAGGED 34,42,43,44 HMPL 14'	NET CAP. 42 153 142 56  NT/STEAM	SO2 4.625 0.256 SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6,37	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0%	
	8:00AM	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H1 27,29 LEVELS SAFETY 8	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES I OWERS 1 .30,31,33,3,46 C.H. 9' 3 1/2" BRIEFING	48 165 155 DBY MANAGEME OIL LEVEL HI, G TAGGED 34,42,43,44 HMPL 14'	NET CAP. 42 153 142 56 ENT/STEAM SEN. MAIN S NORTH	SO2 4.625 0.256 SEAL LOW	10.4	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37  TRANS/ C.	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	
	8:00AM	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL LEVELS SAFETY B DEBUSK	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES .OWERS 1 .30,31,33,3,46 C.H. 9' 3 1/2" BRIEFING WASHING	48 165 155 DBY  MANAGEME OIL LEVEL HI, G TAGGED  34,42,43,44  HMPL 14'  S FIN TUBES	NET CAP. 42 153 142 56 ENT/STEAM SEN. MAIN S NORTH 15'10 5/8"	SO2 4.625 0.256 SEAL LOW STEPUP SOUTH 6 1/2"	10.4 10.8	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37  TRANS/ C.	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	
	8:00AM 8:00AM	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL LEVELS SAFETY 0 DEBUSK DEBUSK	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES	48 165 155 DBY  MANAGEME OIL LEVEL HI, G FAGGED 34,42,43,44 HMPL 14' S FIN TUBES ON CREW T	NET CAP. 42 153 142 56 ENT/STEAM ENT/STEAM NORTH 15'10 5/8"	SO2 4.625 0.256 SEAL LOW STEPUP SOUTH 6 1/2"	10.4 10.8	0.42 0.063 URE/E.H. ST	9.3 19.6	95.1	6.37  TRANS/ C.	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	
	8:00AM 8:00AM 8:10AM	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL LEVELS DEBUSK DEBUSK H-2 BOILL H-2 BOILL	LOAD 49 165 UNIT OFF ON STANI BURNER BFP AUX EH RES .OWERS 1 .30,31,33,3 .46 G.H. B' 3 1/2" BRIEFING WASHING WASHING WAITING GER CLEAN	48 165 155 DBY  MANAGEME OIL LEVEL HI, G TAGGED 34,42,43,44  HMPL 14' 6 FIN TUBES ON CREW T I PULLING W	NET CAP. 42 153 142 56 ENT/STEAM EN MAIN S NORTH 15'10 5/8" TO VACUUM VET BOTTOM	SO2 4.625 0.256  SEAL LOW STEPUP  SOUTH 6 1/2"	10.4 10.8 V PRESSU	0.42 0.063 URE/E.H. ST GAUGE OK	9.3 19.6 ART REQUI	95.1	6.37  TRANS/ C.	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	
	8:00AM 8:00AM 8:10AM NOTE	UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22R H1 27,29 H2 37,41 FUEL OIL LEVELS SAFETY I DEBUSK H-2 BOILL CLOSED	BURNER BURNER BFP AUX EH RES I .OWERS 1 .30,31,33,3,46 .C.H. 9' 3 1/2" BRIEFING WASHING	48 165 155 DBY  MANAGEME OIL LEVEL HI, G FAGGED 34,42,43,44 HMPL 14' S FIN TUBES ON CREW T	NET CAP. 42 153 142 56 ENT/STEAM SEN. MAIN S NORTH 15'10 5/8" TO VACUUM VET BOTTOI UTLET VAL	SO2 4,625 0,256  SEAL LOW STEPUP  SOUTH 6 1/2"  1 PENTHOU M THEN TA VES 30 AN	10.4 10.8 V PRESSU V PRESSU SE GGING ID 40 PER	0.42 0.063 URE/E.H. ST GAUGE OK	9.3 19.6 PART REQUI	95.1	6.37  TRANS/ C.  SILO LVL 16.7'	263 T. LEVEL/A &B	BACK PRESSURE 3.56 2.6  PA FAN MOTOR/B  DRYING AGENT R1-0% H1 0% H2-0% BOOTHE SYSTEM	



Your Touchstone Energy\* Cooperative

		FUEL OIL	C.H. 8' 11 1/2"	HMPL 14' 3/8"	NORTH 13'3 1/2"	SOUTH 6 1/2"					SILO LVL 13.6'		BOOTHE SYSTEM BSI
		H2 37,41											H2-0%
			,30,31,33,	34,42,43,44									H1 0%
		R1 22R						OK					R1-0%
		SOOT BL			TIAN JAN JAN C	161 01		GAUGE G	LASSES				DRYING AGENT
		H2	BFP AUX	LEVEL HI, G	FN MAIN	STEPLIP				,			
		H1			NT/STEAM	SEAL LOW	PRESSUR	RE/E.H. ST/	ART REQUI	RED/DRUM	TRANS/ C.	T. LEVEL/A &B	PA FAN MOTOR/B
		R1											
		ALARMS:											
		CT	ON STAN		56								
		H2	UNIT OFF		142					1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
		H1	148	165	153	0.194	10.7	0.57	13.7	96.3	5.72	245	2.1
		R1	49	48	42	4.54	10.3	0.442	10.7				3.52
				UNIT CAP				NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	
21/2014	8:00AM	FELTY,CE	ECIL, EMBI	RY, BLAIR, I	HILLYARD	S/L, DUVAL	L,JAMES					A SHIFT	TOW
	7:20AM	H-2 BFP (	OFF AT 15	00 LBS									
	5:30AM	BOILER F	EED PUM	P ON FOR H	YDRO								
	NOTE	R-1 SYST	EM AIR P	RESSURE D	ROPPING D	DOWN TO 6	5 LBS., HA	S DONE T	HIS TWICE	- INVESTIC	SATING.		
		J. HILLYA	RD OFF S	SICK TODAY									
	NOTE	H-2 IS SE											
	NOTE			FETY MEETI	NG								
		H-2 REHE											
21/2014	1:20AM			S ON FOR F	CEHEAT CH	ECK		-					
04105	NOTE			A VACUUM C									
	NOTE			WER IS BAC		ICE							
	NOTE			METAL IN IT		105		-					
				BOTTOM SI		IORES							
					DE OF EIN	TIDES							
		BOOTHE											
	8:00PM	SAFETY E	BRIFFING								.0		001
											18'		OUT STOTEW
											SILO LVL		BOOTHE SYSTEM
		H2 41,4	the state of the s	, ,,			-						H2-0%
				30,31,33,43									H1-0%
		R1 22R	1					OK					R1-0%
		SOOT BL	OWERS 1	TAGGED				GAUGE G	LASSES				DRYING AGENT
		H2	EHRES	LEVEL HI									
		H1	BURNER	MANAGEME	NT/STEAM	SEAL LOW	PRESSUR	RE/E.H. PR	ESSURE LO	START RE	QUIRED/ D	RUMXMTR MA	INT
		R1											
		ALARMS:											
		CT	65	56		ON STAND	BY						
		H2				OUTAGE T	UBE LEAK						
		H1	165	165	153	0.21	10.9	0.066	16	96	6.41	280	2.6
		R1	48	50	42	4.66	10.5	0.42	11.3				
			LOAD	UNIT CAP			CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
		ALEXAND											
20/2014	8:00PM	MORRIS,	DENTON,	REYNOLDS	, GATTON	-P.D., BAK	ER, EDWA	RDS, TAT	E, CALHO	UN		D SHIFT	ASKINS
	6:48PM	TALEXAN	NDER COM	MING IN									
	6:35PM	FOUND LE	EAKS IN S	PERHEATER	RS DRAININ	NG BOILER	DEBUSK (	SOING BAC	K TO WOF	RK			
	6:20PM	J GATTON	CALLED	FOR P.D. O	KED								
	6:20PM			SLUICE WAT		VER AREA							
				ALLED IN SI			П						
		H-2 BPF (											
		H-2 BPF (		20100									
				EAKING BOI	NG TO TRY	TO TIGHTE	N						
				ING EVERY				E					
				L BOILER CA									
							KING GOT	TOP EAST	TO SEAL D	DRAINING B	ACK DOW	N TO RESEAL B	BOTTOM EAST
				RED FUEL C								_	
				SIDE OF PE		SOUTH GO	OD (DEBU	ISK)					
	NOTE			TRUCKS TO	YADC								



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				~0,		9									
		SAFETY													
	8:02AM	H-2 DRY	BOILER IN	VSIDE CHEC	KING BEHI	ND INSOLA	TION BY #	4 SB							
	8:05AM	DRAININ	G BOILER	COMPLETE	FOR HEAT										
	8:05AM	DEBUSK	GOING BA	ACK IN FINT	UBES										
				CROSSTIE C											
	10:15AM	DEBUSK GATES	FINISHED	ON FINTUB	ES WASHE	D OUT EC	ONS AND U	INDER P	VC LINE NO	TIFIED MAIN	IT TO TEAR	R DOWN LINE F	REPLACE HOPPERS		
	11:54AM	COMBUS	TION TUR	BINE FIRED											
	12:17PM	COMBUS	TION TUR	BINE TIED T	OOK TO 56	MW THEN	PLACED IN	ADS PE	ER ACES						
	12:37PM	COMBUS	TION TUR	BINE IN ADS	5										
	NOTE	CT WOU	D NOT TI	E AT FIRST	SLOWED D	OWN SPE	D UP STILL	NO LUC	K CALLED E	LECT AND I	NST BUT E	BEFORE THEY	GOT THERE		
		CT TIED	ON AFTER	R SEVERAL	TRIED AT A	BOUT 5 OR	6 TILL ON	CLOCK							
	1:10PM	H-2 CON	VALVES	SET AT 509	6 OUTLET 1	00 % INLE	T D CT CIR	ON							
	1:25PM	H-2 FD F	AN ON FO	R BOILER C	OOLING										
	1:25PM	CALLED	D PENDLE	EY TO SIGN	HIM OFF 45	9887,4598	75,459886 (	CALLED	P CARTER F	OR SAME L	EFT MESS	AGE			
									T PUMP UP E						
									GUNS H-2 B						
				R UTIL AND A											
	NOTE							WIRED	TO IT HOUSE	NG MOUND	RUSTED A	WAY WO ISSI	JED IF DAMPER		
				HOW OPEN											
	3:00PM	WORKIN	G ON R-1	FLYASH HO	PPERS OPA	ACITY GOIN	NG HOME F	OUND 15	5 16 HOPPER	SEG VALV	E NOT OPE	NING INST GO	T GOING		
		WORKING ON R-1 FLYASH HOPPERS OPACITY GOING HOME FOUND 15 16 HOPPER SEG VALVE NOT OPENING INST GOT GOING P CARTER CALLED OKED SIGNING HIM OFF 459875, 459877, 459889, 459866 H-2 BFP ON TO PUMP BOILER TO FIRING LEVEL													
								2000, 40							
	NOTE						AS A REP H	HAVING	TO STEAL BE	ROUT OF A	ASHSIII	ICE PLIMP TO	GET A BFP TO RUN		
		H-2 WET				DE FIOL I			. J O I LAL DI			OLI ONI TO	JETA DIT TO NON		
	NOTE	1.1.		OM AROUNE	DRAIN BY	STACK									
						STACK									
		H-2 FD FANS ON FOR AIR TEST OIL AND AIR RELEASED ON H-2 BURNER DECK SETTING UP SAME													
		RUNNING LIST FOR AUX AND UTILFOR 8P													
		FIRE ESTABLISHED IN H-2 BOILER													
				BINE UNTIE									-		
	7.43FW	CONIDOS	TION TOR	DINE UNTIE	,	-									
21/2014	8:00PM	MODDIS	DENTON	, REYNOLD	CATTON	DAKED	EDW ADDS	TATE	CALHOUN			D CHIET	ASKINS		
21/2014	0.001 141	UNIT		UNIT CAP		1	CO2	NOX		REMOVAL	DUCT		BACK PRESSURE		
		R1	48	50	42	4.5	10.5	0.45	15	KLINOVAL	0031	AININ. I LOW	DACK PRESSURE		
		H1	165	165	153	0.21	10.9	0.43	20	96	5.88	275	2.9		
		H2	100	100	100		TUBE LEAK		20	30	5.00	2/5	2.5		
		CT	65	5 56		ON STANE									
		ALARMS		5 50		ONSTAINL	JDT								
		R1	חווחאובח	MANAGEME	LITIOTE ALA	0541.1014	I DDECOULE		DECCUPE I	0.071.07.05	OUIDEDIA				
		H1			MAZICIIII	SEAL LOW	V PRESSUR	C/E.H. F	KESSUKE L	O STAKL KE	QUIKED/ L	DRUMXMTR MA	IIII		
		H2	1	LEVEL H				04:10=	0140050				DDV//NO / 051 5		
			OWERS	TAGGED		-	-	1000	GLASSES	-			DRYING AGENT		
		R1 22		20 24 22 22	-	-		OK		-	-		R1-0%		
				,30,31,33,43	-	-	-			-	-		H1-0%		
		H2 41,	46/37			-						7	H2-0%		
											SILO LVL		BOOTHE SYSTEM		
											18'		OUT		
		SAFETY							-						
		H-2 CLOS											-		
	8:24PM			OR N. DENTO	ON TO CALL	THE PLAN	IT, TO RELE	EASE HI	M OFF OF PE	RMIT # 459	777 #3 VAC	CUUM PUMP OI	N THE DRY FLY		
		ASHSYS													
									PERMIT # 45	9777					
	9:20PM			T, SEC INLE											
					G CAME OF	F THE FAN	N - TRIPPED	D FAN AI	ND PULLED	TWO COAL	VALVES -	NOTIFIED J. FF	RANCIS		
	NOTE	H-1 GOO	D FOR 105	5 NET											
	10:13PM	H-1 AMM	ONIA OUT	- TEMP LOV	V.										
		H-1 AMMONIA OUT - TEMP LOW.													
		H-2 PULL	ING VACL	H-2 PULLING VACUUM ROLLING H-2 TURBINE- ROLLED OFF AT 24.5 VACUUM BEFORE RESETTING TURBINE											
22/2014	11:12PM				D OFF AT 2	4.5 VACUL	JM BEFORE	RESET	TING TURBIN	ΙE					
22/2014	11:12PM	ROLLING	H-2 TURB					RESET	TING TURBIN	E					



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# **Forced Outage Report**

### **Boiler Tube Leak Record**

Plant:	HMP&L Station Two	Unit:	2
Type of Leak:			
Pin Hole	Thick Lip Failure V	Thin Lip Failure	_
Tube Wall Thin	ning Other		_
Orientation of	Rupture: Longitudinal	Circumferential	
Probable Caus	e:		
Stress <u>V</u> O	verheat ErosionIn	ternal Corrosion	
External Corro	sion Weld Failure	(Shop Field)	
Internal Obstru	uction to Flow Soot blo	wer Erosion	_
Other <u>Tube sa</u>	mples were sent out for failur	e analysis	
Type of Repair	:		
	(Length: 1 - 5' – 5" on 37 <sup>th</sup> Weld Plug Tube		4" in 2 <sup>nd</sup> &
Other			





JB.	River	
0	ELECTRIC CORPORATION	10
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Descr	iption	of R	enair
0000	PUOII	01 11	-pan.

Tube Size OD	2 ½"	Wall Thickness _	.300"	_Tube Material _	SA-210
Welding proced	lure <u>G</u>	S-P5-5L			
Welded By:	Titar	1			

Titan installed a 5' 5" dutchman in the 37<sup>th</sup> element-top tube. The 37<sup>th</sup> element-2<sup>nd</sup> tube and 3<sup>rd</sup> tube also had 2' 4" dutchmen installed due to them being kinked from the leak in the top tube. Sample of the top tube will be sent out for further analysis to determine failure cause.

From the initial boiler hydro-test, it was discovered that the initial repairs on the primary superheat tubes were good but there were also leaks in the Superheat outlet elements the 3<sup>rd</sup> and 6<sup>th</sup> from the east wall. Leak in the 3<sup>rd</sup> element was in the 3<sup>rd</sup> loop from the inner at elevation at 539', this loop was replaced. While the 6th element was on the inner (hair pin) loop on the north side at elevation 549'-6". this was repaired via installation of a 5' 4" Dutchman.





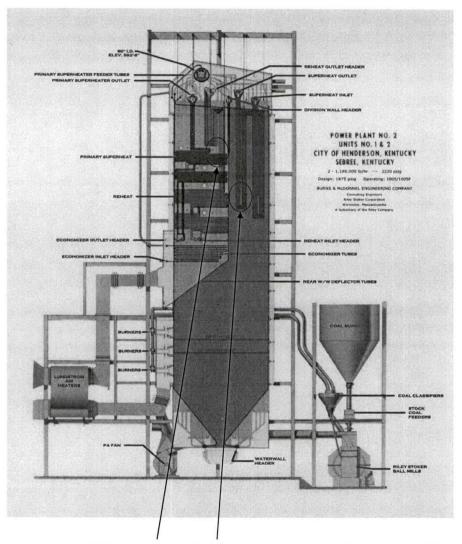
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### **Forced Outage Report**

**Exact Location of Leaks:** 

#### HMPL STATION UNIT 2 2014 (5) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 05:58 6-18-14
Date and Time Unit On \_\_\_ 01:37 6-22-14



•Installed a 5' 5" dutchman on the 37th primary superheat element-top tube at elevation 560'. The 37th element-2nd tube and 3rd tube also had 2' 4" dutchman's installed on each due to them being kinked from the leak on the top tube. Sample of the top tube will be sent out for further analysis to determine failure cause. From the initial boiler it was discovered the initial repairs on the primary superheat tubes were good but there was also leaks on the 3<sup>rd</sup> and 6<sup>th</sup> Superheat outlet elements from the east wall. Leak on the 3rd element was on the 3rd loop from the inner at elevation at 539', this loop was replaced. While the 6th element was on the inner (hair pin) loop on the north side at elevation 549'-6", this was repaired via installation of a 5' 4" Dutchman.



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### **Forced Outage Report**

#### **Estimated Outage Cost**

Boiler De-Slag

Total

\$18,128.60

Vacuuming Economizer Hoppers, ME panels and the AH's

Total

\$31,054

Titan - tube leak repair and misc. repairs

Labor

\$89,660

Material

\$2,483.95

Total

\$92,143.95

RTW - Refractory Repairs

Labor

\$11,932.41

Material

\$4,721.20

Total

\$16,653.61

**Grand Total** 

\$157,980.16





Lost Sales Opportunity Report

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### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 2 - H2-14-04	Produ	uction Cos	st	
Date & Time Off Line	6/18/14 6:00	MW		\$/MW	
Date & Time On Line	6/22/14 1:37	105	\$	30.80	
Outage Duration	91 hr. 37 min.	127	\$	30.05	
Outage Code	UO1	149	\$	29.73	
Outage Duration	Repair primary superheater tube leaks				

Date	DA LI	/IP Average	RT	LMP Average	DART P&L	(	Lost Opportunity
6/18/14 (HE 6-24)	\$	64.29	\$	37.88	\$ (23,136)	\$	-
6/19/14 (HE 1-24)	\$	45.06	\$	57.08	\$ -	\$	(56,277)
6/20/14 (HE 1-24)	\$	36.04	\$	35.76	\$ 863	\$	(23,676)
6/21/14 (HE 1-24)	\$	39.28	\$	41.65	\$ -	\$	(36,172)
6/22/14 (HE 1-11)	\$	21.13	\$	23.84	\$ (272)	\$	-
Total					\$ (22,546)	\$	(116,125)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		9,871	DART P&L	\$	(22,546)
S/U Fuel Price	\$ 3.20		Lost Opportunity	\$	(116,125)
S/U Fuel Cost	\$	(31,608)	S/U Fuel Cost	\$	(31,608)
			Total	\$	(170,279)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



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### Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 5-Jun-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO3

#### **Duration**

Trip Time: 30-May-2014 19:40 Tie Time: 2-Jun-14 00:49

Time Offline: 53:09

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Friday, 30-May-2014 at 19:40 due to a suspected tube leak in the penthouse area of the boiler.

#### **Root Cause**

Tube leaks were discovered on the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> roof tubes from the west wall between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8". The leaks were caused by flue gas erosion.







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### Forced Outage Report

#### **Failure History**

During the 5-Oct-2012, unscheduled outage on H-2 a leak was discovered on a roof tube between the 10th and 11th primary super heater elements. It was the east roof tube at Elev. 579' 8", 56<sup>th</sup> tube from the east wall. This leak was not the result of the outage in this case.

#### **Corrective Action**

Tube leaks on the 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> from west roof tubes between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8" were all repaired via base metal repairs.

#### **SOE Print Out**

Triggered on: 30-May-2014 19:40:25:972

		T
TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
OPEN	H203BFP3ASTS	4160 BKR BFP H2A STATUS
TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
	TRIP TRIP OK OK TRIP OK TRIP OK TRIP OK TRIP OK TRIP OK TRIP LOW OK TRBLE OPEN OPEN OPEN OK LKOUT TRIP TRIP TRIP TRIP TRIP TRIP	TRIP H2500CB182CSTR TRIP H2500CB186CSTR OK H240STPVLVTRP OK H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB182CSTR TRIP H2500CB182CSTR TRIP H2500CB182CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR TRIP H2500CB186CSTR OK H233LMISTRP TRBLE H246XFERTOMAN OPEN H250FLDBKRSTS OPEN H250FLDBKRSTS OPEN H2500CB186GETR OK H2500CB182GETR LKOUT H240STPVLO86TV TRIP H2500CB182GETR TRIP H2500CB186GETR OPEN H2500CB182GETR TRIP H2500CB186GETR TRIP H2500CB186GETR OPEN H2500CB186GETR TRIP H2500CB186GETR TRIP H2500CB186GETR TRIP H2500CB186GETR



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### Other Work Completed While Unit Was Offline

- Repaired gas leaks in the boiler penthouse and also the economizer dead air
- Clean 480V transformer
- Cleaned furnace and PA Fan taps
- Cleaned Wet bottom Seal Trough
- Cleaned Scrubber Mist Eliminator panels and nozzles
- Precipitator inspection
- · Back-pass inspection
- · Calibrated all coal feeders.
- · Changed oil in all FD Fan, PA Fan, and Mill motors
- · Repaired coal leaks on "A" Mill
- · Repaired coal leaks on "B" Mill
- · Cleaned seal air fan filters





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### **Operators Event Log**

	ators													
5/30/2014	NOTE	FIRING H	1 BOILER											
	8;00AM		BRIEFIN G											
	8;01am			LOW DRUM	A L EVEL									
	8;14AM		REESTAB		LEVEL				-					
	9;29AM		S CLOSED											
			,B1 OIL GU											
			,B1,B3 OIL		-									
				NE & PULLI	NC VACUE									
						-				-				
				ROLLING					1					
				FORMER D				FOR BAT	TERY REP	ACEMENT				
				FORMER D	ELUDGE S	YSTEM VA	LVED IN							
	1;07PM		RATOR FIE											
	1;12PM		RATOR TIE											
	NOTE	H1 GENE	RATOR RE	VERSE CUF	RRENT SET	TINGS 24	MWs @ 2.	.5 se cond	3					
	1;13PM			TRIPPED/ V										
	1;14PM	H1 TURB	INE TRIPPI	ED USING T	URBINE HA	ARDWIRE T	RIP BUTTO	ONS -2 MV	Ns OCBs [	DID TRIP OF	PEN			
	1;17PM	H1 PURG	E STARTE	D										
	1;21PM	H2 SCR F	LOWING A	AINOMIA										
	1;29PM	H1 FIRES	REESTAB	BLISHED										
	1;34PM	H1 TURB	INE CAUGH	HT 920 RPM										
	2;03pm	H1 TIED	ON LINE &	PRECIPS IN	V				1	1		~		
		H1-A MIL	LON											
	NOTE			LE GETTING	H1-A MILI	COAL FE	DERS STA	ARTED / IN	ST DEPT	HEI PING				
	NOTE										THOUT PU	SHING METAL	INTO GRINDER 2	ND TIME
	2;28PM		FEEDERS		Drion 1	JELIN	- ING ME		- LAD K	SPING WI		O. IIIVO METAL	. IIIO GRINDER	IN TIME
	3;26PM		STER FAN						-					
-	3;30PM			DD FOR 150	0 DRIIM									
	3;35PM		AUX TRANI		DROM			-						
	3;39PM		BBERS IN		-									
	3;45PM	H1 PA FA		SERVICE	-									
				-	-	-			-					
	3;55PM	H1-B MIL		CHARRES	AL 00	CE LID DE			U.O.F.	and was	_			
	NOTE					KE-UP REG	15% OPE	NPENTHO	USE LEAK	ING WORS	E			
	NOTE			D ABOUT H										
	NOTE			HEARD COU			ON AIR D	RIVE						
	NOTE			CK LOST 5"	10 MINUTE	S								
	6;20PM		OIL OUT O											
	6;34PM			ILER TAKIN										
	7;38PM			OCKER CAL	LLED WILL	CALL BAC	K WITH E.	T.A.						
	7:40PM													
	7.401 191	H-Z UNIT	OFFLINE											
	7.401 101	H-Z UNIT	OFFLINE											
	7.401 101	H-Z UNI I	OFFLINE											
5/30/2014	8:00PM			BREEDEN.	HIGGINS	.CUTSHA	W. BLANK	(S & YOL	JNG			B SHIFT	PENDLEY	
5/30/2014				BREEDEN,	HIGGINS	,CUTSHA	W, BLANK	(S & YOL	JNG			B SHIFT	PENDLEY	
5/30/2014			CLARK, B							REMOVAL	DUST			E
5/30/2014		CONN,			NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST		BACK PRESSUR	
5/30/2014		CONN,	CLARK, B	UNIT CAP						REMOVAL	DUST			CTL
5/30/2014		CONN, OUNIT	CLARK, B	UNIT CAP	NET CAP.	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	
5/30/2014		CONN,	CLARK, B LOAD 50	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST 15.09		BACK PRESSUR	CTL
5/30/2014		CONN, UNIT R1	CLARK, B	UNIT CAP 50 85	NET CAP.	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, OUNIT	CLARK, B LOAD 50	UNIT CAP 50 85	NET CAP.	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, OUNIT R1 H1	CLARK, B LOAD 50 148 OFF - TUB	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, UNIT R1	CLARK, B	UNIT CAP 50 85 BE LEAK	NET CAP.	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, OUNIT R1 H1 H2 CT	CLARK, B LOAD 50 148 OFF - TUB	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, OUNIT R1 H1 H2 CT	CLARK, B LOAD 50 148 OFF - TUB	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5	CO2 10.3	NOX 0.448	OPACITY 8.1			AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1	CLARK, B LOAD 50 148 OFF - TUB STAND BY	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09	AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1	CLARK, B LOAD 50 148 OFF - TUB STAND BY	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6		15.09	AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1	CLARK, B LOAD 50 148 OFF - TUB STAND BY	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09	AMM. FLOW	BACK PRESSUR 2.54	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I	UNIT CAP 50 85 BE LEAK Y	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09 M TRANS/ 0	AMM. FLOW	BACK PRESSUR 2.54 2.6	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL	CLARK, B LOAD 50 148 OFF - TUB STAND BY	UNIT CAP 50 85 BE LEAK Y	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  I TRANS/ C	AMM. FLOW	2.54 2.6 DRYING AGENT	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES L	UNIT CAP 50 85 BE LEAK Y	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09 M TRANS/ 0	AMM. FLOW	2.54 2.6  DRYING AGENT R1- 0%	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I OWERS T.	UNIT CAP 50 85 BE LEAK Y	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  I TRANS/ C	AMM. FLOW	DRYING AGENT R1- 0% H1- 0%	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES L	UNIT CAP 50 85 BE LEAK Y	NET CAP. 42 153	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  I TRANS/ C	AMM. FLOW	2.54 2.6  DRYING AGENT R1- 0%	CTL 18'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 H1 1/24, H2 9,41,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES L OWERS T. 42, 46 / 38,45	UNIT CAP 50 85 BE LEAK	NET CAP. 42 153 57	SO2 4.5 0.406	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  M TRANS/ C  PWTL  27'	AMM. FLOW	2.54 2.6 2.7 2.6 DRYING AGENT R1- 0% H1- 0% H2- 0%	CTL 18' CTL 15.5'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I OWERS T. 42, 46 / 38,45	UNIT CAP 50 85 BE LEAK  MANAGEME LEVEL HI AGGED  HMPL	NET CAP. 42 153 57 ENT/STEAM	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
5/30/2014		CONN, UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 H1 1/24, H2 9,41,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I OWERS T. 42, 46 / 38,45	UNIT CAP 50 85 BE LEAK  MANAGEME LEVEL HI AGGED  HMPL	NET CAP. 42 153 57	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  M TRANS/ C  PWTL  27'	AMM. FLOW	2.54 2.6 2.7 2.6 DRYING AGENT R1- 0% H1- 0% H2- 0%	CTL 18' CTL 15.5'
	8:00PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41,	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES L OWERS T. 42, 46 / 38,45	UNIT CAP 50 85 BE LEAK  MANAGEME LEVEL HI AGGED  HMPL	NET CAP. 42 153 57 ENT/STEAM	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
5/30/2014	8:00PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES L OWERS T. 42, 46 / 38,45 C.H. 9' 7" BRIEFING	UNIT CAP 50 85 8E LEAK   MANAGEME LEVEL HI AGGED  HMPL 13' 8"	NET CAP. 42 153 57 ENT/STEAM	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:00PM 8:20PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING	CLARK, B LOAD 50  148  OFF - TUB STAND BY : BURNER I EH RES I OWERS T. 42, 46 / 38,45 C.H. 9' 7"  BRIEFING G H-2 BOILL	UNIT CAP 50 85 8E LEAK Y MANAGEME EVEL HI AGGED HMPL 13' 8"	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4"	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I . OWERS T. 42, 46 / 38,45 . C.H. 9' 7" BRIEFING BRIEFING B H-2 BOILL BINE ON TU	UNIT CAP 50 85 8E LEAK  / MANAGEME LEVEL HI AGGED  HMPL 13' 8"	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4"	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 6:20PM 8:28PM 9:15PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURET INSULATE	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES L OWERS T. 46 / 38,45 C.H. 9' 7" BRIEFING 3 H-2 BOILU ORS HERE	UNIT CAP 50 85 BE LEAK   MANAGEME LEVEL HI AGGED  HMPL 13' 8"  ER RRNING GEA	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4"	\$02 4.5 0.406 SEAL LOW	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:58PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATH-1 SCR	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES I OWERS T. 42, 46 / 38,45 C.H. 9' 7" BRIEFING G H-2 BOILL INE ON TU	UNIT CAP 50 85 8E LEAK Y MANAGEME LEVEL HI AGGED HMPL 13' 8"	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4"	SO2 4.5 0.406 SEAL LOW SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 9:15PM 9:15PM 9:58PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATI H-1 SAST	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I OWERS T. 42, 46 / 38,45 C.H. 9' 7" BRIEFING 3 H-2 BOILL iNE ON TU ORS HERE IN SERVICE T DRUM GA	UNIT CAP 50 85 8E LEAK  /  MANAGEME LEVEL HI  AGGED  HMPL 13' 8"  ER RNING GEAE E  LUGE GLAS:	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4"	SO2 4.5 0.406 SEAL LOV SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 9:15PM 9:58PM 10:50PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-1 TACR H-1 TACR H-1 EAST H-1 SCR H-1 EAST	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES L OWERS T. 42, 46 / 38,45 C.H. 9'7" BRIEFING G H-2 BOILL DINE ON HERE IN SERVICE TORUM GA JBBER TAG	UNIT CAP 50 85 8E LEAK   MANAGEME LEVEL HI AGGED  HMPL 13' 8"  ER RINING GEA E LUGE GLAS: GGED OUT & GGED OUT	NET CAP. 42 153 57 NORTH 12' 9 3/4"  S BLEW OL	SO2 4.5 0.406 SEAL LOW SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:58PM 10:50PM 11:30PM 11:30PM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATI- H-1 SCR H-1 EAST H-1 EAST H-1 EAST H-2 SCRP O 8	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES I OWERS T. 42, 46 / 38,45 C.H. 9' 7" BRIEFING G H-2 BOILLINE ON TU OORS HERE IN SERVICE TORUM GA DBBER TAG, DEBUSK	UNIT CAP 50 85 8E LEAK Y MANAGEME EVEL HI AGGED  HMPL 13' 8" ER RINING GEA E UGE GLAS: 3GED OUT HERE - BOT	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL & DOORS C	SO2 4.5 0.406 SEAL LOW SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071 RE/E.H. S'	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:15PM 9:58PM 10:50PM 11:30PM 1:15AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 H2 9,41, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATI H-1 SCRI EXPRO 8 DEBUSK	CLARK, B LOAD 50 148 OFF - TUB STAND BY : BURNER I EH RES I OWERS T. 42, 46 / 38,45 C.H. 9' 7" BRIEFING G H-2 BOILL UNGS HERE IN SERVICE T DRUM GA JBBER TAC DEBUSK VACUUMIN	UNIT CAP 50 85 85 8E LEAK  MANAGEME EVEL HI AGGED  HMPL 13' 8" ER URNING GEA E URGE GLAS: GGED OUT 8 HERE - BOT NG AT PENT	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL & DOORS C	SO2 4.5 0.406 SEAL LOW SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071 RE/E.H. S'	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 9:15PM 9:58PM 10:50PM 11:30PM 1:35AM 3:35AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING INSULATI H-1 SCR H-1 EAST H-2 SCRI EXPRO & DEBUSK EXPRO S	CLARK, B LOAD 50 148 OFF - TUB STAND BY EH RES L OWERS T. 42, 46 / 38,45 C.H. 9'7" BRIEFING G H-2 BOILL ORS HERE IN SERVICI ORUM GAB JEBBER TAC JEBUSK I VACUUMIN TARTING E	UNIT CAP 50 85 8E LEAK  MANAGEME LEVEL HI AGGED  HMPL 13' 8"  ER RINING GEA E LUGE GLAS: GGED OUT & HERE - BOT NG AT PENT DE-SLAG	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL & DOORS C	SO2 4.5 0.406 SEAL LOW SOUTH 6 1/2"	CO2 10.3 11.2	NOX 0.448 0.071 RE/E.H. S'	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:58PM 10:50PM 11:30PM 1:15AM 3:35AM 4:25AM NOTE	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-2 TURE INSULATI- H-1 SCR H-1 EAST H-2 SCR EXPRO 8 DEBUSK EXPRO 8 EXPRO 8 EXPRO 8	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  EH RES I  OWERS T.  42, 46 / 38,45  C.H.  9' 7"  BRIEFING 3 H-2 BOILL  DORS HERE IN SERVICE TORUM GA  JEBER TAG.  DEBUSK  VACUUMIN  TARTING ER SET FO  ER SET FO	UNIT CAP 50 85 8E LEAK Y MANAGEME LEVEL HI AGGED  HMPL 13' 8" ERRINING GEA E UGGE GLAS: GGED OUT HERE - BOT NG AT PENT NG AT PENT SC-SLAG R HYDRO	NET CAP. 42 153 57 ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OI & DOORS C TH SETTING THOUSE & S	SO2 4.5 0.406  SEAL LOW  SOUTH 6 1/2"  JT  PPEN UP SETTING UI	CO2 10.3 11.2	NOX 0.448 0.071 RE/E.H. S'	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:20PM 8:20PM 8:28PM 9:15PM 10:50PM 11:30PM 11:35AM 4:25AM NOTE	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 H2 9,41, H2 9,41, H2 9,41, H2 9,41, H2 PJEL OIL LEVELS SAFETY DRAINING H-1 EAST H-2 SCRI EXPROS BL EXPROS EXPROS EXPROS H-2 BOILL T. WOODL	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  :  BURNER I EH RES I .  OWERS T.  42, 46 / 38,45  C.H. 9' 7"  BRIEFING G H-2 BOILL BINE ON TU ORS HERE IN SERVICE DRUM GA JBBER TAG JCBUSK VACUUMII TARTING I ER SET FO S, J. TAUL	UNIT CAP 50 85 85 8E LEAK  MANAGEME EVEL HI AGGED  HMPL 13' 8" ER RINNING GEA ER UGGE GLAS: GGED OUT 8 HERE - BOT 10 NG AT PENT DE-SLAG R HYDRO & V. BRADI & V. BRADI	NET CAP. 42 153 57 ST ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL 8 DOORS CH IT SETTINGTHOUSE 8	SO2 4.5 0.406  SEAL LOV  SOUTH 6.1/2"  JT PPEN 10 UP SETTING UI	CO2 10.3 11.2 V PRESSUI	NOX 0.448 0.071 RE/E.H. S'	OPACITY 8.1 24.6	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:15PM 9:58PM 11:50PM 11:50PM 11:50PM 11:50PM 12:54M NOTE 6:30AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING. INSULAT. H-1 SCR. H-2 SCR. EXPRO & DEBUSK. EXPRO S H-2 BOILL T. WOOD EXPRO E	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  EH RES L  OWERS T.  46 / 38,45  C.H.  9' 7"  BRIEFING  36 H-2 BOILL  SIME ON TU  ORS HERE IN SERVICI  FORUM GA  JEBUSK I  VACUUMI  TARTING E  ER SET FO  SS, J TAUL  STIMATES	UNIT CAP 50 85 8E LEAK   MANAGEME LEVEL HI  AGGED  HMPL 13' 8"  ER RINING GEA E LUGE GLAS: GGED OUT & HERE - BOT NO AT PENT DE-SLAG R HYDRO & V. BRADOI 3 TO 4 MOOI	NET CAP. 42 153 57 ST ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL & DOORS CHH SETTING THOUSE & HOURS	SO2 4.5 0.406  SEAL LOV  SOUTH 6 1/2"  JT  PPEN UP SETTING UI  E ON DE-SLA	CO2 10.3 11.2 V PRESSUI	NOX 0.448 0.071 RE/E.H. S' GAUGE C OK	OPACITY 8.1 24.6  TART REQU	92.2	15.09  If TRANS/ C  PWTL 27'  SILO LVL	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:58PM 10:50PM 11:30PM 11:35AM 4:25AM NOTE 6:30AM 6:30AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 1/24, H2 9,41, FUEL OIL LEVELS SAFETY DRAINING H-1 EASTH H-2 SCR H-1 EASTH H-2 SCR EXPRO 8 DEBUSK EXPRO 8 H-2 BOIL T. WOOD EXPRO EXPRO 8 NEW CO	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  EH RES L  OWERS T.  42,  46 / 38,45  C.H.  9' 7"  BRIEFING SH-2 BOILL  DORS HERE IN SERVICE TORUM GA  JEBUSK  VACUUMIN  TARTING E  ER SET FO  S, J. TAUL  STIMATES  MPUTER R	UNIT CAP 50 85 8E LEAK Y MANAGEME LEVEL HI AGGED  HMPL 13' 8" E RRINING GEA E UGGE GLAS: GGED OUT HERE - BOT NG AT PEN DE-SLAG R HYDRO & V. BRADI 3 TO 4 Molicolo OOM AIR CI	NET CAP. 42 153 57 57 ENT/STEAM NORTH 12' 9 3/4" AR S BLEW OL & DOORS C H SETTING HOUSE &: DOCK HER RE HOURS ONDITIONIN	SO2 4.5 0.406  SEAL LOW  SOUTH 6 1/2"  JT  PPEN UP SETTING UI E ON DE-SLA IG NOT WC	CO2 10.3 11.2  11.2  PRESSUI	NOX 0.448 0.071 RE/E.H. S' GAUGE C OK	OPACITY 8.1 24.6  TART REQU	92.2 UIRED/DRUM	15.09  If TRANS/ (C  PWTL  27'  SILO LVL  20'	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:15PM 9:58PM 10:50PM 11:35AM 4:25AM NOTE 6:30AM 6:30AM 7:15AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 H2 9,41, H2 9,41, H2 9,41, H2 9,41, H2 9,41, H3 H3 H4 H5 H6 H7	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  :  BURNER I EH RES I OWERS T.  42, 46 / 38,45  C.H. 9' 7"  BRIEFING G H-2 BOILL BINE ON TU ORS HERE IN SERVICE DRUM GA JBBER TAA JBER TAA	UNIT CAP 50 85 85 8E LEAK  MANAGEME EVEL HI AGGED  HMPL 13' 8" ER RINING GEA ER RINING GEA ER RICH GEA	NET CAP. 42 153 57  ENT/STEAM NORTH 12' 9 3/4"  R S BLEW OL 8 DOORS CH IT SETTING THOUSE 8: DOCK HER RE HOURS ONDITIONINE ELECTRICLE	SO2 4.5 0.406  SEAL LOV  SOUTH 6.1/2"  JT PPEN 6 UP SETTING UI E ON DE-SL/2"  R NOT WORKIN	CO2 10.3 11.2  11.2  PRESSUI	NOX 0.448 0.071 RE/E.H. S' GAUGE C OK	OPACITY 8.1 24.6  TART REQU	92.2	15.09  If TRANS/ (C  PWTL  27'  SILO LVL  20'	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'
	8:00PM 8:00PM 8:20PM 8:28PM 9:58PM 10:50PM 11:30PM 11:35AM 4:25AM NOTE 6:30AM 6:30AM	CONN, UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 H1 H2 9,41, H2 9,41, H2 9,41, H2 9,41, H2 9,41, H3 H3 H4 H5 H6 H7	CLARK, B  LOAD  50  148  OFF - TUB  STAND BY  :  BURNER I EH RES I OWERS T.  42, 46 / 38,45  C.H. 9' 7"  BRIEFING G H-2 BOILL BINE ON TU ORS HERE IN SERVICE DRUM GA JBBER TAA JBER TAA	UNIT CAP 50 85 8E LEAK Y MANAGEME LEVEL HI AGGED  HMPL 13' 8" E RRINING GEA E UGGE GLAS: GGED OUT HERE - BOT NG AT PEN DE-SLAG R HYDRO & V. BRADI 3 TO 4 Molicolo OOM AIR CI	NET CAP. 42 153 57 ST ENT/STEAM NORTH 12' 9 3/4" R S BLEW OL 8 DOORS CH IT SETTING THOUSE 8: DOCK HER RE HOURS ONDITIONINE ELECTRICLE	SO2 4.5 0.406  SEAL LOV  SOUTH 6 1/2"  JT PPEN 5 UP SETTING UI E ON DE-SL/ G NOT WC N WORKIN	CO2 10.3 11.2  11.2  PRESSUI	NOX 0.448 0.071 RE/E.H. S' GAUGE C OK	OPACITY 8.1 24.6  TART REQU	92.2 UIRED/DRUM	15.09  If TRANS/ (C  PWTL  27'  SILO LVL  20'	AMM. FLOW	DRYING AGENT R1-0% H1-0% BOOTH SYSTEM	CTL 18' CTL 15.5'



Your Touchstone Energy® Cooperative

			ON, EDMO											
		UNIT	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		R1	49	50	42	4.51	10.3	0.453	6.2					CTL 17.2'
		H1	165	165	153	0.471	10.4	0.127	64	91.1	36.6	217	2.9	
		un		165				RAPP	ERS NOT W	ORKING				
		H2		165 OUTAGE					-					CTL 15.0'
		CT	ON STANE		57				+					
		ALARMS	:											
		R1 H1	BURNER	MANAGEME	NT/STEAM	SEALLOW	V PRESSI	DE/E H S	TART REQU	IIPED				
		H2	EH RES L		- THING I ENGIN	OLAL LOV	VIIIEGGG	116/6/11.	TAKTREQ	JINED				
		R1	OWERS TA	AGGED				GAUGE	GLASSES		PWTL / 25	5.5'	DRYING AGENT	
		H1 1/24,	42.					OK					R1-0% H1-0%	
			46 / 38,45										H2-0%	
		FUEL OU												
		FUEL OIL		10' 4"	NORTH 12' 9 3/4"		1	ļ			SILO LVL 14FT		BOOTHE SYSTE	М
					12 0 014	0 1/2					14(-1		II'N	
31/2014	8:00AM		BRIEFING											
	8:27AM 8:30AM	RUNDOW H1 BACK	IN ACTIVE	ON H1 DUE	TO AIR, O	JT OF ADS	CONTROL	ļ	-					
	8:33AM		N ACTIVE	ON H1 DUF	TO AIR. O	JT OF ADS	CONTROL		-					
	9:00AM	H1 STAB	LE AND AT	160MW'S.	BACK IN A	DS CONRO	L							
	9:15AM											MW 1 MW AT	A TIME AND SEE	HOW IT DOES. HE
	10:00AM		COMPENS ONE WITH				AND IS S	LOWLY V	ORKING IT	SELF BACK				
			ONE WITH				BOILER	-	-					
			VACUMING				J							
	11:00AM	DEBUSK	STARTING	ON H2 ECC	ONS									
			IN ADS CO					TO TAKE	OUT NOZZL	ES AND EN	ID PLATES			
	1:30PM		G COMPLE			OR FULL LO	JAD.	-	-		-			
	1:40PM	EXPRO L		LD OITTE	DOILLIN									
	2:19PM		BOTTOM TA											
	2:25PM		MOVING TO											
	2:30PM 3:43PM		NCE (COAL						+					
	3:45PM								AKER, J.TA	TE				
	4:10PM		SOTTOM PL											
	4:30PM		OCK, J.TAL		DS LEAVING	3								
	6:15PM 6:25PM		ELEASED H		-									
	NOTE:		ERRING FUE		HMPL TANK									
	7:45PM	ELECTRIC	CIANS RUN	NING AIR T	EST ON H-2	PRECIPS								
5/31/2014	8:00PM	CONN,	CLARK, B	REEDEN,	HIGGINS	,CUTSHA	W, BLANK	KS & YO	UNG			B SHIFT	PENDLEY	
		UNIT		UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E
		R1	50	50	42	4.5	10.6	0.44	13				2.6	CTL
		H1	165	165	153	0.572	10.6	0.081	28.5	89	11.24	217	2.7	18'
		J	.00	.00	.00	0.012	10.0	0.001	20.5	29	11.24	21/	2.1	
		H2	OFF - TUB	E LEAK										CTL
		CT	STAND BY		57									14'
		J1	CIVIADBL		JI.		-		1					
		ALARMS	:											
		R1	DUDIES :			054/ :								
		H1 H2	EH RES L		NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. S	TART REQU	JIRED/DRU	M TRANS/ C.	.T. LEVEL		
		SOOT BL	OWERS TA	AGGED				GAUGE	GLASSES		PWTL		DRYING AGENT	
		R1						ок			27'		R1- 0%	
		H1 1/24,4											H1- 0%	
		m2 0,41,	46 / 38,45										H2- 0%	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTH SYSTEM	
		LEVELS	0' A"	14' 1 1/4"	12' 2 1/2"	6 1/2"	1				6'		IN	



	CE	ul	Jui	lag	e r	lep	Or	l				Your Touc	hstone Energy® Coop	erative X
5/31/2014	8:00PM		BRIEFING	-										
	8:02PM			PUMP OFF -	1440I RS									
	8:03PM			DENSER VA		ADC								
			CIP AIR TE		COOM FOR	VIFO	-		-					
	8:20PM			KS THAT TH	EV CAN DE	ESTIME MO	DV IN ECC	MOMIZED	O DENTUC	LICE & AID	I FATERO			
	8:30PM	DEBLISK	STARTING	ON 3RD E	CONOMIZE	P HODDED	IN ECC	NONIZER	S, PENINC	USE & AIR	HEATERS			
	8:30PM			CO & J. AR										
	8:50PM			H-2 M.E. NO										
	9:55PM		D H-2 A.H.		ZZLES & PL	LAIES	-		-					
	10:03PM			ER WATER	MALLS DO	MAIN DELOIA	I FAIL IN	DENTH LOUIS						
	10:50PM													
	10:55PM	D. DLAIR	DETLIDATE	LYARD-LM, I	ALCOME I	A, B.DUVAL	L-LM, J.GA	TION, J.B.	AKER, J. TA	TE				
3/1/2014				D CALL - CA		N AT 12N TC	MORROW							
11/2014	2:15AM			H-2 BFP FO	K HYDRO									
			ON FOR H											
	2:50AM			OUT OF PEN	THOUSE &	ECONOMIZ	ZER - HYDR	ROING BOI	LER					
	3:24AM	and the state of t												
	3:30AM			STEM OUT -										
	3:44AM			PENTHOUSE										
				WING OFF	RESSURE	- DRAINING	TO FIRING	3 LEVEL						
	5:00AM		ER IS SET	10 FIRE	-									
	6:30AM	J. ARNOL	DHERE											
3/1/2014	8.00414	IACKEC	N EDMO	D0 00155	I DOWN TO	1100	(ADI (III							
1/2014	8;00AM			DS, GRIFFI	V, BOWLEY,	HOGAN, W	ADLINGTO	JN,				C SHIFT:	PAYNE/CARTER	3
		ALEXANI		LINUT OAT	NET OLE	000	200	New						
		UNIT R1	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	RE
		KI	49	9 50	42	4.51	10.7	0.439	10.3					
		114	450		450									
		H1	150	0 165	153	0.387	10.5	0.078	15.6	92.5	9.32	202/C	2.7	
						Ļ								
		H2		165	)									CTL 15.5'
				OUTAGE	-									
		CT	ON STAN	BY	57									
		ALARMS	:											
		R1												
		H1		MANAGEME	ENT/STEAM	SEAL LOW	V PRESSU	RE/E.H. S	TART REQU	JIRED				
		H2	EH RES	LEVEL HI										
			OWERS T	AGGED				GAUGE G	LASSES		PWTL / 2	5.0'	DRYING AGENT	
		R1						OK					R1-0%	
		H1 1/24,											H1-0%	
		H2 9,41,	46 / 38,45										H2-0%	
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	М
		LEVELS	9' 1"	10' 4"	12' 2 1/4"	6 1/2"					14FT		IN	
		SAFETY												
	NOTE			A & D SHIF		ONS / SEE	CALL IN LO	OG						
	8;56AM			IN @ 12NO										
	9;10AM			JT DOWN / C										
	9;25AM			AM COILS &	F.D.FANS									
	9;35AM		OMING IN											
	10;00AM	H2 WET	SEAL CLE	AN										
	NOTE	H2 PREC	IP DOORS	CLOSED &	CLEANED	& BACK PL	ATES ON							
	11;55AM	H2 STEA	M COILS &	FD FANS	LEAN									
	12;00PM	HEAD CO	OUNT CLOS	SING BOILER	R DOORS									
	12:05PM	M.EMBR	Y, BEN BL	AIR HERE										
	1;15PM	H2 PREC	IPS LOCK	ED										
	NOTE	DONE ST	ROKING S	CR DAMPE	RS									
	1;58PM	H2 WET	SEAL FULL											
	2:55PM	H2 ECON	S DONE,	CLOSING DO	OORS									
	2.001 141			OOWN TO V		RHEATERS								
	3:10PM													
		DEBUSK	STILL WO	RKING ON F	ENTHOUS									
	3:10PM			RKING ON F		R TONITE								
	3:10PM NOTE:	CALLING		HIFT OPERA		R TONITE								
	3:10PM NOTE: 4;40PM 4:43PM	CALLING H2 AIR H	THRU D S EATER ON	HIFT OPERA	ATORS FOR									
	3:10PM NOTE: 4;40PM	CALLING H2 AIR HI H2 FD FA	THRU D S EATER ON NS ON FO	HIFT OPERA	TORS FOR	т								
	3:10PM NOTE: 4;40PM 4:43PM 4:48PM	CALLING H2 AIR HI H2 FD FA H2 B BFF	THRU D S EATER ON NS ON FO ON, PUM	HIFT OPERA I OR AIR TEST IPING UP BO	FOR MAIN	т	L							
	3:10PM NOTE: 4;40PM 4:43PM 4:48PM 4:51PM	CALLING H2 AIR HI H2 FD FA H2 B BFF FIRES ES	THRU D S EATER ON ANS ON FO ON, PUM STABLISHE	HIFT OPERA I OR AIR TEST IPING UP BO ED IN H2 BO	FOR MAIN DILER TO FI	T IRING LEVE								
	3:10PM NOTE: 4;40PM 4:43PM 4:48PM 4:51PM 5:46PM	CALLING H2 AIR HI H2 FD FA H2 B BFF FIRES ES SWAPPIN	THRU D S EATER ON INS ON FO ON, PUM STABLISHE NG BOILER	HIFT OPERA I OR AIR TEST IPING UP BO	FOR MAIN DILER TO FI ILER FANS, A RU	T IRING LEVE JNNING RO	UGH, B ON							



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01410044						•								
6/1/2014	8:00PM	CONN,	CLARK, E	BREEDEN,	HIGGINS	CUTSHA	W, BLAN	KS & YO	UNG			B SHIFT	PENDLEY	
			JOHNSON											
		UNIT R1	LOAD 51	50	NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		KI	31	50	42	4.5	10.6	0.417	6.4				2.7	CTL
		H1	165	165	153	0.200	40.7	0.004	05.4					19'
		nı.	103	105	153	0.389	10.7	0.081	25.1	93.1	10.08	230	3.05	
		H2	FIRING B	OII ER										
		112	I IIVIIIVO DI	JILLIK					-					CTL
		CT	STAND B	<b>v</b>	60									15.5'
		01	O IANO D	·	00	-								
		ALARMS		-										
		R1	-	+	1		-	-	-				-	
		H1	BURNER	MANAGEME	ENT/STEAM	SEAL LOV	V PRESSI	IRE/E H S	TART REOL	IIRED/DRI IN	A TRANS!	TIEVEL		
		H2		LEVEL HI					THE WAY	JIKE DI DIKON	III III III III	J. I. LLVEL		
					1									
		SOOT BI	LOWERS T	AGGED			1	GAUGE (	GLASSES		PWTL		DRYING AGENT	
		R1		1			-	OK			26'		R1- 0%	
		H1 1/24,	42,										H1- 0%	
		H2 9,41	,46 / 38,45										H2- 0%	
		FUEL OII		HMPL	NORTH	SOUTH			1		SILO LVL		BOOTH SYSTEM	
		LEVELS	9' 1"	10' 4"	12' 2 1/4"	6 1/2"					14'		OUT	
3/1/2014	8:00PM		BRIEFING											
	8:25PM			UT FULLER	S EARTH F	ILTERS & P	OLISHING	FILTERS	ON H-2 E.H.	UNIT				
			D PULL VA											
	10:52PM		H2 TURBI		TIPPINE IA									
	11:23PM			ED ON H2 T			TEMPS							
	12:24AM 12:49AM			LVES ON H	12 TURBINE									
	2:00AM			DEDI/ICE										
	2:15AM		UBBER IN	A1 BURNE	D HEAD M	A INT CHEC	NINO							
	3:10AM			AUXILIARIE		IAINT CHEC	KING							
	NOTE			COAL LEAK		COAL PIPE	ON STHE	LOOP						
	4:00AM		G H-2 SCR		ON IPZ AT	COALFIFE	ON SINT	LOOK						
	5:40AM													
	5:51AM	R. JAMES	S CALLED	- REQUEST	ED VACATI	ON DAY FO	R TODAY	- I OK'D	1					
				1				T	-					
5/2/2014	8:00AM	FELTY.	CECIL.EN	BRY, BLA	R. HILLY	ARD. DUV	ALL.JAM	IES VAC				A SHIFT	TOW	
						,		T					_	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	50	50	42	4.518	10.5	0.415	11.9				2.74	CTL 18'
														PWTL / 26
		H1	165	165	153	0.418	10.8	0.076	30	92.3	10.09	233	3.5	
				1								С		
		H2	164	165	152	1.928	11	0.375	79.7	66.5	4.69	oos	4.3	CTL 15'
			055 05:	IDDV				-	-			С		
		CT	OFF STAN	NDRA	57									
		ALARMS												
		R1		-			-		-				-	
		H1	BURNER	MANAGENE	NT/STEAM	SEAL LOW	V DDECCI	IDE/E U C	TART DECL	IIDED/DDI II	A TRANS!	T LEVELIA	B PA FAN MOTOR	/P PED ALDY
		H2	EHRESI		THIT STEMIN	SEAL LOV	* FRESSU	INCIE.H. S	IAKI KEQU	JIKED/DRUN	I IRANS/ (	LEVEUA 8	XD PA FAN MOTOR	O BEP AUX
		.12	LITINGO						-					
		SOOT BI	OWERS T	AGGED	1.			GAUGE (	HASSES				DRYING AGENT	
		R1 22R	Jii Lino I					H-1 EAST					R1-0%	
		-	,30,31,33,4	2.43.44	-			. FI LAG	001				H1 0%	
		H2 37,41						-					H2-0%	
		2.,47			1			-						
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM	1
			8' 10 7/8"		12' 2 1/4"		1				16.9'		BSO	



### **Boiler Tube Leak Record**

O DECORMO COM ONATI
Your Touchstone Energy Cooperative

Plant: HMP&L Station Two Unit: 2
Type of Leak:
Pin Hole V ( 4 Roof tubes) Thick Lip Failure Thin Lip Failure
Tube Wall Thinning
Orientation of Rupture: Longitudinal <u>√</u> Circumferential
Probable Cause:
Stress Overheat Erosion vInternal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Soot blower Erosion
Other Flue gas erosion
Type of Repair:
Dutchman Pad Weld <u>V (4 Roof tubes)</u> Plug Tube Short Circuit Other
<b>Description of Repair:</b> Tube leaks on the 7 <sup>th</sup> , 8 <sup>th</sup> , 9 <sup>th</sup> and 10 <sup>th</sup> from west roof tubes between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8" were all repaired via BMR's



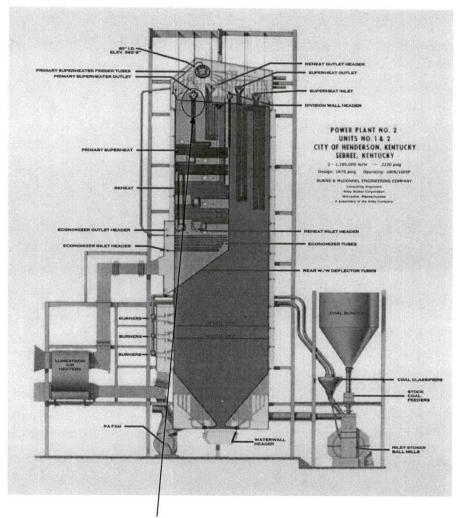


**Exact Location of Leaks:** 

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#### HMPL STATION UNIT 2 2014 (4) TUBES INVOLVED

Date and Time Unit Off \_\_\_ 19:40 5-30-14
Date and Time Unit On \_\_\_ 00:49 6-2-14



Tube leaks on the 7th, 8th, 9th and 10th from west roof tubes between #3 and #5 riser tube elements to Primary SH outlet header, at elevation 579' 8" were all repaired via BMR's.



