#### SULLIVAN, MOUNTJOY, STAINBACK & MILLER PSC

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John S. Wathen

\*Also Licensed in Indiana

May 5, 2015

Via Federal Express

Jeff Derouen Executive Director

Public Service Commission

211 Sower Boulevard, P.O. Box 615

Frankfort, Kentucky 40602-0615

RECEIVED

MAY 06 2015

PUBLIC SERVICE COMMISSION

Re: 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; and

In the Matter of: 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

Dear Mr. Derouen:

On April 30, 2015, the Public Service Commission entered an order directing Big Rivers Electric Corporation to file one original of its response to Item 3(d) of Kentucky Industrial Utility Customers, Inc.'s first request for information in paper format. That original is enclosed. I certify that on this date, a copy of this letter without the attachment was served on each of the persons listed on the attached service list by first-class mail.

Sincerely,

Tong

Tyson Kamuf

Counsel for Big Rivers Electric Corporation

TAK/lm

Enclosure

cc:

DeAnna Speed

Service List

100 St. Ann Building
PO Box 727
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Telephone (270) 926-4000

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## Service List PSC Case No. 2014-00230 PSC Case. No. 2014-00455

Michael L. Kurtz, Esq. Kurt J. Boehm, Esq. Jody Kyler Cohn, Esq. BOEHM, KURTZ & LOWRY Attorneys at Law 36 East Seventh Street, Suite 1510 Cincinnati, OH 45202

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### COMMONWEALTH OF KENTUCKY

## BEFORE THE PUBLIC SERVICE COMMISSION OF KENTUCKY

#### In the Matter of:

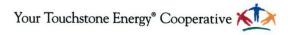
AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2013 THROUGH APRIL 30, 2014	) ) )	Case No. 2014-00230
AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2012 THROUGH OCTOBER 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 1 of 2 (Electronic files 1 through 40)

FILED: May 6, 2015





### 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	1	e No. 00230
AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF BIG RIVERS ELECTRIC CORPORATION FROM NOVEMBER 1, 2012 THROUGH OCTOBER 31, 2014		e No. 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**



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 1 of 2 (Electronic files 1 through 40)

FILED:

May 6, 2015

# **ORIGINAL**



To:

**Bob Berry** 

From: Daryl Chinn

Date: 31-Dec-2012

Plant: Coleman

Unit: 2

GADS Class: UO1

Duration

Trip Time: 11-Nov-2012 14:53

Tie Time: 12-Nov-2012 05:02

Time Offline: 14:09

## **Outage Description**

Coleman Unit 2 was removed from service on Sunday, 11-Nov-2012 at 14:53 due to no drum level indication in the control room. 2A mill motor went to ground and 2B mill also tripped. The CRO manually tripped the boiler because both drum level indications in the control room failed and did not know where the water level was in the drum.

#### **Root Cause**

2A mill motor went to ground causing 2B mill wires to go to ground resulting in both motors tripping offline. Both main 4160V Breakers 2A1 & 2B1 stayed closed until the unit was tripped offline as designed. When the unit tripped, 2B3 Tie Breaker auto transferred momentarily to startup power and then tripped back open explaining why both busses were found dead. The 2A Mill Motor ground fault appears to have caused a large enough voltage dip in the 4160 and 480V systems that the massive current draw dragged the voltage low enough to trip the following equipment while the unit was still on-line: air-heaters, boiler seal air fan, EH servo pumps, condenser vacuum pump, coal mill feeders A, B, C, D, trouble alarms, etc. The MERLI indicators and the drum level gauge glasses are fed from Lighting Panel 'L' out of MCC 'D' which could have seen the voltage dip causing problems with the remote visual drum indications. It should be noted that the affected equipment is outfitted with 120 ac motor starters, if the voltage sags sufficiently these starters will go to the open condition thus "tripping" associated equipment. Although the protective relays functioned, there seems to be no explanation, except for the speed of this event, that the protection relays did not catch the



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instantaneous over current fast enough to prevent a sag in voltage that caused critical equipment to shut down.

## **Failure History**

No similar failures have occurred in the past three years.

## **Corrective Action**

Repair the ground fault on 2A mill motor.

## **SOE Print Out**

N/A

## Other Work Completed While Unit Was Offline

None





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## Operators Event Log

11/11/2012	14:53	C2 TRIPPED SHORTED 2/	A MILL MOTOR							
	15:42	C2 ON GEAR	, MALL WOTON							-
	15:54		SC IS DI OMM							
		C2 TURBINE RUPTURE DI								
	17:53	CALLED S KURTZ.LEFT N								
	17:54	CALLED A LINDSEYLEF							-	
	17:55	CALLED M. LEELEFT ME								
	17:57	CALLED M YOUNGLEFT	MESSAGE							
	17:59	CALLED W MILLSLEFT	MESSAGE							
	18:00	CALLED J GOODMANLE								
	18:01	CALLED L SHEARNWILL	BE IN							
	18:03	CALLED K GRANTLAND	EFT MESSAGE							
	19:00	"D"SHIFT (GATTON) HER	RE "A" SHIFT(SH	AVER) LEAV	ING					
		V.Ramsey, B.Johnson, R.F.	ayne, J.Miller, S.	Emberton, B.F	lunt, G. Tivitt,	G.Calhoun	L SHEARN	HERE ON OT		
				0 "		00-		0.00		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Sti
		1	160	26.0	0.34	4.78	9.61	0.144	150 N w/o Gas	CLOSED
		2	PITSTOP						0 N w/o Gas	OPEN
		3	154	22.8	0.38	4.63	9.83	0.064	155 N w/o Gas	CLOSED
		FOR N	0.05							
		FGD Nox	0.35							
		FGD Removal %	97.1%							
		3A Mill Amps	88							
		3B Mill Amps	94							
		COND. STOR. TNK	22.7/22.5							
		Instr. Air Dew Point	-81.1							
		Sootblowing								
		#1 S/B Out of Service	NONE							
		#2 S/B Out of Service	NONE							
		#3 S/B Out of Service	NONE							
		HASNTAS	NO THREATS							
	19:40	INFORMED JOSH LADNEI								
	19:45	CALLED JOE HOLLAND T	O COME IN EARL	Y AT 3 AM						
	20:00	K GRANTLAND CALLED B	ACK							
	20:30	L SHEARN WENT HOME								
	21:00	WASHING 2C & 2D MILLS	OUT							
	21:25	SCHEDULED ALLEN MAY	FIELD FOR THUR	SDAY NIGHT	7P-7A , D H	AYNES IS TAI	KING HER P	ERSONAL DA	AY	
	21:50	J HERNANDEZ IS HERE F	OR START-UP							
	23:05	C2 PRECIPS ARE IN								
	23:10	2A BFP ON TO BRING BO	LER TO FIRING L	EVEL						
	23:55	3B MILL OFF PER APM RE								
11/12/2012	0:03	GAS FIRE IN C2								
	0:50	WASHING 2B MILL OUT								
	1:40	WASHING 2A MILL OUT								
	1:50	J HERNANDEZ IS GOING	HOME							
	2:11	#2 BOOSTER FAN ON	IOIVIL							
	2:20		A CCDADDED	S KICKED I ID	INFORME	D C VENNIEDY	,			
		2A MILL HAD A 2X4 IN IT	A SCRAPPER IS	S KICKED UP	INFORME	O 9 KENNED				
	2:45	C2 BYPASS CLOSED								
	2:55	J HOLLAND IS HERE								
	3:00	J LADNEIR IS GOING HON	ΛE							
	3:45	3B MILL ON								
	4:20	ROLLED C2 TURBINE ECO	C 3.5 MILS							
	5:02	C2 TIED ON LINE HOTLIN	E NOTIFIED HOTL	INE						

3







## **Lost Sales Opportunity Report**

#### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY Unit Coleman 2 - C2-12-05 **Production Cost** Date & Time Off Line 11/11/12 14:53 MW Date & Time On Line 11/12/12 5:02 \$ 28.75 62 **Outage Duration** 14 hr. 9 min. 84 \$ 27.25 **Outage Code** UO1 25.59 139 \$ Operator manually tripped the unit **Outage Reason** when lost all drum level indication due to A mill motor going to ground. Lost DART P&L Date DA LMP Average RT LMP Average Opportunity 11/11/12 (HE 16-24) \$ 28.27 23.32 2,121 \$ 11/12/12 (HE 1-10) \$ 24.61 \$ \$ \$ 20.88 3,742 Total \$ 5,863 \$

Start Up Fue	el Cost		Total Forced	Outag	e Cost
S/U Fuel Consumed		573	DART P&L	\$	5,863
S/U Fuel Price	\$	4.46	Lost Opportunity	\$	-
S/U Fuel Cost \$	\$	(2,552)	S/U Fuel Cost	\$	(2,552
			Total	\$	3,311

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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



Your Touchstone Energy Cooperative

## Forced Outage Report

To: Bob Berry

From: Billy Boarman

Date: 30-Nov-2012

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

Duration

Trip Time: 29-Nov-2012 11:47 Tie Time: 29-Nov-2012 19:53

Time Offline: 8:06

**Outage Description** 

HMP&L Station Two Unit 2 was removed from service on Thursday, 29-Nov-2012 at 11:47 due to #24 observation port penetration allowing boiler flue gas and heat to exit the boiler.

**Root Cause** 

Refractory protecting the observation port was deteriorated allowing boiler flue gas and heat to compromise the sealing integrity of the observation port wall box.

**Failure History** 

Boiler skin leak at #14 wall blower seal air box. 12-May-2011 17 hrs. 09 min

14 hrs. 24 min 6-May-2012 #9 wall blower penetration allowing boiler flue

gas and heat to exit the boiler.

**Corrective Action** 

Removed observation port, installed mesh screen to hold blue ram, installed blue ram in the wall box, and welded a plate over the wall box.