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### **Forced Outage Report**

#### **Estimated Outage Cost**

Boiler De-Slag

Total

\$16,246.00

Vacuuming Economizer Hoppers, ME panels and the AH's

Total

\$16,024.36

Titan -tube leak repair

Labor

\$10,200

Material

\$106

Total

\$10,306

Titan and Global - Misc. repairs (Gas leaks, coal leaks, etc.) and scaffolding/insulation

Labor

\$13,520

Material

\$1,800

Total

\$15,320

**Grand Total** 

\$57,896.36





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 2 - H2-14-03	Produ	uction Cos	st
Date & Time Off Line	5/30/14 19:40	MW		\$/MW
Date & Time On Line	6/2/14 0:49	72	\$	33.04
Outage Duration	53 hr. 9 min.	127	\$	30.31
Outage Code	UO3	149	\$	29.99

Outage Reason Repair tube leak in penthouse

Date	DA LMF	P Average	RT LM	IP Average	DART P&L	Ор	Lost portunity
5/30/14 (HE 19-24)	\$	32.93	\$	37.39	\$ (3,733)	\$	-
5/31/14 (HE 1-24)	\$	39.53	\$	43.30	\$ (47,241)	\$	-
6/1/14 (HE 1-24)	\$	34.98	\$	34.07	\$ -	\$	(18,776)
6/2/14 (HE 1-12)	\$	34.28	\$	33.45	\$ 39	\$	-
Total					\$ (50,935)	\$	(18,776)

Start Up Fue	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		9,407	DART P&L	\$	(50,935)
S/U Fuel Price	\$	3.20	Lost Opportunity	\$	(18,776)
S/U Fuel Cost	\$	(30,122)	S/U Fuel Cost	\$	(30,122)
			Total	\$	(99,833)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To: Jim Garrett

From: Billy Boarman

Date: 19-Jun-2014

Plant: Reid Station Unit: 1 GADS Class: UO1/MO

#### **Duration**

Trip Time: 11-Jun-2014 11:08 Switched to Maintenance Outage: 13-Jun-2014 20:40

Time Offline for Forced Outage: 57:22 Tie Time: 16-Jun-2014 01:42

Time Offline for Maintenance Outage: 53:02 Total Time Offline: 110:24

#### **Outage Description**

Reid Station Unit 1 tripped due to loss of burner flame detection on Wednesday, 11-Jun-2014 at 11:08.

#### **Root Cause**

Steam from the tube leaks in the wet bottom area, all at elevation 440', caused the flame scanner lenses to fog and loose detection of the burner flames. One leak was located on the west water wall 4<sup>th</sup> tube from the north and the other was located on the north water wall 4<sup>th</sup> tube from the west. The leak on the west wall was caused by external corrosion and this leak sprayed on the north wall causing the other tube to leak.

#### **Failure History**

No failures of this nature have occurred on this unit in the last three years.

#### **Corrective Action**

Base metal repairs were made on the tubes identified above.



Your Touchstone Energy Cooperative

### Forced Outage Report

#### Other Work Completed While Unit Was Offline

- Repaired gas leaks on the bottom ash hopper seal skirt, the economizer hoppers ductwork, the boiler penthouse, around soot blowers and also around the Air Heater
- · Cleaned seal trough
- Repaired Air Heater Steam Cleaning device
- Replaced hot well level controller
- Repaired leaking boiler seal air piping
- Replaced hydro-ejector and discharge piping
- Inspected and repair wet bottom flushing jets
- Repaired refractory cooling water headers
- Repaired coal leaks on A1 coal pipe
- Replaced 2 steam coils
- Changed oil in all FD Fan, PA Fan, and Mill motors
- During the boiler hydro additional tube leaks were identified. The first tube in the second bundle from the east wall in the Hi Temp Superheat area of the boiler at elevation 519' was leaking. The first tube in the economizer at elevation 504' north-west side was leaking at a tube clip. In the wet bottom on the north knee slope at elevation, 440' the twentieth tube from the east wall a weeper was discovered. In addition, it was discovered that the base metal repair to the leak on the fourth knee tube from the west wall on the north side was leaking and required more pad welding due to tube wall thinning. All leaks were repaired via base metal repairs.



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### Operators Event Log

6/11/2014	8:00AM	SAFET	Y BRIEFING														
	8:00AM	FULL LO	OAD PARTIC	CULATE TES	T H-1												
	8:30AM	J KENN	EDY HERE													****	
	9:50AM	RAISED	H-1 VOLTA	GE TO 18.5	FOR NERC	REACTIVE	TEST										
				ENT OFF HM													
	11:10AM	RUNNIN	NG HOTWEL	L CK ON H-	2 LSOT 2 1/	2 INCHES IN	ONE HO	UR									
	11:18AM	R-1 TRI	PPED LOST	OF FLAME	SUSPECT	TUBE LEAK											
				LTAGE TO 1	7.5 REACTI	VE TEST											
			S OUT ON														
	NOTE		IG FUEL OIL														
	NOTE			HAVING TRO		H											
	NOTE			ONV NOT WO													
	2:50AM			OVER ON H-													
	NOTE			EL LEAKING													
	3:15PM							JP THAN P	UMP TRIP	PED HAVE T	O WAIT 55	MINS TO TRY	AGAIN				
	3:45PM			NT GOING IN			Y SLOW					~					
	4:00PM			TO SET UP													
	4:20PM					IING SKILLI	IS IN BUR	RNER DEC	K WE ARE	PULLING PL	ATES ON	NORTH SIDE C	F BOILER				
	4:25PM			JMP BACK C													
	NOTE										LL HAVE I	O GO BACK I	O H-1 BEFORE FI	NISHED			
	5:14PM 6:07PM			DATA BASE			KM IN N	STIFF CON	AING IN FO	R SAME							
	6:15PM			D TAKING P			E OM/ENIC	POPO EI	ECTRIC CV	STEM DEAD	ON THIS	ONE					
	7:00PM		LEAVING	O BRING AN	MOTHER IN	UCK OUT O	F OVVENS	BURU EL	ECIRIC ST	S IEM DEAD	ON INIS	UNE					
	7:00PM			TING ON R1	DECLAC												
	7.U3PW	INOMP	SUNSIAR	IING ON KI	DESLAG	-		-									
6/11/2014	8:00PM			ON, REYNO	DLDS, BA	KER, EDW	ARDS, T	ATE				D SHIFT	PAYNE				
		GATTO															
		UNIT	LOAD		NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR				
		R1		50	42									CTL			
		LI4	166	UNIT OFF	152	0.146	10.0	0.072	26	07.1	0.77	274	2.2	18'			
		H1	165	165	153	0.145	10.9	0.072	26	97.1	9.77	274	3.3				
		H2	162	165	142	0.165	10.7	0.037	21.7	97	7.66	265	4	CTL			
		n2	102	103	142	0.100	10.7	0.037	21.7	91	7.00	200	4	15'			
		CT	STAND B	V	59									10			
		01	O IN IND D		00												
		ALARM	IS:														
		R1	-														
		H1	BURNER	MANAGEME	ENT/STEAM	SEAL LOV	PRESSU	JRE/E.H. S	START REQ	UIRED/DRUM	I TRANS/	C.T. LEVEL					
		H2	EH RES	LEVEL HI				T									
		SOOT	BLOWERS 1	TAGGED				GAUGE	GLASSES		PWTL		DRYING AGENT				
		R1						OK			27'		R1-0%				
		H1 27,	29,30,31,33,	34,42,43,44									H1- 0%				
		H2 37,	41,46										H2- 0%				
		FUEL C	OIL C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTH SYSTEM	1			
		LEVEL	S 6' 2"	13' 8 1/2"	13'6 7/8"	6 1/2"					11FT		IN				
6/11/2014	8:00PM		Y BRIEFING														
	9:45PM			OSE BLOW				IXED									
				RE TO WOR			SMITTER										
				CING AGAIN			0710014										
						VES WILL N	OTISOLA	IE. GETTI	NG MAIN I	TO WORK O	NSAME						
				TAUL LEAVI		DDIDOED	ON WEST	OIDE									
	NOTE:			E, MOVING						-							
	NOTE:	WAITIN	GFORHIE	AS I SIDE D	RUM IRAN	SMILIER I	BLEED	OFF		-	-						
6/12/2014	12-3044	SEVED	AL ALADIAC	CAME IN C	N H2 MILL	S DA FANG	COOLIN	G WATER	DI IMPO O	I IDDODT DE	ARINGS T	HEN CLEADER	HAD ALLEN V	OUNG LOOK AT IT.	ALL ON SAME		
0/12/2014	12.50/101			SEE ANYTH			, сооыч	VVAILA	rowro, a	OFF ORT BE	ARINGS, I	THEN CLEANE	D. HAD ALLEIN IN	JONG LOOK ATTI.	ALL OIY SAIVIL		_
	12:31AM						CAME IN	TO ALARM	READING	259 182	READING	27.3 INHIRITE	D AND TAKE OUT	OF SCAN, STILL AL	ARMING PLIT RA	CK IN	
	The second secon	THE RESIDENCE OF STREET	and the second second second second	MONITOR NO		- Later September 1991 and September 1991		Mineral Printers Commission		20.0, 1 4 2	· LETOING	,	L. HID IANE OU	C. COTTE, CHILL AL			-
				ON H1. 1 3/4			20110 11	J. 111110 O	Or WILL								
				WORKING C			ES BRID	GED CO	MING OUT	SLOWLY						-	
				NOT WORKI				OLD. 001		JEOTTE!							
			FOR HYDR			The state of the				-						-	
					KNEES ST	ILL BRIDGE	D. GOING	TO MOVE	THOMPS	ON DOWN TO	WETBOT	TOM TO STAR	TON IT. WILL GO	D BACK TO IT			
														DE VALVED OUT FO	OR NOW		
			Y ELEVATO			1											
	4:30AM			CLEAN. MO	VING THO	MPSON BAC	K UP TO	KNEES									
			CLEAN ON														
	7:30AM	H-1 OP	ACITY EXCE	SS EMISSIO	ON (ACA PA	ARTICULATE	TEST) PE	RECIPS DE	ETUNED								
					1		1										



Your Touchstone Energy® Cooperative

				MBRY, BLA									TOW	
		UNIT	LOAD	UNIT CAP	NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		R1	UNIT OFF	50	42									CTL 18'
		H1	165	165	153	0.128	10.7	0.071	74.2	97.4	34.28	280	3.1	
		H2	152	155	142	0.143	10.3	0.067	16.7	97.5	8.06	C 211	3.5	CTL 15.1'
		CT	OFF STAR	NDDV								С		
		CT	OFF STAN	NDBA	57									
		ALARMS R1	:											
		H1	BURNER	MANAGEME	NT/STEAM	SEAL LOV	V PRESSI	JRE/E H S	TART REQU	IRED/DRUM	M TRANS/ C	T LEVEL/A 8	B PA FAN MOTO	R/B BFP AUX OIL
		H2	EH RES	LEVEL HI, G	EN. MAIN S	TEPUP								
		SOOT BL	LOWERS T	AGGED				GAUGE (	GLASSES		PWTL / 26	5"	DRYING AGENT	
		R1 22R						OK					R1-0%	
		H1 27,29	9,30,31,33,3 1,46	34,42,43,44									H1 0% H2-0%	
		FUEL OIL		HMPL	NORTH	SOUTH					011 0 114			
				13' 8 1/2"							SILO LVL 13.4'		BOOTHE SYSTE BSI	М
	8:00AM	SAFETY	BRIEFING				-							
	8:40AM			OUT NO LOS	T OF AIR									
	9:00AM			CLEAN TAG			-							
	9:00AM 9:00AM			OUT HOTW		NG								
	10:30AM	R-1 BFP	ON TO FIN	DLEAK										
	NOTE 10:40AM		OFF FOUN				-							
	NOTE	R-1 ECO	NS CLEAN											
	1:45PM 2:55PM			1 COND 6 HO										
	3:00PM	R-1 EH U	INIT TAGGE	ED AND DRA	INED DOW			RS						
	3:30PM	H-1 ACA	PARTICUL	ATE COMPL	ETE PREC				-					
	3:30PM 3:48PM		IS CALLED	PENT HOU IN SICK	3E									
	4:15PM	R-1 AT 10	000 LBS PF	RESSURE										
	NOTE 4:22PM			R GEAR BOX										
	5:00PM	LOST H	1 B-2 COAL	FEEDER B				AT 4:18 PM	1					
	5:25PM		IG ON R-1 N	WET SEAL OILER 6:04 F	EED BURA	OFF AT	000   De		-					
	6:00PM 6:11PM	H-1 FLYA	ASH BACK	IN										
	NOTE			ING AGENT	TO H-1 THI	S RUN DUE	TO ALL	THE FINES	GOING INT	#4 BUNKE	ER			
	6:20PM 6:35PM		G R-1 BOIL VINGING O	ER N H1 B MILL	WILDLY									
	6:40PM	OIL IN H	BOILER.	UNIT UNSTA	BLE									
	6:50PM 7:00PM			RT UP 4160 ETED. THOM							REPAIRS	TO PIPING		
	7:00PM 7:15PM	H1 PREC	CIPS OUT	LILD. INON	GON VA	DOM:NO C	VI I'II A	- INEINO	OK MAII	. IO MAKE	ALI AINS	.5111110		
	7:26PM	OIL BAC	K IN H1	DIM I FUE										
	7:33PM 7:34PM			RUM LEVEL										
			NE KESE	T AND ROLL	ING									
2011	9.000					MPDS T	ATE IC	INCON .	AMES OF	CII		U STHEA	DAVNE	
2014	8:00PM	DENTO	ON, REYN	IOLDS, BA	KER, EDV							D SHIFT		
2014	8:00PM	DENTO GATTON UNIT	ON, REYN	IOLDS, BA	KER, EDV		ATE, JOI	HNSON, J		CIL REMOVAL	DUST		PAYNE BACK PRESSUR	
2014	8:00PM	DENTO	ON, REYN	IOLDS, BA	KER, EDV						DUST			CTL 18'
/2014	8:00PM	DENTO GATTON UNIT	ON, REYN	IOLDS, BA RRIS -SICK UNIT CAP 50 UNIT OFF	KER, EDV						DUST			CTL
/2014	8:00PM	DENTO GATTON UNIT R1	ON, REYN I-F/L ., MOI LOAD	IOLDS, BA RRIS -SICK UNIT CAP 50	KER, EDV						DUST 9.66			CTL 18'
2014	8:00PM	DENTO GATTON UNIT R1 H1	DN, REYN N-F/L ., MOI LOAD	OLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF UNIT OFF 165	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL		AMM. FLOW	BACK PRESSUR	CTL 18'
2014	8:00PM	DENTO GATTON UNIT R1	ON, REYN 4-F/L ., MOI LOAD	OLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF UNIT OFF 165	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL		AMM. FLOW	BACK PRESSUR	CTL 18'
2014	8:00PM	DENTO GATTON UNIT R1 H1 H2 CT	DN, REYN N-F/L ., MOI LOAD 165 162 STAND B	OLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF UNIT OFF 165	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL		AMM. FLOW	BACK PRESSUR	CTL 18'
2014	8:00PM	DENTO GATTON UNIT R1 H1 H2 CT	DN, REYN I-FIL MOI LOAD  165 162 STAND B  BURNER	MANAGEME	NET CAP. 42	0.185	10.9	NOX 0.067	OPACITY 23.7	97	9.66	AMM. FLOW	BACK PRESSUR	CTL 18'
/2014	8:00PM	DENTO GATTON UNIT R1 H1 H2 CT	DN, REYN I-FIL MOI LOAD  165 162 STAND B  BURNER	UNIT OFF 165	NET CAP. 42	0.185	10.9	NOX 0.067	OPACITY 23.7	97	9.66	AMM. FLOW	BACK PRESSUR	CTL 18'
2/2014	8:00PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2	DN, REYN I-FIL MOI LOAD  165 162 STAND B  BURNER	IOLDS, BA RRIS -SICK UNIT CAP 50 UNIT OFF UNIT OFF 165 Y	NET CAP. 42	0.185	10.9	NOX  0.067  URE/E.H. S	OPACITY 23.7	97	9.66 M TRANS/ (	AMM. FLOW	4.2  DRYING AGENT	CTL 18'
92014	8:00PM	DENTO GATTON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BI	DN, REYN I-F/L , MOI LOAD  165 162 STAND B S: BURNER EH RES LOWERS 1	ROLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF 165 Y	NET CAP. 42	0.185	10.9	0.067	23.7	97	9.66 M TRANS/ (	AMM. FLOW	4.2  DRYING AGENT	CTL 18'
/2014	8:00PM	DENTO GATTON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BI	DN, REYN H-F/L., MOI LOAD  165 162 STAND B' S: BURNER EH RES LOWERS T	IOLDS, BA RRIS -SICK UNIT CAP 50 UNIT OFF UNIT OFF 165 Y	NET CAP. 42	0.185	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66 M TRANS/ (	AMM. FLOW	4.2  DRYING AGENT	CTL 18'
//2014	8:00PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 H1 27,21 H2 37,4	DN, REYN I-F/L ,, MOI LOAD  165  162  STAND B  S: BURNER EH RES  LOWERS T  9,30,31,33,146	IOLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF 165 Y MANAGEMI LEVEL HI (FAGGED 34.42,43,44	NET CAP. 42  142  59  ENT/STEAM	0.185 SEAL LOV	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66 M TRANS/ 6 PWTL 27	AMM. FLOW	4.2  DRYING AGENT R1-0% H2-0%	CTL. 18'  CTL. 15'
//2014	8:00PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT B1 R1 H1 27,21 H2 37,4*	DN, REYN I-FIL MOI LOAD  165 162 STAND B S: BURNER EH RES LOWERS T 9,30,31,33,1,46 L C.H.	ROLDS, BA RRIS SICK UNIT CAP 50 UNIT OFF 165 Y	NET CAP. 42  142  59  NITSTEAN	0.185 SEAL LOW	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66 M TRANS/ (	AMM. FLOW	4.2  DRYING AGENT R1-0% H1-0%	CTL. 18'  CTL. 15'
		DENTO GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 H1 27,21 H2 37,4'	DN, REYN I-F/L MOI LOAD  185  162  STAND B 3: BURNER EH RES LOWERS T 1,46  L C.H. 5 1126  1176  1176  1177	MANAGEM  AGGED	NET CAP. 42  142  59  NITSTEAN	0.185 SEAL LOW	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:00PM 8:10PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 H1 27,21 H2 37,4' FUEL OI LEVELS SAFETY	DN, REYN I-F/L MOI LOAD  165 162 STAND B S: BURNER EH RES LOWERS T 1,46 L C.H. BTIEFING BRIEFING	MANAGEM  AGGED	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOV  SOUTH 6 1/2"	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BIR1 H1 27,21 H2 37,4' FUEL OI LEVELS SAFETY TRIPPEC PURGIN	DN, REYN 1-F/L MO 165 162 STAND B' 3: BURNER EH RES LOWERS 1 1.46 L C.H. 5 11'6 1/2' BRIEFING O GN 4-14 G H BOILE	MANAGEMI LEVEL HI MANAGEMI LEV	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOV  SOUTH 6 1/2"	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H1 SOOT BIR1 H1 27,21 H2 37,4' FUEL OI LEVELS SAFETY TRIPPEC PURGINI- FUEL OI	DN, REYN H-FIL ., MOI LOAD  185  162  STAND B  S: BURNER EH RES LOWERS T  9,30,31,33,1,46  L C.H. BRIEFING O ON EX-HA G HI BOILE LIN ON HI LIN ON HI	MANAGEME LEVEL HI FAGGED 34.42,43,44 HMPL 13' 8 1/2" UST HOOD ER BOILER	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOV  SOUTH 6 1/2"	10.9	NOX  0.067  URE/E.H. S	23.7	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 27,21 H2 37,4' FUEL OI LEVELS SAFETY TRIPPEE PURGINI FUEL OI RESET IT TRIPPEE	DN, REYN LF/L., MO LOAD  165  162  STAND B 3: BURNER EH RES LOWERS I 9,30,31,33,: 1,46  L C.H. 1116 1/27 BRIEFING O ON EX-HA GH1 BOILE LIN ON H1 H1 TURBINIO D H1 TURBINIO D H1 TURBINIO	MANAGEME LEVEL HI 13' 8 1/2"  LUST HOOD LUST HOOD LUST HOOD LEVEL HI LEVEL	NET CAP. 42 142 59 NT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOW  SOUTH 6 1/2"  URE	10.9 W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 6:18PM 6:26PM 8:37PM	DENTC GATTON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 H1 27,21 H1 27,21 FUEL OI LEVELS SAFETY TRIPPEE PURGIN FUEL OI RESET† TRIPPEE H1 BOIL	DN, REYN LF/L., MO LOAD  165 162 STAND B STAND B S BURNER EH RES LOWERS T LOWERS T LOWERS T LOWERS T LOWERS T H TO H	MANAGEMILLEVEL HI TAGGED 34.42,43,44  HMPL 13' 8 1/2"  LUST HOOD TERMINE BOILER EINE BUC RIGHT LE BUC RIGHT L	NET CAP. 42 142 59 NT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOW  SOUTH 6 1/2"  URE	10.9 W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66  M TRANS/ (  PWTL  27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 6:18PM 6:28PM 8:38PM 8:38PM	DENTC GATTON UNIT R1 H1 H2 CT. ALARMS R1 H1 H2 CT. SOOT BI R1 H2 77,4 H2 TRIPPEC LOI RESET J TRIPPEC LOI RESET J TRIPPEC LOI RESET J TRIPPEC LOI	DN, REYN LF/L., MO LOAD  165  162  STAND B 3: BURNER EH RES LOWERS I 9,30,31,33,: 1,46  L C.H. 1116 1/27 BRIEFING O ON EX-HA GH1 BOILE LIN ON H1 H1 TURBINIO D H1 TURBINIO D H1 TURBINIO	MANAGEME LEVEL HI 13' 8 1/2"  UNIT OFF 195  MANAGEME LEVEL HI 13' 8 1/2"  UNIT OFF 195  MANAGEME LEVEL HI 13' 8 1/2"  UNIT OFF 195  MANAGEME LEVEL HI 13' 8 1/2"  BOILER E E E E BOILER E BOILER BOILER BOILER BOILER BOILER	NET CAP. 42 142 59 NT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOW  SOUTH 6 1/2"  URE	10.9 W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 6:28PM 6:38PM 6:38PM 8:42PM 8:42PM 9:00PM	DENTC GATTON UNIT TO THE PROPERTY OF THE PROPE	DN, REYN LOAD  165  162  STAND B  3:  BURNER EH RES  LOWERS T  9, 30, 31, 33, 1, 46  L C.H.  5 H1 G II T B	MANAGEMI LEVEL H  MANAGEMI LEVEL H  AGGED  34.42,43,44  HMPL LIST HOOD  ER  BOILER  BOILER  BOILER	NET CAP. 42 142 59 NT/STEAM NORTH 13'11 5/8"	SO2  0.185  SEAL LOW  SOUTH 6 1/2"  URE	10.9 W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 8:18PM 6:28PM 6:37PM 6:42PM 9:00PM 9:00PM	DENTC GATTON UNIT THE PER STATE OF THE PURCH STATE	DN, REYN LF/L MO LOAD  165 162 STAND B' S: BURNER EH RES LOWERS T 1,46 L C.H. 111 6 1/2' BRIEFING O NO EX-1A G H1 BOLL L IN ON H1 H1 TURBIN ER PUROSE L IN ON H1 TURBINE ER PUROSE L IN TURBINE	MANAGEMI LEVEL H LEVEL H LAGGED 34.42,43,44 HMPL 13' 8 1/2" LUST HOOD ER BOILER BOILER BOILER ER ER	NET CAP.  142  142  59  ENT/STEAN  NORTH  13*11 5/8**  TEMPERAT	SO2  0.185  SEAL LOW  SOUTH 6 1/2"  URE	10.9 W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:38PM 8:38PM 8:42PM 9:00PM 9:17PM 9:25PM 9:25PM	DENTC GATTON UNIT TRIPPET PURGINIPED HIS DELCO FRESET IN ANTHANDER OF TRANSPECTOR	DN, REYN LF/L., MO LOAD  165  162  STAND B 3: BURNER EH RES LOWERS T 9, 30, 31, 33, 1, 46  L C.H. 111 G H BOILE LIN ON HIT HIT TURBING ER PURGEE LIN ON HIT HIT TURBING STEP HEI	MANAGEMI LEVEL HI TAGGED 34.42,43,44 HMPL 13' 8 1/2" LUST HOOD ER BOILER E BOILER E RE	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8" TEMPERAT	SO2  0.185  SEAL LOV  SOUTH 6 1/2"  URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM 8:42PM 8:42PM 9:17PM 9:25PM 9:25PM 9:25PM	DENTCI GALTON UNIT TRIBUTE TRI	DN, REYN  IF/L MOI  LOAD  165  162  STAND B  S:  BURNER EH RES  LOWERS I  9,30,31,33, 1,46  L C.H.  11'6 1/2'  BRIEFING O ON EX-HA  G H1 BOILL IN ON H1 H1 TURBINE IL IN TURBINE IL I	MANAGEME LEVEL HI MANAGEME 13' 8 1/2" 13' 8 1/2" BOILER ER BOILER ER ER ES SON HI TU	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8" TEMPERAT	SO2  0.185  SEAL LOV  SOUTH 6 1/2"  URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM 8:42PM 9:00PM 9:25PM 9:47PM 9:25PM 9:47PM	DENTC GATTON UNIT TRIPPET PUEL OI RESET H NATHANAT TRIPPET A MILL TRANSPECTOR A MILL OF TRANSPECTOR A MILL TRANSPECTOR A MILL TRANSPECTOR A MILL OF TRANSP	DN, REYN  IF/L MOI  LOAD  165  162  STAND B  S:  BURNER EH RES  LOWERS I  9,30,31,33, 1,46  L C.H.  11'6 1/2'  BRIEFING O ON EX-HA  G H1 BOILL IN ON H1 H1 TURBINE IL IN TURBINE IL I	MANAGEMI LEVEL HI TAGGED 34,42,43,44 HMPL 13' 8 1/2" LUST HOOD ER BOILER ER ER ES SON H1 TU SOLLER EN BOILER EN BOIL	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8" TEMPERAT	SO2  0.185  SEAL LOV  SOUTH 6 1/2"  URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
2/2014	8:00PM 8:10PM 8:11PM 8:18PM 8:38PM 8:42PM 9:00PM 9:17PM 9:25PM 9:25PM 9:25PM 10:34PM 10:34PM 10:34PM	DENTC GATTON UNIT THE PER LEGISLATION OF THE	DN, REYN LOAD  165  162  STAND B 3: BURNER EH RES LOWERS I 9,30,31,33,1,46  L C.H. 1116 11/2 BRIEFING O ON EX-4A G HI BOILE LIN ON HI HI TURBINI D ER PURGE LIN ON HI HI TURBINE ER VALVE S IN ON HI TURBINE S IN ON HI TURBINE TURBIN	MANAGEME LEVEL HI 13' 8 1/2"  LUST HOOD ER BOILER E BOILER E E E BOILER E E BOILER E E BOILER E E E BOILER E E E E BOILER E E E E E E E E E E E E E E E E E E	NET CAP. 42 142 59 ENT/STEAM NORTH 13'11 5/8" TEMPERAT TINTERCE	SO2  0.185  SEAL LOV  SOUTH 6 1/2"  URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM 8:42PM 9:00PM 9:25PM 9:25PM 9:25PM 9:35PM 10:34PM 10:35PM 10:35PM	DENTC GATTON UNIT THE PROPERTY OF TRIPPET PURGING FUEL OF TRIPPET PURGING FUEL OF TRIPPET A MILL TEAM A MILL TRANSS TARTH IN TRANSS TARTH IN TRANSS TARTH IN THE PRECED FUEL OF TRIPPET OF	DN, REYN LOAD  165 162 165 162 STAND B S: BURNER EH RES LOWERS T 9,30,31,33, 1,46 L C.H. 11' 6 1/2' BRIEFING O ON EX-14 G H1 BOLL L IN ON H1 H1 TURBING I IN TURBING I TURB	MANAGEMI LEVEL HI AGGED 34.42,43,44  HMPL 13' 8 1/2"  UST HOOD ER BOILER BOILER ER ES SON HI TU BOILER ER EN E	NET CAP.  142  142  142  59  ENT/STEAN  NORTH  13*11 5/8**  TEMPERAT  IT INTERCE  RBINE  CLOSED.	SO2  0.185  SEAL LOA  SOUTH 6 1/2*  URE  PT VALVE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE OK	23.7 TART REQ	97	9.66 M TRANS/ (  PWTL 27	AMM. FLOW	A.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL 18' CTL 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM 8:42PM 9:00PM 9:25PM 9:25PM 9:25PM 10:34PM 10:35PM 10:34PM	DENTC GATTON UNIT THE PROPERTY OF THE PROPERTY	DN, REYN LOAD  165 162 165 162 STAND B S: BURNER EH RES LOWERS T 9,30,31,33,1,46 L C.H. SIT'6 1/2' BRIEFING O ON EXAL HI TURBING O HI TURBING LIN ON HI HI TURBING I TURBING SIN ON HI TURBING SIN ON HI TURBING ON TO DAMPER HI TURBING ON TO DAMPER HI TURBING ON TO DAMPER HI BOOSTE G HI BYDA G HI BYBA G HI	MANAGEMI LEVEL HI LEVEL HI LEVEL HI LAGGED 34.42,43,44  HMPL 13' 8 1/2"  UST HOOD ER BOILER ENE B/C RIGI D BOILER ENE B/C RIGI B/C	NET CAP.  142  142  59  ENT/STEAM  NORTH 113'11 5/8"  TEMPERAT  IT INTERCE  RBINE  CLOSED.	SO2  0.185  SEAL LOA  SOUTH 6 1/2*  URE  PT VALVE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE  OK  T COME OF	23.7  TART REQUIRED STATES OF THE PROPERTY OF	97  JIRED/DRUI	9.66  M TRANS/ 0  PWTL 27  SILO LVL 9FT	AMM. FLOW 265	4.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM 8:11PM 6:28PM 6:37PM 8:43PM 9:00PM 9:25PM 9:25PM 9:25PM 9:25PM 9:25PM 10:34PM 10:35PM 10:35PM 10:35PM 10:35PM 10:35PM	DENTC GATTON UNIT TO THE PROPERTY OF THE PROPE	DN, REYN LOAD  165  162  STAND B  3:  BURNER EH RES  LOWERS T  9, 30, 31, 33, 1, 46  L C.H.  11'6 11'2  BRIEFING O ON EX-4A  G H1 BOILE L IN ON H1 H1 TURBINI D H1 TURBINE ER PURGE L IN ON H1 H1 TURBINE ER PURGE L IN ON H1 H1 TURBINE EN E	MANAGEMI LEVEL HI AGGED  34,42,43,44  HMPL 13'8 1/2"  13'8 1/2"  BOILER BOILER E S ON H1 TU BOILER SOAL VALVE OPEN ER FAN SS DAMPEI LESS D	NET CAP.  NET CAP.  42  142  142  59  ENT/STEAM  NORTH  13'11 5/8"  TEMPERAT  IT INTERCE  CLOSED.	SOUTH 6 1/2" URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE  OK  T COME OF	23.7  TART REQUIRED STATES OF THE PROPERTY OF	97  JIRED/DRUI	9.66  M TRANS/ 0  PWTL 27  SILO LVL 9FT	AMM. FLOW	4.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'
	8:00PM 8:10PM 8:11PM 8:18PM 8:28PM 8:37PM 8:37PM 9:00PM 9:17PM 9:25PM 9:25PM 10:35PM 10:35PM 10:35PM 10:35PM 10:35PM 10:35PM	DENTC GATTON UNIT THE PER STAFF TRANSPORT A MILL TRANSPORT A MILL COSINUS CRUBES THE PER STAFF THE P	DN, REYN LOAD  165  162  STAND B  3:  BURNER EH RES  LOWERS T  9, 30, 31, 33, 1, 46  L C.H.  11'6 11'2  BRIEFING O ON EX-4A  G H1 BOILE L IN ON H1 H1 TURBINI D H1 TURBINE ER PURGE L IN ON H1 H1 TURBINE ER PURGE L IN ON H1 H1 TURBINE EN E	MANAGEMI LEVEL HI 13' 8 1/2"  JUNIT OFF 165  MANAGEMI LEVEL HI LEVEL HI LAGGED 34.42,43,44  HMPL 13' 8 1/2"  JUST HOOD ER BOILER E BOILER E RE E SE ON HI TU BOILER E RE E SE OAL VALVE BOILER E RE E SE OAL VALVE LER FAN SE DAMPE LILER WITH RI W CLI, R. JAME	NET CAP.  NET CAP.  42  142  142  59  ENT/STEAM  NORTH  13'11 5/8"  TEMPERAT  IT INTERCE  CLOSED.	SOUTH 6 1/2" URE	10.9  W PRESS	0.067  URE/E.H. S  GAUGE  OK  T COME OF	23.7  TART REQUIRED TO THE PROPERTY OF THE PRO	97  JIRED/DRUI	9.66  M TRANS/ 0  PWTL 27  SILO LVL 9FT	AMM. FLOW 265	4.2  DRYING AGENT R1-0% H1-0% H2-0% BOOTH SYSTEM	CTL. 18'  CTL. 15'



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Your	louchstone	Energy"	Cooperative	Va 3

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3/2014	12:13AM 12:15AM		NG AMMON	IA ON H1 H1 FOR FULL	PRESSIO	E AND LOA	_								
	12:15AM 1:00AM			TRIPPED. W											
	2:00AM	THOME	SON STAR	TING VACUL	MING IN R	PENTHOU	SE								
	2:01AM	H1 BAC	K IN ADS C	CONTROL 18	800 DRUM,	GOOD FOR	FULL LOA	D AND PRE	ESSURE						
	2:15AM 3:00AM	H1 EAS	SON LTAN	INDER LOCK	ED UP. MA	INT CHECK	ING. RES	ET BREAKE	ER BUT MO	OTOR IS NO	T EVEN TRY	ING TO TURN	. WILL HAVE EL	ECTRICIANS LOOK AT IT FIRST THIN	NG IN MORNING
	5:55AM	J.JACK	SON, J. INO	L LEAVING										SAID IT WAS A SAFETY ISSUE	
	0.007111	MOVIN	3 THOMPS	ON OUT 40F	EET TO TRY	AND RES	OLVE PRO	BLEM	ROM THE	IRUCK ARE	BEING SU	CKED INTO TH	E BREAK ROOM	SAID IT WAS A SAFETY ISSUE	
	6:15AM	PARTIC	ULATE MO	NITOR FAUL	TON H2. N	OTIFY INST									
	6:20AM	TRYING	TO ISOLAT	TE H2 WEST	DRUM GAI	GE GLASS	. (STEAM	LEAK). ST	ILL LEAKIN	NG THROUG	H AND WA	TER SIDE ROO	OT VALVE FEELS	STRIPPED	
2014	8:00AM			BREEDEN			W, BLAN	KS, YOU	NG			B SHIFT	PENDLEY		
		UNIT	LOAD	UN, KURZ, L	NET CAP.		CO2	NOX	ODACITY	DEMOVAL	DUGT				
		R1	OFF TUB		NET CAP.	302	CUZ	NUX	OPACITY	REMOVAL	0081	AMM. FLOW	BACK PRESSUR	CTL	
														18'	
		H1	165	165	153	0.399	10.5	0.075	38	92.3	18.68	206	3		
		H2	163	165	152	0.164	11.5	0.07	26.5	96.9	10.08	247	3.8	CTL	
		CT	STAND B	RY	59									15'	
		01	O ITAIND D		00										
		ALARM	S:												
		R1													
		H1		MANAGEM	ENT/STEAM	SEAL LOV	V PRESSU	RE/E.H. ST	ART REQU	JIRED/DRUI	A TRANS/ C	T. LEVEL			
		H2	EH RES	LEVEL HI											
		SOOT	BLOWERS	TAGGED				GAUGE G	ASSES		PWTL		DRYING AGENT		
		R1 22F						OK OK			27		R1-0%		
		H1 27,	9,30,31,33,	34,42,43,44									H1- 0%		
		H2 37,											H2- 0%		
		F11-													
			IL C.H.	HMPL	NORTH						SILO LVL		BOOTH SYSTEM	I.	
		LEVEL	S 11' 4"	12' 8"	14' 4 1/4"	6 1/2"					12'		IN		
014	8:00AM	SAFET	BRIEFING												
-	8:15AM	MAINT	RELEASED	1D COOLING											
	NOTE	TAGGE	DOUT HEV	WEST DRUM	GAUGE GI	ASS									
	NOTE			CLE PUMP			3								
	11:15AM			4 SIDE R-1 C			III DELTO	AND THE	OUTUN	re Trino	O DI INCO	ALE TENANCE	O OTADE IT		
	11:25AM 12:35PM			CLEANING U			LL BELIS	AND FIND	OUT WHA	13 IKIPPIN	G PUMP W	HILE TRYING T	O START IT.		
	12:35FM		BFP ON FO												
	1:20PM	MAINT	RELEASED	R-1 HOTWE	LL MAKE U	P & DUMP	REGULAT	ORS							
	2:04PM	R-1 BF	OFF - 100	0 LBS											
	2:30PM			TAC MOTOR											
	2:30PM 2:45PM			ASED 1E CO			NATERIA	ALL DEALE	E FOLING	SMALL LE	K ON OLO	PE - PER B. B	OARMAN		
	3:25PM			H-2 WETBO		OF EINING V	TAILK VV.	TEL DIVING	J - F OUND	OWINE LEA	IN ON OLOF	L-FERD. B	COMMIN		
	3:50PM			IX LEAK - OF		ONOMIZER	& PLATEN	DRAINS TO	DRAIN B	OILER - PEI	R B. BOARN	IAN			
	3:30PM	H-2 WE	ST DRUM C	BAUGE GLAS											
	4:08PM		RECYCLE P												
	4:25PM			DONE - NOT											
	6:00PM 7:06PM		FP ON FOR	SET BACK TO R HYDRO	NORMAL										
2014	8;00pm	EDMC	NDS,JAC	KSON ,GRI	FFIN,BOV	LEY, HO	GAN ,ALE	XANDER,	WADLING	STON		C SHIFT	CARTER		
				LIBRE CO.			001	New							
		UNIT	LOAD		NET CAP.	502	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR		
		R1	OFF	50	42									CTL/15.2'	
		H1	143	165	153	0.104	10.8	0.063	14.6	98	6.02	187/C	2.3		
		***							. 4.0		- 04				
		H2	142	165	152	0.122	10.7	0.054	20.2	97.6	3.2	209/C	2.9	CTL/15.4°	
		CT	5	58	65										
		ALARN	s.												
		R1	٥.												
		H1	BURNER	MANAGEM	ENT/STEAM	SEAL LOV	V PRESSU	RE/E H PE	RESSURE	LO START	REQUIRED	DRUMXMTR M	IAINT		
		H2		LEVEL HI											
		20.25													
			BLOWERS 1					GAUGE G	LASSES		PWTL 26.1		DRYING AGENT		
			19,28,29,30		12.42			OK					R1-0%		
		H1 1-		27,29,30,31,	,,43								H1-0% H2-0%		
		2		-											
			IL C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	м	
				12' 8"							15'		IN		
			S 11' 4"				MARTINE	FAFFICE	F 40::::	IOT IVE					
	7.6001	LEVEL		unacu a			WITHRI	ENTHOUS	E ASH IS I	HOT HAVE	U RAKE DO	JWN 10 COO			
	7;50PM 8:00PM	GEORG	E FOR THO	MPSON SA	ID OVER H	ALF DONE									
	8;00PM	GEORG SAFET	E FOR THO	3	ID OVER H	ALF DONE					DUCTMOR	K WHERE LAC	GING WAS REM	OVED& A.H. LEVEL	
		GEORG SAFET R1 DRI	E FOR THO BRIEFING	CLOSED			T CREW	TO FIINSH	VACUMINO	GAS OUT					
	8,00PM 8,19PM NOTE 8,24PM	GEORG SAFET R1 DRU GEORG R1-8 B	E FOR THO BRIEFING M VENTS ( E FOR THO	CLOSED OMPSON TR DOO DRUM PS	YING TO GI	T DAYSHIF			VACUMING	GAS OUT	DOCTWOR				
	8;00PM 8;19PM NOTE 8;24PM 8;40PM	GEORG SAFET R1 DRI GEORG R1-B B R1 DRY	E FOR THO BRIEFING M VENTS OF EFOR THO FPOFF 10 BOILER /	CLOSED OMPSON TR 000 DRUM PS BLOWING P	YING TO GI	T DAYSHIF			VACUMING	GAS OUT	DOCTWOR				
	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEM	E FOR THO PRIEFING M VENTS OF FOR THO POFF 10 BOILER / TAC RELEA	CLOSED OMPSON TR' 000 DRUM PS BLOWING PASED	YING TO GI	T DAYSHIF	FIRING LE	VEL	VACUMING	GAS OUT	DOCTWOR				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEM	E FOR THO PRIEFING M VENTS OF FOR THO POFF 10 BOILER / TAC RELEA	CLOSED OMPSON TR 000 DRUM PS BLOWING P	YING TO GI	T DAYSHIF	FIRING LE	VEL	VACUMING	GAS OUT	DOCTWOR				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEN	E FOR THO BRIEFING M VENTS OF E FOR THO FP OFF 10 BOILER / TAC RELEA TAC WILL	CLOSED DMPSON TR' 000 DRUM PS BLOWING P ASED NOT START	YING TO GI	T DAYSHIF	FIRING LE	VEL	VACUMING	GAS OUT	DOCTWOR				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRY R1 CEN R1 CEN	P OFF 10 BOILER / TAC RELEATING THE FOR THO BOILER / TAC RELEATING THE FOR THO BOILER / TAC RELEATING THE FOR THO	CLOSED DMPSON TR' 000 DRUM PS BLOWING P ASED NOT START	YING TO GI SI SI OFF DR LOW OIL F	T DAYSHIF AINING TO SI / INST D	FIRING LE	STING	VACUMING	GAS OUT	DOCTWOR				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEN R1 CEN A.YOUI H2 PAF THOME	E FOR THO  / BRIEFING  M VENTS ( E FOR THO  P OFF 10  BOILER /  TAC RELEA  TAC WILL  IG GOING F  TITICULATE  SON DONE	CLOSED DMPSON TR' 1000 DRUM PS BLOWING P ASED NOT START HOME MONITOR G	VING TO GI SI SI OFF DR LOW OIL F OING S.HA THSIDE R1	ET DAYSHIF AINING TO PSI / INST D	FIRING LE	STING			boctwork				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE 12;00AM 1;15AM 1;20AM NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRY R1 CEM R1 CEM A.YOUI H2 PAF THOME	E FOR THO  / BRIEFING  M VENTS ( E FOR THO  P OFF 10  BOILER /  TAC RELEA  TAC WILL  IG GOING F  TITICULATE  SON DONE  SON MOVI	CLOSED CMPSON TR COMPSON TR DOMO DRUM PS BLOWING P ASED NOT START HOME MONITOR G WITH SOU' NG TO NOR	VING TO GI SI OFF DR LOW OIL F OING S.HA THSIDE R1 TSIDE OF F	ET DAYSHIF AINING TO PSI / INST D	FIRING LE	STING			DOCTWOR				
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE 12;00AM 1;15AM 1;20AM NOTE NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEN R1 THOME	PEFOR THO PRIEFING M VENTS ( EFOR THO POFF 10 BOILER / TAC RELEA TAC WILL IG GOING P TICULATE SON DONE SON MOVI NER SKILL	CLOSED  CLOSED  MPSON TR  DOD DRUM PS  BLOWING P  ASED  NOT START  HOME  MONITOR G  E WITH SOUT  NG TO NOR  LETTS REMO	YING TO GI SI SI OFF DR LOW OIL F OING S.HA THSIDE R1 TSIDE OF F	ET DAYSHIF AINING TO PSI / INST D	FIRING LE	STING			DOCIWOR				
0014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE 12;00AM 1;15AM 1;20AM NOTE NOTE NOTE	GEORG SAFET R1 DRI GEORG R1-B B R1 DRY R1 CEN A.YOUI H2 PAF THOME THOME R1 BUE UTILIT	PEFOR THO PRIEFING M VENTS ( EFOR THO POFF 10 BOILER / TAC RELEA TAC WILL IG GOING P TICULATE SON DONE SON MOVIL WER SKILL V WORKING	CLOSED DMPSON TR DOMPSON TR DOMPSON TR DOMPSON P BLOWING P ASED NOT START HOME MONITOR G E WITH SOU' NG TO NOR ETTS REMO G ON H2 ECC	YING TO GI ISI OFF DR LOW OIL F OING S.HA THSIDE R1 TSIDE OF F WED	T DAYSHIF AINING TO SI / INST D LLMAN GO PENTHOUS 1 PENTHOU	FIRING LE DEPT ASSI ING HOMI E J.WEST USE	STING  NOTIFIED	FOR INSP	ECTION			NGNG OF THE	VAA6	
014	8;00PM 8;19PM NOTE 8;24PM 9;15PM NOTE 12;00AM 1;15AM 1;20AM NOTE NOTE 4;35AM	GEORG SAFET R1 DRI GEORG R1-B B R1 DRI R1 CEN R1 CEN L2 PAF THOMF THOMF R1 BUIT T.WES	F FOR THO F PRIEFING M VENTS ( E FOR THO P OFF 10 BOILER / TAC RELES TAC WILL IG GOING I TITICULATE SON DONE SON MOVI NOR SKILL F WORKING F CALLED I	CLOSED DMPSON TR DMPSON TR DMPSON TR DMPSON TR BLOWING P ASED NOT START HOME MONITOR G WITH SOU' NG TO NOR LETTS REMO G ON H2 ECO N SICK / ALS	VING TO GI	ET DAYSHIF AINING TO SI / INST E LLMAN GO PENTHOUS 1 PENTHOI	FIRING LE DEPT ASSI ING HOMI E J.WEST USE	STING  NOTIFIED	FOR INSP	ECTION		B MILLS CHAI	NGING OIL IN MC	OTORS	
014	8;00PM 8;19PM NOTE 8;24PM 8;40PM 9;15PM NOTE 12;00AM 1;15AM 1;20AM NOTE NOTE NOTE	GEORG SAFET R1 DR1 R1 DR2 R1 CEM R1 CEM R1 CEM L2 PAF THOME R1 BUF UTILIT TWES J.WES	E FOR THC Y BRIEFING M VENTS C E FOR THC FP OFF 10 BOILER / TAC RELEA TAC WILL IG GOING H TITULATE SON MON' INER SKILL Y WORKING F CALLED I S ALD R 1 F SALD R 1 F SA	CLOSED DMPSON TR DOMPSON TR DOMPSON TR DOMPSON P BLOWING P ASED NOT START HOME MONITOR G E WITH SOU' NG TO NOR ETTS REMO G ON H2 ECC	WING TO GI	T DAYSHIF AINING TO SI / INST D LLMAN GO PENTHOUS 1 PENTHOUS 5 PERMISS I IS GOOD	FIRING LE DEPT ASSI ING HOMI E J.WEST USE	STING  NOTIFIED	FOR INSP	ECTION		B MILLS CHAI	NGING OIL IN MC	OTORS	



Your Touchstone Energy\* Cooperative

	8:00AM	CONN,	CLARK, E	REEDEN,	HIGGINS	, CUTSHA	W, BLAN	KS, YOU	JNG			BSHIFT	PENDLEY	
		UNIT	LOAD	UNIT CAP	NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E
		R1	OFF TUBE	LEAK										CTL
		H1	153	165	153	0.142	10.9	0.064	20.4	97.3	4.95	222	2.6	18'
		H2	141	165	152	0.135	10.6	0.071	9.8	97.4	5.17	208	3.1	CTL
		CT	STAND BY						0.0	01.4	5.17	200	3.1	15.4
		CI	STANDBY		59	-								
		ALARMS												
		R1 H1	BURNER I	MANAGEME	NT/STEAM	SEAL LOV	V PRESSU	RE/E H S	START REQU	JIRED/DRUM	A TRANS/	TIEVEL		
		H2	EH RES L	EVEL HI			7,1200		, , , , , , , , , , , , , , , , , , ,	JII (LDI DI (OI	ii ii caisoi c	J. I. LLVLL		
		SOOT BL	OWERS T	AGGED				GALIGE	GLASSES		PWTL		DRYING AGENT	
		R1 22R						OK	CDIOOEG		27		R1- 0%	
		H1 27,29 H2 37,41	,30,31,33,3	4,42,43,44					+		-		H1- 0% H2- 0%	
		FUEL OIL		12' 8 1/4"	NORTH		1				SILO LVL 9'		BOOTH SYSTEM	
				12 0 114	14 0	0 1/2	-				- 5		IIV	
4/2014	8:00AM 9:30AM	SAFETY		CK IN R-1 E.	H UNIT	-	-	-	-					
	10:05AM	CALLED .	J. HILLYAR	D, B. BLAIR	B. DuVAL									
				IED CALL - I R-1 E.H. UN		AT 4PM TO	MORROW							
	11:20AM	J. DAVIS	& CLEANIN	NG CREW L	EAVING									
	NOTE			LINKER GRI BOTTOM FL										
	NOTE	PUT R-1	CONDENSA	ATE SYSTE	M IN SERV			WELL LEV	EL - MAKE	UP & DUMP	REGULAT	ORS WORKIN	IG	
	NOTE 3:00PM	TAGGED	OUT R-1 F	SED PERMI	GAUGE CI	ASS TO PE	PLACE .	NONE IN S	STOCK - B	BOARMAN	SETTING O	NE FROM COL	EMAN	
	NOTE	ELECTRIC	CIAN WOR	KING ON R-	1 'A' BFP -	WONT STA	RT			JOANNIAN	JE 111140 01	VE PROMICOL	LINOIA	
	7;05PM	CALLED	C.PAYNE T	O RELEASE	HIM OFF	R1 FUEL O	IL OKED/ 1	TOW L/N	А					
1/2014	8;00PM	EDMON	DS,JACK	SON ,GRII	FIN,BOV	LEY, HO	AN ,ALE	XANDER	R,WADLING	TON,KUF	RZ	C SHIFT	CARTER	
		UNIT	LOAD	UNIT CAP	NET CAR	000	CO2	NOX	OBACITY	REMOVAL	DUGT	AMM 51 011	DACK PRESSUR	_
		R1	OUTAGE		42	502	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E CTL/17.5'
		114	442	105	450	0.405	40.0	0.004		07.0		10110		
		H1	143	165	153	0.125	10.9	0.064	14.1	97.6	5.17	191/C	2.3	
		H2	143	165	152	0.122	11.1	0.07	7.6	97.6	2.24	204/C	3	CTL/15.2"
		CT	65	59		ON STAND	DBY							
		41 4 5140												
		ALARMS:												
		H1			NT/STEAM	SEAL LOV	V PRESSU	RE/E H. F	PRESSURE	LO START F	REQUIRED/	DRUMXMTR N	MAINT	
		H2	EHRESL	EVELHI										
			OWERS T					GAUGE	GLASSES		PWTL 26.1	'	DRYING AGENT	
			9,28,29,30, 4,42,44 / 2	7,29,30,31,3	3,34,43			OK					R1-0% H1-0%	
		H2 9,4											H2-0%	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	м
		LEVELS	11' 1/2"	12' 8 1/4"	14' 9"	6 1/2"					15'		IN /A -SIDE ONLY	1
	7;09PM	CALLED	D.PENDLE	Y RELEASE	HIM OFF F	PERMIT #46	9835							
	7;50pm			E PERMISS	ION TO R	ELEASE HIN	OFF R1	FUEL OIL	PERMIT					
	8;00PM NOTE		BRIEFING	LUICE WAT	ER VALVE	IN BASEM	ENT FOR I	MAINT TO	REPAIR LE	AK ON WET	воттом	DISCHARGE L	INE BEFORE HYD	ROJECTOR
	10;12PM	CALLED	J.HILLYAR	D FOR R1 S	TART-UP	L/M								
				FIRE AND			#459809 8	R1-B FD	FAN #45982	7 PERMITS	FOR AIR 1	EST / OKED		
5/2014														
	12;19AM 12;30AM			R TV-GV TE										
	12,46AM	H2 BACK	IN ADS T	V-GV TEST		E								
	1;19AM NOTE		R1 FD FA	LETE ANS & PEDA	STALS									
	NOTE	PICKING	UP PERMI	TS										
	3;50am NOTE		SAFETY M	BAD RETR	ACT LIMIT	SWITCH	VO#613174	12						
	6;30AM	J.ARNOL						-						
5/2014	8:00AM	CONN,	CLARK, B	REEDEN,	HIGGINS	CUTSHA	W, BLAN	KS, YOU	JNG			B SHIFT	PENDLEY	
		UNIT	LOAD	UNIT CAR	NET CAR	802	CO2	NOV	OBACITY	PEMOVA	DUCT	AMM ELOW	BACK BEEGGIE	
		R1	OFF TUBE	UNIT CAP	NEI CAP.	302	002	NOX	UPACITY	REMOVAL	DUST	AMM. PLOW	BACK PRESSUR	E CTL
			162	165	153	0.131		0.033	40	07.4	7.07	200	2.05	18'
		H1	102	165	153	0.131	11.1	0.077	19	97.4	7.07	232	3.25	
		H2	151	165	152	0.153	11.3	0.075	19	97.1	12.65	217	3.8	CTL
		CT	STAND BY	1	59									15.5
		ALARMS R1						-						
		H1		MANAGEME	NT/STEAM	SEAL LOV	V PRESSU	RE/E.H. S	START REQU	JIRED/DRUM	M TRANS/	C.T. LEVEL		
		H2	EH RES L	EVEL HI							-			
		SOOT BL	OWERS T	AGGED					GLASSES		PWTL		DRYING AGENT	
								OK			27		R1-0%	
		R1 22R H1 27,29	,30,31,33,3	4,42,43,44				OIL					H1- 0%	
				4,42,43,44				OI.						
		H1 27,29	,46	4,42,43,44 HMPL	NORTH	SOUTH		OI,			SILO LVL		H1- 0%	



				+
Your	Touchstone	Energy*	Cooperative	XIX

3/15/2014	8:00AM	SAFETY	BRIFFING											
	8:10AM			H JEREMY	OSBORNE	WITH THO	APSON TO	SIGN LIN	OFF OF D	-1 FUEL OIL	DEDMIT			
	8:15AM	R. DENT	ON CALLED	- REQUES	TED VACA	TION DAY	CMOPPO	W (8.18.1	1) 8A .OD	OKID	PERMII			
	9:00AM	N. STIFF	HERE	TILLUOLO	ILD THON	HOIY DAT	OWIONNO	AA (0-10-14	+) OA -OF - I	OKD				
	NOTE			ARTICULAT	E MONITO	D					-			
							ADI SCDI	DDED ON	BACKLIDE	EED HE H	100 1 1001	GAS PRESSUR		
	101101111	TOOK H	1 'B' & H-2	'B' RECYCL	E DI IMPS	DEE CLOS	ED IN 21	1 EMERCE	BACK OF F	LED-HE H	AS A LOW	GAS PRESSUR	E ALARM ON	DISPATCH OPENED
		01182 00	D GIFE	B RECTOR	L FUMPS	OFF - CLOS	SED IN 21-	LEMERGE	ENCY FEED	- 11-1 NOR	MAL FEED	AUTOMATICALL	Y OPENED - I	DISPATCH OPENED
	10:45AM		R-1 SCAN	NEDC IN										
						-								
	11:30AM		D R-1 OIL G											
	12:04PM	BREC DI	SPATCH CL	OSED 0118	2 OCB - W	E CLOSED	11-1 SCR	UBBER NO	DRMAL FEE	D - 21-1 EM	ERGENCY F	FEED AUTOMA	TICALLY OPEN	NED UP.
				YCLE PUM										
	NOTE			IL IN R-1 'A'										
	NOTE			ON BOOTH			IG LINE							
	2:30PM			UGE GLAS										
	2:14PM			JMP TRIPPE										
	NOTE			IGED H-2 'A'		DW CONVE	YOR SPE	ED SWITC	Н					
	3:00PM			RADDOCK L	EAVING									
	3:00PM	B. BLAIR												
	4:00PM	B. DUVA												
	4:00PM	A. YOUN												
	4:00PM			OUT OF SER										
	4:00PM			EQUIPMEN'										
	NOTE					OVE - HAD	TO HAN	CRANK -	AND PLC V	VATCHDOG	SYSTEM W	AS TRIPPED -	COULD NOT G	SET PURGE
	4:44PM			JMP BACK										
	5:00PM									T SWITCHE				
	NOTE				OOTBLOW	ERS & PUT	NEW SO	LENOID ON	WEST BO	OTHE SYST	EM EQUALI	ZING VALVE		
	7;00PM	J. ARNOI	LD LEAVING	3										
										1				
15/2014	8;00PM	EDMON	DS.JACK	SON .GRII	FFIN,BOW	VLEY, HO	GAN AL	XANDER	R.WADLING	GTON, KUF	RZ	C SHIFT C	CARTER	
	-,		BLAIR, DU		,				.,		_			
		UNIT	LOAD	UNIT CAP	NET CAP	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW E	ACK DDESCI	IDE
		R1	LOAD	50	42	238 DRUM		IVOX	OFACITI	KEMOVAL	0031	AMM. FLOW E	DACK PRESSU	CTL/17.8'
		IX.		30	44	230 DROW	1731							C1D17.0
		H1	161	165	153	0.122	10.8	0.071	26.7	97.5	7.34	239/C	3.3	
		m	101	103	133	0.122	10.0	0.071	20.7	97.5	7.34	239/0	3.3	
		H2	161	165	152	0.168	11.5	0.069	20.3	96.9	12.66	260/0	4.4	CTL/15.4'
		HZ	101	105	152	0.100	11.5	0.069	20.3	96.9	12.66	269/C	4.1	C1L/15.4
			0.5	67		ON CTANE	201							
		CT	65	57		ON STAN	DBA							
		ALARMS	:											
		R1												
		H1			NT/STEAM	SEAL LOV	V PRESSU	JRE/E.H. P	PRESSURE	LO START F	REQUIRED/	DRUMXMTR MA	INT	
		H2	EH RES L	EVEL HI										
														_
			OWERS TA						GLASSES		PWTL 26.1		RYING AGEN	т
		R1 16,,1	19,28,29,30,	31/22R				GAUGE	GLASSES		PWTL 26.1	F	R1-0%	π
		R1 16,,1 H1 1-2	19,28,29,30, 4 ,42,44 / <b>2</b>		3,34,43				GLASSES		PWTL 26.1	F	R1-0% H1-0%	π
		R1 16,,1 H1 1-2	19,28,29,30,	31/22R	3,34,43				GLASSES		PWTL 26.1	F	R1-0%	π
		R1 16,,1 H1 1-2 H2 9,4	19,28,29,30, 4,42,44 / <b>2</b> 1,46/37	31/22R 7,29,30,31,3					GLASSES			F H H	R1-0% H1-0% H2-0%	
		R1 16,,1 H1 1-2 H2 9,4	19,28,29,30, 4 ,42,44 / 2 1,46/37 LC.H.	31/22R 7,29,30,31,3 HMPL	NORTH	SOUTH			GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
		R1 16,,1 H1 1-2 H2 9,4	19,28,29,30, 4 ,42,44 / 2 1,46/37 LC.H.	31/22R 7,29,30,31,3	NORTH	SOUTH 6 1/2"			GLASSES			F F F	R1-0% H1-0% H2-0%	
		R1 16,,1 H1 1-2 H2 9,4	19,28,29,30, 4 ,42,44 / 2 1,46/37 LC.H.	31/22R 7,29,30,31,3 HMPL	NORTH				GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
	NOTE	R1 16,,1 H1 1-2 H2 9,4 FUEL OII LEVELS	19,28,29,30, 4 ,42,44 / 2 1,46/37 L C.H. 10' 11 1/2"	31/22R 7,29,30,31,3 HMPL	NORTH				GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
	NOTE 8;00PM	R1 16,,1 H1 1-2 H2 9,4 FUEL OII LEVELS	19,28,29,30, 4 ,42,44 / 2 1,46/37 C.H.	31/22R 7,29,30,31,3 HMPL	NORTH				GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
		R1 16,,1 H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING	31/22R 7,29,30,31,3 HMPL	NORTH 14' 9"	6 1/2"			GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
	8;00PM	R1 16,,1 H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL	31/22R 7,29,30,31,3 HMPL 1 12' 8 1/4"	NORTH 14' 9"	6 1/2"			GLASSES		SILO LVL	F F F	R1-0% H1-0% H2-0% BOOTHE SYST	
	8;00PM 8;35PM	R1 16,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL ING TURBII	31/22R 7,29,30,31,3 HMPL 1 12' 8 1/4" GUN / BLOV	NORTH 14' 9" NING ELEC NG VACUN	6 1/2"		OK		WARM STE	SILO LVL	F F F C	81-0% 11-0% 12-0% BOOTHE SYST	
	8;00PM 8;35PM 9;18pm	R1 16,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL ING TURBII ING TURBII	31/22R 7,29,30,31,3 HMPL 12' 8 1/4" GUN / BLOV NE & PULLI /ACUM /E.H	NORTH 14' 9" WING ELEC NG VACUN PSI 1700	6 1/2" CTROMATIC	ET STOP	OK  VALVE TO	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	гем
	8;00PM 8;35PM 9;18pm	R1 16,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAG	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING BRIEFING BRIEFING EING TURBII ING TURBII INE 25.7" V E AT SOLE	31/22R 7,29,30,31,3 HMPL 12' 8 1/4" GUN / BLOV NE & PULLI /ACUM /E.H	NORTH 14' 9"  NING ELECTOR VACUM PSI 1700 GETTING V	6 1/2" CTROMATION CANNOT GOLTAGE A	ET STOP T STOP V	VALVE TO	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
	8;00PM 8;35PM 9;18pm 10;15PM	R1 16,,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURE VOLTAG A.YOUNG	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING BRIEFING BRIEFING EING TURBII ING TURBII INE 25.7" V E AT SOLE	31/22R 7,29,30,31,3  HMPL 12' 8 1/4"  GUN / BLOV NE & PULLI (ACUM /E.H NOID NOT (E WHICH O	NORTH 14' 9"  NING ELECTOR VACUM PSI 1700 GETTING V	6 1/2" CTROMATION CANNOT GOLTAGE A	ET STOP T STOP V	VALVE TO	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
	8;00PM 8;35PM 9;18pm 10;15PM	R1 16,,, H1 1-2 H2 9,4  FUEL OII LEVELS  FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAB A.YOUNG D.PRATH	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL ING TURBII INE 25,7" V E AT SOLE	31/22R 7,29,30,31,3  HMPL 12' 8 1/4"  GUN / BLOV NE & PULLI (ACUM /E.H NOID NOT (E WHICH O	NORTH 14' 9"  WING ELEC NG VACUM PSI 1700 GETTING V NE. STILL	6 1/2"  CTROMATIO  CANNOT G  COLTAGE A  TROUBLES	ET STOP T STOP V	VALVE TO	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM	R1 16,,, H1 1-2 H2 9,4  FUEL OII LEVELS  FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAB A.YOUNG D.PRATH	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL ING TURBII INE 25,7" V E AT SOLE	31/22R 7,29,30,31,3 HMPL 1 12' 8 1/4" GUN / BLOWNE & PULLI FACUM /E.H NE WHICH O G OUT	NORTH 14' 9"  WING ELEC NG VACUM PSI 1700 GETTING V NE. STILL	6 1/2"  CTROMATIO  CANNOT G  COLTAGE A  TROUBLES	ET STOP T STOP V	VALVE TO	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM	R1 16,,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAG A.YOUNG D.PRATH J.FRANG	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL INING TURBII INING TURBII I	31/22R 7,29,30,31,3 HMPL 1 12' 8 1/4" GUN / BLOWNE & PULLI FACUM /E.H NE WHICH O G OUT	NORTH 14' 9"  WING ELEC NG VACUM PSI 1700 GETTING V NE. STILL	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am	R1 16,,, H1 1-2 H2 9.4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAG A.YOUNG D.PRATT J.FRANG	19,28,29,30, 4,42,44 / 2' 1,46/37 L C.H. 10' 11 1/2" R1 BOILER BRIEFING ED B1 OIL INING TURBII INING TURBII I	31/22R 7,29,30,31,3 HMPL 12' 8 1/4" SUN / BLOV NE & PULLI ACUM /E.H. NOID NOT G E WHICH O G OUT D ABOUT R	NORTH 14' 9"  WING ELEC NG VACUM PSI 1700 GETTING V NE. STILL	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM	R1 16,,, H1 1-2 H2 9.4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 TURB VOLTAG A.YOUNG GOT R1 ROLLING	19,28,29,30, 4,42,44 / 2' 1,46/37  C.H.  10' 11 1/2"  M BOILER BRIEFING ED B1 OIL ING TURBI INE 25.7" V E AT SOLE S NOT SUR SIEN SONT SUR TURBINE S G R1 TURBINE S	31/22R 7,29,30,31,3  HMPL 12' 8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT (E WHICH O G OUT ED ABOUT R TOP VALVE NE	NORTH 14' 9"  WING ELEC NG VACUM PSI 1700 GETTING V NE. STILL	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30, 4,42,44 / 2' 4,42,44 / 2' 1,46/37  C.H.  10' 11 1/2" 11 BRIEFING ED B1 OIL ING TURBII INE 25.7" VE E AT SOLE G NOT SUR INE COMIN IS NOT SUR I	31/22R 7,29,30,31,3  HMPL 12' 8 1/4" 20 8 1/4" 12' 8 1/4" 12' 8 1/4" 10' 10' 10' 10' 10' 10' 10' 10' 10' 10'	NORTH 14' 9" WING ELEC NG VACUN PSI 1700 GETTING V NE. STILL 11 TURBINE	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30,4,42,44 / 2° 4,42,44 / 2° 1,46/37  C.H.  10° 11 1/2" H BOILER BRIEFING ED B1 OIL ING TURBI ING TURBI ING TURBI ING TOSUR ER COMIN ES NOT SUR ER COMIN ES NOTIFIE TURBINE S ES RI TURBI IE @ 1000 ES RI TURBI ES (1500) ES RI TURBI ES (1500) ES RI TURBI	31/22R 7,29,30,31,3  HMPL 12*8 1/4" 12*8 1/4" GUN / BLON RE & PULLI ACUM /E.H NOID NOT COME D ABOUT R TOP VALVE NE RPM NE TO 3600	NORTH 14' 9" WING ELEC NG VACUN PSI 1700 GETTING V NE. STILL 11 TURBINE	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM 1;28AM	R1 16,,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAG A.YOUNC D.PRATT J.FRANC GOT R1 ROLLING R1 TURN ROLLING R1 TURN ROLLING R1 TURN	19,28,29,30, 4,42,44 / 2 1,46/37  C.H.  10' 11 1/2"  11 BOILER  BRIEFING  ED B1 OIL  ING TURBIINE 25,7"  E AT SOLE  5 NOT SUR  HER COMINION  ING TURBIINE S  6 R1 TURBIIE (9) 1000  ING R1 TURBIIE (9) 1000  ING R1 TURBIII	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 6 E WHICH 0 G OUT ED ABOUT R TOP VALVE NE RPM NE TO 3600 0 RPM	NORTH 14' 9" WING ELEC NG VACUN PSI 1700 GETTING V NE. STILL 11 TURBINE	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM 1;28AM 1;42AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30,4,42,44 / 2 4,42,44 / 2 1,46/37 L C.H. 10' 11 1/2" 11 BOILER BRIEFING ED B1 OIL ING TURBI ING TURBI ING TORNI S NOT SUR S NOT SUR S NOT SUR S R1 TURBI INE @ 1000 S R1 TURBI INE @ 1000 S R1 TURBI INE @ 360 RATOR TIRE	31/22R 7,29,30,31,3  HMPL 12*8 1/4" 12*8 1/4" GUN / BLON RE & PULLI ACUM /E.H NOID NOT COME D ABOUT R TOP VALVE NE RPM NE TO 3600	NORTH 14' 9" WING ELEC NG VACUN PSI 1700 GETTING V NE. STILL 11 TURBINE	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM 1;28AM 1;42AM 1;43AM	R1 16,,, H1 1-2 H2 9,4 FUEL OII LEVELS FIRING F SAFETY R1 PULL R1 SEAL R1 TURB VOLTAG A.YOUNG GOT R1 ROLLING R1 TURB R1 GENE R1 GENE R1 GENE R1 GENE	19,28,29,30, 4,42,44 / 2 1,46/37 1,46/37 1,16/37 110 11 1/2" 11 10 1/2" 11 10 1/	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 6 E WHICH 0 G OUT ED ABOUT R TOP VALVE NE RPM NE TO 3600 0 RPM	NORTH 14' 9" WING ELEC NG VACUN PSI 1700 GETTING V NE. STILL 11 TURBINE	6 1/2"  CTROMATIO  CANNOT G  OLTAGE A  TROUBLES	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM 1;28AM 1;42AM 1;43AM 1;44AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30, 4,42,44 / 2 1,46/37  C.H.  10' 11 1/2"  11 BOILER BRIEFING ED B1 OIL ING TURBI INE 25,7" E AT SOLE G NOT SUR EER COMIN EIS NOTIFIE  TURBINE S G R1 TURBI IIE @ 1000 I G R1 TURBI IIINE @ 380  ERATOR TIE IIPS IN L. ON	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 6 E WHICH O G OUT ED ABOUT R TOP VALVE NE RPM NE TO 3600 0 RPM ED ON LINE	NORTH 14' 9" WING ELEC NG VACUM PSI 1700 SETTING V NE. STILL 11 TURBINE E OPEN / W	6 1/2" CTROMATIC CANNOT G OLTAGE A TROUBLES ARMING S	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 11;30PM 12;19am 12;57AM 1;05AM 1;15AM 1;28AM 1;42AM 1;43AM 3;00AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30,4 .42,44 / 2 1.46/37 1.46/	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 6 E WHICH 0 G OUT ED ABOUT R TOP VALVE NE RPM NE TO 3600 0 RPM	NORTH 14' 9" WING ELEC NG VACUM PSI 1700 SETTING V NE. STILL 11 TURBINE E OPEN / W	6 1/2" CTROMATIC CANNOT G OLTAGE A TROUBLES ARMING S	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8:00PM 8:35PM 9:18pm 10:15PM 11:30PM 11:30PM 12:19am 12:57AM 1:55AM 1:28AM 1:42AM 1:44AM 3:16aM 3:16aM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30, 4,42,44 / 2' 1,46/37 1,46/37 1,10' 11 1/2" 11 BOILER BRIEFING ED B1 OIL INITE 15,70 E AT SOLE S NOT SUR HER COMIN IS NOTIFIE TURBINE S S R1 TURBI IIINE @ 350 ER TURBI IIINE @ 350 ERATOR TIE IIPS IN L ON & A. YOUN L ON	31/22R 7,29,30,31,3 HMPL 12°8 1/4" GUN / BLON RE & PULLI ACUM /E.H NOID NOT 0 G OUT D ABOUT R TOP VALVE NE RPM NE TO 3600 0 RPM ED ON LINE	NORTH 14' 9"  VING ELEC NG VACUM PSI 1700 GETTING V NE. STILL 1 TURBINE COPEN / W  RPM  OME / N.S.	6 1/2" CTROMATIC CANNOT G OLTAGE A TROUBLES ARMING S	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8;00PM 8;35PM 9;18pm 10;15PM 11;30PM 12;19am 12;57AM 1:05AM 1;28AM 1;42AM 1;42AM 1;43AM 3;00AM 3;16am 3;28AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30, 4,42,44 / 2 1,46/37 1,46/37 1 C.H. 10' 11 1/2" 11 BOILER BRIEFING ED B1 OIL ING TURBININE 25,7" E AT SOLE 5 NOT SUR EER COMINION ES NOTIFIE TURBINE S 6 R1 TURBINE E R1 TURBIN	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 0 E WHICH O G OUT TO VALVE NE TOP VALVE NE TOP VALVE NE TOP VALVE NE TOP VALVE O O RPM ED ON LINE O O G GOING H O D FOR 100 D FOR 100	NORTH 14' 9"  VING ELEC NG VACUM PSI 1700 GETTING V NE. STILL 1 TURBINE COPEN / W  RPM  OME / N.S.	6 1/2" CTROMATIC CANNOT G OLTAGE A TROUBLES ARMING S	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
16/2014	8:00PM 8:35PM 9:18pm 10:15PM 11:30PM 11:30PM 12:19am 12:57AM 1:05AM 1:15AM 1:42AM 1:42AM 3:106AM 3:106AM 3:28AM 3:28AM	R1 16,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	19,28,29,30, 4,42,44 / 2 1,46/37 1,46/37 11,46/37 11,10/21 11,10/2	31/22R 7,29,30,31,3  HMPL 12'8 1/4"  GUN / BLOV NE & PULLI ACOUM /E.H. NOID NOT 0 E WHICH O G OUT TO VALVE NE TOP VALVE NE TOP VALVE NE TOP VALVE NE TOP VALVE O O RPM ED ON LINE O O G GOING H O D FOR 100 D FOR 100	NORTH 14' 9"  VING ELEC NG VACUM PSI 1700 GETTING V NE. STILL 1 TURBINE COPEN / W  RPM  OME / N.S.	6 1/2" CTROMATIC CANNOT G OLTAGE A TROUBLES ARMING S	ET STOP T STOP V HOOTING	VALVE TO ALVE SOL	OPEN TO		SILO LVL 12'	F F F C C C C C C C	81-0% 11-0% 12-0% BOOTHE SYST DUT	TEM
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### Forced Outage Report

#### **Boiler Tube Leak Record**

Plant: Reid Station Unit: 1
ype of Leak:
Pin Hole _√_ Thick Lip FailureThin Lip Failure
ube Wall ThinningV
Drientation of Rupture: Longitudinal Circumferential
Probable Cause:
stress Overheat ErosionInternal Corrosion
External Corrosion Weld Failure (Shop Field)
nternal Obstruction to Flow Soot blower Erosion
Other
ype of Repair:
Outchman Pad Weld _v Plug Tube Short Circuit Other

#### **Description of Repair:**

Tube leaks in the wet bottom area all at elevation 440'. One leak was located on the west water wall 4<sup>th</sup> tube from the north and the other was located on the north water wall 4<sup>th</sup> tube from the west. The leak on the west wall was caused by external corrosion, this leak sprayed on to the north wall causing that leak, both repaired via BMR's.

During boiler hydro additional tube leaks were identified: 1<sup>st</sup> tube on the 2<sup>nd</sup> panel from the east wall in the Hi Temp Superheat area of the boiler at elevation 519. First tube in the economizer at elevation 504, north-west side on a tube clip. Wetbottom north knee slope at elevation 440, 20<sup>th</sup> tube from the east wall a weeper was discovered. In addition, it was discovered the leak on the fourth knee tube from the west wall on the north side, the leak required more BMR due to tube wall thinning. All leaks were repaired via BMR's

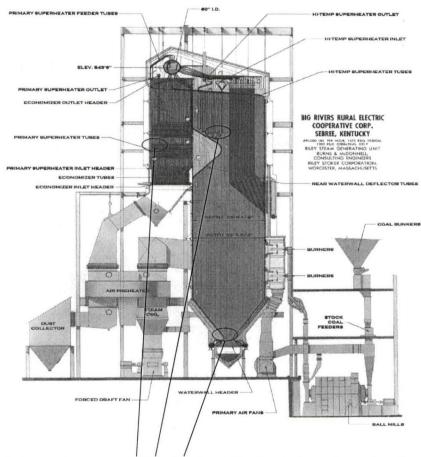


**Exact Location of Leaks:** 

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#### Reid Unit 1 2014 (5) TUBES INVOLVED

Date and Time Unit Off\_\_\_6/11/14 @ 1108
Date and Time Unit On\_\_\_6/13/14 @ 2040



Tube leaks in the wet bottom area all at elevation 440'. One leak was located on the west water wall 4th tube from the north and the other was located on the north water wall 4th tube from the west. The leak on the west wall was caused by external corrosion, this leak sprayed on to the north wall causing that leak, both repaired via BMR's.

After boiler hydro additional tube leaks were identified: 1st tube on the 2nd panel from the east wall in the Hi Temp Superheat area of the boiler at elevation 519': 1st tube in the economizer at elevation 504', north-west side on a tube clip: Wet bottom north knee tube at elevation 440', 20th tube from the east wall a weeper was discovered: Also it was discovered the leak on the 4th knee tube on the north side from the west wall, the leak required more BMR due to tube wall thinning. All leaks were repaired via BMR's



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#### **Estimated Outage Cost**

· Vacuuming Economizer Hoppers, Wash seal trough, Vacuum Boiler Penthouse, Boiler De-Slag

Cleaning Total

\$20,238

Titan - tube leak repairs, gas leak repairs and misc. repairs

Labor

\$45,980

Material

\$4,165

Titan Total

\$50,145

**Grand Total** 

\$70,383





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### FORCED/MAINTENANCE OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Reid 1 - R1-14-08	Produ	uction Cos	st
Date & Time Off Line	6/11/14 11:08 & 6/13/14 20:40	MW		5/MW
Date & Time On Line	6/13/14 20:40 & 6/16/14 1:42	25	\$	30.78
Outage Duration	57 hr. 22 min. & 53 hr. 2 min.	40	\$	29.69
Outage Code	UO1 & MO	50	\$	29.27
Outage Reason	Repair waterwall tube leaks			

Date	DA LMP	Average	RT LI	MP Average	DART P&L	0	Lost pportunity
6/11/14 (HE 12-24)	\$	36.87	\$	35.50	\$ (3,145)	\$	-
6/12/14 (HE 1-24)	\$	31.88	\$	26.64	\$ 3,071	\$	-
6/13/14 (HE 1-24)	\$	27.97	\$	24.34	\$ -	\$	-
6/14/14 (HE 1-24)	\$	24.87	\$	16.03	\$ -	\$	-
6/15/14 (HE 1-24)	\$	21.96	\$	18.25	\$ -	\$	-
6/16/14 (HE 1-13)	\$	30.08	\$	46.89	\$ 390	\$	-
Total					\$ 316	\$	

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		7,511	DART P&L	\$	316
S/U Fuel Price	\$	3.20	Lost Opportunity	\$	
S/U Fuel Cost	\$	(24,051)	S/U Fuel Cost	\$	(24,051)
			Total	\$	(23,735)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To:

Jim Garrett

From: Billy Boarman

Date: 7-Jul-2014

Plant: Reid Station

Unit: 1

GADS Class: UO3/UO0

Duration

Trip Time: 30-Jun-2014 15:37

Placed on 12-Hour Standby: 2-Jul-2014 23:00

Offline UO3: 26:06

Offline UO0: 28:57

Total Time Offline: 55:03

**Outage Description** 

Reid Station Unit 1 was removed from service on Monday, 30-Jun-2014 at 15:37 due to a possible fire in 'B1' Coal Pipe. The coal pipe was cleared and a fire was established for start-up on Tuesday, 1-Jul-2014 at 10:03. The outage classification was changed to a starting failure (UO0) at 18:03 when the unit did not return to service within the allotted timeframe due to trouble with the turning gear. The unit was placed on 12-hr reserve stand-by on Wednesday, 2-Jul-2014 at 23:00.

**Root Cause** 

"B" Mill became unstable and had to be removed from service. When it was placed back into service apparently hot coal got stuck in the horizontal run on 'B1' coal pipe allowing the pipe to get excessively hot.



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### Forced Outage Report

#### **Failure History**

On 28-Jul-2012 R1 "B" mill was tripped due to a fire in the outlet. The unit then tripped due to loss of flame.

#### **Corrective Action**

Removed both "B" Mill burner spinners for inspection and both were badly burned up. Maintenance replaced both "B" burner spinners. Maintenance opened the doors on "B" Mill, PA duct, classifier, reject chute door, riffle box access doors under the coal valves, mill inlet and outlet doors, and the access door to the hot and cold air dampers for inspection. Found the hot air damper was only closing about 40% due to binding on the drive side. Disassembled the damper and cleaned out the bushing assembly, lubricated the shaft and bushings, re-connected and test stroked the damper. The damper is now opening and closing 100%. Cycled it two times and it worked the same both times. Cut a window in the "B1" coal pipe on second floor and found burning coal in the bottom of the pipe. Operations washed out the coal pipe from the burner end and got the pipe clean. Found some very hot coal in the outlet end of the mill. Operations cleaned out and washed the classifier and the outlet of end the mill. All smoking embers and hot coal was removed.

#### Other Work Completed While Unit Was Offline

- Replaced "A1" burner spinner
- · Replaced "B" Coal feeder belt
- · Performed boiler hydro, no leaks were discovered
- · Replaced Superheat Spray Regulator control valve
- Calibrated Feed water control valve



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Found the turbine turning gear drive was malfunctioning and not engaging properly. The turning gear assembly was removed from the front standard and transported to the Central Machine Shop for disassembly and inspection. The inner flange had eight 1/4"-20 bolts broken off and the pieces were jamming up in the bottom of the unit. All burrs were removed and the bolts were replaced. The unit was reassembled with new fasteners and thread-lock. The unit was transported back to the plant, re-installed, and tested. Test run was successful.





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### **Operators Event Log**

			LOAD 19	UNIT CAP 48	NET CAP. 42	SO2 4.463	CO2 6.3	NOX 0.502	OPACITY 3.5	REMOVAL	DUST	AMM. FLOW	BACK PRESSUI 2.44	RE CTL 18'
		Н1	161	165	153	0.388	10.6	0.058	28	97	9.31	237	3.5	01210
												С		
			159	165		1.174	10.8	0.062	45.2	79.9	10.12	235 C	3.9	CTL 15.2'
		СТ	ON STANE	BY	56									
		ALARMS:		DEC				-						
		H1		MANAGEME			V PRESSL	RE/E.H. S	TART REQU	JIRED/DRUM	I TRANS/ C	T. LEVEL/A 8	B PA FAN MOTO	OR/B BFP AUX OIL
		H2	EH RES L	EVEL HI, G	EN. MAIN S	TEPUP								
		SOOT BL	OWERS TA	AGGED				GAUGE O	GLASSES		PWTL / 26	i'	DRYING AGENT	
		H1 27,30,	31,33,43,4	4				OK					R1-0% H1 0%	
		H2 37,41,	,42										H2-0%	
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	EM
		LEVELS	6' 2 3/4"	10' 2"	14'9 5/8"	6 1/2"	-		-		11.8'		BSI	
8:00/ 8:00/		SAFETY E	BRIEFING FUEL OIL	DIICKS										
8:00/		R-1 B MIL		ROOKS										
8:10/ 8:15/				P PRESSU		S TO BE 35	0 TO STA	RT MILL MA	AINT TRYIN	G TO BRING	PRESSUR	E UP		
8:55/	5AM	MAINT CO	DULD NOT	GET ANY M	ORE PRES							DOWN TO BE		
NOT 2:40F				PE STILL HO MP ALARMI				DOWN TO	PUT MILL (	ON LIFT PUM	MP PRESS	JRE LOWERE	D SO MILL WILL	START
2:50				FOR AUX			AITO OIT		1					
3:30				LED IN SIC		IIGHT	-							
3:57				NE OIL OUT		2								
3:02l 3:17l		R-1 PREC		OTTLED BO	II ED		-							
4:40	0PM	R-1 TURB	INE WONT	GO ON GE	AR CALLED		ELECTE	ECT TOKE	TO TRY B	YPASS SW	ITCH WHIC	H AUX ALREA	DY TRIED AGAIN	
5:15	5PM	TRIED PU	CALLED E ITTING DC NOTHER ST	OIL PUMP			RIED PUT	TING OTHE	R AC OIL P	UMP ON NO	HELP TRI	ED A TWO INC	CH STRAP BROK	E STRAP
5:15i 8:00i	5PM 0PM	TRIED PU	OTTING DC	OIL PUMP ( RAP  N SICK, R	EYNOLDS	NO HELP T	N, BAKE	R-, EDWA	ARDS, TAT	E, CALHO	oun,	D SHIFT	PAYNE,STERLI	NG
	5PM 0PM	TRIED PU TRING AN MORRIS UNIT	ITTING DC	OIL PUMP ( RAP  N SICK, R	ON ON R-1	NO HELP T			ARDS, TAT	E, CALHO	oun,	D SHIFT		NG
	5PM 0PM	TRIED PU TRING AN MORRIS UNIT R1	OTHER ST S, DENTO LOAD	OIL PUMP ( RAP  N SICK, R	EYNOLDS	NO HELP T	N, BAKE	R-, EDWA	ARDS, TAT	E, CALHO	oun,	D SHIFT	PAYNE,STERLI	NG
	OPM	TRIED PU TRING AN MORRIS UNIT R1	NOTHER ST NOTHER ST S, DENTO LOAD OFF	OIL PUMP ( RAP  N SICK, R  UNIT CAP	EYNOLD: NET CAP.	S, GATTO	N, BAKE	R-, EDWA	ARDS, TAT	E, CALHO REMOVAL	DUN, DUST	D SHIFT AMM. FLOW	PAYNE,STERLII BACK PRESSUI	NG
	5PM 0PM	TRIED PU TRING AN MORRIS UNIT R1 H1	OTTING DC NOTHER ST S, DENTO LOAD OFF	OIL PUMP ( RAP  N SICK, R  UNIT CAP	EYNOLD: NET CAP.	NO HELP T S, GATTO SO2 0.66	N, BAKE CO2 10.8	R-, EDWA NOX	ARDS, TAT OPACITY 18.8	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLII BACK PRESSUI 3.8	NG
	орм	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT	OTTING DC NOTHER ST S, DENTO LOAD OFF 160	OIL PUMP ( RAP  N SICK, R  UNIT CAP	EYNOLD: NET CAP.	S, GATTO SO2	N, BAKE CO2 10.8	R-, EDWA NOX	ARDS, TAT OPACITY 18.8	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLII BACK PRESSUI 3.8	NG
	орм	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT	OTTING DC NOTHER ST S, DENTO LOAD OFF 160	OIL PUMP ( RAP  N SICK, R  UNIT CAP	EYNOLD: NET CAP. 153	S, GATTO SO2 0.66 1.394 ON STAND	N, BAKE CO2 10.8	R-, EDWA NOX	ARDS, TAT OPACITY 18.8	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLII BACK PRESSUI 3.8	NG
	орм	TRIED PU TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS:	OTTING DC NOTHER ST S, DENTO LOAD OFF 160 160	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OMANAGEME	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	0.055 0.77	18.8	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226	PAYNE,STERLII BACK PRESSUI 3.8 4.4	NG
	5PM 0PM	TRIED PU TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2	OTTING DC O	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	18.8	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE,STERLII BACK PRESSUI 3.8 4.4	NG RE
	OPM	TRIED PUTRING AN MORRISUNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L	OTTING DC IOTHER ST I	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE,STERLII BACK PRESSUI  3.8  4.4  .  MAINT  DRYING AGENT R1-0%	NG RE
	OPM	TRIED PUTRING AN MORRISUNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL	OTTING DC OTTHER STORM S	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI 3.8 4.4 MAINT	NG RE
	OPM	TRIED PUTRING AN MORRISUNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27	OTTING DC OTTHER STORM S	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI 3.8 4.4 MAINT DRYING AGENT R1-0%	NG RE
	OPM	TRIED PU TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4	OFF 160  18 MILL G BURNER I EH RES L  46/37	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI  AGGED	EYNOLD: NET CAP.  153  152  L TEMP HIK NT/STEAM	NO HELP T S, GATTO SO2  0.66 1.394 ON STANG	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
	OPM	TRIED PUTRING AN MORRISUNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27	TTING DC OTHER ST S, DENTO LOAD OFF 160 160 18 MILL G BURNER N EH RES L OWERS TA	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI	EYNOLD: NET CAP.  153  152  L TEMP HK	S, GATTO SO2  0.66  1.394  ON STAND	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
8:001	0PM	TRIED PU TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 FUEL OIL LEVELS	OTTING DC OTHER ST OT	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX O MANAGEME EVEL HI  AGGED  HMPL	EYNOLD: NET CAP.  153  152  L TEMP HICENT/STEAM	S, GATTO SO2 0.66 1.394 ON STAND SEAL LOV	N, BAKE CO2 10.8 10.9 DBY	R-, EDWA NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
30/2014 8:000 8:151 9:20 9:26 11:18	0PM 0PM 0PM 5PM 0PM 5PM 0PM 65PM	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H2 SOOT BL R1 22L H1 27 H2 41,4 FUEL OIL LEVELS SAFETY I R CO. CALLED A A YOUNG CALLED A A YOUNG CALLED TO A YOUNG R1 TURB	TTING DC IOTHER ST S, DENTO LOAD OFF  160  180  18 MILL G BURNER I EH RES L OWERS TA 46/37  46/37  BRIEFING AL FEEDE NATHAN S'S C CALLED IS INC ON GE	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI  AGGED  HMPL  10'  R TAGGED  AR  AR  AR	EYNOLD: NET CAP.  153  152  L TEMP HIK NT/STEAM  NORTH 14'9 5/8"  TO CHANC ME IN AT 3: LEFT MESS	SOUTH SOUTH 6 1/2"  SE BELT GOAM TO G	N, BAKE CO2  10.8  10.9  DBY  V PRESSU  CALIBRATE MACHINE.	R-, EDWANOX  0.055  0.77  GAUGE COK	18.8 31  RESSURE GLASSES  S HE WILL DED AT THIS	E, CALHO REMOVAL  88  73  O START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
30/2014 8:000 8:15: 9:20 9:26: 11:18	0PM 00PM 55PM 00PM 65PM 66PM 66PM 66PM	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT  ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4 SOOT BL LEVELS SAFETY I R COLLED A YOUNG R1 TURBI WASHED WASHED	TTING DC OTHER ST S, DENTO LOAD OFF 160 160 160 18 MILL G BURNER N EH RES L OWERS TA 6° 1/2 BRIEFING AL FEEDEN NATHAN S' S CALLED 0 INCLUDED OF ST INCLUDED	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI  AGGED  HMPL  10'  R TAGGED  AR  AR  AR	EYNOLD: NET CAP.  153  152  L TEMP HIC NORTH 14'9 5/8"  TO CHANC ME IN AT 3: LEFT MESS	SOUTH 6 1/2"  SE BELT COAM TO CAGE ON MER. HAVE	N, BAKE CO2 10.8 10.9 DBY V PRESSU  CALIBRATE ACHINE.	R-, EDWANOX  0.055  0.77  GAUGE COK  FEEDERS NOT NEED  SS PULLED	RESSURE  S HE WILL  DED AT THIS  WILL BE F	E, CALHO REMOVAL  88  73  LO START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
30/2014 8:000 8:151 9:20 9:26 11:16 11:33 11:30	00PM 00PM 55PM 55PM 50PM 15PM 15PM 15PM	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4 SAFETY IR R1 B CO. CALLED IA YOUNG R1 B CO. CALLED IA YOUNG R1 TUNING WASHED TITAN CU	TTING DC IOTHER ST S, DENTO LOAD OFF 160 160 160 18 MILL G BURNER I EH RES L OWERS TA 46/37 46/37 46/37 5 IB RIEFING AL FEEDEINATHAN S'S SIG OLD GE OUT B2 C IT WINDOW	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  EARBOX OI MANAGEME EVEL HI  AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR OAL PIPE F	EYNOLD: NET CAP.  153  152  L TEMP HIK NT/STEAM  NORTH 14'9 5/8"  TO CHANG ME IN AT 3. LEFT MESS  ROM BURIZ 2 COAL PIF	SOUTH SOUTH 6 1/2" SE BELT COMMET TO	N, BAKE CO2  10.8  10.9  DBY  V PRESSU  ALIBRATE MACHINE.  E SPINNEF COAL VAL	R-, EDWANOX  0.055  0.77  GAUGE COK  FEEDERS NOT NEED  SS PULLED	RESSURE  S HE WILL  DED AT THIS  WILL BE F	E, CALHO REMOVAL  88  73  O START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
30/2014 8:000 8:151 9:20 9:26 11:15 11:30 /1/2014 12:30	OPM	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4 CT. CALLED IN ALARMS IT IN B CO. CALLED IN ALARMS IT IN B CO. CALLED IN ALARMS IT IN B IN TITAN CU ITTAN TAI B MIL R1 B M	TTING DC OTHER ST S, DENTO LOAD OFF 160 160 160 160 160 160 160 160 160 160	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  165  EARBOX OI MANAGEME EVEL HI  AGGED  HMPL  10'  R TAGGED  TO CO THE	NORTH 14'9 5/8" TO CHANGE IN THE STATE IN TH	SOUTH 6 1/2" SEBELT SOAM TO NAME HAVE E BADVE E ABOVE E ABOVE OFF TO B INT. CHAN.	N, BAKE CO2 10.8 10.9 DBY V PRESSU V PRESSU  V PRESSU  I COAL DATA MILL. GING OUT	R-, EDWANOX  0.055  0.77  GAUGE COK  FEEDERS NOT NEED RS PULLED VE WASH	RDS, TATOPACITY  18.8  31  RESSURE  GLASSES  S HE WILL  DED AT THE  D WILL BE F  ED OUT  EDER BELL	BE IN. S TIME REPLACED.	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE
30/2014 8:000 8:151 9:20 9:26 11:15 11:30 11:30 2:00. 2:30	00PM 00PM 55PM 55PM 00PM 65PM 65PM 500PM 500PM 500PM 500PM	TRIED PUTRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 27 H2 41,4 FUEL OIL LEVELS SAFETY I R1 B CO. CALLED I A. YOUNG R1 TUNB WASHED TITAN CUTTITAN TAIR MAINT. H MILM M M MILM M M M M M M M M M M M M M	TTING DC IOTHER ST S, DENTO LOAD OFF 160 160 160 18 MILL G BURNER I EH RES L OWERS TA 46/37 46/37 46/37 46/37 46/37 47 46/37 46/1/2 BRIEFING BRIEFING BRIEFING BRIEFING BRIEFING COUT B2 C T WINDOW KING PRIML L HAS STC AS R1 B M	OIL PUMP ( RAP  N SICK, R UNIT CAP  165  165  165  EARBOX OI MANAGEME EVEL HI  AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR OAL PIPE F OUT OF B  ARY AIR DI  ARY AIR DI	EYNOLD: NET CAP.  153  152  L TEMP HICKNIT/STEAM  NORTH 14'9 5/8"  TO CHANGME IN AT 3: LEFT MESS  ROM BURR 2 COAL PIF JCT DOOR DOOL DAIL DOT LOO COLD AIL DOT L	SOUTH SOUTH SOUTH SOUTH 6 1/2" SE BELT 00AM TO COAGE ON N VER HAVE E ABOVE OFF TO BI	N, BAKE CO2 10.8 10.9 DBY V PRESSU V PRESSU  V PRESSU  I COAL DATA MILL. GING OUT	R-, EDWANOX  0.055  0.77  GAUGE COK  FEEDERS NOT NEED RS PULLED VE WASH	RDS, TATOPACITY  18.8  31  RESSURE  GLASSES  S HE WILL  DED AT THE  D WILL BE F  ED OUT  EDER BELL	BE IN. S TIME REPLACED.	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLII BACK PRESSUI  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTI	NG RE