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

STANDARD SOE REPORT

Triggered on: 29-Nov-2012 11:45:51:294

Event Time	State	Tag Name	Tag Description
29-Nov-2012 11:46:06:550	ОК	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
29-Nov-2012 11:46:05:233	LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
29-Nov-2012 11:45:58:089	LOW	H245SEALSTMLOW	TURBINE SEAL STEAM PRESS
29-Nov-2012 11:45:56:040	OK	H233MANBLRTRP	MANUAL BLR TRIP
29-Nov-2012 11:45:55:539	OK	H233LMISTRP	LAST MILL IN SERVICE TRIP
29-Nov-2012 11:45:51:546	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
29-Nov-2012 11:45:51:544	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
29-Nov-2012 11:45:51:543	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
29-Nov-2012 11:45:51:294	TRIP	H233MANBLRTRP	MANUAL BLR TRIP
29-Nov-2012 11:45:51:134	OK	H203M3BTRIP	4160 BKR MILL H2B TRIP

## Other Work Completed While Unit Was Offline

Repaired gas leaks on the seal skirt and angle



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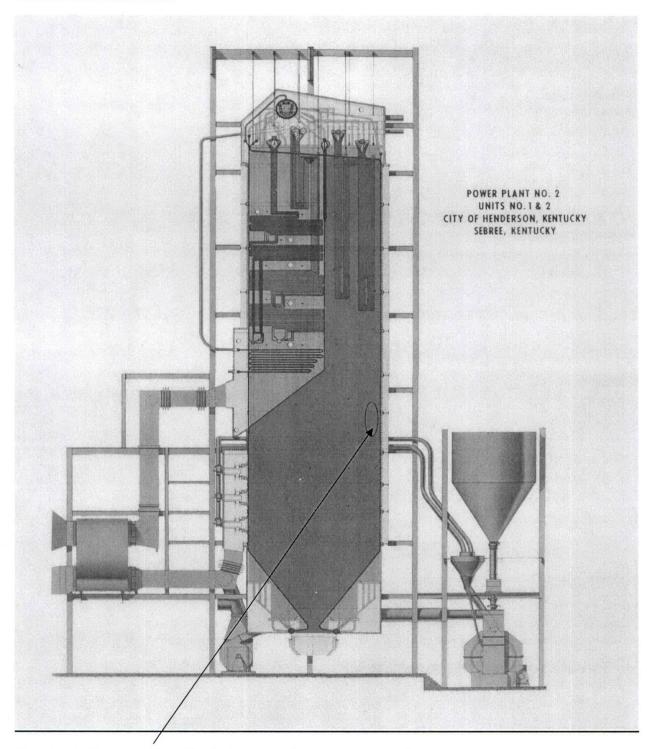
## Operators Event Log

012	8:00AM	SAFETY E	RIEFING										
	8:00AM	CLEANING	SCREENS	AT COC	DLING TOV	VER							
	NOTE	SCRUBBE	R SUMP PL	MPS SE	T TO GO T	O H-2 BLE							
	9:30AM	TAGGING	H-2 EAST G	AUGE G	SLASS TO	CHANGE C							
	11:30AM	BOOTHE S	SYSTEM IN	LEAVE I	N AS MUC	HAS POS	SIBLE WILL	BE GROUTI	NG 11-30	WIL BE OUT FO	OR A MIN	OF 36 HOL	JRS
	11:47AM	HAD OPE	RATOR TRIF	H-2 BO	ILER #24	BOILER PO	ORT BOX BL	OWING FIRE	E SCRUBE	BERS OUT 11:5	0 PRECIPS	OUT	
	12:15PM	CLOSED I	H-2 MAIN ST	EAM ST	OP VALVE	BOTTLING	G UP BOILE	R					
	4:00PM	H-2 BOILE	R RELEASE	DI.T. S	TILL WOR	KING ON C	CONTROL SC	CREENS					
	4:35PM	I.T. SAID	CONTROL S	CRENNS	SHOULD	STAY UP I	NOW						
	4:39PM	PURGING	H-2 BOILER	2									
	4:47PM	FIRE IN H	-2 BOILER H	VL NOTI	FIED OF T	HIS AND S	HUTDOWN						
	NOTE	MAIN STE	AM STOP V	ALVE S	TILL CLOS	ED INST W	ORKING OF	N#1 GV					
	5:00PM	A-4 B-3 B-	4 OIL GUNS	IN DRU	JM PRESS	URE 470 M	SSV CLOSE	ED					
	5:30PM	A-4 B-3 B-	4 OIL GUNS	IN DRU	JM PRESS	URE 674 M	SSV CLOSE	ED					
	5:36PM	PULLED A	4-4 OIL GUN	DRUM F	PRESSURE	<b>717</b>							
	5:39PM	<b>OPENING</b>	MSSV										
	5:53PM	CLOSING	MSSV PER	INST AN	ID I.T.								
	6:02PM	MSSV OP	EN B-3 B-4	OIL GUN	IS IN DRUM	M PRESSU	RE 806 MAI	N STEAM TE	MP 838				
	NOTE	TOOK WE	ST A DRUM	LEVEL	TRANSMIT	ER OOS W	VIRING ISSU	JES					
	6:09PM	SEALING	H-2 TURBIN	E THAN	PULLING Y	VAC.							
	6:53PM	ROLLING	H-2 TURBIN	E									
	7:20PM	ALL FROM	IT STANDAR	D TRIP	TEST PAS	SED RAN	OVERSPEE	D TRIP ,TRIP	PED AT 3	1			
	7:50PM	TIED H-2	ON LINE										
	7:53PM	H-2 PREC	IPS IN SER	VICE									
	8:00PM	MORRIS,	DENTON, R	EYNOL	DS, HIGGI	NS, GATTO	NC					D SHIFT	M.ASKII
		<b>EDWARD</b>	S, TATE										
	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PR	ESSURE	
	12 HR	55	48										
	STANDBY												
	165	165	153	0.29	10.8	0.05	19	95	19.61	235	2.3		
	14	START UP	)										
	STBY	65											



Location of Gas Leak





Gas Leak Here on East Wall (far side) South corner of Furnace at #24 observation port





Lost Sales Opportunity Report

## Your Touchstone Energy® Cooperative

## **FORCED OUTAGE COST ANALYSIS**

## MISO DART Revenue and LOST OPPORTUNITY

Unit	H2-12-16	Production Cost				
Date & Time Off Line	11/29/12 11:47	MW		S/MW		
Date & Time On Line	11/29/12 19:53	83	\$	31.41		
Outage Duration	8 hr. 6 min.	127	\$	29.52		
Outage Code	UO1	149	\$	29.20		
Outage Reason	Operator manually tripped unit due to					

Date	DA LIV	P Average	RT LN	IP Average	ı	DART P&L	ost rtunity
11/29/12 (HE 13-24)	\$	38.34	\$	27.82	\$	2,555	\$ -
11/30/12 (HE 1-4)	\$	29.70	\$	38.50	\$	(890)	\$ -
Total					\$	1,665	\$

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		5,654	DART P&L	\$	1,665
S/U Fuel Price	\$	3.18	Lost Opportunity	\$	
S/U Fuel Cost \$ (17,998)	S/U Fuel Cost	\$	(17,998)		
			Total	\$	(16,333)

## 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: Billy Boarman

Date: 12-Dec-2012

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

## **Duration**

Trip Time: 10-Dec-2012 13:15 Tie Time: 12-Dec-2012 14:49

Time Offline: 49:34

### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Monday, 10-Dec-2012 at 13:15 due to a suspected tube leak in the wet bottom area of the boiler.

#### **Root Cause**

The tube leak on the east side lower water wall terminal tubes 7<sup>th</sup> tube from the south at elevation 438'-8" was due to external corrosion because of the aggressive atmosphere above the ash hopper and seal trough. Another tube leak was located on the south slope water wall, 5<sup>th</sup> tube from the east, 18" up from the knee at elevation 442'-2". This leak was possibly due to slag fall.

## **Failure History**

HMP&L Station Two Unit 2 was removed from service on Tuesday, 3-May-2011 at 16:55 due to a leak on B4 coal pipe during this outage tube leaks were discovered at the east lower wall header where the tube stubs weld to the header. Two (2) tubes with leaks and another that were washed. There was also a 3" long x ½" x ¾" deep wash in the header below one of the tube leaks. HMP&L Station Two Unit 2 was removed from service on Sunday, 31-Jul-2011 at 00:32 due to tube leaks on the east side knee tubes, 3<sup>rd</sup> and 4<sup>th</sup> tubes from the south at elevation 438'-8" were due to external corrosion because of the aggressive atmosphere above the ash hopper and seal trough for a total duration of 81:42 hours.



Your Touchstone Energy Cooperative

## Forced Outage Report

## **Corrective Action**

Base Metal Repairs ("BMR") were performed on the lower water wall terminal tube leak and also on the east side lower ring header due to wash from the leak. A BMR was performed on the 5<sup>th</sup> tube on the south slope water wall. Also Performed BMR's on the 3<sup>rd</sup> and 4<sup>th</sup> tubes on the south slope water wall. These tubes had flat spots on them. UT readings were taken to confirm that they were below the specified minimum wall thickness.

### **SOE Print Out**

STANDARD SOE REPORT Triggered on: 10-Dec-2012 13:14:37:546

Event Time	State	Tag Name	Tag Description
10-Dec-2012 13:15:01:243	ОК	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
10-Dec-2012 13:15:01:231	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
10-Dec-2012 13:14:56:990	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
10-Dec-2012 13:14:55:167	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
10-Dec-2012 13:14:54:205	OK	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
10-Dec-2012 13:14:53:704	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
10-Dec-2012 13:14:52:550	OK	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
10-Dec-2012 13:14:48:694	OK	H225DRMLVLHI	BOILER DRUM LEVEL HIGH
10-Dec-2012 13:14:42:540	OK	H233LMISTRP	LAST MILL IN SERVICE TRIP
10-Dec-2012 13:14:42:040	OK	H225DRMTRP	BOILER DRUM LEVEL TRIP
10-Dec-2012 13:14:40:519	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
10-Dec-2012 13:14:40:505	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
10-Dec-2012 13:14:40:465	LKOUT	H250GENLO86G3	GEN H2 DIFF LOCKOUT (86G3)
10-Dec-2012 13:14:40:458	ОК	H240TLOSSFB	TURB LOSS OF FIELD BKR
10-Dec-2012 13:14:40:434	OK	H250FLDBKRTRP	GEN H2 FIELD BKR TRIP
10-Dec-2012 13:14:40:432	FAIL	H240TLOSSFB	TURB LOSS OF FIELD BKR
10-Dec-2012 13:14:40:426	MANUAL	H246XFERTOMAN	VOLTAGE REG XFER TO MAN
10-Dec-2012 13:14:40:417	OK	H250OCB182GETR	OCB 0182 GEN H2 TRIP
10-Dec-2012 13:14:40:416	OK	H250OCB186GETR	OCB 0186 GEN H2 TRIP
10-Dec-2012 13:14:40:394	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
10-Dec-2012 13:14:40:392	TRIP	H250FLDBKRTRP	GEN H2 FIELD BKR TRIP
10-Dec-2012 13:14:40:391	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
10-Dec-2012 13:14:40:387	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
10-Dec-2012 13:14:40:387	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
10-Dec-2012 13:14:40:297	TRIP	H225DRMTRP	BOILER DRUM LEVEL TRIP
10-Dec-2012 13:14:38:544	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
10-Dec-2012 13:14:37:795	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
10-Dec-2012 13:14:37:546	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
10-Dec-2012 13:12:59:650	HIGH	H225DRMLVLHI	BOILER DRUM LEVEL HIGH



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## Forced Outage Report

## Other Work Completed While Unit Was Offline

- Repaired gas leaks around the wet bottom The ash hopper seal skirt attachment angle iron is deteriorated and had to be patched on the east end and part of the north side.
- · Repaired gas leaks in the economizer outlet duct
- · Cleaned seal air fan filters
- · Replaced east side bottom ash hopper door and face plate
- · Repaired refractory cooling water header shields
- Repaired bottom ash hopper overflow box
- · Inspected precipitator
- Repaired plugged #5 SCR Sonic Horn
- Repaired #4 West RCV
- Repaired 7,8,&9 boiler ports
- Replaced #5 HP FW Heater shell side drain valve
- Replaced #6 HP FW Heater shell side and feedwater drains
- Repaired #6 HP FW Heater normal drain valve
- · Repaired NE Drum Safety
- · Calibrated all four coal feeders
- Repaired "A" mill ball charge gate
- Replaced "A" ash gate housing access door
- Cleaned M.E. panels
- Cleaned economizer hopper
- Cleaned steam coils and air heaters
- Cleaned seal trough
- Inspected boiler back pass during inspection revealed a weeping leak on a roof tube, 1<sup>st</sup> tube to the east of the 4<sup>th</sup> primary super heater element from the east at elevation 579'-8", repaired via BMR.
- Repaired coal leak "B2" coal feeder
- Repaired H2 DC Battery charger
- Repaired Accu-temp



### Your Touchstone Energy Cooperative

## Operators Event Log

12/10/2012	1:15PM	H-2 OFFLI		TER FAN DIC	NOT TRIP -	HAD TO TR	IP BREAKE	ER MANUALL	Y - SMOKE	COMING	
	NOTE			ID - 2 CRFW	S IN AT 6PM	- ONE DESI	AG & ONE	E A.H. WASH			
	1:52PM	DRAINING				0.112.0201					
	3:15PM			HYDRO - AN	ΛΜΟΝΙΑ ΤΑ	GGED OUT					
	3:22PM		FOR HYDR			0020 001					
	3:30PM			S ON FOR VA	ACUUM CHE	CK					
	NOTE			CKED PRECIP				-			
	4:06PM		FF - 1440 #		DOONS						
	4:31PM		H-2 BOILE								
	4:40PM			ON FOR COO	TING						
	5:20PM			ING UP FOR		A LI \A/ACLI					
		The second second			DE-SLAG &	A.H. WASH					
	6:35PM	INLAND S	TAKTING L	E-SLAG							
12/10/2012	8:00PM	EDMOND	S. JACKS	ON, BOWL	EY, HOGAN	I, GRIFFIN,	WADLIN	GTON			
, ,					,						
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST
		R1	12HR	48	48						
			STBY								
		H1	153	165	153	0.15	10	0.06	18	97.4	21.08
			10.44	1.00.00		1.0.00					
		H2		165	OUTAGE						
				103	OO II IOL						
		C.T.	STBY		65						
		0.11	OIDI		03						
		ALARMS				-	†				
		R1									
		H1	EHIOW	/ PRESSUR	E/STEAM S	FALLOW F	PRESSUR	F			
		H2						PUMP RUNN	ING - A F I	H FLUID HLI	DIFF
		112		ROTOR PO		i Ci ti tii to C	L II OIL I	OWN TROTHY	7, 2.1		J.I. 1
		SOOTBI	OWERS T		0,						
			9,28,29,30				-	-			
		H1 10,		,51							
				SED-1,4,5,7	,9,10,15,18	,19,20,21,2	2,23,24,35	5,38			
		FUEL OIL	TANKS								
		LEVELS		HMPL	NODTU	COUTU			CILOTA		
		LEVELS			NORTH		1		SILO LVL		
			12 1 3/4"	13' 3 3/4"	15' 1 1/2"	8 1/4"	_		6FT		
12/10/2012	9.00DAA	CAEETV DI	DIECINIC								
12/10/2012	8:00PM	SAFETY BI		UD HEATER !	MACH COLA	C TO BUN !	COR & LICI	IDC			
	8:30PM			VIR HEATER V	WASH, GUIN	G TO KUN I	TUR 8 HUL	71/2			
	8:36PM		STEM OUT								
	NOTE:		G ON GOIN		DVINC ACE	NT FIRMS	EO INCLIES	CALLEDIE	DANICIS OF	IT OF ADC	
	9:00PM							S. CALLED J.F	KANCIS. OL	JI OF ADS.	
	0.0001			FOR A COUP		ND WATCH	FUEL CLC	JSE			
	9:00PM			SLAG COMP							
	9:05PM			F OF H2 WET							
	10:40PM							S SPARE ON			IRUCKS
	11:00PM			K TO 165 AN ''S RIGHT NO			TILL RUNI	NING 15% DF	YING AGE	NT. LOAD	



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	11:45PM	H2 BOILER	R DESLAG C	OMPLETED	BREAKING	DOWN AND	WILL RIG	FOR WET S	EAL.				
12/11/2012	1:40004	H2 WET C	EAL COMBI	ETED									
12/11/2012	1:40AM		H2 WET SEAL COMPLETED. STARTING ON SCRUBBER WASH										
	3:15AM												
	5:00AM	H2 AIR HEATER WASH COMPLETED INLAND NIGHT SHIFT SIGNING OFF. DAYSHIFT WILL BE UP TO SIGN ON											
	5:15AM	INLAND	IGHT SHIFT	SIGNING	FF. DAYSHIF	T WILL BE U	JP TO SIG	NON					
12/11/2012	8:00AM	CONN, C	LARK, CU	TSHAW, AL	EXANDER	, YOUNG, E	BLANKS,	JOHNSON	B SHIFT	PENDLEY			
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST		
		R1	48HR	48	48								
			STBY										
		H1	155	165	153	0.167	10.9	0.063	20.7	96.8	15.5		
		H2	OFF	165	152								
		C.T.	STBY		65								
		ALARMS:											
		R1						_					
		H1			E/STEAM S								
		H2				TURNING G	EAR OIL I	PUMP RUNN	ING - A E.I	H. FLUID HI	DIFF		
				ROTOR PO	S,								
			OWERS T										
			9,28,29,30,	,31									
		H1 10,											
		H2 36,40,	BYPAS	SED-1,4,5,7	,9,10,15,18	,19,20,21,2	2,23,24,35	5,38					
		FUEL OIL	TANKS										
		LEVELS		HMPL	NORTH	SOUTH			SILO LVL				
		LLVLLO	10' 8 3/4"		14' 1"	8 1/4"			15				
12/11/2012	8:00AM	SAFETY BI											
	8:30AM							F TIL THEY G					
	8:30AM					O REMOVE	A.H. BASH	KET PIECES F	ROM DUCT	WORK			
	9:45AM			ITH H-2 M.E									
	11:45AM					S - MOVING	TO GAS I	DUCTS TO VA	ACUUM OU	T WATER			
	NOTE			FANS CLEAN	V								
	NOTE		R SET FOR										
	1:15PM							GAN TO CLO	SE DOORS				
	1:30PM				E - VACUUN		TITAN						
	NOTE				NOTIFIED D								
	4:00PM				AT PENTHO	USE - THEY	ARE LEAV	ING					
	NOTE			D PERMITS									
	6:14PM	SHUT H-2	E.H. PUMP	OFF - FILTE	R LEAKING	ON TOP OF	UNIT - MA	AINT CHECKI	NG				
	6:34PM	MAINT RE	ELEASED 'A'	BFP & #5 A	ND #6 HEAT	ERS FOR HY	DRO						
	6:50PM	H-2 'A' BF	P ON FOR I	HYDRO									
	7:15PM	H2 DA RE	G NOT WO	RKING.									
	7:22PM	RUNNING	LIST FOR I	NST. M.PEY	TON. ANSW	ERED WILL	BEIN						



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12/11/2012	8:00PM	EDMOND	S, JACKS	ON, BOWL	EY, HOGAN	, GRIFFIN	, WADLIN	IGTON	C SHIFT F	PAYNE	
		UNIT	LOAD	LINIT CAP	NET CAP.	502	CO2	NOX	OBACITY	REMOVAL	DUST
		R1	12HR	48	48	302	002	NOX	OFACITI	KEWOVAL	D031
		IXI	STBY	40	40						
		H1	OIDI	165	153	0.167	10.9	0.068	18.7	96.8	17.2
		,,,,		103	155	0.107	10.5	0.000	10.7	30.0	17.2
		H2		165	OUTAGE						
		1.1.2		100	CONTOL						
		C.T.	STBY		65						
		ALARMS	:								
		R1									
		H1	E.H. LOV	V PRESSURI	E/STEAM S	EAL LOW I	PRESSUR	RE,			
		H2	COND DI	RAIN TANK H	H LEVEL -	TURNING G	EAR OIL	PUMP RUN	NING - A E.H	H. FLUID HI	IFF
			TURBINE	ROTOR PO	S,						
		SOOTBL	OWERS 1	TAGGED							
		R1- 16,1	9,28,29,30	),31							
		H1 10,	20,31								
		H2 36,40,	BYPAS	SED-1,4,5,7	,9,10,15,18	,19,20,21,2	2,23,24,3	5,38			
		-									
		FUEL OIL							011 0 11 4		
		LEVELS	C.H.	HMPL	NORTH	SOUTH	_		SILO LVL		
12/11/2012	0.0004	CAFETY	10' 8 3/4'		15' 1 1/2"	8 1/4"	_		16FT		
12/11/2012	8:00PM		BRIEFING								
	8:00PM		YTON HER	HOLD ON H	2 HADBO						
	8:04PM 8:14PM		UTE HOLD								
	8:40PM										
	8:45PM	H2 DRY BOILER, DRAINING AND SETTING TO FIRE RUNNING BOTH H2 EH PUMPS. NO LEAKS.									
	9:00PM		G DRYING								
	11:45PM			ED D DOADNA	ANI (ONI CALLI)						
		R.BEISWE	NGER IS S	HAVE HIM LO	OKATIT. TR	IED					
12/12/2012	2:30AM			NS FOR AIR T		WILL TALK	I O HINI IN	THE MORI	NING ABOUT	CONTROLLER	
12/12/2012	3:50AM		ST COMPL		LJI						
	3:59AM			R-NOTIFY H/L							
	NOTE:			R NOT WORK		WORKING	ON CON	TROLLER			
		UNIT	LOAD		NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST
		R1	12HR	55	48				-		
		-	STBY						to read		
		H1	155	165	153	0.18	10.6	0.06	13	97	20.69
		H2	START	UP							
		0.7	OTDV		C.F.						
		C.T.	STBY		65						