Your Touchstone Energy\* Cooperative

	BREEDE			,,,,,,,	IVALL, JAM		3.120 V	J ONA	. GOODIN		A SHIFT	. •	
	UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
	R1		48	42									CTL 18'
	114	450	405										
	H1	159	165	153	0.577	10.7	0.055	30.7	89.1	7.97	250	3.6	
	H2	161	165	152	1.009	11	0.078	22.5	81	10.15	C 216	4	CTL 15.5'
		141			1.000		0.070	22.5	01	10.13	C C	•	CIL 15.5
	CT	ON STAND	DBY	56									
	ALARMS												
	R1	VOLTAGE			05111011				<b>可見る直接</b>				
	H1 H2			EN MAIN		PRESSU	RE/E.H. ST	ART REQU	JIRED/DRUM	I TRANS/ C	C.T. LEVEL/A	B PA FAN MOTOR	VB BFP AUX OIL
	112	LITTLO	EVEL III, G	EIN. INIMIN	SIEFUF		-						
	SOOT BI	OWERS TA	AGGED				GAUGE G	LASSES		PWTL / 27		DRYING AGENT	
	R1 22L						OK					R1-0%	
	H1 30,31											H1 0%	
	H2 37,39	,41,42										H2-0%	
	FUEL OI	CH	UMDI	NORTH	COUTH					011 0 114		DOOT IF BYOTH	
		5'11 1/2"	9' 11 3/4	NORTH 15'6 7/8"	6 1/2"	-				SILO LVL 16.6'		BOOTHE SYSTEM	1
			0 .1 0/4	,00110	- 11E					10.0		530	
8:00AM	SAFETY	BRIEFING											
8:00AM					LE BURNER	R DECK A	REA						
8:20AM		ON WORKI											
8:25AM				NG SETTING	UP SAME								
9:00AM 9:10AM		BOTTOM F		BACK IN									
9:10AM 9:18AM	R-1 FD F		STOLEM	SACK IIV									
9:33AM		COMPLETE											
9:50AM		E DID NOT		BOILER									
		R-1 BOILE											
		RE IN R-1 BO											
		R-1 BOILEI OF R-1 BOI											
	R-1 FD F		LEK	-			-					-	
			MP ON HME	PL RENTAL	AUTO STAF	RTED LOS	T WATER 1	O SLUICE	PUMPS ST	RAINER LE	FT CLOSED		
					2 B AUX AIR								
NOTE					LD NOT AU	TO START	(MAIN DRI	VE MOTOR	TI IRRINE	CALL T TOID	ELECT CHE	CKING SAME	
									I TONDINE I	AULI INIF	) ELECT CHE	DIVING ONNE	
				L HAVE TO	WAIT TO C	HECK OU			TORDINE	AULT TRIP	) ELECT CHE	DRING DAME	
	DEBUSK	GOING HO	OME				Т	AND IT III				OKING OKINE	
NOTE	DEBUSK STOP BU	GOING HO	OME RENTAL AIR	COMP LE	WAIT TO C		Т	AND IT W				OKING OKINE	
NOTE 1:35PM	STOP BU C ASH S	GOING HO JTTON ON F LUICE PUM	OME RENTAL AIR P TAGGED	COMP LE			Т	AND IT W				OKING GAME	
NOTE	DEBUSK STOP BU C ASH S BACKWA	GOING HO JTTON ON F LUICE PUM ASHING 1 3	OME RENTAL AIR P TAGGED SIDE R-1	COND	AVE IN THE	POSITION	T I IT IS NOW		ILL SHUT DO	OWN AUTO		-	NING WILL HURT SCRUBBING
1:35PM 1:47PM NOTE 3:45PM	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO R-1 BOILE	OME RENTAL AIR P TAGGED S SIDE R-1 AD OF SBS R FOR HYD	COND S SHOULD F	AVE IN THE	POSITION	T I IT IS NOW		ILL SHUT DO	OWN AUTO		-	NING WILL HURT SCRUBBING
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING B AIR CO	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO. R-1 BOILEI DMP WILL R	DME RENTAL AIR P TAGGED S SIDE R-1 AD OF SBS R FOR HYD SUN NOW A	COMP LEA COND S SHOULD H PRO	AVE IN THE	POSITION	T I IT IS NOW		ILL SHUT DO	OWN AUTO		-	NING WILL HURT SCRUBBING
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING B AIR CO R-1 FD F	GOING HO JITON ON F LUICE PUM ASHING 1 3 PUTIN A LO R-1 BOILEI OMP WILL R ANS ON TO	DME RENTAL AIR P TAGGED S SIDE R-1 AD OF SBS R FOR HYD RUN NOW A	COMP LEA COND S SHOULD H PRO UND IN AUTO LER	AVE IN THE HELP WITH	POSITION SCRUBBIN	T I IT IS NOW NG BUT TO	MORROW	ILL SHUT DO	OWN AUTO		-	NING WILL HURT SCRUBBING
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING B AIR CO R-1 FD F C.H. CAL	GOING HO JTTON ON F LUICE PUM ASHING 1 3 PUTIN A LO R-1 BOILEI DMP WILL R ANS ON TO LED BARG	DME RENTAL AIR P TAGGED S SIDE R-1 AD OF SBS R FOR HYD SUN NOW A COOL BOI E UNLOADS	COMP LEA COND S SHOULD H S RO IND IN AUTO LER ER NOT RE	AVE IN THE HELP WITH: D (BAD BKR PAIRED CA	POSITION SCRUBBIN	T IT IS NOW	MORROW	ILL SHUT DO	OWN AUTO	F SULFUR WH	IICH IN THE BEGIN	
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING B AIR CO R-1 FD F C.H. CAU RAN LIST	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO R-1 BOILEI DMP WILL R ANS ON TO LED BARG	DME RENTAL AIR P TAGGED SIDE R-1 AD OF SBS R FOR HYD RUN NOW A COOL BOI E UNLOADS CT C ASH S	COMP LEA COND S SHOULD H PRO IND IN AUTO LER ER NOT RE LUICE PUN	AVE IN THE HELP WITH: D (BAD BKR PAIRED CA	POSITION SCRUBBIN	T IT IS NOW	MORROW	ILL SHUT DO	OWN AUTO	F SULFUR WH	IICH IN THE BEGIN	NING WILL HURT SCRUBBING IN AN EMERGENCY
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM	DEBUSK STOP BU C ASH S BACKW/ GREEN I SETTING B AIR CO R-1 FD F C.H. CAL RAN LIS' J GLASS	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO. R-1 BOILEI ANS ON TO LED BARG T FOR ELEC CO CALLEI	DME RENTAL AIR P TAGGED SIDE R-1 AD OF SBS R FOR HYD RUN NOW A COOL BOI E UNLOADS CT C ASH S D BACK WII	COMP LEA COND S SHOULD H PRO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN	AVE IN THE HELP WITH: D (BAD BKR PAIRED CA	POSITION SCRUBBIN S) LLED BAY R BRACKE	T IT IS NOW	MORROW	ILL SHUT DO	OWN AUTO	F SULFUR WH	IICH IN THE BEGIN	
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM	DEBUSK STOP BU C ASH S BACKWA GREEN I SETTING B AIR CO C.H. CAL RAN LIST J GLASS NOTE CA	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO. R-1 BOILEI ANS ON TO LED BARG T FOR ELEC CO CALLEI	DME RENTAL AIR P TAGGED SIDE R-1 AD OF SBS R FOR HYD COOL BOI E UNLOADE CT C ASH S D BACK WIL ASH SLUIC	COMP LEA COND S SHOULD H PRO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN	HELP WITH D (BAD BKR PAIRED CA IP SHUTTER	POSITION SCRUBBIN S) LLED BAY R BRACKE	T IT IS NOW	MORROW	ILL SHUT DO	OWN AUTO	F SULFUR WH	IICH IN THE BEGIN	
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM NOTE	DEBUSK STOP BU C ASH S BACKWIN GREEN I SETTING B AIR CO R-1 FD F C.H. CAL RAN LIS: J GLASS NOTE CO T.WEST	GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO. R-1 BOILE! MP WILL R ANS ON TO LED BARG I FOR ELEC CO CALLED ANT RUN A HERE FOR	DME RENTAL AIR P TAGGED I SIDE R-1 AD OF SBS R FOR HYD LUN NOW A COOL BOI E UNLOADE T C ASH S D BACK WII ASH SLUIC GLASCO	COMP LEA COND S SHOULD H RO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN E PART MIS	HELP WITH OF COMMENT O	POSITION SCRUBBIN  () LLED BAY R BRACKE HE BKR	I IT IS NOW NG BUT TO LOR MAN T BROKE	MORROW  COMING IN	PUTTING IN	A LOAD O	F SULFUR WH	HICH IN THE BEGIN	IN AN EMERGENCY
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM NOTE	DEBUSK STOP BU C ASH S BACKW/ GREEN! SETTING B AIR CC R-1 FD F C.H. CAI RAN LIS' J GLASS MOTE C/ T.WEST	GOING HO JITTON ON F JITTON ON TO JITTON ON JITTON ON TO JITTON ON JITTON ON TO JITTON ON TO JITTON ON TO JITTON ON JITTON ON JITTON JITTON ON JITTON ON JITTON JIT	DME RENTAL AIR P TAGGED ISIDE R-1 AD OF SBS R FOR HYD RUN NOW A ICOOL BOI E UNLOADI CT C ASH S D BACK WII ASH SLUIC GLASCO N VAC, RE	COMP LEA COND SHOULD H SRO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN E PART MIS	HELP WITH DO (BAD BKR PAIRED CA PAUTEF SSING ON T	POSITION SCRUBBIN  S) LLED BAY R BRACKE HE BKR	I IT IS NOW  IG BUT TO  LOR MAN  T BROKE (	MORROW  COMING IN  DEF NO LU	PUTTING IN	A LOAD O	F SULFUR WH RUNNING A A D SHIFT	IICH IN THE BEGIN ISH SLUICE PUMP PAYNE,STERLIN	IN AN EMERGENCY
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM NOTE 7:40PM	DEBUSK STOP BL C ASH B BACKW GREEN SETTING B AIR CC R-1 FD F C.H. CAL RAN LIS J GLASS NOTE C/ T.WEST MORRI UNIT	GOING HO JITON ON F LUICE PUM ASHING 1 3 JUTIN A LO. R-1 BOILEI MP WILL R ASHOR 1 3 LED BARG I FOR ELEC CO CALLEI NNT RUN A HERE FOR LOAD	DME RENTAL AIR P TAGGED ISIDE R-1 AD OF SBS R FOR HYD RUN NOW A ICOOL BOI E UNLOADI CT C ASH S D BACK WII ASH SLUIC GLASCO N VAC, RE	COMP LEA COND S SHOULD H RO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN E PART MIS	HELP WITH DO (BAD BKR PAIRED CA PAUTEF SSING ON T	POSITION SCRUBBIN  () LLED BAY R BRACKE HE BKR	I IT IS NOW NG BUT TO LOR MAN T BROKE	MORROW  COMING IN  DEF NO LU	PUTTING IN	A LOAD O	F SULFUR WH RUNNING A A D SHIFT	HICH IN THE BEGIN	IN AN EMERGENCY
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM NOTE 7:40PM	DEBUSK STOP BU C ASH S BACKW/ GREEN! SETTING B AIR CC R-1 FD F C.H. CAI RAN LIS' J GLASS MOTE C/ T.WEST	GOING HO JITTON ON F JITTON ON TO JITTON ON JITTON ON TO JITTON ON JITTON ON TO JITTON ON TO JITTON ON TO JITTON ON JITTON ON JITTON JITTON ON JITTON ON JITTON JIT	DME RENTAL AIR P TAGGED ISIDE R-1 AD OF SBS R FOR HYD RUN NOW A ICOOL BOI E UNLOADI CT C ASH S D BACK WII ASH SLUIC GLASCO N VAC, RE	COMP LEA COND SHOULD H SRO IND IN AUTO LER ER NOT RE LUICE PUN LL BE IN E PART MIS	HELP WITH DO (BAD BKR PAIRED CA PAUTEF SSING ON T	POSITION SCRUBBIN  S) LLED BAY R BRACKE HE BKR	I IT IS NOW  IG BUT TO  LOR MAN  T BROKE (	MORROW  COMING IN  DEF NO LU	PUTTING IN	A LOAD O	F SULFUR WH RUNNING A A D SHIFT	IICH IN THE BEGIN ISH SLUICE PUMP PAYNE,STERLIN	IN AN EMERGENCY
NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM 5:15PM 5:45PM 6:20PM NOTE 7:40PM	DEBUSK STOP BL C ASH S BACKW, GREEN SETTING B AIR CO C.H. CAL RAN LIS' J GLASS NOTE CO T.WEST MORRI UNIT R1	GOING HOUTTON ON FILLUTE PUMP ASHING 1 3 PUTIN A LO. R-1 BOILE! MANS ON TO LLED BARG FOR CALLED CO CALLED CO CALLED NAT RUN A. HERE FOR LLEC CO CALLED CO CA	DME  RENTAL AIR  P TAGGED  SIDE R-1  AD OF SBS  R FOR HYD  UN NOW A  COOL BOI  ET UNLOADI  CT C ASH S  D BACK WII  ASH SLUIC  GLASCO  N VAC, RE  UNIT CAP	COMP LEA COND SHOULD HORO IND IN AUTO LER ER NOT RE LUICE PUN LE BE IN E PART MIN	AVE IN THE HELP WITH: D (BAD BKR PAIRED CA: IP SHUTTER SSING ON T  G, GATTON SO2	POSITION SCRUBBIN R) LLED BAY R BRACKE HE BKR I, BAKER CO2	IT IS NOW  NG BUT TO  LOR MAN  T BROKE C	MORROW  COMING IN  DEF NO LU  RDS, TATI  OPACITY	PUTTING IN  CK R. PARI  E, CALHOL  REMOVAL	A LOAD O	F SULFUR WH RUNNING A A D SHIFT AMM. FLOW	IICH IN THE BEGIN ISH SLUICE PUMP PAYNE,STERLING BACK PRESSURI	IN AN EMERGENCY
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/2014	CC	u	Ju	tag	, С і	10		C				T. Garage	rotelistone Liters	y" Cooperative
	8:00PM		BREIFING											
	8:05PM 9:30PM		SAFETY I	MEETING NT STAGE	AND EUL	NO HODDE	D IE NEED							
	11:00PM			O B AMMO										
/2/2014	1:15AM			ER CHANG	ED OUT IN	C ASH SLU	ICE PUMP	PUMP IS	RUNNING.					
	2:00AM 6:00AM		T TO HYDE		DIAM									
	7:18AM		FANS OFF	ACK TO NO	RMAL									
		1, 1, 1, 10.	7											
2/2014	8:00AM	CONN,	CLARK, E	BREEDEN,	HIGGINS	CUTSHA	W, BLAN	KS, YOU	NG			B SHIFT	PENDLEY	
		GOODMA	AN HERE -	PAYNE VAC	CATION									
		UNIT R1	OFF	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		KI	OFF					-						CTL 17'
		H1	160	165	153	0.436	10.7	0.057	24.6	96%	9.27	223	3.4	
		1.10	400	105	450									
		H2	160	165	152	1.048	10.8	0.079	13.2	81%	15.4	192	3.5	CTL 14.7'
		CT	ON STAN	DBY	56									
		ALARMS												
		R1 H1	VOLTAGE		ENT/STEAM	SEAL LOV	PRESSU	RE/E H S	TART REOL	IIPED/DRUM	A TRANS/C	T I EV/EI /A S	R DA FAN MOT	OR/B BFP AUX OIL
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			OWERS T	AGGED				GAUGE G	LASSES		PWTL / 26'		DRYING AGEN	Т
			_,22R 30,31,33,43	3.44				OK					R1-0% H1 0%	
			41,42										H2-0%	
		FUEL OIL		HMPL	NORTH						SILO LVL		BOOTHE SYST	EM
		LEVELS	11' 1/2"	9' 9 1/4"	15' 11 1/2"	6 3/4"					12FT		IN	
2/2014	8:00AM	SAFETY	BRIEFING											
	8:00AM			QUEEZE BO										
	8:00AM 8:03AM		OFF - 1050	AGGED OU	T									
	8:45AM			ER TO FIRIN	NG LEVEL				-					
		1.00 / 00 / 00 / 00 /												
	9:30AM	R-1 BOIL	ER SET TO	FIRE										
	9:37AM	H-2 'A' GI	LAND EXHA	AUSTER TRI			TART - PU	T 'B' ON - I	SSUED W/	0				
	9:37AM 9:15AM	H-2 'A' GI R-1 TURE	LAND EXHA	AUSTER TRI	GED TURNII	NG GEAR					NDI E TO TH	E 3 O'CLOCK	POSITION	
	9:37AM 9:15AM 9:45AM	H-2 'A' GI R-1 TURE LUBE OIL	AND EXHA BINE OFF O L OFF OF F	AUSTER TRI GEAR - TAG R-1 TURBINE	GED TURNII	NG GEAR					NDLE TO TH	E 3 O'CLOCK	POSITION	1
	9:37AM 9:15AM	H-2 'A' GI R-1 TURE LUBE OIL R-1 F.D.	LAND EXHA BINE OFF OF L OFF OF F FANS OFF	AUSTER TRI GEAR - TAG R-1 TURBINE	GED TURNII - TURNED	NG GEAR 3 WAY VA	LVE 1/4 TU	IRN COUN			NDLE TO TH	E 3 O'CLOCK	POSITION	
	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM	H-2 'A' GI R-1 TURE LUBE OIL R-1 F.D. DRYING MAINT RI	LAND EXHA BINE OFF OF L OFF OF F FANS OFF AGENT AU ELEASED	AUSTER TRI GEAR - TAG R-1 TURBINE IGER IS WO R-1 WETBO	GED TURNII E - TURNED PRKING - OV TTOM	NG GEAR 3 WAY VA 'ERLOADS	LVE 1/4 TU	PPED			NDLE TO TH	E 3 O'CLOCK	POSITION	
	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING . MAINT RI PUT 'A' A	LAND EXHA BINE OFF OF L OFF OF F FANS OFF AGENT AU ELEASED LIR DRYER	AUSTER TRI GEAR - TAG R-1 TURBINE IGER IS WO R-1 WETBO IN SERVICE	GED TURNII E - TURNED PRKING - OV TTOM E - DEW PO	NG GEAR 3 WAY VA ERLOADS INT UP TO	LVE 1/4 TU WERE TRI	PPED			NDLE TO TH	E 3 O'CLOCK	POSITION	
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	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT RI PUT 'A' A MAINT IN L. BREEL LUBE OII	LAND EXHA BINE OFF OF L OFF OF F FANS OFF AGENT AU ELEASED LIR DRYER ISTALLED A DEN LEAVI	AUSTER TRI GEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII	GED TURNID  - TURNED  PRKING - OV  TTOM  - DEW PO  PERHEAT RE  VACATION	NG GEAR 3 WAY VA 'ERLOADS INT UP TO EGULATOR	WERE TRI 57 DEGRE ON R-1	PPED ES ON 'B'	TER CLOCK	(WISE - HA		E 3 O'CLOCK	POSITION	
2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT RI PUT 'A' A MAINT IN L. BREEI LUBE OII R-1 TURE	LAND EXHA BINE OFF OF L OFF OF F FANS OFF AGENT AU ELEASED LIR DRYER ISTALLED A DEN LEAVI L BACK ON BINE ON GI	AUSTER TRI GEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR -	GED TURNII  - TURNED  - TU	NG GEAR 3 WAY VA 'ERLOADS INT UP TO EGULATOR JBE OIL PU	WERE TRI 57 DEGRE ON R-1 MP WILL N	PPED ES ON 'B'	TER CLOCK	(WISE - HA	HECKING			
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2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L. BREEI LUBE OII R-1 TURE EDMON UNIT R1	LAND EXHA BINE OFF CL LOFF OF F FANS OFF AGENT AU ELEASED LIR DRYER ISTALLED DEN LEAVI L BACK ON BINE ON GI LOAD OFF	AUSTER TRI SEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUPING - 4 HRS IR-1 TURBINE EAR - SON, GRI UNIT CAP 50	GED TURNIII - TURNED - TURNED - RKING - OV - TTOM - DEW PO - ERHEAT RI VACATION NE - D.C. LU - FFIN,BOW - NET CAP. 42	NG GEAR 3 WAY VA ERLOADS INT UP TO EGULATOR JBE OIL PU JLEY, HOO SO2 12 HR STA	WERE TRI TO DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY	PPED ES ON 'B' NOT SHUT  XANDER NOX	OFF - INST	RUMENT CH	HECKING RZ DUST	C SHIFT	CARTER BACK PRESSU	
2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT R PUT 'A' A MAINT IN L. BREE! LUBE OII R-1 TURE	LAND EXHABINE OFF CO.  OFF OF F.  FANS OFF FANS	AUSTER TRI GEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS I R-1 TURBII EAR -	GED TURNIII E - TURNED PRKING - OV TTOM E - DEW PO PERHEAT RE VACATION NE - D.C. LU FFIN,BOW NET CAP.	NG GEAR 3 WAY VA VERLOADS INT UP TO EGULATOR UBE OIL PU VLEY, HOO SO2	WERE TRI 57 DEGRE ON R-1 MP WILL N	PPED ES ON 'B' NOT SHUT	OFF - INST	RUMENT CH	HECKING	C SHIFT	CARTER	
2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L. BREEI LUBE OII R-1 TURE EDMON UNIT R1	LAND EXHA BINE OFF CL LOFF OF F FANS OFF AGENT AU ELEASED LIR DRYER ISTALLED DEN LEAVI L BACK ON BINE ON GI LOAD OFF	AUSTER TRI SEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUPING - 4 HRS IR-1 TURBINE EAR - SON, GRI UNIT CAP 50	GED TURNII - TURNED - TURNED - TURNED - TURNED - OVERHEAT RIVACATION NE - D.C. LU FFIN,BOW NET CAP. 42	NG GEAR 3 WAY VA ERLOADS INT UP TO EGULATOR JBE OIL PU JLEY, HOO SO2 12 HR STA	WERE TRI TO DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY	PPED ES ON 'B' NOT SHUT  XANDER NOX	OFF - INST	RUMENT CH	HECKING RZ DUST	C SHIFT	CARTER BACK PRESSU	
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2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT RI PUT 'A' A MAINT IN L. BREE! LUBE OII R-1 TURE EDMON UNIT R1	LAND EXHA INE OFF CL LOFF OF F FANS OFF FANS OFF AGENT AU ELEASED IIR DRYER ISTALLED DEN LEAVIL LBACK ON BINE ON GI IDS, JACK LOAD OFF	AUSTER TRI BEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR - SON ,GRI UNIT CAP 50	GED TURNIG  TURNED  RKING - OV  TTOM  E - DEW PO  PERHEAT RI  VACATION  NE - D.C. LL  FFIN,BOW  NET CAP.  153	NG GEAR 3 WAY VA FERLOADS FERLOADS FINT UP TO EGULATOR JBE OIL PU FLEY, HOO SO2 12 HR ST/ 0.639	WERE TRI TO DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX	OFF - INST	RUMENT CH STON, KUF REMOVAL 87.1	HECKING RZ DUST 8.84	C SHIFT AMM. FLOW 245/c	CARTER BACK PRESSU 3.1	CTL/17.8'
2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L BREE! LUBE OII R-1 TURE EDMON UNIT R1 H1 H2	LAND EXHA INE OFF CL OFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED IR DRYER ISTALLED O BORN LEAVI L BACK ON BINE ON GI INDS, JACK LOAD OFF 162 160	AUSTER TRI BEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR - SON ,GRI UNIT CAP 50	GED TURNIG  TURNED  RKING - OV  TTOM  E - DEW PO  PERHEAT RI  VACATION  NE - D.C. LL  FFIN,BOW  NET CAP.  153	NG GEAR 3 WAY VA 4 FELOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR STA 0.639 1.713	WERE TRI TO DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX	OFF - INST	RUMENT CH STON, KUF REMOVAL 87.1	HECKING RZ DUST 8.84	C SHIFT AMM. FLOW 245/c	CARTER BACK PRESSU 3.1	CTL/17.8'
72/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L. BREEI LUBE OII R-1 TURE EDMON UNIT R1 H1	LAND EXHA AND EXHA BINE OFF CL OFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED LIR DRYER STALLED DEN LEAVI L BACK ON BINE ON GI  IDS, JACK LOAD OFF 162 160 65	AUSTER TRI BEAR - TAG R-1 TURBINE GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR - SON ,GRI UNIT CAP 50	GED TURNIG TURNED TURNED RKING - OV TTOM SERHEAT RI VACATION NE - D.C. LU FFIN,BOW NET CAP. 42 153 152	NG GEAR 3 WAY VA 4 FELOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR STA 0.639 1.713	WERE TRI TO DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX	OFF - INST	RUMENT CH STON, KUF REMOVAL 87.1	HECKING RZ DUST 8.84	C SHIFT AMM. FLOW 245/c	CARTER BACK PRESSU 3.1	CTL/17.8'
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/2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L. BREE! LUBE OII R-1 TURE EDMON UNIT R1 H2 CT	AND EXHA INE OFF CLOFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED D IR DRYER ISTALLED O DEN LEAVIN L DAD OFF  162  160  6: EDECS CO BURNER	AUSTER TRI SEAR - TAG SEAR - TAG GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS IR-1 TURBII EAR - SON, GRI UNIT CAP 165 165 56 56 56 56	GED TURNII - TURNED - TURNED - TURNED - TURNED - TURNED - ON POPER	NG GEAR 3 WAY VA 4 PERLOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR STA 0.639 1.713 ON STANG	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX  0.065  0.07	OPACITY 20.1 23.3	RUMENT CH BTON, KUF REMOVAL 87.1 68.8	RZ DUST 8.84	C SHIFT AMM. FLOW 245/c 244/c	CARTER BACK PRESSU 3.1 3.5	CTL/17.8'
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72/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L BREEL LUBE OII R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI	AND EXHA INE OFF CLOFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED D IR DRYER ISTALLED O DEN LEAVIN L DAD OFF  162  160  6: EDECS CO BURNER	AUSTER TRI SEAR - TAG R-1 TURBINE GGER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR -  CSON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEM ILEVEL HI AGGED	GED TURNII - TURNED - TURNED - TURNED - TURNED - TURNED - ON POPER	NG GEAR 3 WAY VA 4 PERLOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR STA 0.639 1.713 ON STANG	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX  0.065  0.07	OPACITY 20.1 23.3 RESSURE	RUMENT CH BTON, KUF REMOVAL 87.1 68.8	RZ DUST 8.84	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	CARTER BACK PRESSU 3.1 3.5	CTL 15.4'
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72/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT IN L BREEI LUBE OII R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BI R1 16,, H1 1-2 H2 41,	AND EXHA INE OFF CL AND OFF FANS	AUSTER TRI SEAR - TAG R-1 TURBINE GGER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII EAR - SON, GRI UNIT CAP 50 165 165 56 56 MMMOM 300 MANAGEM LEVEL HI AGGED ,31/22L 33,39,44	GED TURNIG  TURNED  RKING - OV  TTOM  E - DEW PO  PERHEAT RI  VACATION  NE - D.C. LU  FFIN,BOW  NET CAP.  153  152  S  ENT/STEAM	NG GEAR 3 WAY VA VERLOADS INT UP TO EGULATOR JBE OIL PU VLEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANG	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX 0.065 0.07	OPACITY 20.1 23.3 RESSURE	RUMENT CH BTON, KUF REMOVAL 87.1 68.8	BECKING  RZ  DUST  8.84  11.84  PWTL 26.0	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGEN R1-0% H1-0% H2-0%	CTL/17.8°
/2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING R. PUT 'A' A MAINT IN L. BREEE! LUBE OII R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BIR R1 16," H1 1-2 H2 41,4 FUEL OII	AND EXHA INE OFF CL OFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED I IR DRYER STALLED I DEN LEAVIL L BACK ON BINE ON GI  I I I I I I I I I I I I I I I I I I	AUSTER TRI SEAR - TAG GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS IR-1 TURBII EAR - SON, GRI UNIT CAP 165 165 56 MMMOM 300 MANAGEMI LEVEL HI AGGED A31,29,44 HMPL	GED TURNII - TURNED - TURNED - TURNED - TURNED - TURNED - ON POPER	NG GEAR 3 WAY VA 4 PERLOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANG SEAL LOV SOUTH	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6	PPED ES ON 'B' NOT SHUT  XANDER NOX 0.065 0.07	OPACITY 20.1 23.3 RESSURE	RUMENT CH BTON, KUF REMOVAL 87.1 68.8	BECKING  RZ  DUST  8.84  11.84	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	CARTER BACK PRESSU 3.1 3.5  MAINT  DRYING AGEN R1-0%	CTL/17.8°
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/2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING R PUT 'A' A MAINT IN L. BREEE! LUBE OII R-1 TURE LUBE OII R-1 TURE CT ALARMS R1 H1 H2 SOOT BI R1 16,, H1 1-2 H2 41,4 FUEL OII LEVELS SAFETY	AND EXHA INE OFF CL OFF OF F FANS OFF FANS OFF FANS OFF AGENT AU ELEASED D IR DRYER STALLED D DEN LEAVIL L BACK ON BINE ON GI  IDS, JACK LOAD OFF  162 160 65 EDECS CO BURNER EH RES LOWERS T 19,28,29,30 4,444/31,41 111 1/2" BRIEFING BRIEFING	AUSTER TRI SEAR - TAG SEAR - TAG GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS IR-1 TURBII EAR - SON ,GRI UNIT CAP 165 165 56 56 MMANAGEM LEVEL HI AGGED ,31/22L J 9' 9 1/4"	GED TURNIG  - TURNED  - TU	NG GEAR 3 WAY VA 3 WAY VA 4 RELOADS INT UP TO EGULATOR BE OIL PU 4 LEY, HOW 502 12 HR STA 0.639 1.713 ON STANG SEAL LOV SOUTH 6 3/4"	WERE TRI TO DEGRE ON R-1 MP WILL N  GAN ,ALE CO2 NDBY  11 10.6 DBY  V PRESSU	PPED ES ON 'B' NOT SHUT  XANDER NOX  0.065  0.07  GAUGE COK	OPACITY 20.1 23.3 RESSURE	RUMENT CH STON, KUF REMOVAL 87.1 68.8	BECKING  RZ  DUST  8.84  11.84  PWTL 26.0'  SILO LVL  13'	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	CARTER  BACK PRESSU  3.1  3.5  AAINT  DRYING AGEN R1-0% H2-0% BOOTHE SYS	CTU17.8°
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72/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING MAINT RI PUT 'A' A MAINT RI LUBE OII R-1 TURE LUBE OII R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 16,,' H1 1-2 H2 41,4 FUEL OII LEVELS SAFET PI INST DEB	AAND EXHA INE OFF CL OFF OF F FANS OFF AGENT AU ELEASED IR ROYER BACK ON BINE ON GI IND SACK LOAD OFF 162 160 69 100 100 100 100 100 100 100 100 100 10	AUSTER TRI SEAR - TAG A-1 TURBINE GER IS WO R-1 WETBO IN SERVICE SERVI	GED TURNII  TURNED  RKING - OV  TTOM  RKING - OV  TTOM  RKING - OV  TTOM  RKING - OV  TTOM  PERHEAT RI  VACATION  NE - D.C. LL  FFIN, BOW  NET CAP.  42  153  152  S  ENT/STEAM  NORTH  15' 11 1/2'  OC L.O. PUN	NG GEAR 3 WAY VA 3 WAY VA 4 FELOADS INT UP TO EGULATOR JBE OIL PU 4 LEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANG SEAL LOV SOUTH 6 3/4" MP/ 32PSI (	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6 DBY V PRESSU	PPED ES ON 'B' NOT SHUT  XANDER NOX 0.065 0.07  GAUGE COK	OFF - INST WADLING OPACITY 20.1 23.3 RESSURE BLASSES	RUMENT CHEMOVAL  87.1  68.8  LO START F	BECKING  REQUIRED/ I  SILO LVL 13'  ARD	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGEN R1-0% H1-0% H2-0% BOOTHE SYS*	CTU17.8°  CTL 15.4°
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/2/2014	9:37AM 9:15AM 9:45AM 10:11AM NOTE 2:30PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM	H-2 'A' GI R-1 TURE LUBE OII R-1 F.D. DRYING RI PUT 'A' A MAINTI L BREEL LUBE OII R-1 TURE LUBE OII R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BI R1 16,,' H1 1-2 H2 41,4 FUEL OII LEVELS SAFET PEI R1 TURE	AAND EXHAP INE OFF CLOFF OF FANS OFF AGENT AU ELEASED OIR IR REVERSE INE OFF OF INE INE OFF OF INE INE OFF OF INE INE OFF OF INE	AUSTER TRI SEAR - TAG GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS IR-1 TURBINE CAR - CAR	GED TURNII  TURNED  RKING - OV  TTOM  RKING - OV  TTOM  RKING - OV  TTOM  RKING - OV  TTOM  NE - D.C. LU  FFIN, BOW  NET CAP.  42  153  152  ENT/STEAM  NORTH  15' 11 1/2"  OC L.O. PUN  RKER EMAI	NG GEAR 3 WAY VA 4 RELOADS INT UP TO EGULATOR JBE OIL PU 4/LEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANI SEAL LOV SOUTH 6 3/4" MP/ 32PSI ( VALVE TH L & ACES	LVE 1/4 TU WERE TRI 57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 NDBY 11 10.6 DBY V PRESSU	PPED ES ON 'B' NOT SHUT  XANDER NOX 0.065 0.07  GAUGE COK	OFF - INST WADLING OPACITY 20.1 23.3 RESSURE BLASSES	RUMENT CHEMOVAL  87.1  68.8  LO START F	BECKING  REQUIRED/ I  SILO LVL 13'  ARD	C SHIFT AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGEN R1-0% H1-0% H2-0% BOOTHE SYS*	CTU17.8°



Your Touchstone Energy Cooperative

7/6/2014	1:00AM 3:45AM		SAFETY N		ANDARD TE	ST ALL PA	SS OVER	SPEED AT	38					
	0.00111													
	8:00AM	UNIT	LOAD	N, REYN	NET CAP	ATTON, BA		DWARDS	, TATE, C	ALHOUN,			STERLING	
		R1	LOAD	48	42	302	12 HR S	NOX TANDBY	OPACIT	REMOVAL	DUST	AMM. FLOW	BACK PRESSUE	RE
					-		121110	1741001						
		H1	143	165	153	0.138	11	0.06	13	97.8	4.62	188	2.5	
		H2	142	165	150	0.270	40	0.00						
		nz	143	165	152	0.372	10	0.09	9	93	11.18	209	3	
		CT	STANDBY	,										
		ALARMS	:											
		R1 H1												
		H2	EHRESI	EVEL HI	R PA FAN	MTR.HIGH	EMP							
			OWERS T	AGGED				GAUGE (	SLASSES				DRYING AGENT	
		R1 22 H1 30,	L 31,33		-			OK					R1-0%	
			42, 39, 37		-			-					H1-0% H2-0%	
			,,		-								F12-070	
											SILO LVL		BOOTHE SYSTE	M
		-		-	-						17'		IN	
		FUEL OIL	СН	HMPL	NORTH	SOUTH		-						
			11'2 1/2"		14'9 5/8"	6 1/2"	1				-			
	9:30AM									ROUP THEY		ERE WAY.		
	10:30AM									TO REPAIR		05 1101110		
						BBER ELEV			HAVE TO	REPLACE	NEXI OUTA	GE. ANDY HO	LT HERE FOR ST	ARTUP
	2:00PM							IG OUT ARC	OUND ROL	LER BRG				
	4:00PM			FOR STAR	TUP SUPP	ORT.								
	4:10PM		1 BOILER											
	5:00PM 7:40PM		DRUM VEN											
	7.401 101	I OLLING	VACCOUNT	OIV IX-1										
/6/2014	8:00PM	FELTY,	CECIL,EN	BRY,HILL	YARD,DU	VALL, JAN	ES,LEE	JONES V	AC HO	GAN.HIGO	INS.BRE	A SHIFT	TOW	
		BOWLEY												
		UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		R1	FIRING	48	42									CTL 18'
		H1	165	165	153	0.137	10.9	0.065	24.4	97.2	5.98	262	2.9	
												С		
		H2	160	165	152	0.387	11	0.043	28.7	92.1	12.59	240	3.3	CTL 15.5'
		CT	ON STAND	DRY	59							С		
		01	OI O IAI		55									
		ALARMS	:											
		R1	VOLTAGE											
		H1 H2			ENT/STEAN	I SEAL LOV	V PRESS	URE/E.H. S	TART REQ	UIRED/DRUI	M TRANS/	T. LEVEL/A	B PA FAN MOTO	OR/B BFP AUX OIL
		n2	EH RES I	EVELHI										
		SOOT BL	OWERS T	AGGED				GAUGE (	SLASSES		PWTL / 28	3'	DRYING AGENT	
		R1 22L						ок					R1-0%	
		H1 30,31											H1 0%	
		H2 37,39	,41,42			-							H2-0%	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH			-	-	SILO LVL		BOOTHE SYSTE	M
			11'2 1/2"	10'	14'9 5/8"	6 1/2"	1				11.3'		BSI	
	8:00PM		BRIEFING	ON D 4 0 C	OLDIO III	D D 000 0-	TEACO	45.01.055	FAT					
	8:00PM 8:05PM			ON R-1 2 OI DIL PUMPS		D.P.900 ST.	IEMP. 6	45 SUPERH	EAT 115	-	-			
	9:00PM					P 7-7-14 O	KED		-					
	9:00PM	A HOGAN	GOING H	OME										
			R-1 TURBI	NE										
		R-1 TIED		DVICE										
			L TRIPPED	LOST OF I	FLAME DE	TECTION								
						E WITH BKI	3							
	10:27PM	R-1 A MIL	LON											
				NE HAD VA	LVED IN SI	H SPRAYS	REG WA	SHOWING	CLOSED	BUT STILL S	PRAYING	SUPER HEAT	GOT DOWN TO 5	DEGREES FROM SATURATION TEN
		R-1 PREC		BOIL ED										
			ACK IN R-1 BREAK VA		R-1 TURRIN	F NEVER	OST SUID	ERHEAT	MPI ETE	Y WAITING	ON 100 DE	SPEES SLIDE	RHEAT TO ROLL	AGAIN
-	HOIL	JID NOT	DILLIN VA	COON ON I	- I IORDIN	- NEVER L	00 1 3UP	LANEAT CO	NAL TE IET	DAILINA	ON TOU DE	JREES SUPE	KINEM I TO ROLL	NGAIN
7/2014		R-1 TIED												
			IPS IN SE											
										AL PIPE TIL			AT DUDY TO	D DI IDNIED LIEAD : CO DECEMBE
				INE MILL IN		ND FLOOR	O BURN	R HEAD H	GHEST IE	WP 130 DE	SKEES BEL	OW FLANGE	A I BUKNEK HEA	D BURNER HEAD 400 DEGREES
				OF SERVICE										
											-			
	4:15AM	K-I FD F	1110 011											





# **Forced Outage Report**

# **Estimated Outage Cost**

Wash wet bottom and Boiler De-Slag

Cleaning Total

\$1,929.97

Titan - boiler hydro and Mill/coal pipe/burner inspections

Labor

\$3,120

Material

\$1,828.11

Total

\$4,948.11

**Turning Gear Repairs** 

Total

\$3,600

**Grand Total** 

\$10,478.08





**Lost Sales Opportunity Report** 



# FORCED OUTAGE COST ANALYSIS

# MISO DART Revenue and LOST OPPORTUNITY

Init Reid 1 - R1-14-09		Prode	st	
Date & Time Off Line	6/30/14 15:57	MW	\$	/MW
Date & Time On Line	7/2/14 23:00	25	\$	30.78
Outage Duration	55 hr. 3 min.	40	\$	29.69
Outage Code	UO3 (26 hr. 6 min.), SF (28 hr. 57 min.)	50	\$	29.27
Outage Reason	Unit removed from service due to B-1 coal pipe plugged and getting hot. Starting failure due to turbine turning gear problems. Turning gear repaired and unit placed in reserve standby at 2300 on 7/2/14.			

Date	DA LN	IP Average	RT LN	IP Average	DA	RT P&L	Ор	Lost portunity
6/30/14 (HE 16-24)	\$	57.86	\$	37.24	\$	(2,550)	\$	-
7/1/14 (HE 1-24)	\$	50.57	\$	30.30	\$	(1,446)	\$	(8,869
7/2/14 (HE 1-23)	\$	34.21	\$	30.84	\$	-	\$	(4,371
Total					\$	(3,996)	\$	(13,239)

Start Up Fu	iel Cost			Total Force	d Outa	ge Cost
S/U Fuel Consumed		0	Unit placed in reserve star	ndby DART P&L	\$	(3,996)
S/U Fuel Price	\$	-		Lost Opportunity	\$	(13,239)
S/U Fuel Cost	\$			S/U Fuel Cost	\$	
				Total	\$	(17,235)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



To: Jim Garrett

From: Eric Anderson

Date: 15-Aug-2014

Plant: Wilson Unit: 1 GADS Class: UO2

**Duration** 

Trip Time: 08-Jul-2014 02:10 Tie Time: 09-Jul-2014 17:56

Time Offline: 39:46

#### **Outage Description**

Wilson Station was removed from service on Saturday, 08-Jul-2014 at 02:10 due to a tube leak in the soot-blowing lane (18<sup>th</sup> element West to East) of the lower Reheat section at door #9. Titan Contracting replaced two-36" sections of tube in this area. Titan also pad welded one adjacent tube in this area and the (#8 tube West to East) that UT tested lower than acceptable minimum wall thickness and installed 29 tube shields. The tube being replaced was 2.5" O.D. x 0.180" MW, SA178 material.

#### **Root Cause**

Tube shields had come loose from the leaking tube and the adjacent tube allowing the soot blower to erode the tube wall.

#### **Failure History**

The last tube leak at Wilson Station in this area was on March 30, 2012 in the reheat area of the back pass on the HRA sidewall. This tube leak was located in the reheat area on the east wall in the south corner next to IKEL-42 soot blower at elevation 516'-3". The March 30, 2012 tube leak was due to wall blower erosion from a poppet valve that was stuck in the open position.



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#### **Corrective Action**

All soot blower lanes in the reheat section were checked visually and ultrasonically for flat spotting and wall thinning. Twenty-nine (29) additional tube shields were installed on tubes that showed some wear but were within the minimum wall standard. Wilson Station will check this area visually and ultrasonically during future outages to ensure wear is not accelerating.

#### Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

- #1 ID Fan Oil Cooler
- 12B Tie Breaker
- Plant Air Dryer
- FGD 480Volt Breaker Maintenance

#### INSTRUMENTATION

- #4 Governor Valve Control
- #5 Coal Mill Instrumentation
- Igniter Trip Solenoid
- Coal Valves
- Oil Guns and Spark Rods
- Flame Scanners

#### **MECHANICAL**

- Stroke all coal valves
- · Repaired 1A coal valve
- Repaired 1D coal valve
- Repaired 3A coal valve
- Repaired 4E coal valve
- Inspected #2 BFP recirculation valve and ordered new nuts and studs for the valve body.





# **Operators Event Log**

Out	TOUCHSTON	e Litergy	Coopera	tive A

7/8/2014	12:00AM	
	2:10AM	Unit off line due to tube leak.H/L notified
	7:00am	Todd in, Owens out
		McIntyre, Tichenor, Piper, Carmen, Lindsey, Drake, Barrett in
	8:00am	Safety Briefing
	7:42am	Hydro @ 1800psi
	7:00pm	Owens in Todd out
		H.Roby,Mcelwain,Caldwell,Tivitt,KennedyJones,Worley in.McCarty on S/L.S.Roby on VAC.Wilson on VAC
		Safety briefing
		Outage
		I/M working on coal valves
7/9/2014	12:00AM	
		Working on flyash system
	4:15am	Put vaccum on reheater
	5:00am	No leaks on reheater
	7:00am	Mattingly in, Owens out
	8:00am	Tichenor, Grey, Daughtery, Stovall, Hunt, Render, Linsey, McINTYRE, Gray in Blandford on vacA/T submitted
		Preparing for start up
	10:30am	Sean Emertson called in sick A/T submitted
	7:00PM	Cooper Todd,in Mattingly Owens out
		MW KPPH SO2 NOX OPAC REMOV CO2 4 MILLS 4 MODULES 16 CIRC PUMPS
		VARS SLURRY FEED TANKS CO Sludge tanks VOLTAGE BED LEVEL 96"
	8:00AM	Roby VAC ,Stewart P/D , Payne VAC, Poore VAC ,Emberton S/L, Jones, Calhoun, McElwain, Caldwell, Piper Tivitt, Kennedy, Carman
	10:57am	Fire in boiler
		Saftey/job briefing
	7:09PM	#2 mill on
	7:35PM	Tranfer Aux





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# **Boiler Tube Leak Record**

# **Lower Reheat Section**

Plant:V	<u>Vilson</u>	Unit:	_1
Type of Leak: (Check One)			
Pin Hole Thick Lip Failu	re Thin Lip F	ailure	-
Tube Wall Thinning X soot blower erosion that thin adjacent tube.			
Orientation of Rupture: (Che	eck One)		
Longitudinal Circ	umferential <u>X</u>		
Probable Cause: (Check One)			
Stress Overheat	_ Erosion Inte	rnal Corrosior	ı
External Corrosion Weld	d Failure (Sho	op Field	)
Internal Obstruction to Flow	Sootblower Erc	sion X	-
Other:			



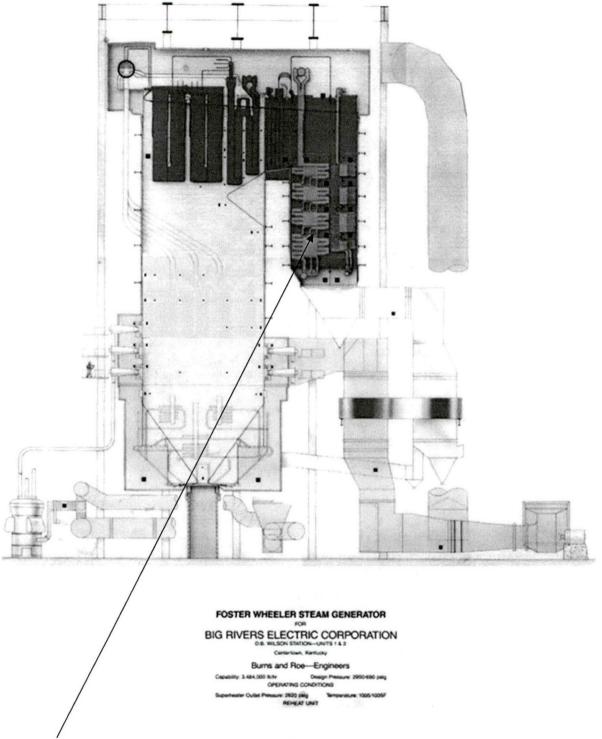
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Type of Repair: (Check One)
Dutchman X (Length of Dutchman 2 @ 36") Pad Weld X
Plug Tube Short Circuit Other
Description of Repair:
Tube Size OD 2.50" Wall Thickness 180" MW Tube Material SA178-C
Welding Rod Used <u>E7018 A1</u>
Welded By:
Exact Location of Leak: Be Specific
Soot-blowing lane in the Lower Reheat section,18 <sup>th</sup> element West to East, at door #9









Tube Leak Here – Lower Reheat Section 18th element West to East at Door #9





# Forced Outage Report

### **Estimated Outage Cost**

Contract Labor Cost =

\$45,116.67

Material Cost =

\$1,949.85

Total Non-Labor Cost =

\$47,066.52

#### **Lost Sales Opportunity Report**

# FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-14-06	Production Cost			
Date & Time Off Line	7/8/14 2:10	MW	\$/MW		
Date & Time On Line	7/9/14 17:56	280	\$	24.95	
Outage Duration	39 hr. 46 min.	340	\$	24.14	
Outage Code	UO2	420	\$	23.53	
Outage Reason	Repair reheat tube leak				

Date	DA LN	IP Average	RT LN	/IP Average	D	ART P&L	Op	Lost portunity
7/8/14 (HE 1-24)	\$	36.80	\$	31.21	\$	(76,939)	\$	-
7/9/14 (HE 1-24)	\$	33.83	\$	37.20	\$	7,398	\$	(103,049)
7/10/14 (HE 1-5)	\$	24.13	\$	22.20	\$	(451)	\$	
Total					\$	(69,992)	\$	(103,049)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		28,472	DART P&L	\$	(69,992)
S/U Fuel Price	\$	2.98	Lost Opportunity	\$	(103,049)
S/U Fuel Cost	\$	(84,804)	S/U Fuel Cost	\$	(84,804)
			Total	\$	(257,845)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





# Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 11-Jul-2014

Plant: HMP&L Station Two

Unit: 2

GADS Class: UO2

### **Duration**

Trip Time: 10-Jul-2014 13:21

Tie Time: 10-Jul-14 22:17

Time Offline: 8:56

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Thursday, 10-Jul-2014 at 13:21 due to failure of the #19 wall blower penetration allowing boiler flue gas and heat to exit the boiler.

#### **Root Cause**

#19 Wall Blower wall box failed allowing it to be burned up.







# Forced Outage Report

### **Failure History**

In May, 2011 #14 wall blower wall box failed, leading to a forced outage of 17.6 hours.

In May, 2012 #9 wall blower wall box failed, leading to a forced outage of 14.24 hours.

### **Corrective Action**

Removed the wall blower and repaired the wall box and refractory.

#### **SOE Print Out**

Triggered on: 10-Jul-2014 13:20:06:804

10-Jul-2014 13:21:51:401	ОК	H225DRMTRP	BOILER DRUM LEVEL TRIP
10-Jul-2014 13:21:43:402	TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
10-Jul-2014 13:21:32:030	LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
10-Jul-2014 13:21:17:543	HIGH	H240EXHOODTEHI	TURB EXH HOOD HIGH TEMP
10-Jul-2014 13:21:08:223	ОК	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
10-Jul-2014 13:21:07:848	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
10-Jul-2014 13:21:06:909	ОК	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
10-Jul-2014 13:21:06:613	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
10-Jul-2014 13:21:03:212	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
10-Jul-2014 13:21:03:149	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
10-Jul-2014 13:21:03:138	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
10-Jul-2014 13:21:01:480	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
10-Jul-2014 13:21:01:416	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
10-Jul-2014 13:21:01:406	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
10-Jul-2014 13:21:01:396	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
10-Jul-2014 13:21:01:305	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
10-Jul-2014 13:21:01:305	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
10-Jul-2014 13:21:01:278	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
10-Jul-2014 13:21:01:274	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
10-Jul-2014 13:21:01:274	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
10-Jul-2014 13:20:54:000	ОК	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
10-Jul-2014 13:20:38:693	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
10-Jul-2014 13:20:22:309	ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
10-Jul-2014 13:20:20:993	LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
10-Jul-2014 13:20:10:546	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
10-Jul-2014 13:20:07:680	LOW	H245SEALSTMLOW	TURBINE SEAL STEAM PRESS
10-Jul-2014 13:20:07:304	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
10-Jul-2014 13:20:06:804	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
10-Jul-2014 13:20:06:552	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP

2





# Forced Outage Report

# Other Work Completed While Unit Was Offline

- Repaired 480V soot blower power feed that got burnt up when the wall box failed
- Repaired coaxial cable for the east side drum gauge camera that got burnt up when the wall box failed





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# Operators Event Log

7/40/2014	0.00414	CAFETY	DDIEEINO											
7/10/2014	8:00AM	SAFETY												
	8:00AM	RATA TE												
	8:35AM			VER BACK II										
	8:35AM			BKR PUMP										
	12:30PM	R-1 OPA	CITY GOIN	G UP BEATI	NG DOWN	15 AND 16	AND PREC	IPS ADJ A	IR RESTER	RS LOWERE	D AIR CLE	ANED LENES	OPACITY COMING	3 DOWN
	1:10PM	FIRE CO	MING OUT	AROUND #1	9 SOOTBL	OWER H-2								
	1:20PM			ANS HAD AL										
	1:23PM	GEN TRIF	PPED OR I	REVERSE P	OWER PRI	MARY DID	TAKE IT O	JT						
	1:23PM	H-2 PREC	CIPS OUT											
	1:48PM	H-2 FD FA	ANS OFF	BOILER VOT	TLED									
	2:08PM	H-1 RATA	TEST CO	MPLETE										
	2:37PM	H-2 TURB	INE ON G	EAR										
	NOTE	LOST H-2	EAST DR	UM CAMER	A PICTURE	URGENT V	VO# 61335	88		1				
	2:55PM	RUNNING	LIST FOR	HELP TON	GHT					1				
	3:25PM	S KURZ C	CALLED W	ILL BE IN AT	F 6P									
	NOTE	SOME OF	THE PHO	ONE SYSTE	M WAS DA	MAGED BY	THE BOIL	ER HOLE S	SOME PHO	NES WORK	SOME DO	DN'T		
	5:10PM	RELEASI									001112 00			
	5:22PM	H-2 FD FA	ANS ON C	AN NOT PUR	RGE FUSE	BLOWN IN	BURNER M	MANAGEM	ENT SYSTE	M				
	6:05PM										E HAD DO	G HOUSE DO	OR OPEN	
				SED DOOR								0 110032 00	OK OF LIV	
	6:05PM			N BURNER M			DOON OLC	OING OIL	TOTT OLOG	1140 000 11	OUGL			
	6:23PM			WILL BE IN		MILL	-			-				
	6:25PM			25 PURGING		R	-	-						
	6:38PM						02 STEAM	TEMP 884	LURE OF	115 4.1 4.2	A 3 OII C	JNS IN ECC 9.	2	
	7:30PM			TAKING MILI		ii r neoo o	OE GIEAN	ILIVIT 004	LUBE OIL	110 A-1 A-2	A-3 OIL G	JINO IN ECC 9.	4	
	7:53PM			ENING WILL		T WONT	TIPNI							
	7.55FW	N-1 D WILL	L OFF OP	LINING UP F	LEDEK BE	LI WONI	UKIN							
									-					
					1							_		
	8:00PM			ON , REYN									STERLING	
			LOAD		NET CAP.	The second second	CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E
		R1	30	48	42	3.54	7.2	0.33	5				3.4	
		H1	165	165	153	0.133	11	0.094	23.5	90.2	7.72	230	2.7	
		H2	OFF											
		CT	STANDBY	<b>′</b>										
		ALARMS												
		R1												
		H1	B PA FAN	MTR HIGH	TEMP BO	ILER DRUM	LEVEL TE	RANS MAIN	IT.					
		H2	EH RES	LEVEL HI										
		SOOT BL	OWERS T	AGGED				GAUGE C	SLASSES				DRYING AGENT	
		R1 22F	1					OK					R1-0%	
		H1 ,31,3	33										H1-0%	
		H2 41,4					1		-	-			H2-0%	
								-						
											SILO LVL		BOOTHE SYSTE	м
							-				13'		IN	
												J		
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH	1	-						
		LEVELS			17'5"	6 1/2"	1	-	-					
		LLVLLO	0.0	10 2	11/0	0 1/2		-	-	-				
	8-30014	D1 D MILL	BACKO	N HAD BOOK	ONEEED	ED	ļ							
	8:30PM			N HAD ROCK			M DDEAC	700 075	M TEMP	000 11105	OII TELLE	140 5005:-	DIOITY O C CC	OT INIO IN:
	8:45PM				INE H2 B	DILEK DRU	W PKESS.	188 SIE	M IEMP.	DSU LUBE	JIL TEMP	116 ECCENT	RICITY 9.0 3 OIL	GUNS IN.
	8:47PM	PULLING		-	000 0=-	TE	200 1115	011 7	110 6 5:		00 0 -			
				PRESSURE	900 STE	AM TEMP.	533 LUBE	OIL TEMP	116 3 BUR	NERS IN E	CC. 9.0			
		ROLLING		NE										
		TIED H2 C												
				CALLED HO	TLINE									
		H2 A BLE												
		H2 BOOS												
				CLOSED H2	GOING TH	ROUGH SC	RUBBER.	CALLED H	OTLINE					
	11:50PM	SCR STA	RTED											
7/11/2014	3:00AM	H2 IS GO	OD FOR F	ULL PRESS	URE									
	3:30AM	H2 THICK	NER RETU	JRN MAKEU	P REG. HA	S SPLIT IN	AIR LINE.	W.O.# 613	3615					
	3:30AM			HEADER HA										
				A IN H2 SCF										
				S PLUGGED		33618								
	6:50AM	K1 5001	BLOWING	IS REDTAG	GED									





# Forced Outage Report

# **Estimated Outage Cost**

• Titan - repair wall box

Labor

\$2,400

Material

\$360

Total

\$2,760

### **Lost Sales Opportunity Report**

# **FORCED OUTAGE COST ANALYSIS**

MISO DART	Revenue and L	OST	<b>OPPORTUNITY</b>
-----------	---------------	-----	--------------------

Unit	HMP'L 2 - H2-14-05	Prod	uction Cos	st
Date & Time Off Line	7/10/14 13:21	MW		MW
Date & Time On Line	7/10/14 22:17	83	\$	31.99
Outage Duration	8 hr. 56 min.	127	\$	30.05
Outage Code	UO2	149	\$	29.73
Outage Reason	Unit removed from service to repair			

Date	DA LN	/IP Average	RT LN	IP Average	DA	ART P&L	 ost rtunity
7/10/14 (HE 14-24)	\$	40.54	\$	30.48	\$	(2,250)	\$ -
7/11/14 (HE 1-4)	\$	21.96	\$	20.34	\$	662	\$ -
Total					\$	(1,587)	\$

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		5,748	DART P&L	\$	(1,587)
S/U Fuel Price	\$	3.17	Lost Opportunity	\$	-
S/U Fuel Cost	\$	(18,236)	S/U Fuel Cost	\$	(18,236)
			Total	\$	(19,823)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





# Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 18-Jul-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO2

Duration

Trip Time: 17-Jul-2014 10:09 Tie Time: 17-Jul-14 16:28

Time Offline: 6:19

**Outage Description** 

HMP&L Station Two Unit 2 was removed from service on Thursday, 17-Jul-2014 at 10:09 due to a broken inspection port glass on B4 burner.