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		ALARMS:	_	•						
		R1								
		H1	E.H. LOW	PRESSURE	STEAM SE	EAL LOW PR	RESSURE			
		H2						RUNNING - A E.H	FLUID HI	DIFF
			TURBINE F							
		SOOTBL	OWERS TA		1					
			9,28,29,30,3							
		H1 10,								
				ED-1,4,5,7	,9,10,15,18,	19,20,21,22,	23,24,30,34,3	5,38		
		FUEL OIL	TANKS							
		LEVELS		HMPL	NORTH	SOUTH		SILO LVL		
		LEVELS	10' 4 3/4"	10' 9"	14' 1"	8 1/4"		12		
			10 4 3/4	10 9	14 1	0 1/4		12		
12/12/2012	8:00AM	SAFETY BI	RIEFING							
	8:25AM	H-2 DA RE	EG IS BACK II	N SERVICE						
	8:30AM	BLOWING	ELECTRON	IATIC						
	9:25AM	SEALING	H2 TURBIN	E 72 DEGF	REES S.H.	A1,A2,A3,A4	,B1 48% FAN,	1040LBS PRESS	URE, 630TE	MP
	9:30AM	PULLING	VACUUM							
	10:00AM	ROLLING	TURBINE							
	10:15AM	HOLDING	AT 1000 R	PM'S FOR I	LUBE OIL T	EMP				
	10:25AM	H-2 D.A. F TURBINE		WENT OPE	N 100%. OL	IT TOP SIGHT	r GLASS. HAD T	O TRIP CONDENSA	ATE PUMP A	ND
	NOTE:	BROKE VA	ACUUM - GC	ING TO CH	ECK ALL EXT	RACTIONS F	OR WATER. NO	WATER FOUND I	N EXTRACTI	ON LINES.
	11:30AM	NOTIFIED SIGHT GL		S D.A. LEVI	EL INDICATI	ON IS WRON	IG. CONTROL F	ROOM SHOWS 7.4'	, LOCAL IS O	UT TOP O
	12:10PM	SEALING	AND PULL	NG VACUL	JM					
	12:48PM	ROLLING	ING TURBIN	1E						
	12:55PM	D.A. REG	SULATOR W	ENT OPEN	100%. USE	D HAND JA	CK TO CATCH	LEVEL. INST WO	ORKING ON	SAME.
	NOTE:	INST DEF	PT FOUND F	PROBLEM V	NITH H-2 D	A. CONTRO	LLER.			
	NOTE:	H-2 TRIP	MANIFOLD	PT1 FAILE	D, B. EDW	ARDS NOTIF	FIED - J. FRAN	NCIS OKED TO THE	E GENERAT	OR
	2:49PM	H-2 TIED	ON							





Your Touchstone Energy Cooperative

## **Forced Outage Report**

## **Boiler Tube Leak Record**

Plant: HMP&L Station Two Unit: 2	
Type of Leak:	
Pin Hole Thick Lip Failure Crack V Thin Lip Failure	ć
Tube Wall Thinning Other	
Orientation of Rupture: Longitudinal Circumferential	
Probable Cause:	
Stress Overheat ErosionInternal Corrosion	
External Corrosion _ V Weld Failure (Shop Field)	
Internal Obstruction to Flow Soot blower Erosion	
Type of Repair:	
Dutchman Pad Weld _v _ Plug Tube Short Circuit Other	

## **Description of Repair:**

BMR's were performed on the terminal tube leak and also on the east side lower ring header due to wash from the leak at elevation 438'-8". A BMR was performed on the 5<sup>th</sup> tube on the south water wall, 18" up from the knee at elevation 442'-2". Also Performed BMR's on the 3<sup>rd</sup> and 4<sup>th</sup> tubes on the south water in the vicinity of the leak on south water wall. These tubes had flat spots on them. UT readings were taken to confirm that they were below the specified minimum wall thickness. The back pass inspection revealed a weeping leak on the 1<sup>st</sup> tube to the east of the 4<sup>th</sup> primary super heater element from the east at elevation 579'-8", repaired via BMR.

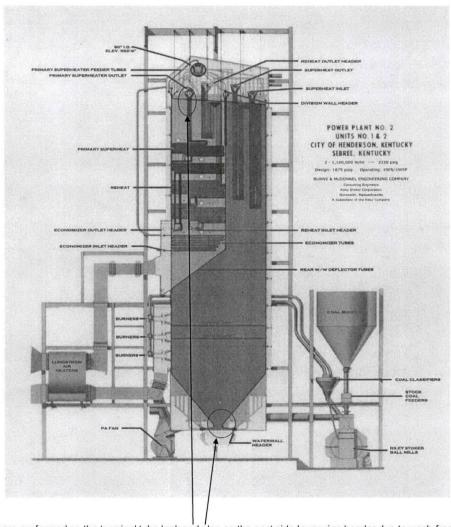


**Exact Location of Leaks:** 

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## HMPL STATION UNIT 2 2012 (5) TUBES INVOLVED

Date and Time Unit Off\_\_\_1315 12-10-12
Date and Time Unit On\_\_\_1123 12-12-12



BMR's were performed on the terminal tube leak and also on the east side lower ring header due to wash from the leak at elevation 438'-8". A BMR was performed on the 5th tube on the south water wall, 18" up from the knee at elevation 442'-2". Also Performed BMR's on the 3<sup>rd</sup> and 4<sup>th</sup> tubes on the south water in the vicinity of the leak on south water wall. These tubes had flat spots on them. UT readings were taken to confirm that they were below the specified minimum wall thickness. The back pass inspection revealed a weeping leak on the 1st tube to the east of the 4th primary super heater element from the east at elevation 579'-8", repaired via BMR.



**Lost Sales Opportunity Report** 

## Your Touchstone Energy" Cooperative

## FORCED OUTAGE COST ANALYSIS

## MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 2 - H2-12-17	Production Cost				
Date & Time Off Line	12/10/12 13:15	MW		\$/MW		
Date & Time On Line	12/12/12 14:49	72	\$	32.23		
Outage Duration	49 hr. 34 min.	127	\$	29.61		
Outage Code	UO2 and UO0	149	\$	29.30		
Outage Reason	Removed from service to repair water wall tube leak. Starting failure (1 hr 50 min.) occurred due to DA regulator problems.					

Date	DA LN	IP Average	RT LN	IP Average	DA	RT P&L	ost rtunity
12/10/12 (HE 14-24)	\$	33.55	\$	27.73	\$	2,172	\$ -
12/11/12 (HE 1-24)	\$	30.37	\$	27.95	\$	4,107	\$ -
12/12/12 (HE 1-22)	\$	29.29	\$	25.97	\$	1,777	\$
Total		10			\$	8,056	\$

Start Up Fuel C	Cost	Total Forced	Outag	ge Cost
S/U Fuel Consumed	14,418	DART P&L	\$	8,056
S/U Fuel Price	\$ 3.18	Lost Opportunity	\$	
S/U Fuel Cost	\$ (45,920)	S/U Fuel Cost	\$	(45,920)
		Total	\$	(37,864)

#### 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: 26-Dec-2012

Plant: Wilson Unit: 1 GADS Class: UO2

## **Duration**

Trip Time: 08-Dec-2012 14:51 Tie Time: 09-Dec-2012 19:57

Time Offline: 29:06

## **Outage Description**

Wilson Station was removed from service on Saturday, 8-Dec-2012 at 14:51 due to a tube leak on the east waterwall of the furnace on the 9<sup>th</sup> floor at Elevation 507'-0". Titan Contracting replaced a section of waterwall tube that was approximately 4' long. This was the 11<sup>th</sup> tube on the north side of IR-44 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 waterwall 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 a 180 degree section of the tube approximately 13 inches in length. The damaged area was approximately 4' in length. There have been numerous tube leaks in this area over the past few years. Just one week prior to this failure, a leak occurred one tube to the north of this area. Also, a 6' x 20' waterwall panel was supposed to be installed in the tube leak area during the spring 2012 outage (that was cancelled), to reduce the risk of this happening again.

## **Failure History**

The last waterwall tube leak in the furnace was on December 1, 2012 on the east waterwall of the 9<sup>th</sup> floor at Elevation 507-0". This was the 12<sup>th</sup> tube on the north side of the IR-44 wall blower. The December 1, 2012 east waterwall tube leak was due to weld overlay that was applied to a tube that was too thin, thus causing a pinhole in the tube. The December 8, 2012 waterwall tube leak was also due to weld overlay being applied



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to tube material that was too thin; however, this leak resulted in a tube blowout instead of a pinhole.

### **Corrective Action**

The recommendation is to install six (6) new waterwall panels during the fall 2013 Wilson Station Outage. The tube leak location will be included in the waterwall 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 economizer vent line
- Repaired leak in elbow on #6 and #7 feedwater heaters
- Changed out 1E oil gun and blanked 1D oil gun



## Operators Event Log

## Your Touchstone Energy® Cooperative

12/8/2012	2:51pm	Unit off line due to a tube leak. Notified ACES and contacts. H/L notified.
	8:00PM	Unit off line due to a tube leak.
		Roby Stewart ,Poore , Jones, Calhoun, Baker
		Setting turbine building up to fire
		Filling hotwell up to tube bundles
		Power flushing wet seal
		Setting boiler up for hydro
12/9/2012	12:00AM	
		Working on monthy fire System check list
		Tageing out 1 and 4 module
		Tagging #1 inst air dryer
		Working on weekly turbine check sheet and BFPT oil pumps weekly check
	6:00AM	Pulled Tony Mercer off job to get close light on #4 mod inlet and outlet dampers
	7:40 AM	Ran Call Out List for OPS - got no one
	8:00 AM	Owens, Peercy in / Cooper out
		Tichenor, Daugherty, Caldwell, Mason, Render, Blandford, Stewart, McElwain, Trogdon, in
		Safety Briefing
		Unit Down - Tube Leak
	9:40 AM	Ran Call Out List for OPS - got no one
	10:00 AM	A McIntyre called back
		Boiler Released
	11:00 AM	Boiler Hydro
	11:30 AM	J Piper called in / taking funeral leave 12/10 & 11/2012
		Ran Call Out List for OPS - got no one
	12:30 PM	Hydro Passed
	2:02 PM	Oil Fires Established - H/L notified
	3:48 PM	Hold #672 Released
	6:00 PM	Ran Call Out List for M/M - got L Carter & K Burden
		Cooper/Feeney in
	7:39pm	Transfering vlvs
	7:44pm	#1 mill on, feeder on, precips in svc
	7:57pm	Unit online. Pressure 695/ HRH 601/ Main Steam 726. Notified HL, Notified Contacts
		H. Roby, Baker, McIntyre, D. Stewart, Poore, Hall, B. Jones, Calhoun in
		Safety Briefing
	8:23pm	#5 mill on
	9:09pm	Unit tripped on low drum. Notified H/L & Contacts
	9:31pm	Oil Fires Established - H/L notified
	9:56pm	#2 mill on, feeder on, precips in svc
	10:03pm	Unit tied on line. Notified H/L & Contacts. Pressure 1101/ HRH 849/ Main Steam 781

3





#### 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 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:





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## 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

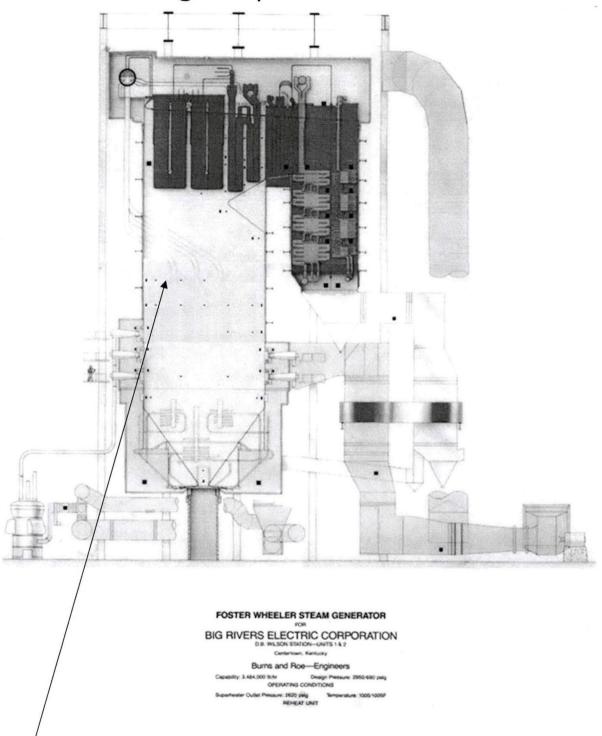
Welded By: <u>Daniel Burden, Jared Burden: Titan Contracting</u>

**Exact Location of Leak: Be Specific** 

Waterwall, 9<sup>th</sup> floor east wall, 11<sup>th</sup> tube on the north side of IR—44 wallblower, Elevation 507'-0". This leak was approximately one tube south of the December 1, 2012 tube leak.





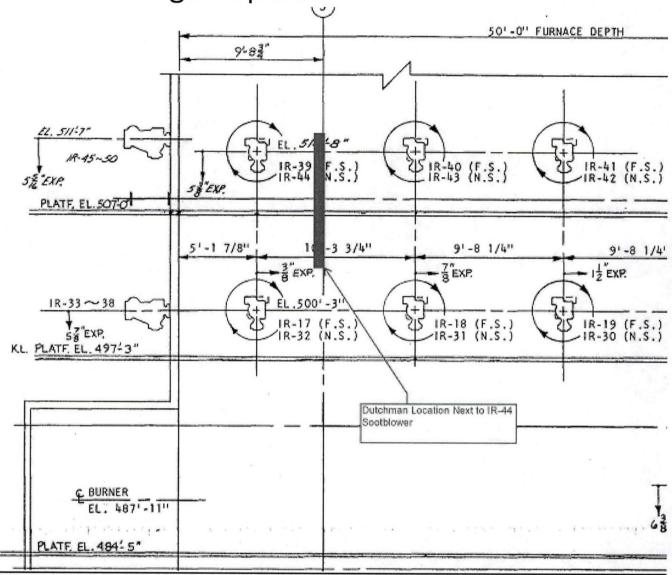


Tube Leak Here -East (Near Side) Waterwall, Tube #11 on the north side of the IR-44 wall blower, Elevation 507'-0", In the area that was supposed to have a waterwall panel installed during Spring 2012 outage that did not take place.





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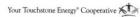
## **Photos**

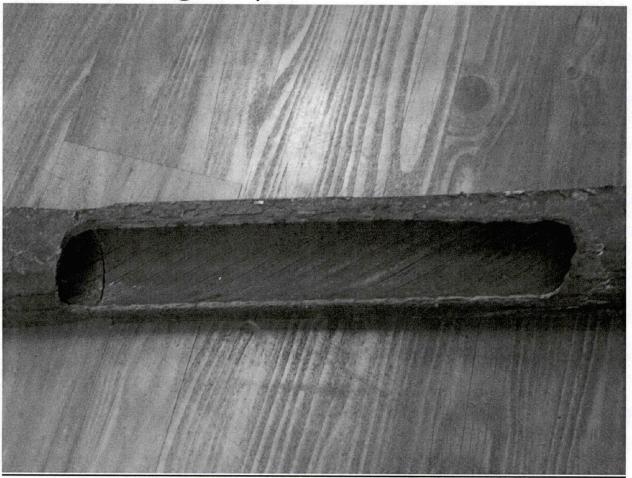
















Lost Opportunity is the lost margins if the unit had stayed running

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**Lost Sales Opportunity Report** 

	MISO	DARTR	even	ue and l	OS	T OPPOR	TUNITY					
Unit		Wilson -	W1-12-	13			Product	roduction Cost				
Date & Time Off Line		12/8/12	2 14:51				MW		\$/MW			
Date & Time On Line		12/9/12	2 19:57				240	\$	25.02			
Outage Duration		29 hr.	6 min.				300	\$	24.13			
Outage Code		U	<b>)</b> 2				420	\$	23.15			
Outage Reason	er wall t	ube leak										
Date	DA L	MP Average	RT LN	IP Average	D	ART P&L	Lost Opportunity					
12/8/12 (HE 16-24)	\$	29.12	\$	24.80	\$	(6,541)	\$ -					
12/9/12 (HE 1-22)	\$	24.86	\$	26.61	\$	(31,790)						
Total					\$		\$ -					
Start Up Fu	el Cost						Total Forced	Outa	ge Cost			
S/U Fuel Consumed		25,416					DART P&L	\$	(38,331			
S/U Fuel Price	\$	2.92					Lost Opportunity	\$				
S/U Fuel Cost	\$	(74,288)					S/U Fuel Cost	\$	(74,288			
							Total	\$	(112,619			
NOTES:												





## Your Touchstone Energy® Cooperative

## Forced Outage Report

To: Bob Berry

From: Bart Boles

Date: 11-Jan-2013

Plant: Wilson Unit: 1 GADS Class: UO2

Duration

Trip Time: 29-Dec-2012 13:48 Tie Time: 01-Jan-2013 05:29

Time Offline: 63:41

## **Outage Description**

Wilson Station was removed from service on Saturday, December 29, 2012 at 13:48 due to a tube leak in the "B" Platen Superheat section of the furnace at the 12<sup>th</sup> floor elevation. Titan Contracting replaced a section of "B" Platen Superheat Tube that was approximately 8' in length. This was the 13<sup>th</sup> tube from the outside tube on the north side. The tube being replaced was 1.75" O.D. x 0.260" MW, SA-213 T11 material. 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 a slip tie failing, thus causing tubes to rub together, which eventually led to a tube rupture. The failure was vertical, and was approximately 16" in length. The total damaged area was approximately 8' in length. The "B" Platen Superheat tubes were replaced during the 2009 outage. There have been no previous leaks in this area since the tubes were replaced. A full inspection of the Platen and Finishing Superheat tubes was scheduled to take place during the spring, 2013 outage. The failed slip tie would have most likely been caught during the inspection and repaired.

## Failure History

There have been no similar failures in the last three years.



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## **Corrective Action**

The recommendation is to re-inspect the "B" Platen Superheat elements during the next scheduled outage to ensure there are no other cracked or failed bundle ties.

## Other Work Completed While Unit Was Offline

#### ELECTRICAL

- Precip inspection (east box)
- Grit blasting east precip box
- Repaired #1 Circulating Water Pump discharge valve
- Repaired #3 conveyor fire alarm
- Repaired fly ash transport line inlet valve limit switch

#### INSTRUMENTATION

- Adjusted the alarm setting for the outboard pump bearing on the #2 BFPT
- Stroked and calibrated all turbine valves
- Mill PA flow blowback
- Secondary air flow xmtr blowback
- Furnace blowback
- Repaired the seal air solenoids on #3 and #4 coal feeders
- Replaced the controller on #4 coal feeder
- Calibrated #4 coal feeder

#### **MECHANICAL**

- Replaced refractory on 13<sup>th</sup> floor in the dead air space behind the nose
- Performed work in precip outlet duct patched hole in the roof
- Replaced three (3) valves on steam coils in FD Fan room
- Repaired #1 module ME inlet door
- · Inspected Back pass of boiler
- Replaced two (2) turbine drain valves



#### Your Touchstone Energy Cooperative

### Operators Event Log

12/29/2012	1:48 PM	Unit Off Line with a tube leak / Notified H/L
	2:00 PM	Called Thompson in for Deslag / 5:00 pm arrival
	5:00 PM	Thompson in
	7:00pm	Feeney in
		Unit Offline
	8:00pm	McIntyre, Algood, Hall, Piper, Drake, Barrett in
		Safety Briefing
	9:00pm	Crowe in, Peercy out
	9:48pm	Generator Hold #717
		Freeze Protection
		Drained & blew out steam coils- drains still open
12/30/2012	12:00am	Water run
	1:30am	Inspected superheats. Boiler clean. Passed by Titan
	2:00am	Thompson out
	8:00 AM	Peercy, Mattingly in / Feeney, Crowe out
		McCarty, Roby, Wilson, Worley, Trogdon, McElwain, in
		Outage
		Called Thompson in for BA Surge Tank
	9:30 AM	Thompson in
	1:00 PM	WO# 6086911 #1 Mill - pyrite doors/seals leaking
		6086912 1AL20E - throat plugged / remove cap for access
		6096915 Finishing SH - inlet header drain valve will not operate / sheered pin
		6086916 Fly Ash Piping - leak in transport line just passed row 5E outlet gate
		Called Inland in for module cleaning
	3:00 PM	Inland in
	7:00pm	Feeney in, Peercy out
	8:00pm	McIntyre, Algood, Hall, Piper, Drake, Barrett in
		Boiler set to hydro- HMV-170 closed, Turbine set to fire
	8:30pm	Thompson out
		Took out trash
		Freeze Protection
		Daily Vehicle Check
		WO# 6086928 Expedition passenger side high beam out
	9:30pm	Inspected #1 & 2 modules
	о.оор	WO# 6086929 #2 module inlet east and west walls missing 1st rows of tiles
12/31/2012	12:00am	Unit Status Update
,,		Inspected Econ Hoppers-all empty
		Bottom Ash System back in service
		Hydrogen Tank Readings
	3:00am	Inspected #4 module & #3 inlet ledge
	3:30am	Inland out
	6:15am	Released to Hydro
	6:30am	Aux BFP on





	8:00AM	Cooper Peercy in Feeney out
		MW 451 KPPH 377 SO2 5.58/5.58 NOX .055 OPAC 6.9 REMOV 91.4 CO2 9.8 /10.8 4 MILLS 4 MODULES 16 CIRC PUMPS
		MVARS 99 SLURRY FEED TANKS 14.4/14.9 CO 68/343 Sludge tanks 5.8/5.1 VOLTAGE 23.8 BED LEVEL 96"
		Roby Stewart VAC ,Baker,Poore,Jones,Calhoun,McCarty McElwain,S Roby,Trogdon,Winders Stovall J Stewart Wilson
		Safety briefing
		Flushing wet seal
		Daily vehicle check
	7:00AM	Unit off Line with a tube leak
	10:22AM	Terr and scanner fans on
	10:30AM	Head count
	10:45AM	Sec and primary air htr on
	10:56AM	ID and FD fan on
	11:20AM	Fire in Boiler, H/L notified
	5:20PM	Rolling Turbine
	6:09PM	Trip Turbine, H/L notified
	7:00pm	Crowe/Feeney in, Cooper/Peercy out
	8:00pm	McIntyre, Algood, Hall, Piper, Render, Barrett, Tichenor, Caldwell, Daugherty, Mason, in Blandford P/D
		Safety Briefing
		Bottom ash dragchain broken, Unit on stand-by until dragchain repaired.
		Setting Boiler & Turbine to fire
	11:00pm	Dragchain released and filling wet bottom
1/1/2013	12:00am	Taped fuel oil storage tanks, West-14'4" & East-14'5"
	12:10am	Oil Fires Established - H/L notified
	1:45am	CSI in service
	2:45am	Sealing main turbine
	4:07am	Rolling Turbine
	5:25am	Precip's in service, H/L notified
	5:29am	Unit tied on line. Notified H/L