#### **Root Cause**

The west side inspection glass on B4 burner blew out allowing boiler gas and combustibles to exit the boiler. We suspect that a hole in the burner barrel could be the cause of the glass overheating we will confirm this the next time unit is off line.

# Failure History

No failures of this nature have been reported on this unit for the last three years.

# **Corrective Action**

Replaced the inspection port glass.





Your Touchstone Energy® Cooperative

SOE Print Out
Triggered on: 17-Jul-2014 10:08:29:422

17-Jul-2014 10:08:36:704	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
17-Jul-2014 10:08:36:692	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
17-Jul-2014 10:08:36:678	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
17-Jul-2014 10:08:36:591	ОК	H250OCB186GETR	OCB 0186 GEN H2 TRIP
17-Jul-2014 10:08:36:590	ОК	H250OCB182GETR	OCB 0182 GEN H2 TRIP
17-Jul-2014 10:08:36:561	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
17-Jul-2014 10:08:36:561	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
17-Jul-2014 10:08:36:559	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
17-Jul-2014 10:08:36:129	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:36:112	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:999	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:976	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:894	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:853	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:797	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:728	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:697	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:540	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:35:501	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
17-Jul-2014 10:08:34:417	ОК	H233LMISTRP	LAST MILL IN SERVICE TRIP
17-Jul-2014 10:08:30:422	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
17-Jul-2014 10:08:29:925	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
17-Jul-2014 10:08:29:480	OPEN	H203PAF3BSTS	4160 BKR PA FAN H2B STATUS
17-Jul-2014 10:08:29:422	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
17-Jul-2014 10:08:29:172	TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP



# **Forced Outage Report**

Other Work Completed While Unit Was Offline

Found two other inspection port glasses that were cracked (A1 east and B4 east) only had one inspection glass in warehouse removed cracked glass and replaced with cap.



#### Your Touchstone Energy® Cooperative

# **Operators Event Log**

7/17/2014	7;00AM				NG @ SOUT				E FOR MAI	NT				
	7;24AM			ESTED VA	CTION FOR	TONITE 8P	-8A OKE	כ						
	8;00AM		BRIEFING					1						
	9;00AM			COAL BUF	RNER INSPE	CTION POP	RT HAD BU	RNT THR	U CAP					
	9;11AM	H2 OUT C				-	-							
	9;28AM		JARYS TR			DECIDO II								
	NOTE					PRECIPS M	ANUALLY	& BEAT D	OWN ADJU	STED BURN	VERS STIL	TRENDING L	JP	
	9;31AM 9;40AM		SHUT DOW					-						
		H2-A MIL	OIL IN BOI	LEK				-						
				UDDEDO	0117 0 000	OUT! TOID!								
				UBBERS	OUT & SCR	OUT/ TRIPE	ED ON LO	W DRUM	LEVEL					
		H2 PREC												
	NOTE			50D MAI	NT ON DOLL	TIL 0001 IN								
			INE BREAK		NT ON SOU	IH COOLIN	GTOWER	KISEK LI	NE REPAIR					
			INE ON GE		JIVI									
					A1 BURNER	INSPECTIO	N DODTE							
								FOLIND T	HE ACTUAT	OR MOUNT	PROVE	D EDWADDS 6	J.WEST NOTIFIE	
	12,101 101				HUT OFF DA							B.EDWARDS 6	J.WEST NOTIFIED	J
	1;04PM		IN BOILE		1101 011 0	WILL CIT AALL	LL WAIN	KLFAINS	MOONTHA	BRACKET				
	1;40PM	ACES NO		•			-							
	1;45PM			DS-I /M R	DENTON-L	M J BAKER	J /M J HIG	GINS J /M	LGOODMA	NJ /M G FI	Leggawa	M,G.CALHOU	INLL /M	
	NOTE											L TRENDING L		
	NOTE		A3,A4 B2										-	
	NOTE				AS MUCH	AS POSSIE	BLE TO TU	RN S.H. T	EMP					
	NOTE				ING VACUA					†				
	3;28PM				ING VACUA		1							
	4;00PM	R1 STAF	TING HOT	WELL CH	ECK									
	4;01PM	ROLLING	H2 TURBI	NE										
	4;17pm	H2 TURB	NE TV-GV	TRANSFE	R									
	4;28pm	H2 GENE	RATOR TIE	D ON LIN	E									
	4;35PM	H2-B FD	FAN SHUT-	OFF DAM	PER HOOK	ED BACK IN	I							
	4;35PM	H2-B FD	FAN SHUT-	OFF DAM	PER HOOK	ED BACK IN	1							
	4;50pm	FOUND H	2 B4 BURN	IER WEST	INSPECTIO	N PORT CE	RACKED N	EW PORT	JUST INST	ALLED PUT	AIR ON IT	/ J.FRANCIS,	R.PARKER, G.BUNG	CH NOTIFIED
			KEEP EYE										-	
	5;19PM	J.WADLI	NGTON CA	LLED IN S	ICK FOR TO	NITE 8P-8A	4							
	NOTE				" 1 HOUR									
	NOTE				GINS-L/M,J		I-L/M,G.ED	WARDS-L	/M,G.CALH	OUN-L/M				
	6;13PM				AX DOING S	AME								
	6;24PM		BBERS IN	SERVICE										
	6;25PM	H2 SCR V												
	NOTE				ONS OUT (0	3) BETWEE	N 9;24AM-	6;06PM						
	NOTE		3HOUR EX											
	6;44PM		OIL OUT C											
	7:30PM	CALLED	THRU LIST	AGAIN - I	LEFT MESS	AGES	<del></del>							
		01 481/				_							DE1101 E11	
7/17/2014	8:00PM				IG, BLANK							BSHIFT	PENDLEY	
					VACATION									
		UNIT	LOAD		NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	42	48	42	4.5	9.9	0.453	9.1				3.74	CTL 17
		H1	158	165	153	0.142	10.4	0.065	17.9	97%	4.72	230	3.7	
		HI	150	100	153	0.142	10.4	0.005	17.9	9/%	4.12	230	3.7	
		H2	155	165	152	0.179	10.9	0.056	18.6	96%	10.25	234	3.7	CTL 15
		nz.	100	100	102	0.179	10.5	0.036	16.6	90%	10.25	234	3.7	CIL IS
		CT	ON STAND	DRY	59					-				
		01	CITOTAIN	101	39	-	-							
		ALARMS											-	
		R1				-	-		-					
		H1	BURNER	MANAGEN	IENT/STEAM	SEALLON	V PRESSI	IRE/E H S	START REOL	IIRED/DRI II	A TRANS	CT LEVEL/A	&B PA FAN MOTOR	Z/R REP ALIX OII
		H2			GEN. MAIN			1 3 m f m . 1 f . C	Z II	J., L.D. DITOI	110/110/1	J. I. LLVLUA	AD I A I AIT WOTO	D DI F HONOIL
		-	2											
		SOOT BI	OWERS TA	AGGED				GAUGE	GLASSES		PWTL	27'	DRYING AGENT	
		R1	OVILING II	JOCED				OK	CLAGGEG		FAAIL	21	R1-0%	
		H1 31,33	.43					JI,					H1 0%	
		H2 37,39		-			1						H2-0%	
						-			1	1			_	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH	1	1			SILO LVL		BOOTHE SYSTEM	1
		LEVELS		13' 10 1/2	14' 11 5/8'						12'		IN	
		LEVELS	7' 2 3/8"	13' 10 1/2	14' 11 5/8'	6 1/2"					12'		IN	



# Forced Outage Report

# **Estimated Outage Cost**

Work Order 6134068:

\$5,814.12

**Lost Sales Opportunity Report** 

# FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 2	H2-1	4-06			Product	ion Co	st
Date & Time Off Line		7/17/14	4 10:0	9			MW		\$/MW
Date & Time On Line		7/17/14	4 16:2	8			61	\$	33.61
Outage Duration		6 hr. 1	9 min				127	\$	30.05
Outage Code		U	02				149	\$	29.73
Outage Reason	Repa	ir inspection by B-4 c							
Date	DA LI	MP Average	RT L	MP Average	ı	DART P&L	Lost Opportunity		
7/17/14 (HE 11-21)	\$	33.72	\$	35.72	\$	(9,302)	\$ -		
Total	y				\$	(9,302)	\$ -		
Start Up Fu	el Cost						Total Forced	Outag	je Cost
S/U Fuel Consumed		5,739					DART P&L	\$	(9,302
S/U Fuel Price	\$	3.17					Lost Opportunity	\$	
S/U Fuel Cost	\$	(18,207)					S/U Fuel Cost	\$	(18,207)
							Total	\$	(27,509)
NOTES:									
All negative values are mo	ney out	of pocket.							
DART Revenue is calculate	ted from	differences b	etwee	en the DA awa	ard a	nd RT events			
Lost Opportunity is the los	t margin	s if the unit h	ad sta	ved running					





To: Jim Garrett

From: Billy Boarman

Date: 8-Jul-2014

Plant: Reid Station Unit: 1 GADS Class: UO1

**Duration** 

Trip Time: 7-Jul-2014 03:44 Tie Time: 7-Jul-2014 20:34

Time Offline: 16:50

#### **Outage Description**

Reid Station Unit 1 was removed from service on Monday, 7-Jul-2014 at 03:44 due to possible blockage in 'A1' coal pipe.

# **Root Cause**

"A" Mill classifier was packed with coal not allowing proper flow to the burners.

# **Failure History**

On 30-Jun-2014 R-1 unit was removed from service due to plugging in B-1 coal pipe.





# Forced Outage Report

#### **Corrective Action**

Inspected "A" Mill, classifier, reject chute and riffle box. Found that "A" classifier was plugged with coal and cleaned it out. Removed "A1" burner and found the spinner and inlet vanes were burned up. Also pulled the other three burners and found them in good condition. Installed new inlet vanes and spinner on "A1" burner and repaired the

refractory on end of burner.

### Other Work Completed While Unit Was Offline

- Repaired coal leak on 'B' Mill
- Inspected 'B' Mill, classifier, reject chute and riffle box
- Inspected all burners





# **Operators Event Log**



	12.52414	R-1 TIED	ONIL INIT											
7/7/2014				DVICE			-		-					
	1:00AM 1:30AM	R-1 PREC			A 1 COAL !	DIDE HOLD	NO LINE	ON MARTIN	107 4 0 00	AL DIDE TO		D1/0 01/0		
	NOTE	CANT GE	AL DIDE A	AL OUT OF	A-1 COAL I	JIPE HOLD	NG UNIT	ON WITH J	UST A-2 CO	AL PIPE TIL	L B MILL D	RYS OUT		***************************************
	3:44AM	D 4 TUDD	AL PIPE A	INE MILL IN	T FROM ZI	ND FLOOR	IO BURN	ER HEAD F	HIGHEST TE	MP 130 DE	GREES BE	LOW FLANGE	AT BURNER HE	EAD BURNER HEAD 400 DE
	3:46AM					-			-					
	4:15AM	R-1 FD FA		OF SERVICE		-	-							
	4. IDAM	K-1 FD FA	INS OFF	+	-	-		-	-					
7/7/2014	8:00AM			FIN, BOW		GAN, ALEX	ANDER	, WADLIN	<b>сто</b> и, ки	RZ		C SHIFT	PAYNE	
			LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FLOW	BACK PRESSI	IDE
		R1		48	42		002	HOX	OI AOITT	TALINO VAL	5001	AMM. PLOW	BACK FRESS	CTL 17'6"
				1.0	OFF				-					PWTL / 27'
		H1	165	165	153	0.146	11	0.058	21.2	97.1	8.21	247	3.1	1 44127 27
								0,000	21.2	01.1	0.21	C	0.1	
		H2	160	165	152	0.428	11.3	0.057	20.7	91	9.86	236	3.8	CTL 14.9'
		CT	ON STAN	DDV	50							C		
		C1	ON STAIN	DBT	59									
		ALARMS:												
		R1	VOLTAGE	REG										
		H1	BURNER	MANAGEM	ENT/STEAM	SEAL LOV	V PRESS	URE/E.H. S	TART REQU	JIRED/DRUI	M TRANS/	C.T. LEVEL/A 8	B PA FAN MO	TOR/B BFP AUX OIL
		H2	EH RES I	LEVEL HI										
		SOOT PI	OWERS T	ACCED	-	-		CALICE	CLACCEC				DDVING 1051	
		R1 22L	OWERS I	AGGED	-	-	-		GLASSES				DRYING AGEN	11
		H1 30,31,	22					OK					R1-0%	
		H2 37,39,				-			-				H1 0% H2-0%	***************************************
		112 07,00,	41,42										HZ-U70	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYS	TEM
		LEVELS	9'8"	13' 11"	17' 1 1/2"	6 1/2"					13FT		IN	
7/7/2014	8:00AM	SAFETY E	DIEEING											
11112014	8:01AM			ITATE OOD	AI ADM"	DANIDOM D	OINTE EL	JOINING DA	D QUALITY	NOTICY A	VOLING			
	8:03AM			D. INST CH			OIIVIO GI	IOVVIIVO BA	D QUALITY.	NOTIFT A.	TOUNG.			
	8:15AM			A BFP TO			OLIL D NO	TOTADT	ISING D					
	8:20AM									IC TO DICK	IID DI EET	ELOW SOME	AND SEE WHA	AT HADDENIC
		TIZ OMIVIT			DOLIN ON L					IG TO FICK	OF BLEEL	PLOW SOME	AND SEE WITH	AT HAPPENS
	8-30AM					ACCIFIEDS		NUL AVEAE						
	8:30AM	CLEANING	AND INS	PECTING R	1 MILLS, CI			(A2 SIDE)		DANVTHIN	G IN THED	E BESIDES CO	MI	
	NOTE:	CLEANING FOUND E.	S AND INS AST SIDE	PECTING R OF R1 A M	1 MILLS, CI LL CLASSIF	FIER PLUG		(A2 SIDE), I		D ANYTHIN	G IN THER	E BESIDES CO	AL	
	NOTE: 10:00AM	FOUND E.	S AND INS AST SIDE RRING FU	PECTING R OF R1 A M EL OIL TO I	1 MILLS, CI LL CLASSIF HMPL TANK	FIER PLUGO	GED UP,			D ANYTHIN	G IN THER	E BESIDES CO	DAL	
	NOTE: 10:00AM 10:25AM	FOUND E. TRANSFE INSPECTE	S AND INS AST SIDE RRING FU ED R1 A A	PECTING R OF R1 A M IEL OIL TO I ND B MILL	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND	FIER PLUGO CLASSIFII	GED UP, ERS ARE	CLEAN	DID NOT FIN	D ANYTHIN	G IN THER	E BESIDES CO	)AL	
	NOTE: 10:00AM 10:25AM 11:00AM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE	S AND INS AST SIDE RRING FU ED R1 A A EVATOR K	PECTING R OF R1 A M IEL OIL TO I ND B MILL EEPS HAN	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O	FIER PLUGO C CCLASSIFII N THE 8TH	GED UP, ERS ARE FLOOR.	CLEAN CALLING M	DID NOT FIN	D ANYTHIN	G IN THER	E BESIDES CO	)AL	
	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELI R.BEAN C	S AND INS AST SIDE RRING FU ED R1 A A EVATOR K CALLED. V	PECTING R OF R1 A M EL OIL TO I ND B MILL EEPS HAN VILL NOT B	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIG	FIER PLUGO ( D CLASSIFII N THE 8TH HT. FATHER	GED UP, ERS ARE FLOOR.	CLEAN CALLING M	DID NOT FIN	D ANYTHIN	G IN THER	E BESIDES CO	DAL	
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	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM 11:10AM 11:03AM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE R.BEAN C RUNNING G.CALHO	G AND INS AST SIDE RRING FU ED R1 A AI EVATOR K CALLED. V LIST FOR UN WILL B	PECTING R OF R1 A M IEL OIL TO I ND B MILL EEPS HAN WILL NOT B UTILITY FO SE IN AT 8P	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIG R TONIGHT M TONIGHT	FIER PLUGO CLASSIFII N THE 8TH HT. FATHER	GED UP, ERS ARE FLOOR.	CLEAN CALLING M	DID NOT FIN	D ANYTHIN	G IN THER	E BESIDES CO	OAL .	
	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM 11:10AM 11:03AM 12:45PM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE R.BEAN C RUNNING G.CALHO R1 A BFP	G AND INS AST SIDE RRING FU ED R1 A A EVATOR K CALLED. V LIST FOR UN WILL B WILL NOT	PECTING R OF R1 A M EL OIL TO I ND B MILL (EEPS HAN WILL NOT B UTILITY FO BE IN AT 8P I START. NO	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIGHT M TONIGHT DTIFY D.SH	FIER PLUGO CLASSIFII N THE 8TH HT. FATHER	GED UP, ERS ARE FLOOR. R NOT DO	CLEAN CALLING M DING WELL	DID NOT FIN					CLOSE PARTS ON ORDER
	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM 11:10AM 11:03AM 12:45PM 12:50PM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE R.BEAN C RUNNING G.CALHO R1 A BFP NOTIFIED	G AND INS AST SIDE RRING FU ED R1 A A EVATOR K CALLED. V LIST FOR UN WILL B WILL NOT BY DON S	PECTING R OF R1 A M IEL OIL TO I ND B MILL GEEPS HAN WILL NOT B UTILITY FO BE IN AT 8P T START. NO	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIGHT M TONIGHT OTIFY D.SH HAT HMPL	FIER PLUGO CLASSIFII N THE 8TH HT. FATHER ELTON ELTON ELEVATOR	GED UP, ERS ARE FLOOR. R NOT DO	CLEAN CALLING M DING WELL	DID NOT FIN					CLOSE. PARTS ON ORDER
	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM 11:10AM 11:03AM 12:45PM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE R.BEAN C RUNNING G.CALHO R1 A BFP NOTIFIED MAINT RE	G AND INS AST SIDE RRING FU ED R1 A A EVATOR K CALLED. V LIST FOR UN WILL B WILL NOT BY DON S LEASED F	PECTING R OF R1 A M IEL OIL TO I ND B MILL. EEPS HAN MILL NOT B UTILITY FO BE IN AT 8P I START. NO SHELTON T R1 BOILER.	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIGHT M TONIGHT OTIFY D.SH HAT HMPL PULLING T	FIER PLUGO CLASSIFII N THE 8TH HT. FATHER ELTON ELTON ELEVATOR	GED UP, ERS ARE FLOOR. R NOT DO	CLEAN CALLING M DING WELL	DID NOT FIN					CLOSE. PARTS ON ORDER
	NOTE: 10:00AM 10:25AM 11:00AM 11:05AM 11:10AM 11:03AM 12:45PM 12:50PM 1:15PM	CLEANING FOUND E. TRANSFE INSPECTE HMPL ELE R.BEAN C RUNNING G.CALHO R1 A BFP NOTIFIED MAINT RE	AND INS AST SIDE RRING FU ED R1 A A EVATOR K CALLED. V LIST FOR UN WILL B WILL NOT BY DON S ILEASED F TABLISHE	PECTING R OF R1 A M IEL OIL TO I ND B MILL. EEPS HAN MILL NOT B UTILITY FO BE IN AT 8P I START. NO SHELTON T R1 BOILER. ED IN R1 BO	1 MILLS, CI LL CLASSIF HMPL TANK MILLS AND GING UP O E IN TONIGHT M TONIGHT OTIFY D.SH HAT HMPL PULLING T	FIER PLUGO CLASSIFII N THE 8TH HT. FATHER ELTON ELTON ELEVATOR	GED UP, ERS ARE FLOOR. R NOT DO	CLEAN CALLING M DING WELL	DID NOT FIN					CLOSE. PARTS ON ORDER
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	8:00PM	CLARK V	ACATION	N, HIGGIN - JOHNSON	HERF - FF	LTY & CAL	HOUN HE	SE EUB B	STARTIE			B SHIFT	PENDLEY	
		UNIT	LOAD		NET CAP		CO2	NOX		REMOVAL	DUST	AMM FLOW	BACK PRESSURE	
		R1	START UP	- ROLLING	TURBINE								Drivit i ileoodii	СТ
		114	440	405	450	000								
		H1	142	165	153	.096	9.1	0.074	14.7	98%	8.84	178	2.7	
		H2	145	165	152	0.34	10.7	0.069	15.3	93%	11.98	189	3.7	СТ
		CT	ON STANI	DBY	57									
		ALARMS R1	: VOLTAGE	DEC				-						
		H1			NT/STEAM	SEAL LOV	V PRESSI	IRE/E H S	TART REOL	IIRED/DRI II	A TRANS!	T LEVEL/A	B PA FAN MOTOR	/P PED ALIVOR
		H2	EH RES I	EVEL HI, G	EN. MAIN	STEPUP	TTTEOOC	J. L. J. L. J. L. C	TATTICO	JIKE DI DI KOI	II II VANOT	J. I. LLVLDA C	IB PA PAN MOTOR	VD DFP AUX OIL
		2007.01												
		R1 22L	OWERS T	AGGED		-		GAUGE (	GLASSES		PWTL	27'	DRYING AGENT	
			31,33,44					UK					R1-0% H1 0%	
		H2 37,	The state of the s										H2-0%	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					CILOTVI		DOOT IF CVCTEN	
		LEVELS		13' 11"	17' 1 1/2"	6 1/2"	1				SILO LVL		BOOTHE SYSTEM	
710011														
7/2014	8:00PM 8:05PM	SAFETY		NE TO 3600	DDM	-		-						
	8:34PM			ED ONLINE	IXI-IVI	-								
	8:36PM	R-1 PREC												
	NOTE			OT OF WA										
	9:00PM			STEM OUT -										
	NOTE			METAL OUT				DER						
	10:55PM NOTE			OILER UPS				D KEEDS	TDIDDING I	DEVKED				
	11:38PM	H-2 BACK		NO AGENT	TO THAT E	JI4113 - A 3	IDL AUGL	KELFS	INFFINGE	REAKER				
	11:45PM			ENTIALS OF	JT TOP - IN	ST BLEW B	ACK DIFF	ERENTIAL	S - STILL OL	JT TOP - GO	T OK FRO	M ACES TO PE	EAK 'B' MILL	
	NOTE			1 'B' MILL - I										
/8/2014				L/M, T. WE	STL/M & J	GLASSCO	- COMING	SIN						
		OIL FIRE		1 BOILER				-	-					
	1:00AM	J. GLASS		OOD FOR 1	100 I BS D	DUM								
	2:01AM						S A BAD I	DRIVE - NO	NE IN STO	CK - HE IS I	FAVING			
	4:02AM			OOD FOR N										
	4:00AM	D. FELTY	LEAVING											
	7:15AM		BOTH MIL											
	7:30AM	COMING	OUT OF AL	OS ON BOT	HMPL UN	IIIS PER A	CES							
8/2014	8:00AM			FIN, BOW		AN, ALEX	ANDER,	WADLING	STON, KU	RZ		C SHIFT	PAYNE	
			N, ONAN, G	OODMAN, UNIT CAP		201	CO2	NOV	ODAGITY	DEMOVAL	DUCT		DAGK BREGGURE	
			47	48	42	4.57	10.3	NOX 0.386	10.2	REMOVAL	0051	AMM. FLOW	BACK PRESSURE	CTL 17'6"
					-	1.0.21								PWTL / 27'
		H1	85	85	75	0.08	6.6	0.356	14	98.3	6.75	OUT	2.2	
		H2	155	155	152	0.323	10.7	OUT 0.39	23.4	93.7	10.71	C	3.8	CTL 14.9'
						Mark.		OUT				C		
		CT	ON STAND	JR A	59									
		ALARMS:												
		ALAKINO.	VOLTACE	REG										
		R1	VOLTAGE		AITIOTT ABI	SEAL LOW	V PRESSU	RE/E.H. S	TART REQU	JIRED/DRUM	TRANS/	C.T. LEVEL/A 8	B PA FAN MOTOR	B BFP AUX OIL
		R1 H1	BURNER		NI/STEAM	SEAL LOV								
		R1 H1 H2	BURNER I	EVEL HI	NI/STEAM	SEAL LOV								
		R1 H1 H2 SOOT BL	BURNER I EH RES L	EVEL HI	NI/STEAN	I SEAL LOV			GLASSES				DRYING AGENT	
		R1 H1 H2 SOOT BL R1 22L	BURNER I EH RES L OWERS TA	EVEL HI	NI/STEAM	I SEAL LOV		GAUGE (	GLASSES				R1-0%	
		R1 H1 H2 SOOT BL	BURNER I EH RES L OWERS TA ,22R 31,33,44	EVEL HI	NI/STEAM	TOLAL LOV			GLASSES					
		R1 H1 H2 SOOT BL R1 22L H1 30,3	BURNER I EH RES L OWERS TA ,22R 31,33,44 39,41,42	EVEL HI	NORTH	SOUTH			GLASSES		SILO LVL		R1-0% H1 0%	





# **Forced Outage Report**

### **Estimated Outage Cost**

Titan - coal leak repairs and inspections

Labor

\$4,760

Material

\$241.17

Total

\$5001.17

#### **Lost Sales Opportunity Report**

# FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Reid 1 - R1-14-11	Produ	uction Co	st
Date & Time Off Line	7/7/14 3:43	MW		\$/MW
Date & Time On Line	7/7/14 20:33	20	\$	31.27
Outage Duration	16 hr. 50 min.	35	\$	29.99
Outage Code	UO2	45	\$	29.45
Outage Reason	Unit removed from service to inspect A mill - unplug A-1 coal pipe			

Date	DA LN	IP Average	RT LMP Average		D	ART P&L	ost rtunity
7/7/14 (HE 4-24)	\$	40.08	\$	50.47	\$	(18,386)	\$ -
7/8/14 (HE 1-5)	\$	25.19	\$	23.14	\$	(269)	\$ -
Total					\$	(18,655)	\$

Start Up Fu	el Cost		Total Forced	Total Forced Outage Cost				
S/U Fuel Consumed		6,352	DART P&L	\$	(18,655)			
S/U Fuel Price	\$	3.17	Lost Opportunity	\$	-			
S/U Fuel Cost	\$	(20,152)	S/U Fuel Cost	\$	(20,152)			
			Total	\$	(38,807)			

		_	_	_	
N	0	т	E	C	

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





To: Jim Garrett

From: Billy Boarman

Date: 7-Jul-2014

Plant: Reid Station Unit: 1 GADS Class: UO3/UO0

Duration

Trip Time: 30-Jun-2014 15:37 Placed on 12-Hour Standby: 2-Jul-2014 23:00

Offline UO3: 26:06 Offline UO0: 28:57 Total Time Offline: 55:03

#### **Outage Description**

Reid Station Unit 1 was removed from service on Monday, 30-Jun-2014 at 15:37 due to a possible fire in 'B1' Coal Pipe. The coal pipe was cleared and a fire was established for start-up on Tuesday, 1-Jul-2014 at 10:03. The outage classification was changed to a starting failure (UO0) at 18:03 when the unit did not return to service within the allotted timeframe due to trouble with the turning gear. The unit was placed on 12-hr reserve stand-by on Wednesday, 2-Jul-2014 at 23:00.

#### **Root Cause**

"B" Mill became unstable and had to be removed from service. When it was placed back into service apparently hot coal got stuck in the horizontal run on 'B1' coal pipe allowing the pipe to get excessively hot.





# **Forced Outage Report**

#### **Failure History**

On 28-Jul-2012 R1 "B" mill was tripped due to a fire in the outlet. The unit then tripped due to loss of flame.

#### **Corrective Action**

Removed both "B" Mill burner spinners for inspection and both were badly burned up. Maintenance replaced both "B" burner spinners. Maintenance opened the doors on "B" Mill, PA duct, classifier, reject chute door, riffle box access doors under the coal valves, mill inlet and outlet doors, and the access door to the hot and cold air dampers for inspection. Found the hot air damper was only closing about 40% due to binding on the drive side. Disassembled the damper and cleaned out the bushing assembly, lubricated the shaft and bushings, re-connected and test stroked the damper. The damper is now opening and closing 100%. Cycled it two times and it worked the same both times. Cut a window in the "B1" coal pipe on second floor and found burning coal in the bottom of the pipe. Operations washed out the coal pipe from the burner end and got the pipe clean. Found some very hot coal in the outlet end of the mill. Operations cleaned out and washed the classifier and the outlet of end the mill. All smoking embers and hot coal was removed.

### Other Work Completed While Unit Was Offline

- · Replaced "A1" burner spinner
- · Replaced "B" Coal feeder belt
- · Performed boiler hydro, no leaks were discovered
- · Replaced Superheat Spray Regulator control valve
- Calibrated Feed water control valve



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Found the turbine turning gear drive was malfunctioning and not engaging properly. The turning gear assembly was removed from the front standard and transported to the Central Machine Shop for disassembly and inspection. The inner flange had eight 1/4"-20 bolts broken off and the pieces were jamming up in the bottom of the unit. All burrs were removed and the bolts were replaced. The unit was reassembled with new fasteners and thread-lock. The unit was transported back to the plant, re-installed, and tested. Test run was successful.





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# **Operators Event Log**

3/30/2014						110,0017		,,		ONAN				
		UNIT R1	LOAD 19	UNIT CAP	NET CAP.		CO2	NOX		REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		KI	19	40	42	4.463	6.3	0.502	3.5				2.44	CTL 18'
		H1	161	165	153	0.388	10.6	0.058	28	97	9.31	237	3.5	
		H2	159	165	152	1.174	10.8	0.062	45.2	79.9	10.12	C 235	3.9	CTL 15.2°
		СТ	ON STAND	DBY	56							С		
		ALARMS												
			VOLTAGE	REG			-							
		H1		MANAGEME LEVEL HI. G			V PRESSU	RE/E.H. S	TART REQU	JIRED/DRUM	M TRANS/ C	T. LEVEL/A	B PA FAN MOTO	R/B BFP AUX OIL
		H2	EHRESI	LEVEL HI, G	EN. MAIN S	TEPUP								
		SOOT BL R1 22L,2	OWERS T	AGGED				GAUGE OK	GLASSES		PWTL / 26	*	DRYING AGENT R1-0%	
		H1 27,30	,31,33,43,4	14				OK					H1 0%	
		H2 37,41	,42										H2-0%	
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	M
		LEVELS	6' 2 3/4"	10' 2"	14'9 5/8"	6 1/2"					11.8'		BSI	
	8:00AM		BRIEFING	TOLIONS				1						
	8:00AM 8:00AM	R-1 B MIL	FUEL OIL	IRUCKS				-						
	8:10AM 8:15AM			MP PRESSU		S TO BE 35	0 TO STA	RT MILL M	AINT TRYIN	G TO BRING	PRESSUR	E UP		
	8:55AM	MAINT CO	DULD NOT	GET ANY N	ORE PRES							DOWN TO BE		
	NOTE 2:40PM			PE STILL H				DOWN TO	PUT MILL	ON LIFT PUN	MP PRESS	JRE LOWERE	D SO MILL WILL	START
	2:50PM			FOR AUX			ANG ON							
	3:30PM 3:26PM			LLED IN SIC SHUTTING U		IIGHT	-	-	-					
3	3:57PM	TRIPPED	R-1 TURBI	NE OIL OUT		2								
	3:02PM 3:17PM	R-1 FD FA		SOTTLED BO	DILER		-	-	-					
	4:40PM	R-1 TURB	INE WONT	GO ON GE	AR CALLED		ELECT E	ECT TOK	TO TRY B	YPASS SW	ITCH WHIC	H AUX ALREA	DY TRIED AGAIN	
		NO HELP	CALLED	ELECT BACK	WILL BE I	N								
	5:15PM	TRIED PL	JTTING DC	OIL PUMP	ON ON R-1 I	NO HELP T	RIED PUT	TING OTHE	RACOLP	UMP ON NO	HELP TRI	ED A TWO INC	CH STRAP BROKE	STRAP
	5:15PM		ITTING DC		ON ON R-1 I	NO HELP T	RIED PUT	TING OTHE	R AC OIL P	UMP ON NO	HELP TRI	ED A TWO INC	CH STRAP BROKE	STRAP
	5:15PM 8:00PM	TRING AN	NOTHER ST	TRAP										
		MORRIS	NOTHER ST S, DENTO LOAD	TRAP ON SICK, F		S, GATTO			ARDS, TAT	E, CALHO	oun,	D SHIFT	PAYNE,STERLIN BACK PRESSUR	G
		TRING AN	OTHER ST	TRAP ON SICK, F	REYNOLDS	S, GATTO	N, BAKE	R-, EDW	ARDS, TAT	E, CALHO	oun,	D SHIFT	PAYNE,STERLIN	G
		MORRIS	NOTHER ST S, DENTO LOAD	TRAP ON SICK, F	REYNOLDS	S, GATTO	N, BAKE	R-, EDW	ARDS, TAT	E, CALHO	oun,	D SHIFT	PAYNE,STERLIN	G
		MORRIS UNIT R1	S, DENTO LOAD OFF	ON SICK, F UNIT CAP	REYNOLDS NET CAP.	S, GATTO SO2	N, BAKE	R-, EDW/ NOX	ARDS, TAT	E, CALHO REMOVAL	DUN, DUST	D SHIFT AMM. FLOW	PAYNE,STERLIN BACK PRESSUR	G
		MORRIS UNIT R1 H1	S, DENTO LOAD OFF	ON SICK, F UNIT CAP	REYNOLDS NET CAP.	S, GATTO SO2 0.66	N, BAKE CO2 10.8 10.9	R-, EDW/ NOX 0.055	ARDS, TAT OPACITY	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLIN BACK PRESSUR 3.8	G
		MORRIS UNIT R1 H1 H2 CT	S, DENTO LOAD OFF 160	ON SICK, F UNIT CAP	REYNOLDS NET CAP.	S, GATTO SO2	N, BAKE CO2 10.8 10.9	R-, EDW/ NOX 0.055	ARDS, TAT OPACITY	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLIN BACK PRESSUR 3.8	G
		MORRIS UNIT R1 H1	S, DENTO LOAD OFF 160	ON SICK, F UNIT CAP	NET CAP.	5, GATTO SO2 0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	R-, EDW/ NOX 0.055	ARDS, TAT OPACITY	E, CALHO REMOVAL	DUN, DUST 7.61	D SHIFT AMM. FLOW 226	PAYNE,STERLIN BACK PRESSUR 3.8	G
		MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1	NOTHER ST	IRAP  ON SICK, F  UNIT CAP  165  165  SEARBOX O  MANAGEME	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	R-, EDW/ NOX 0.055 0.77	ARDS, TAT OPACITY 18.8 31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226	PAYNE, STERLIN BACK PRESSUR 3.8 4.4	G
		MORRIS UNIT R1 H1 H2 CT ALARMS. R1 H1 H2	NOTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR 3.8 4.4	G
		TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL	OTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TAT OPACITY 18.8 31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR 3.8 4.4	G
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27	NOTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8 4.4  . IAINT  DRYING AGENT R1-0%	G
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27	OTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  .  MAINT  DRYING AGENT R1-0%	G
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27	NOTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27	NOTHER ST	DN SICK, FUNIT CAP  165  165  SEARBOX O MANAGEMELEVEL HI	NET CAP.  153  152	0.66 1.394 ON STANE	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  MAINT  DRYING AGENT R1-0% H1-0% H2-0%	G E
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4	OTHER STATES OF THE STATES OF	IRAP  N SICK, F UNIT CAP  165  165  165  MANAGEME  LEVEL HI  AGGED  HMPL	NET CAP.  153  152  IL TEMP HIGHNOCENT/STEAM	S, GATTO SO2 0.66 1.394 ON STANE SH SEAL LOV	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
		TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4	NOTHER ST	IRAP  N SICK, F UNIT CAP  165  165  165  MANAGEME  LEVEL HI  AGGED  HMPL	NET CAP.  153  152  IL TEMP HICENT/STEAM	S, GATTO SO2 0.66 1.394 ON STANE SH SEAL LOV	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
330/2014	8:00PM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4 SAFETY SAFETY	NOTHER STATES OF THE STATES OF	IRAP  N SICK, F UNIT CAP  165  165  165  MANAGEME  LEVEL HI  AGGED  HMPL  10'	NORTH	SOUTH 6 1/2"	N, BAKE CO2 10.8 10.9	NOX 0.055 0.77	ARDS, TATOPACITY  18.8  31	E, CALHO REMOVAL 88 73	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
330/2014	8:00PM 8:00PM 8:15PM 9:20PM	MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,	OTHER STATE OF THE	IRAP  N SICK, F UNIT CAP  165  165  165  SEARBOX O MANAGEME LEVEL HI AGGED  HMPL  10'  R TAGGED  TIFF TO CO	NORTH 14'9 5/8"  TO CHANGME IN AT 3:	SOUTH 6 1/2"  E BELT 00AM TO C	N, BAKE CO2 10.8 10.9 DBY V PRESSU	R-, EDW/ NOX 0.055 0.77 RE/E.H. P GAUGE OK	18.8 31  RESSURE  GLASSES	E, CALHO REMOVAL  88  73  CO START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
330/2014	8:00PM 8:00PM 8:15PM 9:20PM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS-R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,	NOTHER STATE OF THE PROPERTY O	IRAP  IN SICK, F UNIT CAP  165  165  165  165  AMANAGEMELEVEL HI  AGGED  HMPL  10'  R TAGGECT  TIFF TO CO BACK AND	NORTH 14'9 5/8"  TO CHANGME IN AT 3:	SOUTH 6 1/2"  E BELT 00AM TO C	N, BAKE CO2 10.8 10.9 DBY V PRESSU	R-, EDW/ NOX 0.055 0.77 RE/E.H. P GAUGE OK	18.8 31  RESSURE  GLASSES	E, CALHO REMOVAL  88  73  CO START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
330/2014	8:00PM 8:00PM 8:15PM 9:20PM 9:20PM 11:15PM	TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,	S, DENTO LOAD OFF 160 160 160 160 160 160 160 160 160 160	IRAP  IN SICK, F UNIT CAP  165  165  165  165  MANAGEME LEVEL HI  AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AND OAL PIPE F	NORTH 14'9 5/8" TO CHANG ME IN AT 3: LEFT MESS	SOUTH 6 1/2"  BE BELT 00AM TO CAGE ON MIER. HAVE	N, BAKE CO2 10.8 10.9 DBY V PRESSU  ALIBRATE ACHINE.	R-, EDW/ NOX 0.055 0.77 RE/E.H. P GAUGE OK	18.8 31  RESSURE  GLASSES  S HE WILL DED AT THIS D WILL BE F	E, CALHO REMOVAL  88  73  O START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
330/2014	8:00PM 8:00PM 8:15PM 9:20PM 9:20PM 11:15PM	TRING AM MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,	S, DENTO LOAD OFF 160 160 160 160 160 160 160 160 160 160	IRAP  IN SICK, F UNIT CAP  165  165  165  165  MANAGEME LEVEL HI AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR	NORTH 14'9 5/8" TO CHANG ME IN AT 3: LEFT MESS	SOUTH 6 1/2"  BE BELT 00AM TO CAGE ON MIER. HAVE	N, BAKE CO2 10.8 10.9 DBY V PRESSU  ALIBRATE ACHINE.	R-, EDW/ NOX 0.055 0.77 RE/E.H. P GAUGE OK	18.8 31  RESSURE  GLASSES  S HE WILL DED AT THIS D WILL BE F	E, CALHO REMOVAL  88  73  O START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
	8:00PM 8:00PM 8:15PM 9:20PM 9:28PM 11:15PM 11:30PM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41, FUEL OIL LEVELS SAFETY R1 B CO (ALLED ) A. YOUNG R1 TURBIN WISHED TITAN CU	OTHER STANDARD AND ADDRESS TO A STANDARD AND A STANDARD A STANDARD AND A STANDARD	IRAP  IN SICK, F UNIT CAP  165  165  165  165  MANAGEME  LEVEL HI  AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR  OOAL PIPE F V OUT OF B	NORTH 14'9 5/8"  TO CHANGME IN AT 3: LEFT MESS  ROM BURN 2 COAL PIP  JCT DOOR 1	SOUTH 6 1/2"  E BELT DOAM TO CAGE ON MIER. HAVE E ABOVE OFF TO B I	N, BAKE CO2  10.8  10.9  DBY  V PRESSU  ALIBRATE ACHINE.  SPINNER COAL VAL	R-, EDW/NOX  0.055  0.77  RE/E H. P  GAUGE OK  FEEDER: NOT NEEL SPULLET	RESSURE  S HE WILL DED AT THIS  WILL BE F  ED OUT	E, CALHO REMOVAL  88  73  O START F	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
/30/2014	8:00PM 8:00PM 8:15PM 9:20PM 9:20PM 11:15PM 11:30PM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41, H1 27 H2 41, H1 27 H2 41, H1 12 FUEL OIL LEVELS SAFETY IR1 B CO CALLED IA YOUNG R1 TURBIN WASHED TITAN CU TITAN TAI R1 B MIL	NOTHER ST	IRAP  IN SICK, F UNIT CAP  165  165  165  165  MANAGEME LEVEL HI AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR OAL PIPE F V OUT OF B	NORTH 14'9 5/8"  TO CHANGE IN AT 3: LEFT MESS: 2 COAL PIPIL JUST DOOR 1 KING MA	SOUTH 6 1/2"  E BELT 000M TO CAGE AGE ON WIER. HAVE E ABOVE OFF TO B INT. CHANGE	N, BAKE CO2  10.8  10.9  DBY  V PRESSU  V PRESSU  I CALIBRATE ACHINE COAL VAL  MILL.  SING OUT	R-, EDW/ NOX 0.055 0.77 0.77 RE/E.H. P GAUGE OK	RDS, TATOPACITY  18.8  31  RESSURE  GLASSES  S HE WILL  DED AT THIS  D WILL BE F  ED OUT  EDER BELT	BE IN. S TIME	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
	8:00PM 8:00PM 8:15PM 9:20PM 9:28PM 11:30PM 11:30PM 12:30AM 2:30AM 2:30AM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL R1 22L H1 27 H2 41, FUEL OIL LEVELS SAFETY R1 B CO (ALLED ) A. YOUNG R1 TURBING CULTAN TAI R1 B MIL MAINT. H WORKIND.	OTHER ST	IRAP  IN SICK, F UNIT CAP  165  165  165  165  165  IRAPANAGEME  IRAPA	NORTH 14'9 5/8"  TO CHANG ME IN AT 3: LEFT MESS  ROM BURN 2 COAL PIP  JCT DOOR 1 OKING MA 10 COLD AIR	SOUTH 6 1/2"  E BELT DOAM TO CAGE ON WIER. HAVE E ABOVE OFF TO B INT. CHANK	N, BAKE CO2  10.8  10.9  DBY  V PRESSU  V PRESSU  I CALIBRATE ACHINE COAL VAL  MILL.  SING OUT	R-, EDW/ NOX 0.055 0.77 0.77 RE/E.H. P GAUGE OK	RDS, TATOPACITY  18.8  31  RESSURE  GLASSES  S HE WILL  DED AT THIS  D WILL BE F  ED OUT  EDER BELT	BE IN. S TIME	OUN, DUST 7.61 16.91	D SHIFT AMM. FLOW 226 236	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E
	8:00PM 8:00PM 8:15PM 9:20PM 9:28PM 11:30PM 11:30PM 12:30AM 2:30AM	TRING AN MORRIS UNIT R1 H1 H2 CT ALARMS: R1 H1 H2 SOOT BL R1 22L H1 27 H2 41,4 FUEL OIL LEVELS SAFETY IR R1 BCO CALLED ITAN CU TITAN TAI R1 B MIL MAINT. H WORKING IDEPT HE OVER RC OVER RC OVER RC	OTHER ST S, DENTO LOAD OFF 160 160 160 160 160 160 160 160 160 160	IRAP  IN SICK, F UNIT CAP  165  165  165  165  165  MANAGEME LEVEL HI AGGED  HMPL  10'  R TAGGED  TIFF TO CO BACK AND AR OAL PIPE F V OUT OF B  LARY AIR DIO DIAL HOT AN NINING OUT LIBRATE RI COAL PIPE	NORTH 14'9 5/8"  TO CHANG ME IN AT 3: LEFT MESS FROM BURN 2 COAL PIP JCT DOOR AKING MA D COLD AIR IN WITHOUT TO LET W. BETO LET W. BETO LET TO LET W. BETO LET TO LET W. BETO LET TO LET TO LET W. BETO LET TO LET W. BETO LET TO LET W. BETO LET TO LET TO LET W. BETO LET TO LET	SOUTH SEAL LOV SOUTH 6 1/2" E BELT BOAM TO CAGE ON MIER. HAVE E ABOVE OFF TO B INT. CHANCE TO THE TOWN	N, BAKE CO2  10.8  10.9  DBY  V PRESSL  V PRESSL  ALIBRATE ACHINE.  E SPINNER COAL VAL  MILL.  SING OUT THA	R-, EDW/ NOX  0.055  0.77  GAUGE OK  FEEDER: NOT NEED SPULLET VE WASH	RDS, TATOPACITY  18.8  31  RESSURE  GLASSES  S HE WILL DED AT THIS D WILL BE FED OUT  EDER BELTOORKING PET IN COAL FET IN COAL	BE IN. B TIME EPLACED. COPERLY.	PUN, DUST  7.61  16.91  REQUIRED/	D SHIFT AMM. FLOW 226 236 DRUMXMTR N	PAYNE, STERLIN BACK PRESSUR  3.8  4.4  . MAINT  DRYING AGENT R1-0% H2-0% BOOTHE SYSTE	G E