Your Touchstone Energy Cooperative

# **Forced Outage Report**

### **Boiler Tube Leak Record**

	Plant: _	Wilson	Ur	nit: <u>1</u>		
Type of Leak:	(Check O	ne)				
Pin Hole	_ Thick Li	p Failure	Thin Lip Fail	ure		
	e misaligr	X Other:				l as
Orientation o	f Rupture	: (Check One)				
Longitudinal _	X	Circumferential				
Probable Caus	se: (Check	(One)				
Stress (	Overheat_	Erosion	Internal Co	orrosion		
External Corro	osion	Weld Failure	(Shop	Field	)	
Internal Obstr	uction to	Flow	-			
Other: X	Slip Tie F	ailure, which cau	sed tube misali	gnment and	tube rubb	ing





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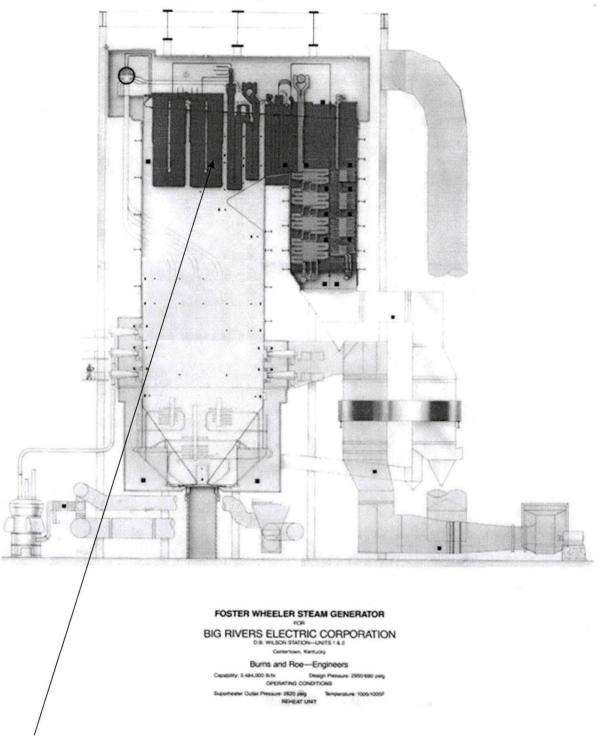
Type of Repair: (Check One)
Dutchman: X Length of Dutchman: 8' Pad Weld: No
Plug Tube Short Circuit Other:
Description of Repair:
Tube Size OD: 1.75" Wall Thickness: 0.260" M.W.
Tube Material: SA-213 T11
Welding Rod Used
Welded By: _James Larkin, Matt Abney: Titan Contracting

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

"B" Platen Superheat Section, 13<sup>th</sup> Floor, 3<sup>rd</sup> Element from the East Wall, 13<sup>th</sup> Tube from the Outer Tube (North side), Elevation 558'-0", 8' Dutchman.







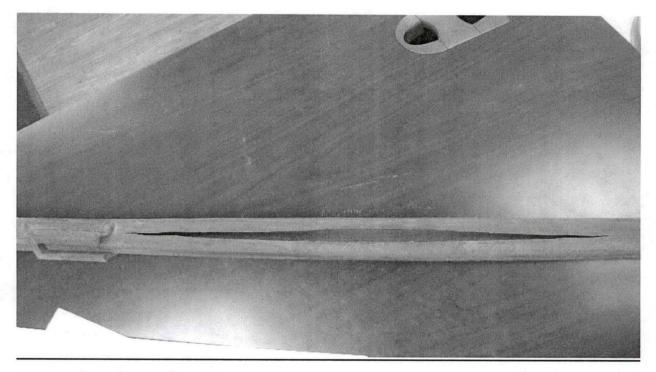
Tube Leak Here – "B" Platen Superheat Section, 13<sup>th</sup> Floor, 3<sup>rd</sup> Element from the East Wall (Near Side) 13<sup>th</sup> Tube from the North, Elevation 558'-0". Installed an 8' Dutchman.

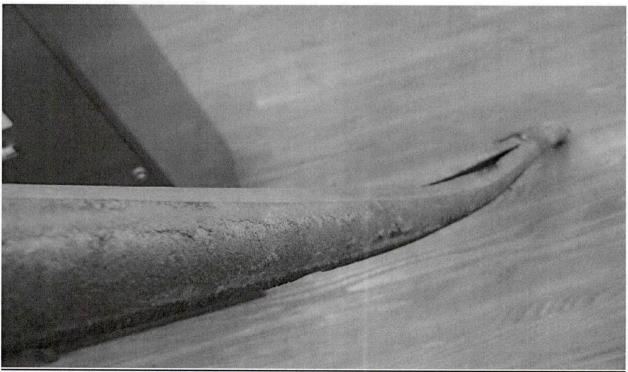




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### **Photos**









Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### **FORCED OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-12-17	Prod	uction Cos	st
Date & Time Off Line	12/29/12 13:48	MW		\$/MW
Date & Time On Line	1/1/13 5:29	300	\$	24.13
Outage Duration	63 hr. 41 min.	380	\$	23.36
Outage Code	UO2	420	\$	23.15
Outage Reason	Repair "B" Platen SH leak.			

Date	DA LN	/IP Average	RT LI	MP Average	DART P&L	Op	Lost portunity
12/29/12 (HE 14-24)	\$	28.84	\$	26.68	\$ (15,626)	\$	-
12/30/12 (HE 1-24)	\$	25.78	\$	25.88	\$ (27,351)	\$	-
2/31/12 (HE 1-24)	\$	27.49	\$	26.46	\$ -	\$	(43,422)
1/1/13 (HE 1-11)	\$	22.08	\$	23.73	\$ 297	\$	-
Total					\$ (42,680)	\$	(43,422)

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		24,050	DART P&L	\$	(42,680)
S/U Fuel Price	\$	3.15	Lost Opportunity	\$	(43,422)
S/U Fuel Cost	\$	(75,661)	S/U Fuel Cost	\$	(75,661)
			Total	\$	(161,763)

#### 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: Billy Boarman

Date: 29-Jan-2013

Plant: HMP&L Station Two Unit: 2

Jnit: 2 GADS Class: UO2

**Duration** 

Trip Time: 26-Jan-2012 18:08 Placed on Standby: 28-Jan-2013 03:45

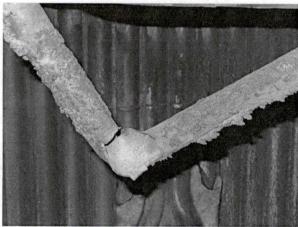
Time Offline: 33:37

#### Outage Description

HMP&L Station Two Unit 2 was removed from service on Saturday, 26-Jan-2013 at 18:08 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

#### **Root Cause**

Tube leak on the Radiant SH Outlet  $3^{rd}$  element from the east wall, on the outer loop at elevation 537' - 5" caused by external corrosion







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## Forced Outage Report

### Failure History

5-Sep-2011	59 hrs. 12 min	Tube leak in the high temperature superheater section caused by soot blower erosion.
23-May-2012	56 hrs. 38 min	Tube leak in the radiant superheat section caused by soot blower erosion.
7-Sept-2012	42 hrs. 7 min	Tube leak in the radiant superheat section caused by soot blower erosion.
5-Oct-2012	53 hrs. 24 min	Tube leak in the radiant superheat section caused by soot blower erosion.

#### **Corrective Action**

Installed an outer loop with additional 50" legs on each side of the loop and repaired 2 handcuffs. The 2 outside loops for the SH outlet elements have been ordered and are scheduled to be replaced during the upcoming planned outage.

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 26-Jan-2013 18:08:10:679

Event Time	State	Tag Name	Tag Description
26-Jan-2013 18:08:13:431	LKOUT	H250GENLO86G3	GEN H2 DIFF LOCKOUT (86G3)
26-Jan-2013 18:08:13:427	OK	H240TLOSSFB	TURB LOSS OF FIELD BKR
26-Jan-2013 18:08:13:400	OK	H250FLDBKRTRP	GEN H2 FIELD BKR TRIP
26-Jan-2013 18:08:13:399	FAIL	H240TLOSSFB	TURB LOSS OF FIELD BKR
26-Jan-2013 18:08:13:393	MANUAL	H246XFERTOMAN	VOLTAGE REG XFER TO MAN
26-Jan-2013 18:08:13:386	OK	H250OCB182GETR	OCB 0182 GEN H2 TRIP
26-Jan-2013 18:08:13:385	OK	H250OCB186GETR	OCB 0186 GEN H2 TRIP
26-Jan-2013 18:08:13:361	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
26-Jan-2013 18:08:13:359	TRIP	H250FLDBKRTRP	GEN H2 FIELD BKR TRIP
26-Jan-2013 18:08:13:359	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
26-Jan-2013 18:08:13:355	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
26-Jan-2013 18:08:13:354	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
26-Jan-2013 18:08:11:680	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP
26-Jan-2013 18:08:10:931	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
26-Jan-2013 18:08:10:679	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
26-Jan-2013 18:07:51:477	HIGH	H240EXHOODTEHI	TURB EXH HOOD HIGH TEMP
26-Jan-2013 18:07:48:555	OK	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW



Your Touchstone Energy Cooperative

### Forced Outage Report

### Other Work Completed While Unit Was Offline

- Clean Seal Trough
- Repaired gas leaks on the seal trough and Scrubber duct work and coal leaks on the mills
- Precipitator inspection
- Hydro the boiler and found 2 other leaks, one at a buck stay clip on the south water wall at elevation 476' -2" on the 20<sup>th</sup> tube from the west and another at the termination weld of the 1<sup>st</sup> tube from the east on the north lower water wall ring header at elevation 438' - 8".
- · Calibrated all coal feeders.
- Changed oil in both PA Fans
- Changed oil in both FD Fans
- Replaced 3 boiler observation ports