Your Touchstone Energy Cooperative

	BREEDE													
	UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E	
	R1		48	42									CTL 18'	-
	H1	150	105	450	0.677	40.7					_			
	HI	159	165	153	0.577	10.7	0.055	30.7	89.1	7.97	250	3.6		
	H2	161	165	152	1.009	44	0.070	22.5	0.4	10.15	С			
	114	101	103	102	1.009	11	0.078	22.5	81	10.15	216	4	CTL 15.5'	
	CT	ON STAND	DRY	56				-			С			
		0.1.0.7.4.6		00										
	ALARMS	3:		-		-								
	R1	VOLTAGE	REG				-	-						
	H1			ENT/STEAM	SEAL LOV	V PRESSU	RE/E.H. S	TART REQU	JIRED/DRUM	M TRANS/	CT LEVEL/A	B PA FAN MOTO	R/B REP ALIX OIL	
	H2	EH RES L	EVEL HI, G	SEN. MAIN	STEPUP					110 1110	J. I. EL TEDA	DIATAN MOTO	TO BIT ADA DIE	
	SOOT B	LOWERS T	AGGED				GAUGE C	SLASSES		PWTL / 27	7'	DRYING AGENT		
	R1 22L						OK					R1-0%		
	H1 30,3	O STATE OF THE PARTY OF THE PAR										H1 0%		
	H2 37,3	9,41,42										H2-0%		
	FUEL OI		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM	М	
	LEVELS	5'11 1/2"	9' 11 3/4	15'6 7/8"	6 1/2"					16.6'		BSO		
8-0044	CAFETY	PRIEFING						-						
8:00AM 8:00AM		BRIEFING	LID TO VA	CUIUM MICC	V E DUDNE	D DEOK 1	DE 4							
8:00AM 8:20AM		K SETTING				N DECK A	NEA.							
8:25AM		ING TAGGS												
9:00AM		BOTTOM F		- OETHING	OF SAME									
9:10AM		T BLOWING		BACK IN										
9:18AM	R-1 FD F							-						
9:33AM		COMPLETE											*	
		E DID NOT	OIL FIRE IN	BOILER										
10:03AM	FIRES IN	R-1 BOILE	3											
		RE IN R-1 B												
		R-1 BOILE												
		OF R-1 BOI	LER											
	R-1 FD F													
12:00PM		TH AIR CO				RTED LOS	T WATER 1	TO SLUICE	DI MADE ET					
										RAINER LE	FICLOSED			
					2 B AUX AIR		ATER PUM	IP SEAL LE	AKING					
NOTE	WHEN A	AIR COMP	TRIPPED C	OFF B WOU	ILD NOT AU	TO START	ATER PUN (MAIN DRI	IP SEAL LE	AKING		) ELECT CHEC	CKING SAME		
NOTE	WHEN A	AIR COMP	TRIPPED O	OFF B WOU	ILD NOT AU	TO START	ATER PUN (MAIN DRI	IP SEAL LE	AKING			CKING SAME		
NOTE 12:45PM	WHEN A HAD RUI DEBUSK	AIR COMP NOUT OF S GOING HO	TRIPPED O TARTS WIL DME	L HAVE TO	WAIT TO C	TO START	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	AKING TURBINE F	FAULT TRIP	) ELECT CHEC	CKING SAME		
NOTE 12:45PM NOTE	WHEN A HAD RUI DEBUSK STOP BI	AIR COMP NOUT OF S GOING HO JTTON ON F	TRIPPED O TARTS WIL DME RENTAL AIR	DFF B WOU LL HAVE TO R COMP LEA	WAIT TO C	TO START	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	AKING TURBINE F	FAULT TRIP	) ELECT CHEC	CKING SAME		
NOTE 12:45PM NOTE 1:35PM	WHEN A HAD RUI DEBUSK STOP BI C ASH S	AIR COMP NOUT OF S GOING HO JTTON ON F LUICE PUM	TRIPPED O TARTS WIL DME RENTAL AIR P TAGGED	OFF B WOU LL HAVE TO R COMP LEA	WAIT TO C	TO START	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	AKING TURBINE F	FAULT TRIP	) ELECT CHEC	KING SAME		
NOTE 12:45PM NOTE 1:35PM 1:47PM	WHEN A HAD RUI DEBUSK STOP BI C ASH S BACKW	AIR COMP NOUT OF S GOING HO JITTON ON F LUICE PUM ASHING 1 3	TRIPPED O TARTS WIL DME RENTAL AIR P TAGGED SIDE R-1	DFF B WOU L HAVE TO R COMP LEA COND	ILD NOT AU WAIT TO C	TO START CHECK OU	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	EAKING TURBINE F	FAULT TRIP	) ELECT CHEC		INING WILL HIPT CODE OF	
NOTE  12:45PM  NOTE  1:35PM  1:47PM  NOTE	WHEN A HAD RUI DEBUSK STOP BU C ASH S BACKW GREEN	AIR COMP NOUT OF S GOING HO JITON ON F LUICE PUM ASHING 1 3 PUTIN A LO	TRIPPED OF TARTS WILL OME RENTAL AIR P TAGGED SIDE R-1	COND S SHOULD H	ILD NOT AU WAIT TO C	TO START CHECK OU	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	EAKING TURBINE F	FAULT TRIP	) ELECT CHEC		INING WILL HURT SCRUBBING	-
NOTE 12:45PM NOTE 1:35PM 1:47PM NOTE 3:45PM	WHEN A HAD RUI DEBUSK STOP BU C ASH S BACKW GREEN SETTING	AIR COMP NOUT OF S GOING HO JITON ON F LUICE PUM ASHING 1 3 PUTIN A LO. FR-1 BOILE	TRIPPED OF TARTS WILL DIME RENTAL AIR P TAGGED SIDE R-1 AD OF SBS	COND S SHOULD H	WAIT TO C	TO START CHECK OU POSITION SCRUBBIN	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	EAKING TURBINE F	FAULT TRIP	) ELECT CHEC		INING WILL HURT SCRUBBING	-
NOTE 12:45PM NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE	WHEN A HAD RUI DEBUSK STOP BU C ASH S BACKW GREEN SETTING B AIR CO	AIR COMP N OUT OF S GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO. R-1 BOILE DMP WILL R	TRIPPED OF TARTS WILL DIME RENTAL AIR PAGGED SIDE R-1 AD OF SBS R FOR HYD UN NOW A	DFF B WOULL HAVE TO R COMP LEAD COND S SHOULD HORO	WAIT TO C	TO START CHECK OU POSITION SCRUBBIN	ATER PUM (MAIN DRI T	IP SEAL LE VE MOTOR	EAKING TURBINE F	FAULT TRIP	) ELECT CHEC		INING WILL HURT SCRUBBING	
NOTE 12:45PM NOTE 1:35PM 1:47PM NOTE 3:45PM NOTE 4:25PM	WHEN A HAD RUI DEBUSK STOP BU C ASH S BACKW GREEN SETTING B AIR CC R-1 FD F	AIR COMP NOUT OF S GOING HO JITTON ON F LUICE PUM ASHING 1 3 PUTIN A LO FR-1 BOILEI DMP WILL R ANS ON TO	TRIPPED OF TARTS WILL OF TARTS	COMP LEAD COND SHOULD HORO	WAIT TO C AVE IN THE HELP WITH	POSITION SCRUBBIN	ATER PUM (MAIN DRI T I IT IS NOW IG BUT TO	IP SEAL LE VE MOTOR  / AND IT WI  MORROW I	EAKING TURBINE F	FAULT TRIP	) ELECT CHEC		INING WILL HURT SCRUBBING	
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	rce	u	Ju	cue	$\sim$ .	10						1041	Touchstone Energy*	_
1/2014	8:00PM	SAFETY	BREIFING											
	8:05PM		SAFETY											
	9:30PM			NT STAGE										
	11:00PM	SWAPPE	DOVER	о в аммо	NIA TANK.	A IANK OL	JI OF SER	VICE.		-				
2014	1:15AM	ELECT H	AS BREAK	KER CHANG	ED OUT IN	C ASH SIL	IICE PLIMP	PLIMPIS	RUNNING					
	2:00AM		T TO HYDE				NOL I OIIII	T OWN 10	NOTHING.					
	6:00AM	R-1 CON	DENSER B	ACK TO NO	RMAL									
	7:18AM	R-1 F.D.	FANS OFF											
2/2014	8:00AM			BREEDEN,		, CUTSHA	AW, BLAN	KS, YOU	NG			<b>B SHIFT</b>	PENDLEY	
				PAYNE VAC										
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	
		R1	OFF				-	-						CTL 17'
		H1	160	165	153	0.436	10.7	0.057	24.6	96%	9.27	223	3.4	
			,	1020	1		10.11	0.001	21.0	0070	0.21	220	5.4	
		H2	160	165	152	1.048	10.8	0.079	13.2	81%	15.4	192	3.5	CTL 14.7'
		CT	ON STAN	DBY	56									
		ALARMS												
		R1	VOLTAGE	REG	-		-	-	-					
	-	H1			NT/STEAM	SEALLOV	V PRESSU	RE/E H S	TART REOL	JIRED/DRUM	A TRANS/ C	T LEVEL/A	R PA FAN MOTO	OR/B BFP AUX OIL
		H2		LEVEL HI, G			1112000	T.E.F.		JII (ED/DITO)	110 (140)	. I. LLVLDA	AD I A I AIV INO IC	NO BIT AONOIL
			OWERS T	AGGED				GAUGE C	SLASSES		PWTL / 26		DRYING AGENT	
			_,22R					OK					R1-0%	
			30,31,33,43	3,44									H1 0%	
		H2 37,	41,42										H2-0%	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	M
			11' 1/2"		15' 11 1/2"		1				12FT		IN	.141
/2/2014	8:00AM		BRIEFING											
	8:00AM			QUEEZE BO										
	8:00AM			AGGED OU										
	8:03AM 8:45AM		OFF - 1050	ER TO FIRIN	IG LEVEL									
	9:30AM		ER SET TO		O LLVLL									
	9:37AM			AUSTER TRI	PPED - WIL	L NOT RES	START - PU	T 'B' ON - I	SSUED W/	0				
	9:15AM	R-1 TURE	INE OFF	BEAR - TAG	GED TURNI	NG GEAR								
	9:45AM				- TURNED	3 WAY VA	LVE 1/4 TU	JRN COUN	TER CLOCK	KWISE - HAI	NDLE TO TH	HE 3 O'CLOCK	POSITION	
	10:11AM	R-1 F.D.	FANS OFF											
		DOMESTO	AOCHT ALL		DIVINIO 01									
	NOTE 2:30PM			GER IS WO		ERLOADS	WERE TRI	IPPED						
	2:30PM	MAINT R	ELEASED	GER IS WO R-1 WETBO	ТТОМ		T	I						
		MAINT RI PUT 'A' A	ELEASED IR DRYER	GER IS WO	TTOM - DEW PO	INT UP TO	57 DEGRE	I						
	2:30PM 3:00PM	MAINT RI PUT 'A' A MAINT IN	ELEASED IR DRYER STALLED	IGER IS WO R-1 WETBO IN SERVICE	TTOM - DEW PO ERHEAT RI	INT UP TO	57 DEGRE	I						
	2:30PM 3:00PM NOTE 4:00PM 5:45PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL	ELEASED IR DRYER STALLED DEN LEAVI BACK ON	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII	TTOM E - DEW PO ERHEAT RI VACATION	INT UP TO EGULATOR	57 DEGRE ON R-1	ES ON 'B'	OFF - INST	RUMENT CH	HECKING			
	2:30PM 3:00PM NOTE 4:00PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL	ELEASED IR DRYER STALLED DEN LEAVI	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBII	TTOM E - DEW PO ERHEAT RI VACATION	INT UP TO EGULATOR	57 DEGRE ON R-1	ES ON 'B'	OFF - INST	RUMENT CH	HECKING			
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2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL R-1 TURE	ELEASED IR DRYER STALLED A DEN LEAVI L BACK ON BINE ON GI	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS N R-1 TURBIN EAR -	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LL  FFIN,BOW	INT UP TO EGULATOR JBE OIL PU	57 DEGRE ON R-1 IMP WILL N	ES ON 'B' NOT SHUT	,WADLING	STON,KUF	RZ			DE .
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL R-1 TURE EDMON	ELEASED IR DRYER STALLED DEN LEAVE BACK ON BINE ON GE	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS N R-1 TURBIN EAR -	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LL  FFIN,BOW NET CAP.	INT UP TO EGULATOR  JBE OIL PU  LEY, HOE	57 DEGRE ON R-1 IMP WILL N	ES ON 'B'	,WADLING	STON,KUF	RZ		BACK PRESSUR	
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL R-1 TURE	ELEASED IR DRYER STALLED A DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBIN EAR - SON ,GRI UNIT CAP	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LL  FFIN,BOW	INT UP TO EGULATOR JBE OIL PU	57 DEGRE ON R-1 IMP WILL N	ES ON 'B' NOT SHUT	,WADLING	STON,KUF	RZ		BACK PRESSUR	RE CTU17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREET LUBE OIL R-1 TURE EDMON	ELEASED IR DRYER STALLED A DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD	GER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBIN EAR - SON ,GRI UNIT CAP	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LL  FFIN,BOW NET CAP.	INT UP TO EGULATOR  JBE OIL PU  LEY, HOE	57 DEGRE ON R-1 IMP WILL N	ES ON 'B' NOT SHUT	,WADLING	STON,KUF	RZ		BACK PRESSUR	
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1	ELEASED IR DRYER STALLED STALLED BACK ON BINE ON GI  LOAD OFF	IGER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS I R-1 TURBIN EAR -  (SON ,GRI UNIT CAP 50	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LL  FFIN,BOW  NET CAP. 42	JBE OIL PU  VLEY, HOO  SO2  12 HR STA	57 DEGRE ON R-1 JMP WILL N GAN ,ALE CO2 ANDBY	ES ON 'B' NOT SHUT XANDER NOX 0.065	OPACITY	GTON,KUF REMOVAL 87.1	DUST	AMM. FLOW 245/c	BACK PRESSUR	CTL/17.8¹
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1	ELEASED IR DRYER STALLED A DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD OFF	IGER IS WO R-1 WETBO IN SERVICE A NEW SUP ING - 4 HRS IN R-1 TURBIN EAR - IGON ,GRI UNIT CAP 50	TTOM  - DEW PO ERHEAT RI VACATION NE - D.C. LU FFIN,BOW NET CAP. 42	JBE OIL PU JBE OIL PU JLEY, HOO SO2 12 HR STA	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY	ES ON 'B' NOT SHUT	WADLING	STON,KUF	RZ	AMM. FLOW	BACK PRESSUR	
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREEEL LUBE OIL R-1 TURE EDMON UNIT R1 H1	ELEASED IR DRYER IR D	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- ING - 4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165	TOM - DEW PO ERHEAT RI VACATION VE - D.C. LL FFIN,BOW NET CAP. 42 153	INT UP TO EGULATOR UBE OIL PU  LEY, HOU SO2 12 HR STA 0.639 1.713	57 DEGRE R ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6	ES ON 'B' NOT SHUT XANDER NOX 0.065	OPACITY	GTON,KUF REMOVAL 87.1	DUST	AMM. FLOW 245/c	BACK PRESSUR	CTL/17.8'
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1	ELEASED IR DRYER STALLED STALLED BACK ON BINE ON GI  LOAD OFF	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- ING - 4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50  165	TOM - DEW PO ERHEAT RI VACATION VE - D.C. LL FFIN,BOW NET CAP. 42 153	JBE OIL PU  VLEY, HOO  SO2  12 HR STA	57 DEGRE R ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6	ES ON 'B' NOT SHUT XANDER NOX 0.065	OPACITY	GTON,KUF REMOVAL 87.1	DUST	AMM. FLOW 245/c	BACK PRESSUR	CTL/17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREET LUBE OIL R-1 TURE  EDMON UNIT R1 H1 H2 CT	ELEASED IR DRYER STALLED DEN LEAVU BACK ON BINE ON GI IDS, JACK LOAD OFF 162 160 69	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- ING - 4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165	TOM - DEW PO ERHEAT RI VACATION VE - D.C. LL FFIN,BOW NET CAP. 42 153	INT UP TO EGULATOR UBE OIL PU  LEY, HOU SO2 12 HR STA 0.639 1.713	57 DEGRE R ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6	ES ON 'B' NOT SHUT XANDER NOX 0.065	OPACITY	GTON,KUF REMOVAL 87.1	DUST	AMM. FLOW 245/c	BACK PRESSUR	CTL/17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT 'A' A MAINT IN L. BREEEL LUBE OIL R-1 TURE EDMON UNIT R1 H1	ELEASED IR DRYER STALLED DEN LEAVIDEN BACK ON BINE ON GI IDS, JACK LOAD OFF 162 160 65	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- ING - 4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165	TOM - DEW PO ERHEAT RI VACATION VE - D.C. LL FFIN,BOW NET CAP. 42 153	INT UP TO EGULATOR UBE OIL PU  LEY, HOU SO2 12 HR STA 0.639 1.713	57 DEGRE R ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6	ES ON 'B' NOT SHUT XANDER NOX 0.065	OPACITY	GTON,KUF REMOVAL 87.1	DUST	AMM. FLOW 245/c	BACK PRESSUR	CTL/17.8'
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT	ELEASED IR DRYER STALLED STALLED BACK ON BACK ON BACK ON BACK ON BACK LOAD OFF  162  160  6: DECS CO	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS IN R-1 TURBIN EAR -  (SON ,GRI UNIT CAP 50  165  165  566  MMMOM 300	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	WADLING OPACITY 20.1 23.3	REMOVAL 87.1 68.8	DUST 8.84 11.84	AMM. FLOW 245/c	3.1 3.5	CTL/17.8'
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREET LUBE OIL R-1 TURE EDMON UNIT R1 H2 CT	ELEASED IR DRYER STALLED DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD 162 160 69 : EDECS CO BURNER	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS IN R-1 TURBIN EAR -  (SON ,GRI UNIT CAP 50  165  165  566  MMMOM 300	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	WADLING OPACITY 20.1 23.3	REMOVAL 87.1 68.8	DUST 8.84 11.84	AMM. FLOW 245/c 244/c	3.1 3.5	CTL/17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2	ELEASED IR DRYER STALLED DEN LEAVI BACK ON BINE ON GI  IDS, JACK LOAD OFF  162  160  65  EDECS CO BURNER EH RES	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS I R-1 TURBIN EAR - SON ,GRI UNIT CAP 165 165 5 56 MMOM 300 MANAGEME	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	XANDER NOX 0.065 0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5	CTL/17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RI PUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL	ELEASED IR DRYER STALLED DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD OFF 162 160 60 EDECS CO BURNER EH RES COWERS T	GER IS WO R-1 WETBO IN SERVICE A NEW SUPPIN SERVICE A NEW SUPPIN SERVICE A HRS I R-1 TURBIN EAR -  CSON, GRI UNIT CAP 50 165 165 165 165 165 165 165 165 165 165	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	DUST 8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT	CTL/17.8'
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 16,,1	ELEASED IR DRYER STALLED DEN LEAVI BACK ON BINE ON GI IDS, JACK LOAD OFF  162  160  60  BURNER EH RES  COWERS T 9,28,29,30	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEME LEVEL HI AGGED ,31/22L	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	XANDER NOX 0.065 0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0%	CTL/17.8'
22/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL SOOT BL 1 16,11 H1 1-1	ELEASED IR DRYER STALLED OPEN LEAVING BACK ON BINE ON GI	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEME LEVEL HI AGGED ,31/22L	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0%	CTL 15.4'
22/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 16,,1	ELEASED IR DRYER STALLED OPEN LEAVING BACK ON BINE ON GI	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEME LEVEL HI AGGED ,31/22L	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2 12 HR STA  0.639  1.713  ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0%	CTL 15.4'
22/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 SOOT BL SOOT BL 1 16,11 H1 1-1	ELEASED IR DRYER STALLED JOEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LOAD OFF 162 160 69 160 160 160 160 160 160 160 160 160 160	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS I R-1 TURBIN EAR -  CSON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEME LEVEL HI AGGED ,31/22L	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153	INT UP TO EGULATOR JBE OIL PU JLEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANI	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0%	CTL/17.8'
2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 16,.1 H1 1-2 H2 41,4	ELEASED IR DRYER STALLED OPEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LOAD OFF 162 160 65 CO BURNER EHRES OWERS T 9,28,29,30 4 ,44 / 31,12/37,39 C.H.	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS I R-1 TURBIN EAR -  (SON ,GRI UNIT CAP 50  165  165  165  165  165  MMOM 300 MANAGEM LEVEL HI AGGED ,31/22L 33,39,44	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU  FFIN, BOW NET CAP. 42 153 152  NORTH	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2  12 HR STA  0.639  1.713  ON STANI  SEAL LOV	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	8.84 11.84 2EQUIRED/	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0%	CTL/17.8'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 16,, TH 1 1-2 H2 41,44 FUEL OIL LEVELS	ELEASED IR DRYER STALLED JOEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LOAD OFF 162 160 69 160 160 160 160 160 160 160 160 160 160	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS IN R-1 TURBIN EAR - SON ,GRI UNIT CAP 50 165 165 5 56 MMOM 300 MANAGEME LEVEL HI AGGEL 331,39,44 HMPL	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU  FFIN, BOW NET CAP. 42 153 152  ENT/STEAM	INT UP TO EGULATOR  JBE OIL PU  LEY, HOO  SO2  12 HR STA  0.639  1.713  ON STANI  SEAL LOV	57 DEGRE ON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07	OPACITY 20.1 23.3	REMOVAL 87.1 68.8	BEQUIRED/ SILO LVL	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	CTL 15.4'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL SOOT BL 16,,1 H1 1-2 H2 41,4 FUEL OIL LEVELS SAFETY	ELEASED IR DRYER STALLED OPEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LOAD OFF 162 160 65 CO BURNER EH RES OWERS T 9,28,29,304 4,44 / 31,12/37,39 C.H. 11' 1/2" BRIEFING	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG -4 HRS IN R-1 TURBIN EAR -  (SON , GRI UNIT CAP 50  165  165  165  5 56  MMOM 300 MANAGEME LEVEL HI AGGED 31/22L 33,39,44  HMPL 9° 9 1/4"	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153 152  NORTH 15' 11 1/2"	INT UP TO EGULATOR  JBE OIL PU  LEY, HOU  SO2 12 HR STA  0.639 1.713 ON STAND  SEAL LOV  SOUTH 6 3/4"	57 DEGRE CON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07  RE/E.H. Pl	WADLING OPACITY 20.1 23.3 RESSURE	REMOVAL 87.1 68.8	8.84 11.84 2. REQUIRED/ PWTL 26.0 SILO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	CTL 15.4'
//2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM	MAINT RIPUT'A' A MAINT IN L. BREET LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 16., TH1 H2 SOOT BL R1 16., TH1 H2 H1 1-2 H2 41, 4 FUEL OIL LEVELS SAFETY INST DEF	ELEASED IR DRYER STALLED OPEN LEAVIDEN LEAVID BACK ON BINE ON GITTER STALLED OFF 162 160 65 EDECS CO BURNER EH RES COWERS T 9, 28, 29, 30 4, 44 4 7 31, 12/37,39 C.H. 11' 1/2" BRIEFING PT WORKI	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- IN SERVICE A NEW SUP- IN SERVICE A HRS I R-1 TURBIN EAR -  CSON, GRI UNIT CAP 50  165  165  165  165  165  165  165	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153 152  NORTH 15' 11 1/2"	INT UP TO EGULATOR  JBE OIL PU  LEY, HOU  SO2 12 HR STA  0.639 1.713 ON STAND  SEAL LOV  SOUTH 6 3/4"	57 DEGRE CON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY	ES ON 'B'  NOT SHUT  XANDER  NOX  0.065  0.07  RE/E.H. Pl	WADLING OPACITY 20.1 23.3 RESSURE	REMOVAL 87.1 68.8	8.84 11.84 2. REQUIRED/ PWTL 26.0 SILO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	CTL 15.4'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL R1 16,, H1 1-2 H2 41,4 FUEL OIL LEVELS SAFT DE R1 TURB	ELEASED IR DRYER STALLED JOEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LEAVIDEN LOAD OFF 162 160 69 160 160 160 160 160 160 160 160 160 160	GER IS WO R-1 WETBO IN SERVICE A NEW SUP NG - 4 HRS I R-1 TURBIN EAR -  (SON , GRI UNIT CAP 50  165  165  165  5 56  MMOM 300 MANAGEM LEVEL HI AGGED ,31/22L 33,39,44  HMPL 9' 9 11/4"  NG ON R1 D EAR	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153 152 ENT/STEAM NORTH 15' 11 1/2" C L.O. PUM	INT UP TO EGULATOR JBE OIL PU JLEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANG SEAL LOV SOUTH 6 3/4"	57 DEGRE CON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY W PRESSU	XANDER NOX 0.065 0.07  GAUGE COK	WADLING OPACITY 20.1 23.3  RESSURE SLASSES	REMOVAL 87.1 68.8 LO START F	BLO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTEIN	CTL 15.4'
/2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8:00PM 8:00PM NOTE 10:30PM NOTE	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H2 SOOT BL SO	ELEASED IR DRYER STALLED / DEN LEAVIDEN LEAVID BACK ON BINE ON GINE ON	GER IS WO R-1 WETBO IN SERVICE A NEW SUPUR A NEW SUPUR A HRS I R-1 TURBIN EAR -  SON ,GRI UNIT CAP 50 165 165 165 165 165 165 165 165 165 165	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153 152 ENT/STEAM NORTH 15' 11 1/2" C L.O. PUM	INT UP TO EGULATOR JBE OIL PU JLEY, HOO SO2 12 HR ST/ 0.639 1.713 ON STANG SEAL LOV SOUTH 6 3/4"	57 DEGRE CON R-1 IMP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY W PRESSU	XANDER NOX 0.065 0.07  GAUGE COK	WADLING OPACITY 20.1 23.3  RESSURE SLASSES	REMOVAL 87.1 68.8 LO START F	BLO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTEIN	CTL 15.4'
//2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8;00PM 8;00PM NOTE 10;30PM 11:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 16,,1 H1 H2 LEVELS SAFETY INST DEFRI TURB TOOK L. R1 TURB TOOK L. R1 TURB TOOK L. R1 TURB	ELEASED IR DRYER STALLED OPEN LEAVING BACK ON BINE ON GINE OFF GO, OFF RINE ON GINE ON GINE OFF GO, OFF RINE ON GINE O	GER IS WO R-1 WETBO IN SERVICE A NEW SUPUR A NEW SUPUR A HRS I R-1 TURBIN EAR -  SON ,GRI UNIT CAP 50 165 165 165 165 165 165 165 165 165 165	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN, BOW NET CAP. 42 153 152 ENT/STEAM NORTH 15' 11 1/2" C L.O. PUM	INT UP TO EGULATOR  JEE OIL PU  LEY, HOO  SO2  12 HR STA  0.639  1.713  ON STANI  SEAL LOV  SOUTH  6 3/4"  MP/ 32PSI ( VALVE TH	57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY W PRESSU	XANDER NOX 0.065 0.07  GAUGE COK	WADLING OPACITY 20.1 23.3  RESSURE SLASSES	REMOVAL 87.1 68.8 LO START F	BLO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTEIN	CTL 15.4'
//2/2014	2:30PM 3:00PM NOTE 4:00PM 5:45PM 6:00PM 8:00PM 8:00PM NOTE 10:30PM 10:40PM 11:00PM	MAINT RIPUT'A' A MAINT IN L. BREEL LUBE OIL R-1 TURE EDMON UNIT R1 H1 H2 CT ALARMS R1 H1 H2 41,4 H1 LEVELS SAFET PE RS TURB TOOK L. R1 TURB TOOK L. R1 TURB TO TURB	ELEASED IR DRYER STALLED / DEN LEAVIDEN	GER IS WO R-1 WETBO IN SERVICE A NEW SUP- IN SERVICE A NEW SUP- IN SERVICE A HRS IN R-1 TURBIN EAR -  CSON, GRI UNIT CAP 50  165  165  165  165  165  165  165	TTOM - DEW PO ERHEAT RIV VACATION NE - D.C. LU FFIN,BOW NET CAP. 42 153 152 152 ENT/STEAM NORTH 15' 11 1/2" C L.O. PUM	INT UP TO EGULATOR  JBE OIL PU  JLEY, HOO  SO2 12 HR ST/ 0.639 1.713 ON STANI  SEAL LOV  SOUTH 6 3/4"  MP/ 32PSI ( VALVE TH L & ACES I	57 DEGRE ON R-1 MP WILL N GAN ,ALE CO2 ANDBY 11 10.6 DBY W PRESSU	XANDER NOX 0.065 0.07  GAUGE COK	WADLING OPACITY 20.1 23.3  RESSURE SLASSES	REMOVAL 87.1 68.8 LO START F	BLO LVL 13'	AMM. FLOW 245/c 244/c DRUMXMTR M	3.1 3.5  MAINT  DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTEIN	CTL 15.4'



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	0.00111	HODE		N DELC	01.00	TTO:	WEE -	D						
	8:00AM		LOAD	UNIT CAP			CO2	DWARDS NOX		ALHOUN, REMOVAL	DUCT		STERLING	
		R1	LOND	48	42	302	12 HR ST		OFACITI	REMOVAL	. 0051	AMM. PLOVV	BACK PRESSUR	
		H1	143	165	153	0.138	11	0.06	13	97.8	4.62	188	2.5	
		H2	143	165	152	0.372	10	0.09	9	93	11.18	209	3	
		CT	STANDBY											
		ALARMS												
		R1												
		H1												
		H2	EH RES I	LEVEL HI	B PA FAN	MTR.HIGH	EMP							
			OWERS T	AGGED					GLASSES				DRYING AGENT	
		R1 22						OK					R1-0% H1-0%	
		H2 41,											H2-0%	
											011 0 1111			
							-				SILO LVL		BOOTHE SYSTEM	и
		EUE: O		LINES	None				-					
		FUEL OIL	C.H. 11'2 1/2"	HMPL 10'	NORTH 14'9 5/8"	6 1/2"	1	-	-					
	9:30AM 10:30AM			ELEVATOR ER CLEAN								ERE WAY.		
	11:30AM	H1 A2 CL	EANOUT K	EY IS WOL	LERED OU	T MAINT W	ELDING S	HAFT WILL				GE. ANDY HO	LT HERE FOR STA	ARTUP
	1:00PM 2:00PM			E GROUP H					OLIND BOLL	ED BDG				
	4:00PM	JAY HIGO	INS HERE	FOR STAR			BLOWIN	O OO I AR	JOIND ROLL	LK BRG				
	4:10PM		1 BOILER	umo.										
	5:00PM 7:40PM		DRUM VEI VACUUM											
/2014	8:00PM	FELTY,		IBRY,HILL	YARD,DU	VALL,JAN	IES,LEE,	JONES V	AC HO	GAN,HIGO	SINS.BRE	A SHIFT	TOW	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	E
		R1	FIRING	48	42									CTL 18'
		H1	165	165	153	0.137	10.9	0.065	24.4	97.2	5.98	262	2.9	
		H2	160	165	152	0.387	11	0.043	28.7	92.1	12.59	C 240	3.3	CTL 15.5'
								0.010	20.7	02.7	12.00	C	0.0	012 10.0
		CT	ON STAN	DBY	59									
		ALARMS												
		R1 H1	VOLTAGE		NIT/S TE AN	SEALLON	N DDESSI	IDE/E U S	TART REO	IIDE D/DDI II	M TRANS/	T LEVEL/A	B PA FAN MOTO	BIR BER ALIYON
		H2	EHRESI		IN I/O ILAN	SEAL LOV	VINCOSC	JACILITI. S	IARTREG	OIRED/ DRO	W TRAINS/ C	. I. LEVEDA	AB PA PAN MOTO	NO BIT AOA OIL
		SOOT BI	OWERS T	ACCED				CALICE	01 40050		DIACT / O		DOVING A CENT	
		R1 22L	OWERS T	AGGED				OK OK	GLASSES		PWTL / 28	,	DRYING AGENT R1-0%	
		H1 30,31								ļ			H1 0%	
		H2 37,39	,41,42					-					H2-0%	
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM	М
		LEVELS	11'2 1/2"	10'	14'9 5/8"	6 1/2"	-	-	-		11.3'		BSI	
	8:00PM	SAFETY												
	8:00PM 8:05PM			ON R-1 2 OII		D.P.900 ST	TEMP. 64	45 SUPERI	HEAT 115		-			
	9:00PM			D FOR VAC		P 7-7-14 O	KED				-			
	9:00PM	A HOGAN	GOING H	OME										
		ROLLING R-1 TIED	R-1 TURBI ON LINE	INC										
	10:00PM	R-1 PREC	IPS IN SE											
				LOST OF F			P							
	10:27PM	R-1 A MIL	LON											
	10:36PM	TRIPPED	R-1 TURBI	NE HAD VA	LVED IN S	SPRAYS	REG WAS	SHOWING	CLOSED	BUT STILL S	SPRAYING	SUPER HEAT	GOT DOWN TO 5 I	DEGREES FROM
		R-1 PREC	CK IN R-1	BOILER				-						
					R-1 TURBIN	E NEVER L	OST SUPE	ERHEATC	OMPLETEL	Y WAITING	ON 100 DE	GREES SUPE	RHEAT TO ROLL A	GAIN
7/2014	12:52AM	R-1 TIED	ONLINE											
	1:00AM	R-1 PREC	IPS IN SE											
				AL OUT OF									AT BURNES UE A	DI IDNED LIETO
	MOIE	3110100	UL LILE Y			PLOOK	O BURNE	IN HEAD H	OUE 21 IF	WIF 130 DE	GKEES BE	LOW FLANGE	AT BURNER HEAD	DURNER HEAD
	3:44AM	R-1 TURB	INE OFF L	INE MILL IN	SPECTION									
	3:46AM		IPS OUT	OF SERVICE										





# **Forced Outage Report**

# **Estimated Outage Cost**

Wash wet bottom and Boiler De-Slag

Cleaning Total

\$1,929.97

Titan - boiler hydro and Mill/coal pipe/burner inspections

Labor

\$3,120

Material

\$1,828.11

Total

\$4,948.11

**Turning Gear Repairs** 

Total

\$3,600

**Grand Total** 

\$10,478.08





Lost Opportunity is the lost margins if the unit had stayed running

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Lost Sales Opportunity Report

						ST ANA				
Unit		Reid 1 -	-		_			Product	ion Co	st
Date & Time Off Line		6/30/14	15:5	7				MW		\$/MW
Date & Time On Line		7/2/14	23:00	)		*		25	\$	30.78
Outage Duration		55 hr.						40	\$	29.69
Outage Code				28 hr. 57 min.)				50	\$	29.27
Outage Reason	Unit removed from coal pipe plugge Starting failure du gear problems. To and unit placed in 2300 o									
Date	DA LI	MP Average	RTL	MP Average		DART P&L	Op	Lost		
6/30/14 (HE 16-24)	\$	57.86	\$	37.24	\$	(2,550)	\$	-		
7/1/14 (HE 1-24)	\$	50.57	\$	30.30	\$	(1,446)	\$	(8,869)		
7/2/14 (HE 1-23)	\$	34.21	\$	30.84	\$	-	\$	(4,371)		
Total					\$	(3,996)	\$	(13,239)		
Start Up Fu	iel Cost	-						Total Forced	Outag	e Cost
S/U Fuel Consumed		0	l	Jnit placed in re	ese	rve standby		ART P&L	\$	(3,996)
S/U Fuel Price	\$	-				•	Lost	Opportunity	\$	(13,239
S/U Fuel Cost	\$						S/L	J Fuel Cost	\$	-
								Total	\$	(17,235)
NOTES: All negative values are mo						,				





# Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 29-Aug-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO3

### Duration

Trip Time: 12-Aug-2014 01:01 Tie Time: 14-Aug-14 04:12

Time Offline: 51:11

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Tuesday, 12-Aug-2014 at 01:01 due to a suspected tube leak in the boiler penthouse area.

#### **Root Cause**

Tube leaks were in the 2<sup>nd</sup> Reheat Outlet Element from the east on the 5<sup>th</sup> and 6<sup>th</sup> tubes off of the Reheat Outlet Header, at elevation 585' -2" in the penthouse. The most likely cause of the leaks is stress cracking.







# Forced Outage Report

### **Failure History**

No failures of this nature have been reported on this unit in the last three years.

#### **Corrective Action**

Upon further UT and visual investigations, stress cracks were also located where the tube meets the outlet header on the  $2^{nd}$ ,  $3^{rd}$ ,  $4^{th}$  tubes on the  $2^{nd}$  element. A washed out spot was also located near the tube-header connection on the  $1^{st}$  Reheat Outlet element from the east, the  $4^{th}$  tube. These areas along with the tube leaks on the  $2^{nd}$  Reheat Outlet Element from the east on the  $5^{th}$  and  $6^{th}$  tubes, at elevation  $585^{\circ}$  -2" were cleaned and base metal repairs were applied. Visual inspection of the first three elements on the west side of the outlet header revealed no issues. Also found a leak on the east lower water wall header in the wet bottom area, the  $11^{th}$  tube from the north at elevation  $438^{\circ}$  - 8". This leak was a crack about 1" - 2" long, running parallel with the header. This leak created a shallow wash on the east header; this wash and the crack were repaired via base metal repair. Dye checked tube 31 from the north off of the east lower water wall header at elevation  $438^{\circ}$  - 8" and found it also required a BMR.



SOE Print Out
Triggered on: 12-Aug-2014 01:00:35:210

$\cup$	ELECTRIC	CORPORAT
v T I	r 10	

12.1 2011.01.01.05.000		T.		
12-Aug-2014 01:01:05:080		A	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
12-Aug-2014 01:01:04:962	HIGH	Α	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
12-Aug-2014 01:01:00:901	LOW	А	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
12-Aug-2014 01:00:50:716	ОК	Α	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
12-Aug-2014 01:00:48:465	ОК	Α	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
12-Aug-2014 01:00:47:848	TRIP	Α	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
12-Aug-2014 01:00:46:407	ОК	А	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
12-Aug-2014 01:00:45:984	TRIP	А	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
12-Aug-2014 01:00:39:384	TRBLE	Α	H246XFERTOMAN	VOLTAGE REG TROUBLE
12-Aug-2014 01:00:39:348	LOW	Α	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
12-Aug-2014 01:00:39:322	OPEN	Α	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
12-Aug-2014 01:00:39:313	OPEN	А	H250OCB186STS	OCB 0186 GEN H2 STATUS
12-Aug-2014 01:00:39:300	OPEN	Α	H250OCB182STS	OCB 0182 GEN H2 STATUS
12-Aug-2014 01:00:39:211	ОК	А	H250OCB186GETR	OCB 0186 GEN H2 TRIP
12-Aug-2014 01:00:39:210	ОК	Α	H250OCB182GETR	OCB 0182 GEN H2 TRIP
12-Aug-2014 01:00:39:186	LKOUT	Α	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
12-Aug-2014 01:00:39:180	TRIP	Α	H250OCB182GETR	OCB 0182 GEN H2 TRIP
12-Aug-2014 01:00:39:180	TRIP	Α	H250OCB186GETR	OCB 0186 GEN H2 TRIP
12-Aug-2014 01:00:38:954	ОК	Α	H233LMISTRP	LAST MILL IN SERVICE TRIP
12-Aug-2014 01:00:35:709	TRIP	Α	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
12-Aug-2014 01:00:35:210	TRIP	Α	H233EMERBLRTRP	EMERGENCY BLR TRIP
12-Aug-2014 01:00:34:960	TRIP	А	H233LMISTRP	LAST MILL IN SERVICE TRIP
12-Aug-2014 01:00:19:869	ОК	A	H225DRMLVLLOW	BOILER DRUM LEVEL LOW



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### Forced Outage Report

#### Other Work Completed While Unit Was Offline

- Repaired gas leaks in the boiler penthouse and also the economizer hopper area
- Clean 480V transformer
- · Checked battery charger connections
- Cleaned air flow back taps
- Adjusted 'B' SCR Diverter Damper limits
- Repaired SCR Seal Air Fan ducting
- Cleaned Wet bottom Seal Trough
- Repaired 'A' PA Fan rating damper
- Inspected and cleaned 'A' PA Fan
- Replaced 'B' Mill pinion gear and bearing
- Replaced 'B' Seal Air Fan discharge valve
- Repaired packing leak on SH spray regulator
- Changed the EH filters and fluid
- Replaced SW-1, NW-4, and NW-2 Steam coils
- Inspected Scrubber duct work and expansion joints
- Inspected Booster Fan inlet guide vanes
- Precipitator inspection
- Boiler Back-pass inspection
- Repaired coal leaks on "A" Mill
- Repaired coal leaks on "B" Mill
- Cleaned seal air fan filters
- Repaired the two south doors on top of Air Heaters





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### **Operators Event Log**

12/2014														
	12:35AM	H-2 SCR	OUT											
	1:00AM		OF H-2 BO		GLOBA	L HERE								
				JBBERS OU	Т									
	1:05AM 1:15AM	H-2 PREC		H-2 PENTH	OLICE									
	1:50PM		H-2 BOIL		OUSE									
	4:00AM		H-2 FOR H											
				R TOP TEM	P 288 BOT	TOM 184								
			ON FOR			1								
	6:00AM	H-2 BFP	OFF BOILE	R FULL VE	NTS CLOSE	ED								
	NOTE		FD FAN P											
	NOTE			ECON HOPE	PERS PULI	LED DOWN	ON H-2							
	6:30AM		SYSTEM I			DINDDO								
	7:06AM 7:07AM			PUMP ON F										
	7:10AM			UMPS ON F		HECK								
	7:11AM			D PUMP C		HVDDO N	OTIEV D	CHEATH						
	7:15AM			T FOR ELE			OTHERD.	CHEATHA	VVI					
	7:52AM			HYDRO AGA			OUBLE LO	DCATING L	EAK					
	7:55AM			ENTER OUT						TIE				
		DENIE												
	8:00AM									CALHOUN			STERLING/PA	
		R1	LOAD	UNIT CAP	NET CAP.	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESS	URE
		KI	12 HOUR	STANDET										
		H1	160	165	153	0.331	10.5	0.071	28	93	6.6	255	3	
										-			-	
		H2		165	UNIT OUT	AGE								
		СТ	STANDBY	,										
		31	O INNUUT											
		ALARMS												
		R1												
		H1			темр во	ILER DRUM	LEVEL T	RANS MAIN	IT. B BOILE	R FEEDPU	MP AUX OI	LPUMP		
		H2	EH RES L	LEVEL HI										
														_
			OWERS T	AGGED	-			GAUGE (	BLASSES				DRYING AGEN	٧T
		R1 H1 30,31	33.46	ļ				OK					R1-0% H1-0%	
		H2 9,4											H2-0%	
		.,	11/-										12010	
											SILO LVL		BOOTHE SYS	TEM
											11FT		OUT	
		FUEL OIL		HMPL	NORTH		,							
		LEVELS	4 9 3/4	11'1 3/4"	13'	6 1/2"								
12/2014	8:00AM	SAFETY	BRIEFING	+										
	8:00AM		OFF FOR	HYDRO	1									
	8:01AM			ECTINIC CTA	RTED									
		H1 PARTI	CULA IE II	ESTING STA	WILLD.									
	8:01AM			EAKER BAC		ICE								
	NOTE:	H2 A 4160 C CIRC W	OV TIE BRE	EAKER BAC MP OFF	K IN SERV									
	NOTE: 9:30AM	H2 A 4160 C CIRC W FOUND L	OV TIE BRE VATER PUN EAK IN H2	AKER BAC MP OFF PENTHOUS	K IN SERV	MALL WEAR								
	NOTE: 9:30AM NOTE:	H2 A 4160 C CIRC W FOUND L INSULATO	OV TIE BRE VATER PUN EAK IN H2 ORS WORK	EAKER BAC MP OFF PENTHOUS KING ON PU	K IN SERV SE , AND SI JLLING OF I	MALL WEAI	ND INSUL	ATION. EX	PRO ON ST	BOTTOM TANDBY WA	ITING FOR	ТНЕМ		
	NOTE: 9:30AM NOTE: 10:15AM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE	K IN SERV SE , AND SI JLLING OF I EP BOILER	MALL WEAR LAGGING A R FROM SW	ND INSUL INGING S	ATION. EX O BAD AT	PRO ON ST	TANDBY WA		ТНЕМ		
	NOTE: 9:30AM NOTE: 10:15AM 10:35AM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA INSULATO	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR' ORS COMF	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON	K IN SERV SE , AND SI JLLING OF I EP BOILER	MALL WEAR LAGGING A R FROM SW	ND INSUL INGING S	ATION. EX O BAD AT	PRO ON ST			THEM		
	9:30AM NOTE: 10:15AM 10:35AM 10:55AM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA INSULATO BLASTINO	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR' ORS COMF G IN H2 BO	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON DILER	K IN SERV SE , AND SI JLLING OF I SEP BOILER BOILER. E.	MALL WEAR LAGGING A R FROM SW XPRO MAKI	ND INSUL INGING S	ATION. EX O BAD AT	PRO ON ST	TANDBY WA		THEM		
	NOTE: 9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA INSULATO BLASTINO H1 BACK	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR' ORS COMF G IN H2 BO IN AUTOM	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON DILER MATIC AND A	E , AND SI JLLING OF I EP BOILER BOILER. E	MALL WEAF LAGGING A R FROM SW XPRO MAKI	ND INSUL IINGING S NG 15MIN	ATION. EX O BAD AT I ANNOUNC	PRO ON ST 165 MW CEMENT BE	FORE BLAS		THEM		
	NOTE: 9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA INSULATO BLASTINO H1 BACK H2 B REC	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR' ORS COMP G IN H2 BO IN AUTOM CYCLE PUN	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON DILER	K IN SERV  SE , AND SI  JILLING OF I  EEP BOILEF  BOILER. E  ADS CONTF	MALL WEAF LAGGING A R FROM SW XPRO MAKI	ND INSUL IINGING S NG 15MIN	ATION. EX O BAD AT I ANNOUNC	PRO ON ST 165 MW CEMENT BE	FORE BLAS		THEM		
	9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM 11:25AM 1:15PM 1:20PM	H2 A 4160 C CIRC W FOUND L INSULATO H1 IN MA INSULATO BLASTINO H1 BACK H2 B REC H1 PARTI	OV TIE BRE VATER PUN EAK IN H2 ORS WORK NUAL. TR' ORS COMP G IN H2 BO IN AUTOM CYCLE PUN CULATE TE	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON DILER IATIC AND A MP WILL NO	K IN SERV SE , AND SI JULING OF I EEP BOILER. E ADS CONTE OT RACK OF	MALL WEAF LAGGING A R FROM SW XPRO MAKI	ND INSUL IINGING S NG 15MIN	ATION. EX O BAD AT I ANNOUNC	PRO ON ST 165 MW CEMENT BE	FORE BLAS		ТНЕМ		
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2/2014	NOTE: 9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM 11:25AM 1:15PM 1:20PM 2:30PM 4:30PM	H2 A 4160 C CIRC W FOUND L INSULATE H1 IN MAINSULATE H1 IN MAINSULATE H2 B REC H2 BOILE WET BOILE H1 H1 H2 CT	DV TIE BRE ATTER PUM EAK IN 142 PORS WORR NUAL. TR PORS COMF OR S COMF OR S IN 142 PORS WORR NOAL TO S IN 142 PORS WORR NOAL TO S IN 142 PORS COMF OR S COMF	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON NILER OF WILL NO SEE MP WILL NO SEE MP WILL NO SEE MP TOMPL MP BACK O SEE MP TOMPL MP BACK O MP TOMPL MP BACK O MP TOMPL MP BACK O MP WILL NO MP M	K IN SERV  E, AND SI JLLING OF  E, EP BOILER  BOILER  DS CONTF  TO RACK OI  ETE  N  ING WETB  NITRY  ATTE, JG  NET CAP.  ON 12 HO  153  149  59	MALL WEAI LAGGING A R FROM SW XPRO MAKI ROL UT. NUT IS S OTTOM ON OHNSON, SO2 UR STANDE 0.102 ON STAND	ND INSUL INGING S NG 15MIN STRIPPED H2 JAMES, CO2 3Y 10.7	ATION. EX O BAD AT ANNOUNC D. ELEC WO JONES NOX 0.072	PRO ON S165 MW EMENT BE DRKING ON  OPACITY  28.1	FORE BLAS SAME  REMOVAL 97.8	DUST 5.78	A SHIFT AMM. FLOW 270	2.8 AIAINT/A & B PA DRYING AGEN	CTL 18" PWTL 27' CTL 15.3'
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12/2014	NOTE: 9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM 11:25AM 1:15PM 1:20PM 2:30PM 4:30PM	H2 A 4160 C CIRC W FOUND L INSULATE H1 IN MAINSULATE H1 IN MAINSULATE H2 B REC H2 BOILE WET BOILE H1 H1 H2 CT	DV TIE BRE ATER PUM EAK IN H2 EAK IN	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON NILER OF WILL NO SEE MP WILL NO SEE MP WILL NO SEE MP TOMPL MP BACK O SEE MP TOMPL MP BACK O MP TOMPL MP BACK O MP TOMPL MP BACK O MP WILL NO MP M	K IN SERV  E, AND SI JLLING OF  E, EP BOILER  BOILER  DS CONTF  TO RACK OI  ETE  N  ING WETB  NITRY  ATTE, JG  NET CAP.  ON 12 HO  153  149  59	MALL WEAI LAGGING A R FROM SW XPRO MAKI ROL UT. NUT IS S OTTOM ON OHNSON, SO2 UR STANDE 0.102 ON STAND	ND INSUL INGING S NG 15MIN STRIPPED H2 JAMES, CO2 3Y 10.7	ATION. EX O BAD AT ANNOUNC D. ELEC WO JONES NOX 0.072	PRO ON S165 MW EMENT BE DRKING ON  OPACITY  28.1	FORE BLAS SAME  REMOVAL 97.8	DUST 5.78	A SHIFT AMM. FLOW 270	2.8 AIAINT/A & B PA DRYING AGEN	CTL 18" PWTL 27'  CTL 15.3'  FAN MOTORS/
2/2014	NOTE: 9:30AM NOTE: 10:15AM 10:35AM 10:55AM 11:07AM 11:25AM 1:15PM 1:20PM 2:30PM 4:30PM	H2 A 4160 C CIRC W FOUND L INSULATC H1 IN MA INSULATC H1 IN MA INSULATC BLASTING H2 B REC H2 B REC H2 BOILE WET BOT CECIL, E UNIT R1 H1 A REC T. ALARMS: R1 H2 SOOT BL R1 H2 SOOT BL R1 H1 3,31 H2 37.41	DV TIE BRE MATER PUM EAK IN H2 EAK I	EAKER BAC MP OFF PENTHOUS KING ON PU YING TO KE PLETED ON JILER MP WILL NO EST COMPL MP BACK OI GGED, PULL GED FOR EI HILLYARD UNIT CAP 48 165 162 65 MANAGEME LEVEL HI AGGED	K IN SERV  JE, AND SI JLLING OF F  BOILER E  ADS CONTED  T RACK OF   MALL WEAI LAGGING A R FROM SW XPRO MAKI ROL UT. NUT IS S OTTOM ON OHNSON, SO2 UR STANDE 0.102 ON STAND	ND INSUL INGING S NG 15MIN STRIPPED H2 JAMES, CO2 3Y 10.7	ATION. EX O BAD AT ANNOUNC D. ELEC WO JONES NOX 0.072	PRO ON S165 MW EMENT BE DRKING ON  OPACITY  28.1	FORE BLAS  SAME  REMOVAL  97.8	DUST 5.78	A SHIFT AMM. FLOW 270	2.8  Alaint/A & B PA  DRYING AGEN R1-0%	CTL 18" PWTL 27' CTL 15.3' FAN MOTORS/	