#### Your Touchstone Energy® Cooperative

### **Operators Event Log**

		PM H-2 UNIT OFFLINE - PRECIPS & SCRUBBER OUT OF SERVICE PM FANS AT H-2 PENTHOUSE												
					HAVE A C	DEVA/ INI A T	F 6:00 A M F	OB H 2 64	CRUBBER &	FOOLION	7500			
	0.10111	ON LEED !	10110	OLO WILL	TAVEAG	LEVY IIVA	O.OOAWI F	OK 11-2 30	CRUBBER &	ECONOMI	ZERS			
1/26/2013	8;00PM	EDMOND	S,JACKSO	N , GRIFFI	N, HOGAN	BOWLEY	, WADLING	GTON ,AL	EXANDER,			C SI	HIFT CARTE	R
		UNIT	LOAD	LINIT CAR	NET CAP.	502	CO2	NOV	OBACITY	DEMOVAL	DUCT		C DA OK DDE	
		R1	24HR	48	48		PSI = 6.0	NOX	OPACITY	REMOVAL	DUST	AMM. FL	BACK PRE	SSURE
			STBY											
		H1	165	165	153	0.233	11	0.065	23.5	95.7	19.52	226/C	3.1	
		H2	OUTAGE	105	0	0				_				
		nz	OUTAGE		TUBE LEA	0	0	0	0	0	0	0	0	
		C.T.	ON STB		65									
		ALARMS:												11
		R1 H1	EH LOW	DDECCIE	DE/STEAM	SEALLON	N DDESCI	DE AMM	ONIA VAPO	D CAFETY	CHOMED		041105.01	
		H2					GEAR OIL			RSAFETY	SHOWER		GAUGE GL	ASSES
			TURBINE										OIL	
		SOOTBLO	OWERS TA	GGED										
			,28,29,30,3	1										
		H1 20,31		PASSED	457940	15 10 10	20,21,22,23	24 25						
		HZ- 30,30,	40,41 61	PASSED-	1,4,5,7,9,10	,15,18,19,2	20,21,22,23	,24,35			-			
		FUEL OIL	TANKS				-							
			C.H.	HMPL	NORTH	SOUTH		1	SILO LVL	12'	BOOTHE	SYSTEM	OUT	
			10' 9 1/2"	11' 7 1/4"	16' 7 3/4"	8 1/4"								
	0.00014	04557/5	DIEFINO						-					
		SAFETY E	RLAND HE	PE			-	-	-					
			AGGING E											
									DOM EAC	T MALL				
									HEADER T				I AAVET	
	11;00PM	CALLED II	VLAND (J. 1	MARTIN) TO					HEADER TO				T WALL	
	11;00PM 11;24PM	CALLED II H2 VACU	NLAND (J. I M PUMPS (	MARTIN) TO ON									TVVALL	
1/27/2013	11;00PM 11;24PM	CALLED II H2 VACU	VLAND (J. 1	MARTIN) TO ON									TVVCL	
	11;00PM 11;24PM 11;48pm	CALLED II H2 VACUM H2-B BFP	NLAND (J. I M PUMPS (	MARTIN) TO ON IYDRO									T VVALL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am	CALLED II H2 VACUM H2-B BFP EXPRO @ H2-B BFP	NLAND (J. I M PUMPS ( ON FOR H GUARD S OFF 397 I	MARTIN) TO ON IYDRO HACK DRUM PSI									Wall	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am	CALLED II H2 VACUM H2-B BFP  EXPRO @ H2-B BFP  EXPRO SI	NLAND (J. I M PUMPS ( ON FOR H GUARD S OFF 397 I	MARTIN) TO ON IYDRO HACK DRUM PSI									WALL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM	CALLED II H2 VACUM H2-B BFP  EXPRO @ H2-B BFP  EXPRO SI INLAND E	NLAND (J. I M PUMPS ( ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40	MARTIN) TO DN IYDRO HACK DRUM PSI									WALL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM	CALLED II H2 VACUM H2-B BFP  EXPRO @ H2-B BFP  EXPRO SI INLAND E DRAINING	NLAND (J. I M PUMPS ( ON FOR H GUARD S OFF 397 I	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R	O GET VAC	CUM CREV							T WOLL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 3;25AM	CALLED II H2 VACUM H2-B BFP  EXPRO @ H2-B BFP  EXPRO SI INLAND E DRAINING INLAND H	NLAND (J. I M PUMPS ( ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H2 BOILE	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R IMING H2 F	O GET VAC	CUM CREV							T WOLL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 3;25AM 6;30am 7:00AM	CALLED II H2 VACUM H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R.BLANKS INLAND SI	NLAND (J. I M PUMPS (I ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H 12 BOILE ERE VACU S CALLED I TARTING A	MARTIN) TO ON IYDRO HACK DRUM PSI DMIN R IMING H2 F IN SICK T H-2 M.E.	PENTHOUS PANELS	E	V IN ASAP	FOR H2 F					T WOLL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 3;25AM 6;30am 7:00AM	CALLED II H2 VACUM H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R.BLANKS INLAND SI	NLAND (J. I M PUMPS (I ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H 12 BOILE ERE VACU S CALLED I TARTING A	MARTIN) TO ON IYDRO HACK DRUM PSI DMIN R IMING H2 F IN SICK T H-2 M.E.	PENTHOUS PANELS	E		FOR H2 F					T WOLL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUN H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND R R.BLANKS INLAND S EXPRO FI	NLAND (J. I M PUMPS (I ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H 12 BOILE ERE VACU S CALLED I TARTING A	MARTIN) TO DN IYDRO HACK DRUM PSI MING R R MING H2 F N SICK T H-2 M.E. VANTING II	PENTHOUS PANELS NSPECTIO	E E N - CALLE	V IN ASAP	FOR H2 F				LL BACK	D. PENDLEY	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUN H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND R R.BLANKS INLAND S EXPRO FI	NLAND (J. IMPONED IN MARCHEN IN M	MARTIN) TO DN IYDRO HACK DRUM PSI MING R R MING H2 F N SICK T H-2 M.E. VANTING II	PENTHOUS PANELS NSPECTIO	E E N - CALLE	V IN ASAP	FOR H2 F				LL BACK		,
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R.BLANKS INLAND S EXPRO FI CONN, CL BLANKS	NLAND (J. I M PUMPS () ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-4C I + 12 BOILEI ERE VACU S CALLED I TARTING A NISHED - V	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R R MING H2 F N SICK T H-2 M.E. VANTING II	PENTHOUS PANELS NSPECTIO	E N - CALLE GGINS, YO	D J. WEST	FOR H2 F	PENTHOUSE	CLEANING	G/WILL CA	B SHIFT	D. PENDLEY	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUII H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R. BLANKS INLAND S EXPRO FI CONN, CL	NLAND (J. I M PUMPS () ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-4C I + 12 BOILEI ERE VACU S CALLED I TARTING A NISHED - V	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R R MING H2 F N SICK T H-2 M.E. VANTING II	PENTHOUS PANELS NSPECTIO	E N - CALLE GGINS, YO	V IN ASAP	FOR H2 F	PENTHOUSE	CLEANING	G/WILL CA	B SHIFT	D. PENDLEY	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND B DRAINING INLAND H R. BLANKS INLAND S EXPRO FI CONN, CL BLANKS UNIT	NLAND (J. IMPUMPS () ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H2 BOILE ERE VACUE S CALLED I TARTING A NISHED - V ARK, BREI SIL LOAD 24HR	MARTIN) TO DN IYDRO HACK DRUM PSI MING H2 F MING H2 F N SICK T H-2 M.E. VANTING II	PENTHOUS PANELS	E N - CALLE GGINS, YO	D J. WEST	FOR H2 F	PENTHOUSE	CLEANING	G/WILL CA	B SHIFT	D. PENDLEY	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND B DRAINING INLAND H R. BLANKS INLAND S EXPRO FI CONN, CL BLANKS UNIT	NLAND (J. IMPUMPS () ON FOR H GUARD S OFF 397 I ETTING UP T.A. 30-40 H2 BOILE ERE VACUE S CALLED I TARTING A NISHED - V ARK, BREI SIL LOAD 24HR	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R IMING H2 F IN SICK T H-2 M.E. VANTING II UNIT CAP 55 NIT ON BC	PENTHOUS PANELS	E N - CALLE GGINS, YO	D J. WEST	FOR H2 F	PENTHOUSE	CLEANING	G/WILL CA	B SHIFT	D. PENDLEY BACK PRE R-1 CTL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND B DRAINING INLAND H R. BLANKS INLAND S EXPRO FI UNIT R1 H1	NLAND (J. IMPUMPS () ON FOR H GUARD S OFF 397 IP ETTING UP T.T.A. 30-44 H2 BOILEI ERE VACUE ERE VACUE TARTING A NISHED - V  ARK, BREI SIL  LOAD 24HR STBY 143	MARTIN) TO DN IYDRO HACK DRUM PSI MING H2 F MING H2 F N SICK T H-2 M.E. VANTING II UNIT CAP 55 NIT ON BC 165	PENTHOUS PANELS NSPECTIO SHAW, HI NET CAP. 48 DILER 153	E N - CALLE GGINS, YO SO2 0.189	D J. WEST DUNG CO2	NOX 0.068	OPACITY	REMOVAL	DUST	B SHIFT	D. PENDLEY  BACK PRE  R-1 CTL  PWTL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R. BLANKS INLAND S EXPRO FI CONN, CL BLANKS UNIT R1 H1	NLAND (J. IMPOMPS	MARTIN) TO DN IYDRO HACK DRUM PSI DMIN R IMING H2 F IN SICK T H-2 M.E. VANTING II UNIT CAP 55 NIT ON BC	PENTHOUS PANELS NSPECTIO TSHAW, HI NET CAP. 48 DILER	E N - CALLE GGINS, YO SO2 0.189	D J. WEST	NOX 0.068	OPACITY	REMOVAL	DUST	B SHIFT	D. PENDLEY  BACK PRE  R-1 CTL  PWTL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R. BLANKS INLAND S EXPRO FI  CONN, CL BLANKS UNIT R1 H1 H2	NLAND (J. IMPUMPS () ON FOR H GUARD S OFF 397 IP ETTING UP T.T.A. 30-44 H2 BOILEI ERE VACUE ERE VACUE TARTING A NISHED - V  ARK, BREI SIL  LOAD 24HR STBY 143	MARTIN) TO DN YDRO HACK DRUM PSI MING H2 F MING H2 F MING H2 F N SICK T H-2 M.E. VANTING II UNIT CAP 55 NIT ON BC 166	PENTHOUS PANELS NSPECTIO SHAW, HI NET CAP. 48 DILER 153	E N - CALLE GGINS, YO SO2 0.189	D J. WEST DUNG CO2	NOX 0.068	OPACITY	REMOVAL	DUST	B SHIFT	D. PENDLEY  BACK PRE  R-1 CTL  PWTL	
	11;00PM 11;24PM 11;48pm 12;30AM 1;01am 1;05am 1;40AM 1;55AM 6;30am 7:00AM 7:12AM	CALLED II H2 VACUI H2-B BFP EXPRO @ H2-B BFP EXPRO SI INLAND E DRAINING INLAND H R. BLANKS INLAND S EXPRO FI  CONN, CL BLANKS UNIT R1 H1 H2	NLAND (J. IMPUMPS () ON FOR H GUARD S OFF 397 I ETTING UP T.T.A. 30-44 H2 BOILEI ERE VACUE ERE VACUE T.A. 30-44 H2 BOILEI LOAD 24HR STBY 143 0 STNDBY	MARTIN) TO DN YDRO HACK DRUM PSI MING H2 F MING H2 F MING H2 F N SICK T H-2 M.E. VANTING II UNIT CAP 55 NIT ON BC 166 152	PENTHOUS PANELS NSPECTIO SHAW, HI NET CAP. 48 DILER 153	E N - CALLE GGINS, YO SO2 0.189	D J. WEST DUNG CO2	NOX 0.068	OPACITY	REMOVAL	DUST	B SHIFT	D. PENDLEY  BACK PRE  R-1 CTL  PWTL	