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Your Touchstone Energy Cooperative	Your	Touchstone	Energy*	Cooperative	XD
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	8:00PM		AFETY BRIE											
	8:00PM	AIR HEA	TER WSH	ON H-2 ON	GOING						1			
	8:00PM		NG ON H-2											
	8:15PM			JCK PLUGG										
	8:45PM	CHANG	NG TO AND	THER FIRE	<b>HYDRANT</b>	HAVE TO								
	9:45PM	GOTEA	ST SIDE AIR	R HTR WASH	H GOING A	GAIN								
	10:45PM	GOT WE	ST SIDE A	IR HTR WAS	H GOING	AGAIN HAD	TO TAKE	HOSE LOC	SE FLUSH	AWHILE C	HANGE FILT	ERS AGAIN		
	10:55PM	TRUCK	PLUGGED V	WITH MUSCI	LE SHELL I	FOR WEST	SIDE HAD	<b>PUT RUN</b>	NING PUMP	TO EAST	SIDE			
	11:30PM			RS PLUGGE			FIRE WATE	R WHILE	CLEANING	FILTERS				
8/13/2014				H SIDES AIR										
	NOTE			TIL CHANGE			O SEE IF I	WILL HE	P					
				RNERS OFF										
	1:30AM			AN ALL BA										
	1:55AM	VAC DO	NE IN PENT	THOUSE GO	ING TO RIC	G UP ON A	IR OUT THA	N RELEA	E PUMP C	REW PUMP	CREW BE	EN HERE 15 H	HOURS TOLD TH	EM WANTED
		AIR HTR	WASH TO	GO TILL 4:3	0 STILL HA	VE VERY	DIRTY WAT	ER COMIN	G OUT LO	ST A FEW H	IOURS WITH	PUMP PLUG	GING UP JOB GO	OING GOOD NOW
	NOTE												MIT TORQUE W	OULD TAKE
	2.40414							WOULD G	O BACK O	PEN MAY H	AVE A SEA	L BOOT BLOO	CKING IT	
	2:40AM			D PA FANS				1 101 - 10		TD 1 0: :=:				
	3:00AM			RELS ON EA			FOR META	AL IN AIR	OUT TO BE	TRASHED	N			
	4:00AM			TR WASH TO			TADT OLD	III.IO III.	0.01170	-				
	430AM			N N.A. TEAL				NING IN AI	K OUTS					
	6:20AM	WASHIN	G ON H-2 F	D FAN PAD	FUR STEA	AM COIL W	ORK							
	0.00	IAOKO	ON OD:-	FINI DOVE	EV 1100				****					_
8/13/2014	8;00am	JACKS		FIN,BOWL	EY, HOG	AN, GATT	ON ,ALEX	WDER,F	AYNE			C SHIFT	CARTER/PAYN	E
		LINET	onan	LIMIT OAS	NET OAS	800	202	Nov	0040	DEMONICO	DUCT		DAON FEET	n=
		UNIT	LOAD	UNIT CAP			CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		R1	-	48	12HR STA	ANDRA				-				CTL/18.0'
		H1	164	165	153	0.164	9.8	0.071	25.5	06.4	E 50	272/0	2.4	
		THI.	104	100	155	0.154	9.0	0.071	35.5	96.4	5.56	272/C	3.1	
		H2		162										CTL 15.5'
		.14		132										O1L 13.3
		CT	66	5.6		ON STAN	IDRY				-			
		CT	65	5 56	3	ON STAN	IDBY							
				5 56	3	ON STAN	IDBY							
		CT ALARMS		5 56		ON STAN	IDBY						,	
		ALARMS	S:					RE/E.H. P	RESSURE	LO START I	REQUIRED/	DRUMXMTR N	MAINT/A & B PA F	FAN MOTORS/ B E
		ALARMS	S:	MANAGEME				RE/E.H. P	RESSURE	LO START I	REQUIRED/	DRUMXMTR N	MAINT/A & B PA F	FAN MOTORS/ B E
		ALARMS R1 H1	BURNER	MANAGEME				RE/E.H. P	RESSURE	LO START I	REQUIRED/	DRUMXMTR N	MAINT/A & B PA f	FAN MOTORS/ B E
		ALARMS R1 H1 H2	BURNER	MANAGEME LEVEL HI					RESSURE	LO START I	REQUIRED/		IAINT/A & B PA I	
		ALARMS R1 H1 H2 SOOT B	BURNER EH RES I	MANAGEME LEVEL HI AGGED						LO START I				
		ALARMS R1 H1 H2 SOOT B	BURNER EH RES I	MANAGEME LEVEL HI 'AGGED ,31/24R				GAUGE		LO START I			DRYING AGENT	
		ALARMS R1 H1 H2 SOOT B	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,	MANAGEME LEVEL HI 'AGGED ,31/24R				GAUGE		LO START I			DRYING AGENT R1-0%	
		ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-:	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,3	MANAGEME LEVEL HI AGGED ,31/24R 33,46				GAUGE		LO START I			DRYING AGENT R1-0% H1-0%	
		ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-: H2 9,	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,3 41/37	MANAGEME LEVEL HI AGGED ,31/24R 33,46	ENT/STEAN	SEAL LO	W PRESSU	GAUGE		LO START I			DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
		ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-:	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,3 41/37	MANAGEME LEVEL HI AGGED ,31/24R 33,46	ENT/STEAN	SEAL LO	W PRESSU	GAUGE		LO START I	PWTL 26.0'		DRYING AGENT R1-0% H1-0% H2-0%	
		ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-, H2 9,, FUEL OI LEVELS	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,41/37 IL C.H.	MANAGEME LEVEL HI AGGED ,31/24R 33,46 HMPL	NORTH	SOUTH	W PRESSU	GAUGE OK		LO START	PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	NOTE	ALARMS R1 H1 H2 SOOT B R1 16,, H1 1 H2 9,, FUEL OI LEVELS	BURNER EH RES I ELOWERS T 19,28,29,30 24 , / 30,31,341/37 L C.H. B 10° 5"	MANAGEME LEVEL HI AGGED ,31/24R 33,46	NORTH	SOUTH	W PRESSU	GAUGE OK		LO START I	PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM	ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-, H2 9,, FUEL OI LEVELS NORTH SAFETY	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,31/37 IL C.H. 6 10'5"	MANAGEME LEVEL HI AGGED ,31/24R 33,46 HMPL 11' 1 1/2"	NORTH 12' 4 1/2' TART CLE	SOUTH 6 1/2"	W PRESSU	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE	ALARMS R1 H1 H2 SOOT B R1 16,, H1 1- H2 9,, FUEL OI LEVELS NORTH SAFETY INSPEC	BURNER : EH RES !  LOWERS T 19,28,29,30 24 , / 30,31,41/37  IL C.H.  10' 5"  AMERICA G BRIEFING TED H2 SCF	MANAGEME LEVEL HI AGGED ,31/24R 33,46 HMPL 11' 1 1/2"	NORTH 12' 4 1/2' TART CLE	SOUTH 6 1/2" ANING H2-	W PRESSU	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE	ALARMS R1 H1 H2 SOOT B R1 16, H1 1-: H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31,41/37 IL C.H. I 10' 5" AMERICA G BRIEFING TED H2 SCHOOL GENERAL GENE	MANAGEME LEVEL HI AGGED ,31/24R 33,46 HMPL 11' 1 1/2" GOING TO S	NORTH 12' 4 1/2' TART CLE I.E.S & REC COILS & FE	SOUTH 1 6 1/2" ANING H2- CYCLES LC	W PRESSU  A.H. AIR O	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM	ALARMS R1 H1 H2 SOOT B R1 16, H1 1 H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANIB B.CHEA	BURNER EH RES I  LOWERS T 19,28,29,30  AMERICA G BRIEFING TED H2 SCF	MANAGEMELEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" GOING TO S RUBBERS M H. STEAM C	NORTH 12' 4 1/2' TART CLE.	SOUTH 1 6 1/2"  ANING H2- CYCLES LC D FANS CK IN H2 PI	W PRESSU  A.H. AIR O	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE	ALARMS R1 H1 H2 SOOT B R1 16,, H1 1 H2 9,, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEAA H2-A AI	BURNER EH RES I  LOWERS T 19,28,29,30 24 , / 30,31,41/37  L C.H.  BRIEFING TED H2 SCR NG H2-A A.  THAM REQI H STEAM CH	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" SOING TO S RUBBERS M H. STEAM CUESTED VAIOULS & FDF	NORTH 12' 4 1/2' TART CLE  I.E.S & RECOULS & FIC	SOUTH 6 1/2" ANING H2- CYCLES LC D FANS K IN H2 PIN	W PRESSU  A.H. AIR O  DOK GOOD  ENTHOUSE	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE	ALARMS R1 H1 H2 SOOT B R1 16, H1 1- H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEA H2-WET	BURNER EH RES IL LOWERS T 19,28,29,30 24 , / 30,31,41/37 IL C.H. BRIEFING TED 12 SCEN NG H2-A A. THAM REQIONED	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" SOING TO S RUBBERS M H. STEAM C UESTED VAI	NORTH 12' 4 1/2' TART CLE, I.E.S & REC COILS & FIC CUM TRUC' FAN CLEAN LEAN / G.B.	SOUTH  SOUTH  6 1/2"  ANING H2- CYCLES LC D FANS K IN H2 PI N SUNCH NO	W PRESSU  A.H. AIR O  DOK GOOD  ENTHOUSE	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE 1:55PM	ALARMS R1 H1 H2 SOOT B R1 16,, H1 1-, H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEA H2-A AI H2-WEI H2 BOIL	BURNER EH RES I  LOWERS T 19,28,29,30  10'5"  AMERICA G BRIEFING TED H2 SCF NG H2-A A.THAM REQI H STEAM C BOTTOM W LER SET FOO	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" GOING TO S RUBBERS M OLES TED VAL UES TED VAL UES TED VAL ET SEAL CI R HYDRO A	NORTH 12' 4 1/2' TART CLE COILS & FE CUM TRUC CAN CLEAN / G.E ND VACUU	SOUTH 6 1/2" ANING H2- CYCLES LC D FANS CK IN H2 PIN SUNCH NO	A.H. AIR O DOK GOOD ENTHOUSE	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE 1:55PM NOTE	R1 H1 H2 SOOT B R1 16, H1 1- H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEAA H2-A AI H2 BOIL H2	BURNER EH RES I LOWERS T 19,28,29,30 24,730,31, 41/37  IL C.H. BRIEFING TED 12 SCE NG H2-A A. TED 14 SCE OBOTTOM W ERS TED FO STER FAN I	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  GOING TO S' RUBBERS M H. STEAM CUESTED VAI OILS & FD F. FET SEAL CIR R HYDRO A NLET GUID	NORTH 12' 4 1/2' TART CLE LE.S & RECOULS & FL COUM TRUC AN CLEAN LEAN / G.E. NO VACUU E VANES & VANES	SOUTH  SO	A.H. AIR O DOK GOOD ENTHOUSE	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE 1:55PM NOTE 3:00PM	R1 H1 H2 SOOT B R1 16, H1 1- H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEA H2-A AI H2-WEIT H2 BOIL H2 BOOL H2 BOO	BURNER EH RES IL  BURNER T H 19,28,29,30  24 , / 30,31,  41/37  IL C.H.  BRIEFING BRIEFING TON H2-AA  THAM REQI H STEAM CO BOTTOM WER SET FO STER FAN IN  ILER FEED	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  SOING TO S RUBBERS M H. STEAM C UESTED VAI OILS & FD F LET SEAL C R HYDRO A INLET GUID PUMP ON H	NORTH   12' 4 1/2' TART CLE.   E.S & REC COILS & FI CUM TRUCF FAN CLEAN / G.B   DV ACCUU E VANCES S FOR UNIT!	SOUTH 1 6 1/2"  ANING H2- CYCLES LC D FANS K IN H2 PI N BUNCH NO IM CHECK B TROKED	A.H. AIR O DOK GOOD ENTHOUSE	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8:00AM NOTE NOTE 9:45AM NOTE NOTE 1:55PM NOTE 3:00PM 3:05PM	ALARMS R1 H1 H2 SOOT B R1 16, H1 1 H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANIB B.CHEA H2-A AI H2-B OI H2 BOO H2 B BO H2 B BO	BURNER EH RES I  LOWERS T 19,28,29,30  10'5"  AMERICA G  BRIEFING TED H2 SCF NG H2-A A.  THAM REQI H STEAM C BOTTOM W  ER SET FO  STER FAN I  DILER FEED  DI B VACUU	MANAGEME LEVEL HI  AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  GOING TO S  RUBBERS M RUBBERS	NORTH 12' 4 1/2' TART CLE LES & REC COILS & FIC CUM TRUC AN CLEAN / G.E ND VACUU E VANES S FOR UNIT H ON FOR VA	SOUTH 6 1/2" ANING H2- CYCLES LK IN H2 PIN SUNCH NO SIM CHECK STROKED HYDRO AC CHECK	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE 1:55PM NOTE 3:00PM 3:05PM 4:42PM	R1 H1 H2 SOOT B R1 16. H1 H2 9 FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEA H2 WET H2 BOIL H2 BOO H2 B BC H2 A AN H2 BBC H2 A AN H2 BBC H2 A BC H2 B	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31, 41/37  L C.H. BRIEFING TED 12 SCE NG H2-A A. THAM REQI H STEM FOR STEF FAN I LER SET FO STEF FAN I LER SET FO STEF FAN I LER SET SET FO STEF FAN I LER SET SET FAN I LER SET SET FED I LER SET SET FED I LER SET	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" GOING TO S' RUBBERS M H. STEAM C UESTED VAI OILS & FD F LET SEAL CIR R HYDRO A RIVET GUID PUMP ON F UMP PUMP OF PUMP OPP	NORTH 12' 4 1/2' TART CLE LES & RECOILS & FL COUM TRUC AN CLEAN / G.E. VANES & FOR UNIT ION FOR VA	SOUTH 6 1/2" ANING H2- CYCLES LK IN H2 PIN SUNCH NO SIM CHECK STROKED HYDRO AC CHECK	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK	GAUGE OK	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8;00AM NOTE NOTE 9;45AM NOTE NOTE 1:55PM NOTE 3:00PM 4:42PM NOTE	ALARMS R1 H1 H2 SOOT B R1 16, H1 1-, H2 9,,, H1 1-, H2 9,,, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANIB B.CHEA H2-A AI H2-WET H2 BOIL H2 BOIL H2 BOIL H2 BO DRYING	BURNER EH RES I LOWERS T 19,28,29,30 24 , / 30,31, 41/37 IL C.H. BRIEFING TO HE HE STEM CO BOTTOM WE STEF FO STEF FAN I ILLER FEED ID B VACUL DILER FEED INGERT FEED INGERT FEED INGERT FEED INGERT FEED INGERT FEED INGERT FEED	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  SOING TO S RUBBERS M H. STEAM C UESTED VAI OILS & FD F JET SEAL C R HYDRO A INLET GUID PUMP ON F JET SEAL C JET S JE	NORTH 12' 4 1/2' TART CLE. I.E.S & REC COILS & FI CUM TRUCE FAN CLEAN / G.B. ND VACUU E VANES S FOR UNIT I' ON FOR VA AFTER TE	SOUTH 1 6 1/2"  ANING H2- CYCLES LC D FANS K IN H2 PI N SUNCH NO IM CHECK B TROKED HYDRO AC CHECK IN MINUTE	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK HOLD	GAUGE OK  UT'S  / B.CHEA	GLASSES		PWTL 26.0°		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	
	8:00AM NOTE NOTE 9:45AM NOTE 1:55PM NOTE 3:00PM 4:42PM NOTE 5:05PM	R1 H1 H2 SOOT B R1 16, H1 1-1-142 9 FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B. CHEA H2-A AI H2-B OI H2 B OO H2 B CO DRYING DRY BO	BURNER EH RES I  LOWERS T 19,28,29,30  10'5"  AMERICA G BRIEFING TED H2 SCF NG H2-A A.  THAM REQI H STEAM C BOTTOM W ER SET FO STER FAN I  DILER FEED DID B VACUILLER FEED DID B VACUILLER. SHUT  LILER. SHUT  LILER. SHUT  LILER. SHUT  LILER SET FO  LILER. SHUT	MANAGEME LEVEL HI  AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  GOING TO S  RUBBERS M  UBSTED VAI OILS & FD F  ET SEAL CI R HYDRO AI NILET GUID PUMP ON B  MP PUMP OF  THOR	NORTH 12' 4 1/2' TART CLE COILS & FE COUNTRUC FAN CLEAN (A.E. NO VACUU E VANES S FOR UNIT HON FOR VA AFTER TE PYAC PUMP	SOUTH 6 1/2"  ANING H2- CYCLES LC D FANS CK IN H2 PI N SUNCH NO SIM CHECK S TROKED HYDRO AC CHECK N MINUTE S AND DR.	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK HOLD AINING TO	GAUGE OK  UT'S  / B.CHEA	GLASSES THAM NOT	FIED	PWTL 26.0' SILO LVL 14'		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE OUT	EM
	8:00AM NOTE NOTE 9:45AM NOTE NOTE 1:55PM NOTE 3:00PM 4:42PM NOTE 5:05PM NOTE	R1 16 H1 11 H2 9, FUEL OI LEVELS NORTH SAFETY INSPEC CLEANII B.CHEA H2 WET H2 BOIL H2 BOO H2 B BC H2 A AN H2 B BC DRYING DRY BO COAL	BURNER EH RES I LOWERS T 19,28,29,30 24,/30,31,41/37  L C.H. 10'5"  AMERICA G BRIEFING TED H2 SCE NG H2-A A. THAM REQI H STEM FEED I DILER FEED I DILER FEED I DILER FEED I LIER SHUT ANDLING F	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  GOING TO S RUBBERS M H. STEAM C UESTED VAI OULS & FD F JET SEAL CI R HYDRO A INLET GUID PUMP ON F JET SEAL CI TITURO OFF N OUND BOTT	NORTH 12' 4 1/2' TART CLE COILS & FE COUNTRUC FAN CLEAN (A.E. NO VACUU E VANES S FOR UNIT HON FOR VA AFTER TE PYAC PUMP	SOUTH 6 1/2"  ANING H2- CYCLES LC D FANS CK IN H2 PI N SUNCH NO SIM CHECK S TROKED HYDRO AC CHECK N MINUTE S AND DR.	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK HOLD AINING TO	GAUGE OK  UT'S  / B.CHEA	GLASSES THAM NOT	FIED	PWTL 26.0' SILO LVL 14'		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE	EM
	8:00AM NOTE NOTE 9:45AM NOTE NOTE 1:55PM NOTE 3:00PM 4:42PM NOTE 5:05PM NOTE 5:25pm	R1 H1 H	BURNER EH RES I 19,28,29,30 24 / 30,31, 41/37 IL C.H. BRIEFING BRIEFING BRIEFING THE BRIEFING TH	MANAGEME LEVEL HI AGGED ,31/24R 33,46  HMPL 11' 1 1/2" SOING TO S RUBBERS M H. STEAM C UESTED VAI OUESTED VAI OUES	NORTH 12' 4 1/2' TART CLE. LE.S & RECCOILS & FECUM TRUCE FAN CLEAN / G.B. LEAN / G.B. LEAN / G.B. TON FOR VA AFTER TE PTY VAC PUMP TOM GRAT	SOUTH 1 6 1/2"  ANING H2- CYCLES LC D FANS SK IN H2 PI N SUNCH NO IM CHECK STROKED HYDRO AC CHECK EN MINUTE S AND DR. TING STRU	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK HOLD AINING TO	GAUGE OK  UT'S  / B.CHEA	GLASSES THAM NOT	FIED	PWTL 26.0' SILO LVL 14'		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE OUT	EM
	8:00AM NOTE NOTE 9:45AM NOTE NOTE 1:55PM NOTE 3:00PM 4:42PM NOTE 5:05PM NOTE	R1 H1 H	BURNER EH RES I 19,28,29,30 24 / 30,31, 41/37 IL C.H. BRIEFING BRIEFING BRIEFING THE BRIEFING TH	MANAGEME LEVEL HI  AGGED ,31/24R 33,46  HMPL 11' 1 1/2"  GOING TO S  RUBBERS M  UBSTED VA  OILS & FD F  ET SEAL CI R HYDRO A  INLET GUID PUMP ON F  JM PUMP OFF  PUMP OFF  PUMP OFF  OUND BOTT  ING OFF V  OUND BOTT  LIBRATED M	NORTH 12' 4 1/2' TART CLE. LE.S & RECCOILS & FECUM TRUCE FAN CLEAN / G.B. LEAN / G.B. LEAN / G.B. TON FOR VA AFTER TE PTY VAC PUMP TOM GRAT	SOUTH 1 6 1/2"  ANING H2- CYCLES LC D FANS SK IN H2 PI N SUNCH NO IM CHECK STROKED HYDRO AC CHECK EN MINUTE S AND DR. TING STRU	A.H. AIR O DOK GOOD ENTHOUSE TIFIED SEEM OK HOLD AINING TO	GAUGE OK  UT'S  / B.CHEA	GLASSES THAM NOT	FIED	PWTL 26.0' SILO LVL 14'		DRYING AGENT R1-0% H1-0% H2-0% BOOTHE SYSTE OUT	EM



Your Touchstone Energy® Cooperative

8/13/2014	8:00PM	JOHNSC	N & JONES						LINGTON			BSHIFT	PENDLEY		
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	RE	
		R1		48										CTL	18'
		114		STANDBY	450	0.000			-						
		H1	143	165	152	0.099	10.7	0.064	30.4	98	4.31	198	2.9		
		H2	OFF	165								С		07	
			1700	DESCRIPTION OF THE PERSON NAMED IN								С		CTL	15.
		CT	ON STAN	DBY	58										
		ALARMS	S:												
		R1													
		H1 H2	BURNER	MANAGEME	NT/STEAM	SEAL LOV	V PRESS	URE/E.H. S	TART REQU	UIRED/DRUM	M TRANS/ C	T. LEVEL/A 8	BB PA FAN MOTO	R/B BFP AUX OIL	
		HZ	EH RES L	EVELHI	-		-								
		SOOT B	LOWERS T	AGGED	-		-	GALIGE	GLASSES		PWTL		DRYING AGENT		
		R1	- CITETO	HOULD				OK	OLAGGEG	-	26'		R1-0%		
		H1 30,3	1,33,46				-			-			H1 0%		
		H2 37,41											H2-0%		
		FUEL OI		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	M	
		LEVELS	10' 5"	11' 1 1/2"	12' 4 1/2"	6 1/2"	1				15'		OUT		
3/13/2014	8:00PM	SAFETY	BRIEFING												
	8:20PM			OR AIR TE	ST										
	8:28PM			ON FOR AIR											
	8:45PM			PORTS LE		LY. FANS	OFF								
	9:33PM	H2 AIR T	EST GOOD												
	9:48PM		H2 BOILER												
				DRUM SWE	LL - DROPE	ED DOWN	TO 1 OIL	GUN AND	LOST SCAN	NNER ON IT					
			CK IN H-2 B												
8/14/2014			TS CLOSED	) - 50 LBS RAINS CLOS											
0/14/2014	2:15AM			VACUUM			-								
				D OFF GEA		S & 99 DEC	PEE SUI	DERHEAT							
				- ROLLING		O G SS DEC	INCL OU	LIVILAT							
	3:50AM		VE TRANSF												
	4:12AM	H-2 TIED	ONLINE - F	PRECIPS IN	EXCEPT 'B'	OUTLET -	WILL NOT	GO IN							
	5:29AM		UBBER IN S												
	5:38AM			AUXILIARIE											
	6:40AM			OFF GEAR	- WILL NO	T GO BACK	ON GEA	R - INST CH	HECKING						
	6:50AM	WARMIN	IG H-2 SCR	-											
8/14/2014	8;00am	JACKS	ON GRIFF	IN,BOWL	FY HOGA	N GATTO	N ALE	(ANDER E	AYNE			C SHIFT	CARTER/PAYNE		
011472014	0,000111	Ur IOTO	onan	,	-1,11007	ii,oni i c	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	COLIC,	71112						
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR	RE	
		R1		48	12HR STA	NDBY								CTL/18.0'	
		H1	164	165	153	0.154	9.8	0.071	35.5	96.4	5.56	272/C	3.1		
		LI2		160										OT 45 5	
		H2		162										CTL 15.5'	
		CT	65	56		ON STAND	DBY								
		2111	- 00			-11011111									
		ALARMS	i:										•		
		R1													
		H1			NT/STEAM	SEAL LOV	V PRESS	URE/E.H. P	RESSURE	LO START F	REQUIRED/	DRUMXMTR N	MAINT/A & B PA F	AN MOTORS/ B BF	PA
		H2	EH RES I	EVEL HI											
			LOWERS T						GLASSES		PWTL 26.0		DRYING AGENT		
			19,28,29,30					OK					R1-0%		
		H1 1-2	4 , / 30,31,	3,46									H1-0% H2-0%		
		112 3,,4								ļ			112-070		
		FUEL OI	L C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	M	
				11' 1 1/2"			1			1	14'		OUT		
		FFAFFO													



#### Your Touchstone Energy' Cooperative

#### **Boiler Tube Leak Record**

Plant: HMP&L Station Two Unit: 2
Type of Leak:
Pin Hole √_ Thick Lip FailureThin Lip Failure
Tube Wall Thinning
Orientation of Rupture: Longitudinal Circumferential
Probable Cause:
StressV Overheat ErosionInternal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Soot blower Erosion
Other
Type of Repair:
Dutchman Pad Weld V Plug Tube Short Circuit Other

#### **Description of Repair:**

Upon further UT and Visual investigations, cracks were also located where the tube meets the outlet header on the  $2^{nd}$ ,  $3^{rd}$ ,  $4^{th}$  tubes on the  $2^{nd}$  element. A washed out spot was also located the tube-header connection on the  $1^{st}$  Reheat Outlet element from the east, the  $4^{th}$  tube. These areas along with the tube leaks on the on the  $2^{nd}$  Reheat Outlet Element from the east on the  $5^{th}$  and  $6^{th}$  tubes, at elevation  $585^{\circ}$  -2" were cleaned and had BMR's performed. Visually inspected the first three elements on the west side of the outlet header and found no issues. Also found a leak on the east lower water wall header, the  $11^{th}$  tube from the north at elevation  $438^{\circ} - 8^{\circ}$ . This leak was a crack about  $1^{\circ} - 2^{\circ}$  long, running parallel with the header. This leak created a shallow wash on the east header; this wash and the crack were repaired via BMR. Dye checked tube 31 from the north off of the east lower water wall header at elevation  $438^{\circ} - 8^{\circ}$  and found it required a BMR.

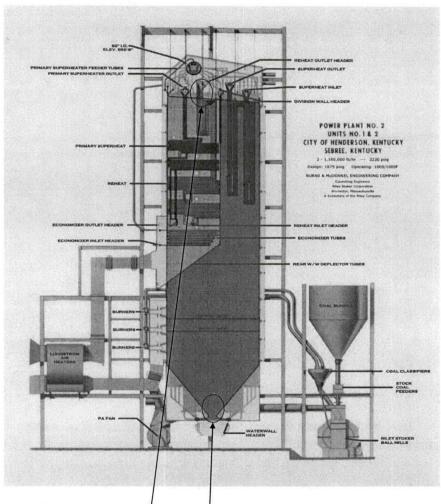


**Exact Location of Leaks:** 

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#### HMPL STATION UNIT 2 2014 (8) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 01:01 8-12-14
Date and Time Unit On \_\_\_ 04:12 8-14-14



Upon further UT and Visual investigations, cracks were also located where the tube meets the outlet header on the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> tubes on the 2<sup>nd</sup> element. A washed out spot was also located the tube-header connection on the 1st Reheat Outlet element from the east, the 4th tube. These areas along with the tube leaks on the on the 2nd Reheat Outlet Element from the east on the 5th and 6th tubes, at elevation 585' -2" were cleaned and had BMR's performed. Visually inspected the first three elements on the west side of the outlet header and found no issues. Also found a leak on the east lower water wall header, the 11th tube from the north at elevation 438' - 8". This leak was a crack about 1" - 2" long, running parallel with the header. This leak created a shallow wash on the east header; this wash and the crack were repaired via BMR. Dye checked tube 31 from the north off of the east lower water wall header at elevation 438' - 8" and found it required a BMR.



Your Touchstone Energy Cooperative

# Forced Outage Report

### **Estimated Outage Cost**

Boiler De-Slag

**Total** 

\$8,815.06

Vacuuming Economizer Hoppers, Boiler penthouse and Cleaning the AH's

**Total** 

\$15,451

Titan – tube leak repair and misc. repairs

Labor

\$45,020

Material

\$18,860.70

**Total** 

\$63,880.70

**Grand Total** 

\$88,146.76





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Jnit HMP'L 2 - H2-14-08		Prod	Production Cost				
Date & Time Off Line	8/12/14 1:01	MW		MW			
Date & Time On Line	8/14/14 4:12	61	\$	33.26			
Outage Duration	51 hr. 11 min.	127	\$	29.69			
Outage Code	UO3	149	\$	29.37			
Outage Reason	Repair tube leak located in penthouse.						

Lost ortunity	ART P&L	D	LMP Average	R	IP Average	DA LMF	Date
-	\$ (852)	\$	28.29	\$	27.72	\$	3/12/14 (HE 1-24)
(777)	\$	\$	29.26	\$	29.32	\$	8/13/14 (HE 1-24)
-	\$ (2,456)	\$	29.92	\$	26.74	\$	8/14/14 (HE 1-15)
(777)	\$ (3,307)	\$					Total

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		7,794	DART P&L	\$	(3,307)
S/U Fuel Price	\$	3.15	Lost Opportunity	\$	(777)
S/U Fuel Cost	\$	(24,536)	S/U Fuel Cost	\$	(24,536)
			Total	\$	(28,620)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



Your Touchstone Energy Cooperative

## Forced Outage Report

To: Jim Garrett

From: Perry Bowley

Date: 17-Sep-2014

Plant: Green Unit: 1 GADS Class: UO3

#### Duration

Trip Time: 22-Aug-2014 00:59 Tie Time: 23-Aug-2014 01:40

Time Offline: 24:41 minutes

#### **Outage Description**

Green Unit 1 was removed from service via controlled shutdown on Friday, 22-Aug-2014 at 00:59 due to the main steam outlet safety valve was leaking through.

#### **Root Cause**

Following the two unit trips on the previous day due to the OCB 106 issues, the main steam outlet safety valve lifted and did not fully reseat.

#### **Failure History**

An outage attributed to the main steam outlet safety valve leaking through occurred on 01-Aug-2012 for duration of 19:06.

#### **Corrective Action**

Industrial Valve came in and reseated the valve using Big Rivers' inventory parts.





#### Your Touchstone Energy® Cooperative

### Forced Outage Report SOE

Not Available

### Other Work Completed While Unit Was Offline

Miscellaneous Valves Were Repacked Instrumentation Calibrated Some Controls





Your Touchstone Energy® Cooperative

## Forced Outage Report

### **Operators Event Log**

8/22/2014

8/22/2014	12MN	UNDERFLOW RU	JN TIMES
		1A	9HRS.
		1B	13HRS.
		2A	10HRS.
		2B	17HRS.
		I.U. RUN TIME	15HRS.

12:59AM G-1 OFF LINE TO FIX SAFETY. ALL OIL OUT AND PRECIPS OUT

1:00AM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVE
	1A	OFF			0	6'9"
	1B	ON	210	35.2	10	6'9"
	2A	OFF			0	6' 10'
	2B	ON	213	33.2	5	6'9"
3:15AM	RED TAGGED 01	.00-9 GENEF	RATOR DIS	SCONECT HO	LD #555	
4:00AM	PH'S	1A	1B	2A	2B	
				6.14	6.35	
8:00	D. BARRON, GE	ER, TURNEF	R, DENTON	N, MAHAN, B	OLDS, RITTN	IEYER
DALE G.	THOMAS (VAC)	, TOWNSEN	ND , HOBG	OOD ,STRICK	(LAND, RIGD	ON
C SHIFT						





Your Touchstone Energy® Cooperative

	UNITS	LOAD	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS	
	G-1	OFF						
	G-2	237	229	0.112	0.25	7.9	2C S/B	
8:00	SLAKERS	IN/OUT	<u># ON</u>	TANK LEVELS	SILO			
	G-1	OUT		22.7/23				
	G-2	IN	2	23.4/23.5	3			
	PREP	OUT		78.2%				
	FEED RATES:	<u>1C1</u>	<u>1C2</u>	<u>1C3</u>	<u>1C4</u>	<u>2C1</u>	<u>2C2</u>	
							50	
8:00	<u>ı.u.</u>	CONV.	DRUMS	F/A SILO	F/A TONS	SMOOT	SMT. RATE	
	IN	Α	B&C	2	19	1	26%	
8:00	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVEL		
	1A	OFF			0	6'10"		
	1B	ON	218	33.9	5	6'10"		
	2A	OFF			0	6'10"		
	2B	OFF			8	6'9"		





Your Touchstone Energy Cooperative

STACK DRAINS

G-1

G-2 **OPEN** 

8:00	F/A SILOS	<u>LEVEL</u>	<b>EAST</b>	WEST	SILO	<b>SAFETY</b>
	#1 F/A SILO	34'	1.5	1	0	0
	#2 F/A SILO	24'	1.5	0	0	0

10:30 AM MAINTERANCE RELEASED HMPL SLAKERS PUTTING BUILDING IN SERVICE

12 NOON	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVEL
	1A	ON	57	30.9	0	6'10"
	1B	OFF			5	6'10"
	2A	ON	81	31.8	0	6'10"
	2B	OFF			5	6'9"

3:15 PM SETTING G-1 BOILER FOR HYDRO

G-1 "C" BOILER FEED PUMP ON 4:00 PM

4:00 PM	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVEL
	1A	ON	48	32	0	6'10"
	1B	OFF			5	6'10"
	2A	ON	79	32.5	0	6'10"
	2B	ON	207	33.2	10	6'9"





**B SHIFT** 

Your Touchstone Energy Cooperative

5:15 PM VALVING OUT G-1 #2 HEATER POSSIBLE TUBE LEAK.

8/22/2014 20:00 DONITHAN, FARLEY, BACHMAN, MILLER, WHITLEDGE, HOOVER, LOVAN, TAPP, T. PARKEI C. JOHNSON K. WEST, HUST, BARRON, & SMITH HERE FOR UNIT START-UP

	UNITS	LOAD	CAP.	<u>SO2</u>	NOX	OPACITY	MILLS	<u>PR</u>
	G-1	SETTING	то	FIRE				
	G-2	239	237	0.16	0.25	8.8%	2C ON S/B	
	SLAKERS	IN/OUT	# ON	TANK LEVELS	SILO			
	G-1	IN	2	23/23				
	G-2	IN	2	23/23	3			
	PREP	OUT	0	89.0%	4			
20:00	<u>I.U.</u>	CONV.	DRUMS	F/A SILO	F/A TONS	SMOOT	SMT. RATE	<u> </u>
	IN	Α	B & C	1	24	1	26%	
20:00	F/A SILOS	LEVEL	EAST	WEST	SILO	SAFETY		





Your Touchstone Energy Cooperative

## **Forced Outage Report**

#1 F/A SILO	28'	1.5	0.5	0	0
#2 F/A SILO	31'	1.5	0.5	0	0

UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVEL
1A	ON	58	32.4	0	6' 10"
1B	OFF	248	28.2	2	6' 10"
2A	ON	73	33.8	0	6' 11"
2B	ON	231	32.4	8	6' 9"

NOTE: STACK DRAINS

G-1

2A

G-2 **OPEN** 

22:34 OIL FIRES ESTABLISHED IN G-1 BOILER HOTLINE NOTIFIED

8/23/2014	0:00	<u>ı.u.</u>	CONV.	DRUMS	F/A SILO	F/A TONS	<u>SMOOT</u>	SMT. RATE	
		IN	Α	B & C	1	23	1	26%	
	0:00	UNDERFLOW F	RUN TIMES						
		1A	16.5 HRS						
		1B	8.5 HRS						

11.5

HRS





Your Touchstone Energy® Cooperative

## Forced Outage Report

16.5

**2B** 

**HRS** 

20.5

I.U. RUN TIME

HRS.

0:00	LINDERFLOWS	ON/OFF	CDM	connc	TOPOUE	BED
0.00	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	<u>LEVEL</u>
	1A	OFF	70		0	6' 10"
	1B	ON	220	34	2	6' 10"
	2A	OFF	80	32.6	0	6' 11"
	2B	ON	230	32.4	6	6' 9"
0:00	SLAKERS	IN/OUT	# ON	TANK LEVELS	SILO	
	G-1	OUT		24.9 / 23.7		
	G-2	IN	3	25.1 / 25.1		
	PREP	IN	2	73.4%		
1:40	G-1 TIED ON LIN	IE, HOTLINE	NOTIFIE	D, UNIT STATU	S E-MAIL SE	NT

1:40	G-1 TIED ON LINE.	HOTLINE NOTIFIED	, UNIT STATUS E-MAIL SENT

1:42 G-1 PRECIPS IN SERVICE, HOTLINE NOTIFIED

1600 PSIG DRUM ON G-1, CHECKING BOILER SAFETIES FOR LEAKS, NONE LEAKING AT THIS 4:00

4:30	UNDERFLOWS	ON/OFF	<u>GPM</u>	SOLIDS	TORQUE	BED LEVEL
	1A	ON	57		0	6' 10"





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1B	ON	219	34.4	2	6' 10"
2A	ON	67	34.6	0	6' 11"
2B	ON	233	31.8	4	6' 9"

NOTE: STACK DRAINS

> G-1 **OPEN**

> G-2 **OPEN**

6:00 L. SMITH DEPARTS, OPTIONED OUT AS THAT UNIT WAS STABLE





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## Forced Outage Report

#### **Estimated Outage Cost**

Outside Labor

\$2,667

Materials

\$44,034

Total

\$46,700

#### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-14-15	Production Cost				
Date & Time Off Line	8/22/14 0:59	MW	,	5/MW		
Date & Time On Line	8/23/14 13:40	163	\$	27.60		
Outage Duration	24 hr. 41 min.	199	\$	26.80		
Outage Code	UO3	235	\$	26.58		
Outage Reason	Repair leaking superheater outlet					

Date	DA LN	DA LMP Average		RT LMP Average		DART P&L		Lost Opportunity	
8/22/14 (HE 1-24)	\$	34.67	\$	32.67	\$	(228)	\$	(45,054)	
8/23/14 (HE 1-12)	\$	26.30	\$	29.27	\$	63	\$	-	
Total					\$	(165)	\$	(45,054)	

Start Up Fue	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		13,238	DART P&L	\$	(165)
S/U Fuel Price	\$	3.14	Lost Opportunity	\$	(45,054)
S/U Fuel Cost	\$	(41,619)	S/U Fuel Cost	\$	(41,619)
			Total	\$	(86,838)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





To: Jim Garrett

From: Billy Boarman

Date: 28-Aug-2014

Plant: Reid Station Unit: 1 GADS Class: UO1

Duration

Trip Time: 14-Aug-2014 06:40 Placed on 12-Hour Standby: 14-Aug-2014 19:55

Time Offline: 13:15

#### Outage Description

Reid Station Unit 1 was removed from service on Thursday, 14-Aug-2014 at 06:40 due trouble with the turbine turning gear. The turbine "rolled" off turning gear and the turning gear could not be re-engaged. The unit was placed on 12-hr reserve stand-by on Thursday, 14-Aug-2014 at 19:55.

#### **Root Cause**

The turning gear was disassembled and a few bolts had backed out preventing the gear from engaging. The bolts were tightened and the turning gear was reassembled and reinstalled.





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### Forced Outage Report

#### **Failure History**

On 30-Jun-2014 the turning gear failed to engage. The turning gear was removed and the problem was determined to be broken bolts on a sprocket. The bolts were replaced and the unit was placed on 12-hr reserve stand-by.

#### **Corrective Action**

Disassembled the turning gear and found some bolts had backed out preventing the gear from engaging. The bolts were tightened and the turning gear was reassembled and installed.

#### Other Work Completed While Unit Was Offline

None



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### **Operators Event Log**

8/14/2014	6:40AM			OFF GEAR	- WILL NO	T GO BACK	ON GEAF	R - INST CI	HECKING				
	6:50AM	WARMIN	G H-2 SCR										
	0.00												
	8;00am	JACKSO		N,BOWLEY,	HOGAN,G	ATTON ,AL	EXANDER	R,PAYNE				C SHIFT	CARTER
			onan				-	-	4				
		UNIT	LOAD	UNIT CAP			CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSUR
		R1		48	12HR STA	ANDBY							
		104	101	105	450	0.405		0.000	017				
		H1	164	165	153	0.105	11	0.068	34.7	97.9	4.89	254/C	3.7
		H2	65	162	65	0.457	7.7	0.457	10.2	98.3	E 00		CTL/18.0'
		112	00	102	1550 DRU		1.1	0.437	10.2	90.5	5.68		
		CT	65	56		ON STAND	RY			· · ·			
		01		00		ON OTANE	,61						CTL 15.3'
		ALARMS	:										O 1L 10.0
		R1											
		H1	BURNER	MANAGEME	NT/STEAM	SEAL LOW	PRESSU	RE/E.H. PF	RESSURE L	O START RE	QUIRED/ DE	RUMXMTR MA	INT/A & B PA FAN
				B BFP AUX									
		H2	FH RES	LEVEL HI									
		.,_	LITTLO	LLVLLIII									
		SOOT BL	LOWERS 1	TAGGED				GAUGE	GLASSES		PWTL 27.0		DRYING AGENT
			19,28,29,30					OK					R1-0%
			4 , / 30,31,										H1-0%
		H2 9,,4	1/37										H2-0%
		FUEL OIL	L C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTEM
		LEVELS	10' 3"	8' 9 1/2"	12' 4 1/2"	6 1/2"					17'		
	8;00AM	SAFETY	BRIEFING										
	8:48AM					The state of the s		R/ LUBE O	IL 3-WAY	ALVE IN 6	OCLOCK PC	SITION	
				SEAL OIL S		NERATOR	UBE						-
	0.44414	-		IN OFF POS	SITION	1.2		-	-		-		
	8;41AM	H2 SILIC		471									
	9;06AM		SYTEM IN										
	9;08AM		L RELEAS										
	9;39AM		OIL IN BO		OO DDI INA								
				OD FOR 18 OR MAX DO				+	-				
		H2- B MII		ON INPAX DO	INO SAIVIE								
	1;07PM			P IN SERVIO	CE / NOTE	REING FEE	D FROM H	P-B MCC	LOCAL DISC	CONNECTR	ΔD		
			FLOWING	THE REAL PROPERTY.	JE / HOIL	DENINO I EE	DITTOWIT	Z-D WOO	LOOKE DIO	JOINING TO I D	AD		
	1;20PM			DUE TO TUP	NING GEAR	RISSUES	-	-	-				
	1;45PM		OIL OUT C			( IOOOLO		-	-	1	1		
				OR 152NET									
	NOTE			EL OIL TO H									
	3;50PM		OF ADS BU		C GOOD MA	NUALLY P	JLLED PR	ECIPS INS	ST DEPT CL	EANED OPA	ACITY LENS,	CHECKED	
	NOTE	H2 STEA	M COILS S	W-1 NW-4	BACK IN SI	FRVICE /	√W-2 ∩I IT	PIPING 9	TILL LEAKIN	JG.			
	NOTE								TILL LEAKIN				
	NOTE			LUBE OIL TO	And the second second second second	-			LL WAII	-			
	4:47PM	H2 BACK					1		-				
	NOTE			D ABOUT H	2 OPACITY	PROBLEM	S						
	7:55PM	D 4 TIDE	DINE DACK	ON TURNIN	IC CEAD								



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# Forced Outage Report

### **Estimated Outage Cost**

**Turning Gear Repairs** 

Total

\$3,600





Lost Sales Opportunity Report

None



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#### Your Touchstone Energy® Cooperative

## Forced Outage Report

To: Jim Garrett

From: Eric Anderson

Date: 18-Sep-2014

Plant: Wilson Unit: 1 GADS Class: UO2

Duration

Trip Time: 17-Sep-2014 13:07 Tie Time: 17-Sep-2014 19:14

Time Offline: 06:07

#### **Outage Description**

Wilson Station was removed from service on Wednesday, 17-Sep-2014 at 13:07 to repair motor operated disconnect switch 2079 in the switchyard. The Unit was returned to service immediately after the switch was repaired.

#### **Root Cause**

Motor Operated Disconnect switch 2079 experienced a component failure that prevented the blade from fully entering the contact jaws and locking the switch into place. The failure was in the rotating arm molded bracket, which sheared, allowing the live parts of the switch to float out of the contact jaws. This abnormal situation could have eventually caused a catastrophic failure if left in this condition.

#### Failure History

No failures of this nature have been recorded for this unit in the last three years.

#### **Corrective Action**

Big Rivers ET&S technicians were on site to repair disconnect switch 2079.

#### Other Work Completed While Unit Was Offline

None



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## Forced Outage Report

#### Operators Event Log

9/17/2014 12:00am

Working on flyash high levels row 5 east and west

Daily report

Red taged #3 mill for M/M for 3000 hr inspection

6:00am SO3 system in service

7:00AM Cooper in Owens out

MW 450 KPPH 362 SO2 5.30/5.16 NOX .054 OPAC 6.9 REMOV 91.4 CO2

10.5/10.3 4 MILLS 4 MODULES 16 CIRC PUMPS

VARS 90 SLURRY FEED TANKS 12.4/13.1 CO 247/38 Sludge tanks 2.9/3.6

VOLTAGE 23.8 BED LEVEL 96"

8:00AM McElwain , Stewart , Payne , Poore , Emberton , Jones, Calhoun,

Saftey/job briefing

Flushing wet seal

10:30AM Morning Meeting

12:27PM Out of ADS bring unit off

12:28PM Oil in all igniter

1:07PM Unit off line for repairs. Notified H/L

1:15PM SCR out of service

2:30PM DeWright Stewart out taking wife to hosp

3:00PM Caldwell called back coming in

3:46PM Fire in Boiler

5:00PM Rolling turbine

6:07PM Daugherty call he maybe late

7:00pm Owens in Cooper out

7:12pm Precipe in Service.H/L notified

7:14pm Unit tied on line.H/L notified

12/1/2013

12:00am WO# 6115263 AL17W hole in hopper behind top gate

WO# 6115264 AL20W hole in bottom of air lock

WO# 6115265 AL22W hole below maint gate

1:00am Weekly Testing

1:58am Out of ADS for valve test

Valve Test complete.

3:48am Back in ADS

7:00am Crowe in Todd out

7:50am Duct #2 C02 failed cal. Running Inst call in list, no answers, notified M. Campbell.

8:00am McCarty, McElwain, S. Roby, Wilson, Worley in. Piper on S/L

Safety Briefing

Cliff Crain called back and coming in to repair C02 monitor 8:15am

Boiler inspection

Flushed Wet Seal

9:07am Cliff Crain in





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Scrubber nozzle checklist

11:00AM Drum level trip test complete

Monthly Halon system checklist

Replacing 6.9 breaker bulbs

12:45pm Cliff Crain out

Daily cleaning

Working on sprinkler flow system checks

Note: Inlet pipe to sewage plant broke, porta-pottys coming back

Hydrogen reading

Picking up trash around plant site

5:00pm Quarterly Primary air heater data

5:30pm Isolated fire water valves 148, 149 & 152 to trouble shoot a under ground leak. Notified Factor

6:20pm #1 Ignition oil pump tripped, motor hot, issued work order, 6115326

7:00pm Todd in, Crowe out

Current-448 Gross MW 417 Net MW Cap @ 8:00pm

SCR in, SO3 out, 1,2,3,4 modules, CSI 9', Ball mill- #2-49 amps

1,2,4,5 Mills Boiler O2-3.1% Windbox- 2.78 Total Coal-353 Total Air- 94.52% Control Air Dw So2 Removal- 91.9 Nox-.061 Opacity- 3.0%, Ammonia tank levels- 50/37 S02 inlets- 5.1/5.3 H2 Pressure- 58 H2 Purity- 98% Gen. Gas Density- 41% INWC Fan Diff.- 75 Seal Oil Diff.- 18 Back Press. - 2.99 avg. Stator Gas Temp. diff. - 7.01 Gen. Voltage - 23.81 Gen. Megavars - 87

J. Stewart, Hall, Stovall, Drake, Barrett in

8:00pm Safety Briefing

8:15pm Opened CBD to 2 turns open

8:30pm Boiler Walkdown 9:00pm Flushed Wet Seal

9:30pm Baricading all sewer inlet points

10:00pm Misc Equip Check

11:00pm Stroked Modulating Dampers

12/2/2013 12:00am AH sootblowing Check

1:00am Hydrogen reading

2:00am Water Run

3:00am Control Room Trash

4:00am Cleaned Feeder Deck

5:00am Unit Status Update

Scheduled Inland in to clean up ballmill bldg

5:30am RT #1 Ballmill

5:40am RT mill washout svc water root vlv

7:00AM Cooper,in Todd out

MW 450 KPPH 356 SO2 4.88/5.43 NOX.063 OPAC 3.8 REMOV 91.8 CO2 10.8/10.4 4 MILL! MVARS 97 SLURRY FEED TANKS 15.3/14.9 CO 124/677 Sludge tanks 5.0/7.1 VOLTAGE 2

8:00AM Roby, Stewart S/L, Baker, Poore, Jones, Calhoun

Safety briefing

9:00AM Smoke run

9:11AM Flushing wet seal

10:30AM Morning Meeting





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12:00PM Debusk out

Working on annual halon system

1:15PM Fred McCarty in Sam Baker out

5:00PM Checking SO3 nozzels 4,5 and 7 west plugged

5:30pm CSI back in service

WO# 6115420 IR 27 hunge in boiler

WO# 6115419 fire panel in control room showing ground faulted

WO# 6115415 service air line that feeds both underflow tunels has a split in line at bottom of

WO# 6115422 SO# nozzels 4.5, and 7 west pluged

7:00pm Mattingly in Cooper out

MW 450 KPPH 365 SO2 4.99/4.93 NOX .064 OPAC 3.8 REMOV 91.3 CO2 10.1/10.3 4 MILI



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### Forced Outage Report

### **Estimated Outage Cost**

Contract Labor Cost = \$0.00

Material Cost = \$0.00

Total Non-Labor Cost = \$0.00

Due to the short length of this outage, no contractor work was completed during this time. Big Rivers ET&S technicians repaired the disconnect switch in the switchyard.

#### **Lost Sales Opportunity Report**

# FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-14-08				Product	ion C	ost	
Date & Time Off Line	9/17/14 13:07					MW		\$/MW
Date & Time On Line		9/17/14	1 19:14			300	\$	25.75
Outage Duration		6 hr.	7 min.			360	\$	25.02
Outage Code		U	02			420	\$	24.60
Outage Reason		noved from service to repair disconnect switch on MOD- 2079						
Date	DA LMP	Average	RT LMF	Average	DART P&L	Lost Opportunity		
9/17/14 (HE 13-24)	\$	33.90	\$	32.78	\$ (37,899)	\$ -		
9/18/14 (HE 1)	\$	22.16	\$	22.02	\$ 59	\$ -		
Total					\$ (37,839)	\$ -		
Start Up Fu	el Cost					Total Forced Outage Cost		
S/U Fuel Consumed		19,062				DART P&L	\$	(37,839)
S/U Fuel Price	\$	2.94				Lost Opportunity	\$	-
S/U Fuel Cost	\$	(56,016)				S/U Fuel Cost	\$	(56,016)
						Total	\$	(93,855)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running



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To: Jim Garrett

From: Perry Bowley

Date: 5-Nov-2014

Plant: Green Unit: 1 GADS Class: UO1

**Duration** 

Trip Time: 7-Oct-2014 14:09 Tie Time: 10-Oct- 2014

Time Offline: 37:32

#### **Outage Description**

Green Unit 1 was removed from service by controlled shutdown due to a tube leak in the reheater section of the boiler.

#### **Root Cause**

The Green Unit 1 intermediate reheater outlet bank, first tube from the south in the seventeenth element from east, failed due to coal ash corrosion and wall thinning. This caused a tube in the eighteenth element from the east in the reheat outlet bank to fail. The outlet tube failures caused the first tube from south in the eighteenth element of the intermediate bank to fail.





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### Forced Outage Report

#### **Failure History**

There have been five Intermediate Reheater tube leaks in the last four years:

15-Mar-2014

Offline 29:56

10-Jul-2013

Offline 36:56

15-Oct-2012

Offline 59:20

04-Feb-2011

Offline 38:50

25-May-2010

Offline 26:25

#### **Corrective Action**

Reheater Outlet tube 18th element 24" dutchman Intermediate Reheater 17<sup>th</sup> element from East 1<sup>st</sup> tube 24" dutchman Intermediate Reheater 18<sup>th</sup> element from East 1<sup>st</sup> tube 24" dutchman

Intermediate Reheater 18<sup>th</sup> element from East 2<sup>nd</sup> tube 24" dutchman

#### SOE

Not Available

#### Other Work Completed While Unit Was Offline

None





#### Your Touchstone Energy Cooperative

A.D.S. IN

2C4

#### **Operators Event Log**

.0/7/2014

8:00AM

BEAVEN, REED, RITTMEYER, LAWRENCE, HOPKINS, BERRY, BELL, RIGDON, GORRELL, DUVALL

TIM W.

**OUTAGE:POILES, BOLDS** 

D SHIFT

SCRUBBERS: SHOULDERS, FORKER, JOHNS, GORRELL, ON VAC

	UNITS G-1	LOAD 248	<b>CAP.</b> 250	<b>SO2</b> 0.57	NOX 0.17	<u>OPACITY</u> 8.90%	MILLS 1C=S/B	PRECIPS OUT 3	
	G-2	OUTAGE	N PROGRE	SS					
8:00	SLAKERS G-1 G-2	IN/OUT IN OUTAGE	# <b>ON</b> 2	TANK LEVELS 23.3/22.1	SILO 2				
	PREP	IN	1	83.6%	4				
8:00	FEED RATES:	<u>1C1</u>	<u>1C2</u> 87%	<u>1C3</u> 34.0%	<u>1C4</u>	<u>2C1</u>	<u>2C2</u>	<u>2C3</u>	
8:00	<u>I.U.</u> OUT	CONV.	DRUMS	F/A SILO	F/A TONS	<u>SMOOT</u>	SMT. RATE	<u>SLG.</u> <u>TANKS</u> 9' / 9.5'	
8:00	F/A SILOS #1 F/A SILO #2 F/A SILO	25' 18'	EAST 1 R/T	WEST 1 R/T	SILO O R/T	SAFETY 0 R/T			
8:30	UNDERFLOWS 1A 1B	ON/OFF ON OFF	<b>GPM</b> 48	<b>SOLIDS</b> 36.9	TORQUE 28 2	BED LEVEL 6'7" 6'9"			
	2A	OUT	FOR 242	CLEANING W/O	20	6'9"			
NOTE:	2B STACK DRAINS G-1 G-2	ON OPEN N/A	242	W/O	30	о <del>У</del> "			





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12:00	UNDERFLOWS  1A 1B 2A 2B	ON/OFF ON ON OUT OFF	GPM 208 FOR	SOLIDS 34.5 33 CLEANING W/O	14 0 24	BED LEVEL 6'9" 6'9"		
13:00	<u>I.U.</u> IN	CONV.	DRUMS B	F/A SILO 1	F/A TONS 11	SMOOT 1	<u>SMT.</u> <u>RATE</u> 15%	<u>SLG.</u> <u>TANKS</u> 23' / 23'
13:15	RUNNING HOTV	VELL CHEC	K ON G-1, S	SUSPECT TUB	E LEAK			
13:30	ABORTED G1 H	OTWELL LO	SS CHECK,	LOST 5" IN 15	MINUTES	ON DCS		
13:35	TAKING G1 OFF	FOR TUBE	LEAK, ACES	NOTIFIED				
14:09	G1 OFF LINE FO	R REHEAT 1	TUBE LEAK	- HOTLINE NO	OTIFIED.			
14:25	LOAD OF SBS HE	ERE D. BELL	GOING TO	UNLOAD IT.	PUT IN G-1	TRT		
3:44PM	RECYCLE PUMPS	S OFF SCRU	BBERS OU	T OF SERVICE				
4:58PM	DRAINING G-1 E	BOILER						
						BED		

						BED
5:00PM	<u>UNDERFLOWS</u>	ON/OFF	<b>GPM</b>	SOLIDS	<b>TORQUE</b>	<b>LEVEL</b>
	1A	ON	51	33.9	2	6'9"
	1B	ON	190	33.6	5	6'9"
	2A	OUT	FOR	CLEANING		
	2B	ON	231	W/O	25	6'8"

5:20PM G-1 ISOLATING #5 HEATER --- TUBE LEAK 5:30PM UNDERFLOW PUMPS ARE SHUT OFF





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## Forced Outage Report

Type of Leak: (Check One)

### Boiler Tube Leak Record

Unit <u>Green 1</u>

Pin Hole Thick Lip Failure CrackX Thin Lip Failure
Tube Wall Thinning X Other
Orientation of Rupture: (Check One)
Longitudinal X Circumferential
Probable Cause: (Check One)
Stress Overheat Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other Coal Ash Corrosion
Type of Repair: (Check One)
Dutchman X (Length of Dutchman see below Pad Weld
Plug Tube Short Circuit Other



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## Forced Outage Report

**Description of Repair:** 

Tube Size OD 2½" & 2½" Wall Thickness \_\_\_\_\_\_\_ 148

Tube Material \_\_\_\_ SA213T11

Welding procedure \_\_\_\_ GS-P1-1L for tube welds

Welded By: Titan

#### **Exact Location of Leak: Be Specific:**

Reheater Outlet tube 18th element 24" dutchman 2 ¼" OD

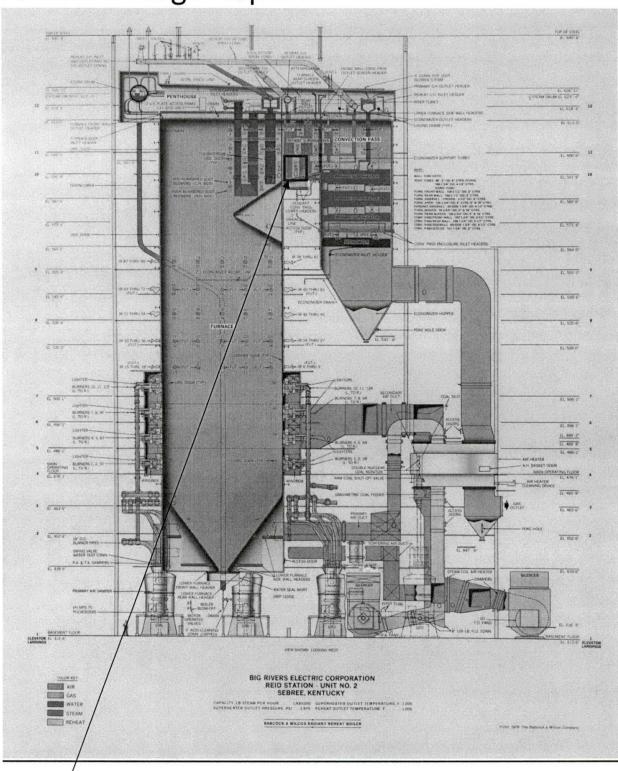
Intermediate Reheater 17th element from East 1st tube 24" dutchman 2 ½" OD

Intermediate Reheater 18th element from East 1st tube 24" dutchman 2 ½" OD

Intermediate Reheater 18th element from East 2nd tube 24" dutchman 2 ½" OD







Tube Leaks Here





### Forced Outage Report

#### **Estimated Outage Costs**

Labor

\$20,593

Material

\$ 216

Total

\$20,809

#### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-14-16	Produ	Production Cost					
Date & Time Off Line	10/7/14 14:09	MW		S/MW				
Date & Time On Line	10/9/14 3:41	163	\$	26.79				
Outage Duration	24 hr. 41 min.	181	\$	26.33				
Outage Code	UO2	235	\$	25.80				
Outage Reason	Repair reheater tube leak.							

Date	DA LN	IP Average	RT LN	IP Average	DART P&L		Lost Opportunity	
)/7/14 (HE 14-24)	\$	34.21	\$	31.71	\$	(14,929)	\$	-
0/8/14 (HE 1-24)	\$	31.28	\$	30.10	\$	(23,896)	\$	-
10/9/14 (HE 1-24)	\$	32.57	\$	39.18	\$	20,173	\$	(7,662)
Total					\$	(18,653)	\$	(7,662)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		11,879	DART P&L	\$	(18,653)
S/U Fuel Price	\$	3.09	Lost Opportunity	\$	(7,662)
S/U Fuel Cost	\$	(36,740)	S/U Fuel Cost	\$	(36,740)
			Total	\$	(63,054)

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All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





### Forced Outage Report

To:

Jim Garrett

From: Billy Boarman

Date: 7-Nov-2014

Plant: HMP&L Station Two

Unit: 1

GADS Class: UO1

Duration

Trip Time: 30-Oct-2014 05:20

Tie Time: 30-Oct-2014 11:24

Time Offline: 6:04

**Outage Description** 

HMP&L Station Two Unit 1 tripped on Thursday, 30-Oct-2014 at 05:20 on a turbine low vacuum trip due to losing the power feed to the C and D circulating water pumps.

#### **Root Cause**

H-2 tripped offline due to an inverter transformer failure, and both H-2 "A" and "B" 4160 volt main breakers were lost. As a result, we lost all start-up power to H2, which caused C and D circulating water pumps to trip. The HMP&L units have a common circulating water system, and with the loss of two circulating water pumps H-1 began experiencing backpressure problems, which resulted in the H-1unit trip.

#### **Failure History**

HMP&L Station Two Unit 1 tripped on Saturday, 17-Aug-2013 at 01:55 on turbine low vacuum due to losing the power feed to the C and D circulating water pumps. The total outage duration was 33:43.

#### **Corrective Action**

Both main breakers and the circulating water pumps were placed back in service and the unit was returned back to service.





## **Forced Outage Report**

### **SOE Print Out**

STANDARD SOE REPORT Triggered on: 30-Oct-2014 05:19:52:294

Event Time	State	Tag Name	Tag Description
30-Oct-2014 05:19:55:982	OK	H132SAF2ATP	SEAL AIR FAN 2A TRIP
30-Oct-2014 05:19:55:972	TRIP	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
30-Oct-2014 05:19:55:952	TRIP	H140HYDOP2ATP	HYD OIL PUMP 2A TRIP
30-Oct-2014 05:19:55:952	OK	H132SAF2BTP	SEAL AIR FAN 2B TRIP
30-Oct-2014 05:19:55:943	TRIP	H141BGOPP2ATP	BRG OIL PUMP 2A TRIP
30-Oct-2014 05:19:55:943	OK	H124AXCWP2BTP	AUX CIRC WTR PMP 2B TRIP
30-Oct-2014 05:19:55:941	OK	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
30-Oct-2014 05:19:55:937	OPEN	H132AHDR2AST	AIR HTR DRIVE 2A STATUS
30-Oct-2014 05:19:55:933	TRIP	H132AHDR2ATP	AIR HTR DRIVE 2A TRIP
30-Oct-2014 05:19:55:932	OK	H141BGOPP2BTP	BRG OIL PUMP 2B TRIP
30-Oct-2014 05:19:55:920	TRIP	H141BGOPP2BTP	BRG OIL PUMP 2B TRIP
30-Oct-2014 05:19:55:919	TRIP	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
30-Oct-2014 05:19:55:893	TRIP	H132BRCAF2TP	BNR CLG AIR FAN 2 TRIP
30-Oct-2014 05:19:55:717	OPEN	H1500CB166ST	OCB 0166 GEN H1 STATUS
30-Oct-2014 05:19:55:659	OK	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
30-Oct-2014 05:19:55:653	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
30-Oct-2014 05:19:55:636	OK	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
30-Oct-2014 05:19:55:611	OPEN	H103BUSBMAINST	4160 BKR BUS B MAIN STATUS
30-Oct-2014 05:19:55:597	OK	H150OCB166GETP	OCB 0166 GEN H1 TRIP
30-Oct-2014 05:19:55:595	OK	H150OCB162GETP	OCB 0162 GEN H1 TRIP
30-Oct-2014 05:19:55:578	TRIP	H103BUSBMAINTP	4160 BKR BUS B MAIN TRIP
30-Oct-2014 05:19:55:572	LKOUT	H140SPVLO86TV2	TURB STOP VLV LOCKOUT (86TV2)
30-Oct-2014 05:19:55:571	TRIP	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
30-Oct-2014 05:19:55:571	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
30-Oct-2014 05:19:55:567	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
30-Oct-2014 05:19:55:566	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
30-Oct-2014 05:19:52:989	OK	H140LOVACTP	TURB LOW VACUUM TRIP
30-Oct-2014 05:19:52:795	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
30-Oct-2014 05:19:52:746	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
30-Oct-2014 05:19:52:378	OK	H103M2ATP	4160 BKR MILL 2A TRIP
30-Oct-2014 05:19:52:365	TRIP	H103M2ATP	4160 BKR MILL 2A TRIP
30-Oct-2014 05:19:52:356	OPEN	H103M2AST	4160 BKR MILL 2A STATUS
30-Oct-2014 05:19:52:349	OPEN	H103PAF2AST	4160 BKR PA FAN 2A STATUS
30-Oct-2014 05:19:52:348	OPEN	H103PAF2BST	4160 BKR PA FAN 2B STATUS
30-Oct-2014 05:19:52:345	OPEN	H103M2BST	4160 BKR MILL 2B STATUS
30-Oct-2014 05:19:52:316	TRIP	H103M2BTRIP	4160 BKR MILL 2B TRIP
30-Oct-2014 05:19:52:294	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
30-Oct-2014 05:19:52:117	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
30-Oct-2014 05:19:51:496	TRIP	H140LOVACTP	TURB LOW VACUUM TRIP
30-Oct-2014 05:18:55:398	HIGH	H140EXHOODTEHI	TURB EXH HOOD HIGH TEMP
30-Oct-2014 05:17:25:351	OK	H103AIRCMPATP	4160 BKR AIR COMP A TRIP
30-Oct-2014 05:17:20:401	OK	H132FLUGASLOO2	FLUE GAS LOW OXYGEN
30-Oct-2014 05:17:20:374	OPEN	H103AIRCMPAST	4160 BKR AIR COMP A STATUS
30-Oct-2014 05:17:20:341	TRIP	H103AIRCMPATP	4160 BKR AIR COMP A TRIP



# Forced Outage Report Operators Event Log

#### Your Touchstone Energy® Cooperative

10/30/2014	1:00AM	H1 #3 HE	ATER INLE	T VALVE H	AS PACKIN	IG LEAK. W	.0.# 61415	56						
	1:00AM			DLING WATE										
	1:30AM	H2 ELEC	TROMATIC	FLANGE LE	AKING AB	OVE MANU	AL VALVE	W.O.# 61	41559					
	2:00AM	LOST 4"	ON H1 HO	TWELL CHE	CK									
	3:00AM			HOTWELL C										
	5:00AM			R SEAL AIR		LEAKING. V	V.O.# 6141	561						
	NOTE			TER ON FIRE	Ε									
	5:16AM	H-1 & H-2	TRIPPED											
	7:05AM		H-1 BOILE											
	7:16AM		I-1 BOILER											
	7:42AM	LOST FIR	E IN H-1 B	OILER - FIRE	E RE-ESTA	BLISHED								
0/30/2014	8:00AM	UNIT	LOAD	UNIT CAP		SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		R1	12HR STA	INDRA	42	-								CTL 17'
		H1	OFF		FIRING BO	NI ER								
		111	OIT		I INING BC	JILLIN								
		H2	OFF		FIRING BO	DILER								CTL 15.4'
		†··-								-	-			O1L 10.4
		CT	OUTAGE											
														-
		ALARMS	:											
		R1												
		H1	BURNER I	MANAGEME	NT/STEAM	SEAL PRE	SSURE/A	& B PA FA	N MOTOR	S/HY PURIT	Υ			
		H2 EH RES LEVEL HI, B MILL OIL PRESSURE												
			OWERS T	AGGED				GAUGE G	LASSES		PWTL 27'		DRYING AGENT	Г
		R1						OK					R1-0%	
		H1											H1-0%	
		H2 41				-							H2-0%	
-		FUEL CO		Lune:	Non	0.011					011 0 1		B007 # 5111	
		FUEL OIL		HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYST	EM
		LEVELS	10'	13'6 3/4"	19' 1"	6 3/4"					11.5'		out	
	8-00444	SAFETY	RDIECINIO											
	8:00AM 8:05AM		BRIEFING 1-2 BOILER			-								
	8:00AM		N & HOGA											
	8:30AM	JOHNSO		NHERE		-						-		400000000000000000000000000000000000000
	9:00AM	YOUNG H				-			-		-			
	10:42AM			E - TURBINE	ROLLED	O 2200 RPI	и							
	11:24AM			OR - PRECIF										
	11:45M		STER FAN		0 111 110									
				AUXILIARIE	S									
			JBBER IN S		Ī					-				
	1:15PM			INE & PULLI	NG VACUL	M				1				
	1:25PM	R-1 AUXI	LIARY WAT	TER STRAIN	ER BACK I	N SERVICE	- SLUICE V	NATER TIE	CLOSED	- AND AUXIL	AND AUXILIARY WAT		CK ON	
	1;38PM	H2 SEAL	ING TURBI	NE & PULLIN	NG VACUM									
	2;10PM	H2 GEN	ERATOR FI	IELD ON										
	2;24PM	H2 GENE	RATOR TIE	ED ON LINE										
	2;26PM		IPS IN SEF											
	3:00PM			AN LEAVING										
	3:10PM		IN SERVIC											
	3:11PM		JBBER IN											
	3:18PM			AUXILIARIE										
	4:00PM			ON LEAVIN		VOEEDANA	E0 00 /EE	2004						
	NOTE			& 3:18PM H			ES OVER	00%						
	NOTE	BAD LEA	K ON CRD	LINE ON DE	MANIF	-OLD				-				
0/20/2014	9:00DM	DENITON	BEAMOI D	oe coopu	ANDD D	AVED EDU	IADDE CA	ELLING C	AL HOUR	HICCINE		D SHIFT ST	EDLING	
0/30/2014	8:00PM	DENTON	RETNOLL	os, GOODM	MIN P.D., BA	MAER, EDV	אתטס, או	ELLING, C	ALHOUN,	HIGGINS ,		Daniri 311	LALING	
		UNIT	LOAD	UNIT CAP	NET CAP	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM, FLOW	BACK PRESSU	RE
		R1	12HR STA		46				2		2301			IN.L.
		1												
		H1	146	165	153	0.673	10	0.102	25	80	18	195	2.6	
		H2	130	130	118	0.692	10	0.177	50	84	9	153	2.3	
				SILICA DE	RATE									
		CT	OUTAGE											
		ALARMS	:			-			-					
		R1	DUIDANTE	MANIA OFF	AITIOTT	10EAL DE-	00110515	U DDEAG	IDE LO CO	TART DEC.	DED/ DE	MANAGED MANGE	74 . D D	AOTORS
		H1		MANAGEME LEVEL HI. B				H. PRESS	UKE LOS	IAKI REQU	IKED/ DRU	MAINT MAINT	A & B PA FAN I	VIOTORS
		H2	EH KES	LEVEL HI, B	WILL OIL F	KESSUKE			-	-	-			
		SOCTO	OWERS T	AGGED		-		CALICE	I ACCEC	-	PWTL		DRYING AGEN	т
		R1	OWERS T	MOGED				GAUGE O		-	26.2'		R1-0%	•
		H1						OK		-	20.2		H1-0%	
		H2 , 41	-			-				-			H2-0%	
		112 , 41				-				-			2-0 /0	
		FUEL OII	СН	HMPL	NORTH	SOUTH	-		-	-	SILO LVL		BOOTHE SYST	ЕМ
		LEVELS		13'6 3/4"		6 3/4"	1	-		-	19'		IN	
	8:30PM					V 0/4					10			
		DPM FLOWING AMMONIA CALLED HOTLINE  DPM H1 BOILER HAS BEEN RELEASED TO FULL PRESSURE. CALLED ACES.												
				FULL PRES										
	9:52PM													
				PPERS IN C										



#### **Estimated Outage Cost**

No outage work was completed.

#### Your Touchstone Energy® Cooperative

#### **Lost Sales Opportunity Report**

### FORCED OUTAGE COST ANALYSIS

MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 1 -	H1-14-	12			Product	ion Co	ost
Date & Time Off Line		10/30/	14 5:20				MW		\$/MW
Date & Time On Line		10/30/1	4 11:24				56	\$	32.00
Outage Duration		6 hr.	4 min.				133	\$	27.45
Outage Code		U	01				155	\$	27.30
Outage Reason		tripped on lo rculating wat after H2 trip	ter pump	in service					
Date	DA LN	IP Average	RT LM	P Average	D	ART P&L	Lost Opportunity		
10/30/14 (HE 6-22)	\$	35.59	\$	33.20	\$	(16,626)	\$ -		
Total					\$	(16,626)	\$ -		
Start Up Fu	el Cost						Total Forced	Outa	ge Cost
S/U Fuel Consumed		6,270					DART P&L	\$	(16,626)
S/U Fuel Price	\$	3.09					Lost Opportunity	\$	
S/U Fuel Cost	\$	(19,358)					S/U Fuel Cost	\$	(19,358)
							Total	\$	(35,984)
NOTES:									
All negative values are mo	ney out o	of pocket.		***************************************					
DART Revenue is calcular			oetween	the DA awa	rd and	d RT events			
Lost Opportunity is the los									



To: Jim Garrett

From: Billy Boarman

Date: 16-Oct-2014

Plant: HMP&L Station Two Unit: 1 GADS Class: UO1/UO0

#### Duration

Trip Time: 2-Oct-2014 17:19 Starting Failure: 3-Oct-2014 02:47

Tie Time: 3-Oct-2014 07:34 UO1: 09:28 UO0: 04:47

Total Time Offline: 14:15

#### Outage Description

HMP&L Station Two Unit 1 tripped on Thursday, 2-Oct-2014 at 17:19 due to loss of 'B' Mill. A starting failure was declared on 3-Oct-2014 at 02:47 when the unit did not return to service in the allotted time for a hot start, due to the right side reheat intercept valve would not open.

#### **Root Cause**

The Control Room Operator was having trouble with the Mill being too heavy with coal so the operator stopped the coal flow to "B" mill by shutting off the feeders. The Mill tripped due to zero coal flow for 15 minutes. This is a trip in the BMS logic.

#### Failure History

No failures of this nature have been reported in the last three years.

#### **Corrective Action**

Worked with controls engineers on reason why this trip was installed into the logic and discovered this is a NFPA boiler code trip. Talked with all supervisors about this trip to make sure everyone is aware.





### Forced Outage Report

#### Other Work Complete While Offline

Replaced Burner Cooling Air Fan Motor

Replaced Turbine Right Intercept Valve Servo

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 2-Oct-2014 17:19:59:313

2-Oct-2014 17:19:59:670	ENGD	H140TGRSTPENG	TURNING GEAR STOPPED/ENGAGED
2-Oct-2014 17:19:59:666	ОК	H132SAF2ATP	SEAL AIR FAN 2A TRIP
2-Oct-2014 17:19:59:662	TRIP	H140HYDOP2ATP	HYD OIL PUMP 2A TRIP
2-Oct-2014 17:19:59:649	TRIP	H148MNSOPTP	MAIN SEAL OIL PUMP TRIP
2-Oct-2014 17:19:59:642	OPEN	H132AHDR2AST	AIR HTR DRIVE 2A STATUS
2-Oct-2014 17:19:59:641	TRIP	H140HYDOP2BTP	HYD OIL PUMP 2B TRIP
2-Oct-2014 17:19:59:637	TRIP	H141BGOPP2ATP	BRG OIL PUMP 2A TRIP
2-Oct-2014 17:19:59:635	TRIP	H132AHDR2ATP	AIR HTR DRIVE 2A TRIP
2-Oct-2014 17:19:59:631	ОК	H132SAF2BTP	SEAL AIR FAN 2B TRIP
2-Oct-2014 17:19:59:628	TRIP	H124AXCWP2ATP	AUX CIRC WTR PMP 2A TRIP
2-Oct-2014 17:19:59:622	TRIP	H132BRCAF2TP	BNR CLG AIR FAN 2 TRIP
2-Oct-2014 17:19:59:428	OPEN	H1500CB166ST	OCB 0166 GEN H1 STATUS
2-Oct-2014 17:19:59:391	ОК	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
2-Oct-2014 17:19:59:387	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
2-Oct-2014 17:19:59:374	ОК	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
2-Oct-2014 17:19:59:351	OPEN	H103BUSBMAINST	4160 BKR BUS B MAIN STATUS
2-Oct-2014 17:19:59:318	TRIP	H103BUSBMAINTP	4160 BKR BUS B MAIN TRIP
2-Oct-2014 17:19:59:314	ОК	H150OCB162GETP	OCB 0162 GEN H1 TRIP
2-Oct-2014 17:19:59:313	TRIP	H103BUSAMAINTP	4160 BKR BUS A MAIN TRIP
2-Oct-2014 17:19:59:313	ОК	H150OCB166GETP	OCB 0166 GEN H1 TRIP
2-Oct-2014 17:19:59:309	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
2-Oct-2014 17:19:59:306	LKOUT	H150GENLO86G2	GEN DIFFERENTIAL LO (86G2)





#### Your Touchstone Energy® Cooperative

### Operators Event Log

01010011	0.00111	0.555	DIEF											
10/2/2014		SAFETY E												
				MP TRIPPED	). (OVERLO	AD TRIP)								
		H2 BOOS												
	8:12AM	H2 OUT O	F ADS CO	NTROL										
		H2 B REC												
	8:19AM	H2 BOOS	TER FAN	NC										
	8:25AM	H2 BYPAS	SS DAMPE	ER CLOSED	. SCRUBBE	RS IN SER	VICE							
	8:26AM	H2 BACK	IN ADS CO	ONTROL										
	11:20AM	BAYLOR	HERE TO I	LOOK AT CO	ONTROL RO	OM AIR CO	ONDITION	IER						
	12:05PM	FILLING B	AMMONIA	A TANK										
	12:13PM	H1 PURG	E STARTE	D ON BOILE	R									
	NOTE:	H1 B BFF	DISCHAF	RGE VALVE	WILL NOT	OPEN. ELE	C WORK	ING ON SA	ME					
	12:23PM	FIRE IN H	2 BOILER	NOTIFY H/L										
	1:10PM	H1 MAIN S	STEAM ST	OP VALVE	OPEN									
	1:11PM	B AMMON	NA TANK	FILLING COM	MPLETED									
	2:30PM	90 DEGRE	ES SUPE	RHEAT, SE	ALING AND	PULLING	ACUUM	ON TURBI	NE					
				VIBRATING										
	NOTE:	CLEANING	H1 B FD	FAN AND F	LUSING OIL	THROUGH	BEARIN	NG.						
		H1 B MILL						-						
		H1 TIED C												
				PIPE, B1 C	OOLING AI	R VALVE V	ONT CL	OSE	-					
		H2 B1 CO						-	-					
		H1 B1 CC					1	-	-					
		H1 B FD F		ON										
		TRANSFE		the second second			-		+					
		H1 A MILL	married African Computer of		-	-	1	-	-					
	5:18PM			F (FEEDE	RS OFF FO	OR MORE	HAN 15M	IIO ON NIL	GUNS.) BU	OIL GUNS	WERE IN			
		H1 TRIPP					12 11 1011		00.10., 00	012 00110				
	NOTE:				NOT AUTO	TRANSFE	R LOST	EVERYTH	ING ON A SI	DE WHEN I	INIT TRIPP	FD		
				F SERVICE										
	5:42PM	H1 BOILE					-							
		H1 A CW												
				D IN H1 BO	ILER									
				IN SICK FO										
							FORMER	R HAS ALA	RM IN AFTE	R TRIP.				
	6:20PM			. SAID ALA										
		0.1.0011												
	8:00PM	DENTON, BAKER,	REYNOLD	S, GOODN	IAN, HIGGI	NS SL, CAI	HOUN, S	SNELLING,	EDWARDS			D SHIF	T STERLING	
			LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOV	V BACK PRESS	URE
			12HR STA		42				0.7.0					
			.2		-		-							
		H1	OFF TO R	EPAIR TUR	BINE CROS	SOVER		-						
			011 1011	LI MIL TOIL	DIIAL OILOO	OOVER								
		H2	165	165	153	0.484	10.8	0.098	30	85	7	235	2.7	
		112	100	100	100	0.404	10.0	0.000	00	- 00		200	2.7	
		CT	OUTAGE											
			OUTAGE											
		CT												
		ALARMS												
		ALARMS:		MANAGEMI	NIT/OTE AN	LCEAL LO	N DDE CO	NIBE/E H	DDECCURE	I O START F	DEOLUBED.	DDUMYMTD	MAINT P.DA.E.	AN MTD
		ALARMS: R1 H1	BURNER						PRESSURE	LO START F	REQUIRED	DRUMXMTR	MAINT. B PA F	AN MTR
		ALARMS:	BURNER	MANAGEMI LEVEL HI					PRESSURE	LO START F	REQUIRED	DRUMXMTR	MAINT. B PA F	AN MTR
		ALARMS: R1 H1 H2	BURNER EH RES	LEVEL HI				LOW		LO START F	REQUIRED	DRUMXMTR		
		ALARMS: R1 H1 H2 SOOT BL	BURNER	LEVEL HI				GAUGE	PRESSURE	LO START F	REQUIRED	DRUMXMTR	DRYING AGE	
		ALARMS: R1 H1 H2 SOOT BL R1	BURNER EH RES	AGGED				LOW		LO START F	REQUIRED	DRUMXMTR	DRYING AGE R1-0%	
		ALARMS: R1 H1 H2 SOOT BL R1 H1 31,32	BURNER EH RES OWERS T	AGGED				GAUGE		LO START F	REQUIRED	DRUMXMTR	DRYING AGE R1-0% H1-0%	
		ALARMS: R1 H1 H2 SOOT BL R1	BURNER EH RES OWERS T	AGGED				GAUGE		LO START F	REQUIRED	DRUMXMTR	DRYING AGE R1-0%	
		ALARMS: R1 H1 H2 SOOT BL R1 H1 31,32 H2 41,	BURNER EH RES OWERS T 2,30,33,46 34	AGGED	B MILL GEA	AR OIL PRE	SSURE	GAUGE		LO START F			DRYING AGE R1-0% H1-0% H2-0%	NT
		ALARMS: R1 H1 H2 SOOT BL R1 H1 31,32 H2 41,	BURNER EH RES OWERS T 2,30,33,46 34	AGGED HMPL	B MILL GEA		SSURE	GAUGE		LO START F	SILO LVL		DRYING AGE R1-0% H1-0%	NT





FUEL OIL C.H. HMPL NORTH LEVELS 6' 4 1/4" 7' 2 1/2" 16'

NORTH SOUTH 6 3/4"

-or	ce	a C	Jut	age	s K	ep	ort	•				Your Touchston	Energy® Cooperative 🗡	(D)
	8:23PM	PULLING	VAC. ON	H1 TURBIN	E	-								
	8:40PM	RESET	11 TURBINI	E									-	
	8:40PM	H1 TURE	INE TRIPP	ED ON LOV	V VAC.									
	8:41PM	RESET 1	URBINE. R	RIGHT INTER	RCEPT WO	NT OPEN								
	8:53PM	TRIPPE	TURBINE	1,000										
	9:00PM	H1 BURN	IER COOL	AIR FAN TE	RIPPED									
	9:30PM	HAVE ST	M.COIL LI	EAKS VALV	ING OUT									
	10:00AM	H1 TURE	INE ON GE	EAR									-	
	11:00PM	BRAD S	CHARTUNG	COMING I	N TO HELP	TIM GRA	Y CHANGE	OUT H1 BL	IRNER COC	L AIR FAN.				
	11:00PM	CHAD G	RIFFIN IS (	COMING IN	TO HELP W	ITH STAI	RTUP.						_	
0/3/2014	12:00AM	CHAD G	RIFFIN IS I	HERE	-		-		-			_		
					E TO BUILD	SCAFFO	LD TO CH	ANGE SERV	OVALVE	N INTERCE	т			
				BANK HAS					O TALTE	JI III LIKOLI				
				ALLED IN SI					-				-	
				BANK IS LE		FRNAI A	L READY W	ORK ORDE	RIN					
										ND CALIBRA	TED			
		-				LICE OF	INITOLD O	or ornone	U TALTE	IND ONLIDIO	1120			
		M H1 BURNER COOL AIR FAN IS RUNNING M H1 A SIDE STM.COILS N.E.#3 BANK IS LEAKING INTERNAL												
				OILS S.E.B.										
						LAKING	HILKMAL							
	5:50AM PULLING VAC ON H1 TURBINE 6:50AM ROLLING H-1 TURBINE													
	7:34AM H1 TIED ON LINE				-			-	-	-			-	
	7.04/101	ni lieu	ON LINE				-							
10/3/2014	8:00AM		T. 1100	CUTSHAW	· See and the second	LANKS. V	VADLINGT	ON				B SHIF	PENDLEY	
				DEN UPGRA					-	ļļ				
		UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE	
		R1	12HR STA	ANDBY	46		-							С
		H1	83	165	50	0.16	7.1	0.443	24.6	91.1		-	2.8	
		H2	166	165	152	0.395	10.9	0.105	36.9	92.4	7.25	259	3.2	C
		n2	100	100	152	0.393	10.9	0.105	30.9	92.4	1.25	259	3.2	C
		CT	OUTAGE											
		ALARMS	3:	-	-				-					
		R1					-		-					
		H1	RURNER	MANAGEM	ENT/STEAM	A SEAL LO	W PRESS	URE/E H P	RESSURE	OSTARTR	FOLIRE	O DRUMXMTR I	MAINT/A & B PA FAI	N MOTORS/ B
		H2		LEVEL HI	LIVITOTEAN	OLAL E	JW T NEGO	OREIL.TI. T	NEOGONE	LOGIANTIN	LQUINEL	DINONINA	MAININ & DIAIN	T MIOTOTOL B
		2007.0	0111500					041105	01.40050		DIACE		DOWNO ACENT	
									GLASSES		PWTL		DRYING AGENT	
		R1						Ol	1		26.5'		R1-0%	
		H1 30,3	-						-				H1-0%	
		H2 34,3	9, 41										H2-0%	

SILO LVL

17'

BOOTHE SYSTEM

OUT



## Forced Outage Report

#### **Estimated Outage Cost**

Replaced Burner Cooling Air Fan Motor

Sub Total: \$2,990

Replaced Right Intercept Valve Servo

Sub Total: \$\$4,252.59

Total: \$7,242.59





Lost Sales Opportunity Report



### FORCED OUTAGE COST ANALYSIS

#### MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 1 -	H1-14	-11				Product	ion Co	st
Date & Time Off Line		10/2/14	4 17:19					MW		\$/MW
Date & Time On Line		10/3/1	4 7:34					67	\$	30.96
Outage Duration		14 hr.	15 min.					122	\$	27.71
Outage Code		U	01					155	\$	27.30
Outage Reason	Unit	tripped due to loss of		upset from						
Date	Date DA LMP Average		RT LN	/IP Average	DART P&L			Lost		
10/2/14 (HE 18-24)	\$	32.74	\$	29.43	\$	(1,383)	\$	(1,400)		
10/3/14 (HE 1-22)	\$	29.11	\$	28.12	\$ 1,599		\$ -			
Total					\$	216	\$	(1,400)		
Start Up Fu	Start Up Fuel Cost						To	otal Forced	Outag	ge Cost
S/U Fuel Consumed		10,555						RT P&L	\$	216
S/U Fuel Price	\$	3.09					Lost C	Opportunity	\$	(1,400)
S/U Fuel Cost	\$	(32,587)					S/U	Fuel Cost	\$	(32,587)
								Total	\$	(33,771)

0.01.00111100	-	0.00		7	( . , /
S/U Fuel Cost	\$	(32,587)	S/U Fuel Cost	\$	(32,587)
			Total	\$	(33,771)

#### NOTES:

All negative values are money out of pocket.

DART Revenue is calculated from differences between the DA award and RT events

Lost Opportunity is the lost margins if the unit had stayed running





### Forced Outage Report

To: Jim Garrett

From: Billy Boarman

Date: 7-Nov-2014

Plant: HMP&L Station Two Unit: 2 GADS Class: UO1

Duration

Tie Time: 30-Oct-14 14:24 Trip Time: 30-Oct-2014 05:16

Time Offline: 9:08

#### **Outage Description**

HMP&L Station Two Unit 2 tripped from service on Thursday, 30-Oct-2014 at 05:16 due to Master Fuel Trip.

#### **Root Cause**

H-2 inverter caught on fire due to a problem with the inverter transformer. When this happened the inverter malfunctioned causing the loss of essential power to the Unit. With the loss of essential power, the contact from the Main MFT relay located in the BMS cabinet that sends the MFT signal to the DCS lost power because it is fed from the essential power panel. This in turn caused the signal to the DCS to drop out, initiating a boiler and turbine trip from the DCS system, along with all the other equipment fed from essential power panel to fail.

#### Failure History

No failures of this nature have been reported on this unit in the last three years.

#### **Corrective Action**

Bypassed the Inverter due to the transformer located inside the inverter catching on fire.





### **Forced Outage Report**

SOE Print Out
Triggered on: 30-Oct-2014 05:16:08

Event Log: Event Historian Log Date: 09:24:01 10/30/2014 Page: 2

16 Area 9	05:12:07	10/30/2014	H009B-AD-COMM	Alarm	ADB COMM STATUS
16 Area 9		10/30/2014	H009A-AC-COMM	Alarm	ACA COMM STATUS
16 Area 9		10/30/2014	H009A-AC-COMM	Alarm	ACA COMM STATUS
16 Area 9		10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
16 Area 9		10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
		10/30/2014	H256PDAHH-71	Alarm	ABS TWR MIST ELIM DP
10 FGD					ABS TWR MIST ELIM DP
10 FGD	05:12:27	10/30/2014	H256PDAHH-71	Bad Input	
10 FGD	05:12:27	10/30/2014	H256PDAHH-71	Alarm	ABS TWR MIST ELIM DP
16 Area 9		10/30/2014	H009B-AD-COMM	Alarm	ADB COMM STATUS
16 Area 9		10/30/2014	H009A-AC-COMM	Alarm	ACA COMM STATUS
16 Area 9		10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
16 Area 9		10/30/2014	H009B-AD-COMM	Alarm	ADB COMM STATUS
16 Area 9	05:13:39	10/30/2014	H009A-AC-COMM	Alarm	ACA COMM STATUS
16 Area 9	05:13:39	10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
16 Area 9	05:14:11	10/30/2014	H009B-AD-COMM	Alarm	ADB COMM STATUS
16 Area 9	05:14:11	10/30/2014	H009B-AD-COMM	Alarm	ADB COMM STATUS
16 Area 9		10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
16 Area 9		10/30/2014	H009B-AC-COMM	Alarm	ACB COMM STATUS
10 FGD	05:14:30	10/30/2014	H256LIC-105	Hi Alarm	REACTN TK LEVEL CTL
10 FGD	05:14:30	10/30/2014	H256LIC-105	Hi Alarm	REACTN TK LEVEL CTL
		10/30/2014	H256LIC-105	Bad Input	REACTN TK LEVEL CTL
10 FGD	05:14:58		CON29 Node CON27	The state of the s	REACIN IN DEVEN CID
	05:15:22	10/30/2014			
	05:15:22	10/30/2014	CON29 Node CON26		
	05:15:22	10/30/2014	CON29 Node Con21	down	
	05:15:22	10/30/2014		tchover from Con2:	1 to Con22
	05:15:24	10/30/2014	CON29 Node CON25		
	05:15:24	10/30/2014	CON29 Node CON23		
	05:15:56	10/30/2014	CON29 Node CON28	down	
01 Area 32	05:16:08	10/30/2014	H232FDFH2ASOFL	Bad Input	FD FAN H2A SO DMPR FAILD
01 Area 32	05:16:08	10/30/2014	H232FDFH2BSOFL	Bad Input	FD FAN H2B SO DMPR FAILD
02 Area 12	05:16:08	10/30/2014	H212SWWWDVFL	Bad Input	SW WTR WALL DRN VLV FAILD
01 Area 22	05:16:08	10/30/2014	H222HTR3DVSVFL	Bad Input	LP HTR 3-3 EMERG DV FAILED
01 Area 22	05:16:08	10/30/2014	H222HTR5DVSVFL	Bad Input	HP HTR 5-3 EMERG DV FAILED
01 Area 22	05:16:08	10/30/2014	H222HTR6DVSVFL	Bad Input	HP HTR 6-3 EMERG DV FAILED
01 Area 32	05:16:08	10/30/2014	H232SCAB1ASVFL	Bad Input	SCA BLWR H2A SV FAIL TRP
01 Area 33	05:16:08	10/30/2014	H233MFTPRGREO	Alarm	PURGE REQUIRED (MFT)
03 Area 33	05:16:08	10/30/2014	H233K2002051OK	Alarm	K200205 SLAVE FUSE E1 OK
16 Area 255	05:16:08	10/30/2014	H233IAIRPSL1	Alarm	IGN ATOM AIR PRESS NOT LOW 1
16 Area 255	05:16:08	10/30/2014	H233IHDRPSL1	Alarm	IGN OIL PRESS NOT LOW 1
		10/30/2014	H233K2002052OK	Alarm	K200205 SLAVE FUSE E2 OK
03 Area 33	05:16:08				K200206 SLAVE FUSE E1 OK
03 Area 33	05:16:08	10/30/2014	H233K20020610K	Alarm	K200206 SLAVE FUSE E2 OK
03 Area 33	05:16:08	10/30/2014	H233K2002062OK	Alarm	
03 Area 33	05:16:08	10/30/2014	H233K2002071OK	Alarm	K200207 SLAVE FUSE E1 OK
03 Area 33	05:16:08	10/30/2014	H233K2002072OK	Alarm	K200207 SLAVE FUSE E2 OK
03 Area 33		10/30/2014	H233K2002081OK	Alarm	K200208 SLAVE FUSE E1 OK
03 Area 33	05:16:08			4.1	TO A CO OF STATE DISCOUNTY OF
	05:16:08	10/30/2014	H233K2002082OK	Alarm	K200208 SLAVE FUSE E2 OK
02 Area 33	05:16:08 05:16:08	10/30/2014 10/30/2014	H233K2002082OK H233CLGPRSLO	Alarm	COOLING AIR PRESS LOW
02 Area 33 01 Area 33	05:16:08	10/30/2014 10/30/2014 10/30/2014	H233K2002082OK H233CLGPRSLO H233K2002125OK	Alarm Alarm	COOLING AIR PRESS LOW K2002 125 VDC MFT POWER OK
	05:16:08 05:16:08	10/30/2014 10/30/2014	H233K2002082OK H233CLGPRSLO	Alarm	COOLING AIR PRESS LOW K2002 125 VDC MFT POWER OK K200209 SLAVE FUSE E1 OK
01 Area 33 03 Area 33	05:16:08 05:16:08 05:16:08	10/30/2014 10/30/2014 10/30/2014	H233K2002082OK H233CLGPRSLO H233K2002125OK	Alarm Alarm	COOLING AIR PRESS LOW K2002 125 VDC MFT POWER OK K200209 SLAVE FUSE E1 OK K200209 SLAVE FUSE E2 OK
01 Area 33	05:16:08 05:16:08 05:16:08 05:16:08	10/30/2014 10/30/2014 10/30/2014 10/30/2014	H233K2002082OK H233CLGPRSLO H233K2002125OK H233K2002091OK H233K2002092OK	Alarm Alarm Alarm	COOLING AIR PRESS LOW K2002 125 VDC MFT POWER OK K200209 SLAVE FUSE E1 OK



Your Touchstone Energy Cooperative

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Event Log Event Historian Log
Date 09 24 01 10/30/2014
                          05 16 08
05 16 08
05 16 08
05 16 08
05 16:08
05 16 08
                                                                 H203BFP3BTRP
H233K20021010K
                                           10/30/2014
10/30/2014
                                                                                                                             4160 BKR BFP H2B TRIP
K200210 SLAVE FUSE E1 OK
K200211 SLAVE FUSE E1 OK
01 Area 3
03 Area 33
                                                                                               Alarm
                                            10/30/2014
03
     Area 33
                                                                 H233K20021110K
                                                                                               Alaxo
                                                                                                                             K200212 SLAVE FUSE E1 OK
K200213 SLAVE FUSE E1 OK
K200216 SLAVE FUSE E1 OK
03 Area 33
                                            10/30/2014
                                                                 H233K20021210K
                                                                                               Alarm
                                           10/30/2014
10/30/2014
03
    Area 33
                                                                 H233K20021310K
                                                                                               Alarm
03
     Area 33
                                                                 H233K20021610k
                                                                                               Alarm
                          05 16 08
05 16 08
05 16 08
03
     Area
                                            10/30/2014
                                                                 H233K20021710K
                                                                                               Alarm
                                                                                                                             K200217 SLAVB FUSC E1
03
    Area 33
Area 33
                                           10/30/2014
10/30/2014
                                                                                                                             K200216 SLAVE FUSE E1 OK
K200219 SLAVE FUSE E1 OK
IGN HEADER TRIPPED
                                                                 H233K20021810K
                                                                                               Alarm
                                                                 H233K20021910K
                                                                                               Alarm
01
     Area
                          05 16 08
                                            10/30/2014
                                                                 H233IGNHDRTRIP
                                                                                               Alarm
01
01
01
                          05 16 08
05 16 08
05 16 08
                                           10/30/2014
10/30/2014
10/30/2014
                                                                                                                             LP HTR 3-3 EMERG DV FAILED
HP HTR 5-3 EMERG DV FAILED
HP HTR 6-3 EMERG DV FAILED
    Area 22
Area 22
                                                                 H222HTR3DVSVFL
                                                                                               Alarm
                                                                 H222HTR5DVSVFL
                                                                                               Alarm
     Area
              22
                                                                 H222HTR6DVSVFL
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                          05 16 08
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     Area 32
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Area 33
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                                                                 H232SCAB1ASVFL
                                                                                               Alarm
                                                                                                                             SCA BLWR H2A SV FAIL TRP
                                                                 H233TGNA1TRPPD
                                                                                                                             IGN A1 TRIPPED
IGN B3 TRIPPED
                                                                                               Alama
                                            10/30/2014
                                                                 H233IGNB3TRPPD
                                                                                               Alarm
                                           10/30/2014
10/30/2014
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     Area
              33
                                                                 H233IGNA2TRPPD
                                                                                                                             IGN A2 TRIPPED
01
01
     Area 33
Area 33
                                                                 H233IGNB3TRPPD
                                                                                               Alarm
Alarm
                                                                                                                             IGN B3 TRIPPED
                                                                 H233IGNA3TRPPD
                                                                                                                             IGN A3 TRIPPED
                                           10/30/2014
10/30/2014
10/30/2014
10/30/2014
10/30/2014
10/30/2014
01
     Area
              32
                                                                 H232FDFH2A90FL
                                                                                                                             FD FAN H2A SO DMPR FAILD
01
01
     Area 33
Area 32
                                                                 H233IGNB2TRPPD
                                                                                               Alarm
                                                                                                                             IGN B2 TRIPPED
                                                                 H232FDFH2BSOFL
                                                                                               Alarm
                                                                                                                             FD FAN H2B SO DMPR FAILD
                          05 16 08
05 16 08
05 16 08
02
     Area 12
                                                                 H212SWWWDVFL
                                                                                               Alarm
                                                                                                                             SW WTR WALL DRN VLV FAILD
01
12
01
                                                                 H233IGNB2TRPPD
     Area 33
Area 255
                                                                                               Alarm
Bad Input
                                                                                                                             IGN B2 TRIPPED
                                                                 H240MW1
                                                                                                                             MEGAWATT 1
                          05 16 08
05 16 08
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05 16 08
                                           10/30/2014
10/30/2014
10/30/2014
                                                                                                                             IGN B2 TRIPPED
LOSS OF BOTH FD PANS
              33
                                                                 H233IGNB2TRPPD
                                                                                               Alarm
16
16
16
     Area 255
Area 255
                                                                 H233MFT02
H233MFT14
                                                                                               Alarm
                                                                                                                             LOSS OF BOTH FD FARS
MFT PUSHBUTTON HARDWIRED
IGN HEADER FTC TRIP
IGN A1 FUEL VLV PAILED TO CLOSE
IGN A1 GUN FAILD TO RETRACT
                                                                                               Alarm
                                           10/30/2014
10/30/2014
10/30/2014
     Area
                                                                 H233HDRVLVF001
                                                                                               Alarm
16
16
     Area 255
                                                                 H233IGNA1F001
H233IGNA1F012
                                                                                               Alarm
     Area
              255
                                                                                               Alarm
                          05 16 08
05 16 08
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                                           10/30/2014
10/30/2014
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                                                                                                                             IGN B1 TRIPPED
IGN A2 FUEL VLV FAILED TO CLOSE
IGN B1 TRIPPED
01
     Area
                                                                  H233IGNB1TRPPD
16
01
     Area
Area
              255
33
                                                                 H233IGNA2FOD1
                                                                                               Alarm
                                                                 H233IGNB1TRPPD
                                                                                               Alarm
                          05 16 08
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                                           10/30/2014
10/30/2014
10/30/2014
                                                                                                                             IGN A2 GUN FAILD TO RETRACT
IGN A3 FUEL VLV FAILED TO CLOSE
IGN A4 TRIPPED
     Area 255
                                                                 H233IGNA2F012
16
01
              255
33
                                                                 H233IGNA3F001
H233IGNA4TRPPD
     Area
                                                                                                Alarm
                                                                                               Alarm
     Area
                                                                                                                             IGN A3 GUN FAILD TO RETRACT
IGN A4 FUEL VLV FAILED TO CLOSE
IGN A4 GUN FAILD TO RETRACT
      Area
              255
                                            10/30/2014
                                                                  H233IGNA3F012
                                                                                                Alarm
16
16
     Area
              255
255
                                            10/30/2014
10/30/2014
                                                                 H233IGNA4F001
H233IGNA4F012
                                                                                                Alarm
                                                                                                Alarm
     Area
                          05 16 08
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16 Area
16 Area
              255
255
                                                                                                                             IGN B1 FUEL VLV FAILED TO CLOSE
IGN B1 GUN FAILD TO RETRACT
IGN B2 FUEL VLV FAILED TO CLOSE
                                            10/30/2014
                                                                  H233IGNB1F001
                                                                                                Alarm
     Area
                                            10/30/2014
10/30/2014
10/30/2014
                                                                 H233IGNB1F012
H233IGNB2F001
                                                                                                Alarm
     Area 255
Area 255
                                                                                                Alarm
                                                                                                                             IGN 82 GUN FAILD TO RETRACT
IGN 83 FUEL VLV FAILED TO CLOSE
IGN 83 GUN FAILD TO RETRACT
                                                                  H233IGNB2F012
                                                                                                Alarm
     Area 255
Area 255
                                            10/30/2014
10/30/2014
10/30/2014
                                                                 H233IGNB3F001
H233IGNB3F012
                                                                                                Alarm
16
16
                                                                                                Alarm
                                                                                                                             IGN B4 FUEL VLV FAILED TO CLOSE
PURGE REQUIRED (MFT)
IGN B4 GUN FAILD TO RETRACT
     Area 255
                                                                  H233IGNB4F001
                                                                                                Alarm
                           05 16 08
05 16.08
05 16 08
     Area 33
Area 255
                                            10/30/2014
10/30/2014
                                                                  H233MFTPRGREQ
                                                                                                λlarm
                                                                  H233IGNB4F012
                                                                                                Alarm
                                                                  H233MITPRGREQ
              33
                                            10/30/2014
                                                                                                                              PURGE REQUIRED (MFT)
                                                                                                Alarm
     Area
                           05 16 08
                                            10/30/2014
                                                                 H233IGNA4TRPPD
                                                                                                                              IGN A4 TRIPPED
```

#### Other Work Completed While Unit Was Offline

 Inspected the H-2 Inverter transformer Due to the fire damage we are currently looking at replacing the inverter



#### Your Touchstone Energy Cooperative

### Operators Event Log

10/30/2014	1:00444	U4 #2 UE	ATED IN	TVALVE	0.0400	01541/ 14	0 # 04 44							
10/30/2014	1:00AM 1:00AM			T VALVE HADLING WATE					6144550	-				
	1:30AM			FLANGE LE						-				
	2:00AM			TWELL CHE		OVE WAND	AL VALVE	. VV.O.# 6	141339	-				
	3:00AM			HOTWELL C		-	-							
	5:00AM			R SEAL AIR		EAKING V	0 # 6141	E01		+				
	NOTE			TER ON FIRE		LEAKING. V	V.O.# 0141	301		1				
	5:16AM		TRIPPED	ILK ON FIRE	-									
	7:05AM		3 H-1 BOILE	ED.					+					
	7:16AM		1-1 BOILER											
	7:42AM			OILER - FIRE	PE-ESTA	BUSHED								
	7.427.00	LOCITI	L IIII I	OILLIN - I IIN	- KE-EGIA	DEIGHED								
10/30/2014	8:00AM	UNIT	LOAD	UNIT CAP	NET CAP	802	CO2	NOX	OPACITY	REMOVAL	DUST	AMM ELOW	BACK PRESSUR	DE
		R1	12HR STA		42	002	002	HOA	OFAOITI	KEMOVAL	5001	AMM. PLOW	BACK FRESSOR	CTL 17'
						1		1	_	-				01411
		H1	OFF		FIRING BO	DILER								
		H2	OFF		FIRING BO	DILER								CTL 15.4'
		CT	OUTAGE											
		ALARMS	i:										•	
		R1	DUDUED		LITIOTELL									
		H1		MANAGEME			SSURE/A	& B PA F	AN MOTOR	S/HY PURIT	Υ			
		H2	EH KES I	LEVEL HI, B	MILL OIL F	RESSURE								
		SOOT P	OWERS T	AGGED				GALIGE	GLASSES		PWTL 27		DRYING AGENT	
		R1	- JITENO I	- JOED				OK	OLNO SES	-	FVVIL 2/		R1-0%	
		H1						JK					H1-0%	
		H2 41											H2-0%	
		7.				-								
		FUEL OIL	L C.H.	HMPL	NORTH	SOUTH				-	SILO LVL		BOOTHE SYSTE	EM
		LEVELS		13'6 3/4"	19' 1"	6 3/4"	1				11.5'		out	
	8:00AM		BRIEFING											
	8:05AM	FIRE IN H	H-2 BOILER											
	8:00AM		N & HOGA	N HERE										
	8:30AM	JOHNSO												
	9:00AM	YOUNG		1										
	10:42AM			E - TURBINE			И							
	11:24AM			OR - PRECIP	S IN - NOT	NFIED H/L								
	11:45M		STER FAN			-			1					
	12:05PM			AUXILIARIE	5				-		-			
	12:28PM 1:15PM		UBBER IN S	INE & PULLI	NG VACUI	IN A		-						
	1:25PM						SILICE	MATERTI	E CLOSED	AND ALIVI	IA DV MAAT	ER PUMP BAG	CK ON	
	1:38PM			NE & PULLIN			- SLUICE	VAILA	E CLOSED	- AND AOAL	INK! WA!	ER FOINT BAC	JK ON	
	2;10PM		ERATOR FI						1					
	2;24PM			D ON LINE						-				
	2;26PM		IPS IN SER							1	-			
	3:00PM	BREEDE	N& HOGA	N LEAVING										
	3:10PM	H-1 SCR	IN SERVIC	E										
	3:11PM	H-2 SCR	UBBER IN S	SERVICE										
	3:18PM			AUXILIARIE										
	4:00PM			ON LEAVIN										
	NOTE			& 3:18PM H-			ES OVER	60%						
	NOTE	BAD LEA	K ON CBD	LINE ON DE	RAIN MANIF	FOLD								
010010011														
0/30/2014	8:00PM	DENTON	, REYNOLD	S, GOODM	AN P.D., B	AKER, EDV	VARDS, SN	ELLING,	CALHOUN,	HIGGINS ,		D SHIFT STE	ERLING	
			1040		NET 040			NOV	001015			=: 0::	D + 01/ DDF00111	-
		UNIT	12HR STA	UNIT CAP	NET CAP.	302	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSU	
		R1	IZHK SIA	INDD T	40			-						
		H1	146	165	153	0.673	10	0.102	25	80	18	195	2.6	
			140	100	.00	3.013	10	3.102	25	30	10	183	2.0	
		H2	130	130	118	0.692	10	0.177	50	84	9	153	2.3	(
		-		SILICA DE		-	- 400	Promise,						
		CT	OUTAGE											
		ALARMS	3:											
		R1	-											
		H1					SSURE/E	H. PRESS	SURE LOS	TART REQU	IRED/ DRU	MXMTR MAINT	A & B PA FAN N	TOTORS
		H2	EH RES I	LEVEL HI, B	MILL OIL F	RESSURE								
		POCT	OWERS -	ACCES				CALICE	CLACOFO	-	DIACTO		DRVING ACCU	
		R1	LOWERS T	AGGED					GLASSES		PWTL		DRYING AGENT R1-0%	
		H1						0			26.2'		H1-0%	
		H2 , 41				+		-					H1-0% H2-0%	
		na , 41				-			+				112-070	
		FUEL OI	L C.H.	HMPL	NORTH	SOUTH					SILO LVL		BOOTHE SYSTE	EM
			10'	13'6 3/4"		6 3/4"	1				19'		IN	month.
	8:30PM			A CALLED			•			·				
	8:45PM			EN RELEAS		LL PRESSU	RE. CALLE	DACES.						
	9:52PM			FULL PRES										
	10:30PM	ELECT.	HAS H2 RA	PPERS IN O	UTAGE MO	DDE								
				BACK IN NO										



### Forced Outage Report

Lost Opportunity is the lost margins if the unit had stayed running

#### **Estimated Outage Cost**

Work Order 6141667

\$2,396,15

#### Lost Sales Opportunity Report

#### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY Unit **Production Cost** HMP'L 2 - H2-14-10 Date & Time Off Line 10/30/14 5:16 MW \$/MW Date & Time On Line 10/30/14 14:24 61 \$ 32.66 **Outage Duration** 9 hr. 8 min. 127 \$ 29.15 **Outage Code** UO1 149 \$ 28.84 Unit tripped on MFT after losing **Outage Reason** control power Lost DA LMP Average RT LMP Average DART P&L Date Opportunity 10/30/14 (HE 6-23) \$ 35.03 32.57 (13,393)Total \$ (13,393) \$ Start Up Fuel Cost **Total Forced Outage Cost** S/U Fuel Consumed 4,543 DART P&L (13,393)S/U Fuel Price \$ 3.09 Lost Opportunity \$ \$ S/U Fuel Cost (14,026)S/U Fuel Cost \$ (14,026)Total (27,418)NOTES: All negative values are money out of pocket. DART Revenue is calculated from differences between the DA award and RT events