Your	Touchstone	Energy*	Cooperative	XID

				ago										
		H1 H2	TG O	SEAL HI/LO	BURNER	MANGT.	CR POST	SURE LO	PUMP STA	RTREQ				
		112	1.G. OIL	- FUIVIP RUI	AIAIIAG IOI	ABINE ROT	OR POSIT	ON						1
		SOOTBLO	OWEDS T	AGGED										
					20 20 20 24									
				,18,19,22L,2	28,29,30,31									
		H1 10,20		40 40 00 04		~								
		HZ 1,4,5	,7,9,10,15	,18,19,20,21	,22,23,24,2	7,35,36,38	,40,41				SILO			
			·								14'			
		FUEL OIL		HMPL		SOUTH								
		LEVELS	10' 7"	11' 4 1/4"	16' 7 3/4"	8 1/4"								
														1
/27/2013	8:00AM	SAFETY E	BRIEFING											
	8:20AM	H-2 PENT	HOUSE D	ONE - MOV	ING TO EC	ONOMIZE	RS							
	8:25AM	PULLING	H-2 WETE	воттом										
	8:25AM	DESLAG	DONE											
	NOTE	H-2 PREC	IP DOOR	SOPEN										
	9:25AM	H-2 WETE	SOTTOM C	CLEAN - MA	INT SIGNIN	IG ON PER	MITS							
	NOTE	COVERED	H-2 SEA	AL AIR & P.	A. FAN MO	TORS								
				ORS OFF H										
				AT H-2 ECO										
				H-2 M.E.WA										
				WITH WET			AVING							
				YASH HOP										
				ER DOORS										
				OR HYDRO										
				GENT TO 15	50/2									
				LEASED H-		FOR AIR	TECT							
													-	
		H2-B BFP		H-2 'A' BOIL	EKFEEDI	OMP FOR	HYDRO							
	NOIE	CLOSING	SCRUBB	ER DOORS										i
/2//2013	8;00pm	EDMOND	S,JACKS	ON , GRIFFI	N, HOGAN	, BOWLEY	, WADLIN	STON ,AL	EXANDER,			C S	HIFT CARTER	
				UNIT CAF			CO2	NOX	OPACITY	REMOVA	DUST	AMM. FL	BACK PRES	SURE
		R1	24HR	48	48	NITOGEN	PSI = 5.6							
			STBY											
		H1	143	165	153	0.206	10.9	0.058	17.6	96.1	19.52	226/C	3.1	
		H2	OUTAGE	165	0	0	0	0	0	0	0	0	0	
				OFF LINE	TUBE LEA	K								
		C.T.	ON STE	BY	65									
		ALARMS:												1
		R1												
		H1	E.H. LOV	N PRESSU	RE/STEAM	SEAL LOV	V PRESSI	RE. AMM	ONIA VAPO	R SAFFTY	SHOWER	2	GAUGE GLA	SSES
		H2		RAIN TANK							3.134421		OK OK	
				ROTOR PO									JK .	-
		SOOTBLO						-	-	-				
		R1- 16,19			-								-	
		H1 20,31						-		-				
				VDACCE	4 5 7 0 40	45 40 40 5	0 04 00 55	24.25	-					
		112- 30,38,	40,41 B	YPASSED-1	,4,0,7,9,10	, 10, 16, 19, 2	0,21,22,23	,24,35						
		EUEL OF	TANKS											
		FUEL OIL			No				**************************************					
		LEVELS			NORTH				SILO LVL	12'	BOOTHE	SYSTEM	IN	
			10' 7"	11' 4 1/4"	16' 7 3/4"	8 1/4"								
		SAEFTY E												
		CLEANED		SUNS										
		H2-B BFP												
	NOTE	H2 FOUND	LEAK @	NORTH RI	NG HEADE	R 1ST TUB	E FROM E	AST & 3R	D FLOOR B	UCKSTAY	BY #30 IN	SPECTION	PORT	
	9;15PM	H2 DRAIN	ING BOIL	ER										
	NOTE	PALL FILT	ER IN SE	RVICE ON H	12									
	NOTE	H2 DRAIN	ING BOIL	ER										
	11;30PM	R.GENTRY	Y GOING	HOME										
/28/2013														
	1;00AM	WEEKLY	SAFETY	MEETING &	OPL REVI	EW								
		PICKING U			/ \_ /									
				OING HOME										-
				H2 HYDRO										-
					INC HERE									-
	3,00AM	U.OAPP,D		P,B.SHARTU	ING HERE									
	2.07444	H2-B BFP												



Your Touchstone Energy Cooperative

### Forced Outage Report

### **Boiler Tube Leak Record**

Plant: HMP&L Station Two	nit:	2
Type of Leak:		
Pin Hole Thick Lip Failure Crack Thin Lip F	ailure <u>V</u>	
Tube Wall Thinning Other		_
Orientation of Rupture: Longitudinal Circumferential		
Probable Cause:		
Stress Overheat ErosionInternal Corrosion	1.5	
External Corrosion Weld Failure (Shop Field_	)	
Internal Obstruction to Flow Soot blower Erosion		
Other		
Type of Repair:		
Dutchman <u>V</u> Pad Weld <u>V</u> Plug Tube Short Circui	t	Other

### **Description of Repair:**

Tube leak on the Radiant SH Outlet 3<sup>rd</sup> element from the east wall, on the outer loop at elevation 537' – 5", replaced outer loop along with 50" legs on each side of the loop. Hydro-test of the boiler revealed two other leaks, one at a buck stay clip on the south water wall at elevation 476' -2" on the 20<sup>th</sup> tube from the west, repair via BMR. Also a leak at the termination weld of the 1<sup>st</sup> tube from the east on the north lower water wall ring header at elevation 438' – 8", repair via ground out and re-welded.

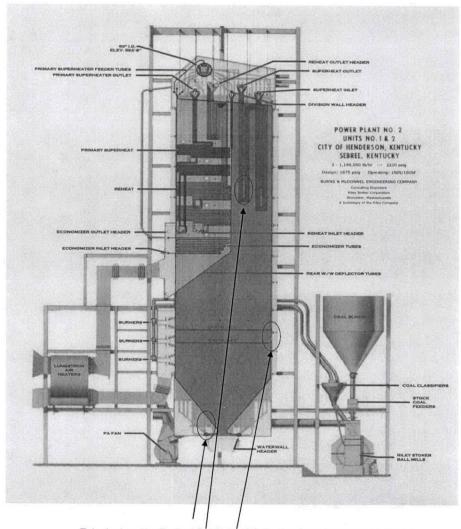


**Exact Location of Leaks:** 

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#### HMPL STATION UNIT 2 2013 (3) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 18:08 1-26-13
Date and Time Unit On Stand-by\_\_\_0345 1-28-13



Tube leak on the Radiant SH Outlet 3rd element from the east wall, on the outer loop at elevation 537' - 5", replaced outer loop along with 50" legs on each side of the loop. Hydro-test of the boiler revealed two other leaks, one at a buck stay clip on the south water wall at elevation 476' -2" on the 20th tube from the west, repair via BMR. Also a leak at the termination weld of the 1st tube from the east on the north lower water wall ring header at elevation 438' - 8", repair via ground out and re-welded.



Lost Sales Opportunity Report

#### Your Touchstone Energy® Cooperative

FORCED OUTAGE COST ANALYSIS										
	MISO D	ARTR	even	ue and l	LC	ST OPPOR	RTU	INITY		
Unit		HMP'L 2	H2-13-	01				Product	ion C	Cost
Date & Time Off Line		1/26/1	3 18:08					MW		\$/MW
Date & Time On Line		1/28/1	3 3:45					94	\$	31.78
Outage Duration		33 hr.	37 min.					127	\$	30.47
Outage Code		U	02					149	\$	30.15
Outage Reason	Outage Reason Repair radiant superheater tube leak.			tube leak.						
Date	DA LMP	Average	RT LM	P Average		DART P&L	-	Lost		
1/26/13 (HE 19-24)	\$	27.77	\$	32.32	\$	(353)	\$			
1/27/13 (HE 1-24)	\$	25.36	\$	24.99	\$	16,772	\$	-		
1/28/13 (HE 1-24)	\$	27.10	\$	27.63	\$	151	\$	-		
1/29/13 (HE 1-6)	\$	21.93	\$	25.43	\$	(527)	\$	-		
Total					\$	16,043	\$	-		
Start Up Fu	el Cost							Total Forced	Out	age Cost

Fuel Consumed 10,335	DART P&L \$ 16,043
/U Fuel Price \$ 3.19	Lost Opportunity \$ -
/U Fuel Cost \$ (32,925)	S/U Fuel Cost \$ (32,925)
	Total \$ (16,882)

NOTES
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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



To: Bob Berry

From: Chuck Tucker

Date: 28-Feb-2013

Plant: Green Unit: 1 GADS Class: UO1

#### **Duration**

Trip Time: 29-Jan-2013 17:44 Tie Time: 31-Jan-2013 15:23

Time Offline: 45:39

#### **Outage Description**

Green Unit 1 was removed from service on Tuesday, 29-Jan-2013 at 17:44 due to air flow upset conditions in the boiler. The turbine was manually tripped following a reduction to half load while investigating an active ground alarm on 1A ID Fan.

During the boiler hydro a pin-hole tube leak was found and repaired in the Bottom Primary Superheater.

Fires were established in the boiler on Thursday, 31-Jan-2013 at 12:25.

The unit was tied online on Thursday, 31-Jan-2013 at 15:23.

#### **Root Cause**

The Green Unit 1 Auxiliary Transformer "X" winding ground alarm was reported on Tuesday, 29-Jan-2013 at 14:57. This alarm was confirmed by 50G ground relay target and the indication light on 1A ID Fan 4160V breaker. The Auxiliary Transformer "X" winding resistor bank was also observed to verify a solid ground on the 4160 "A" Auxiliary buss. An investigation identified that one of the two "B" phase 350MCM conductors was grounded between the 1A ID Fan 4160V breaker and the speed changer switch located near the motor. The failed conductor was disconnected after the insulation was tested with a meg-ohm meter and the fan was released to operate on the





single conductor for low speed operation. Only the low speed option is normally used for the Green Station ID Fans.

When removing 1A ID Fan from service, a fuel rich / low  $O_2$  situation occurred. Load was reduced to approximately 50% as 1A FD Fan and 1A ID Fan were removed from service. 1B ID Fan inlet vanes opened 100% to control furnace draft and secondary air flow control was placed in manual. Boiler pressure went 1" positive when A side fans were turned off.

The increase in gas flow through 1B Precipitator caused opacity to go to 99% with Precip controls in service. 1A secondary air outlet damper and primary air outlet dampers were isolated to maintain good secondary air temp to the burner wind boxes.

Load was being dropped to bring furnace pressure back to negative. As pressure was dropping, more fuel was added to stop the pressure from sliding. Operator noticed that the  $O_2$  on B side was slowly decreasing.

Operator performed manual turbine trip at 17:44, 29-January-2013.

Boiler hydro was performed while unit was down. A pin-hole tube leak was found and repaired in the Bottom Primary Superheater.

See tube leak information and report below.

#### Failure History

There are no other recorded failures of Green Station's ID Fan motor cables in the period from 2007 to present.

There were four (4) Primary Superheater tube leaks recorded in the period from 2007 to present for Green Unit 1. Those outages occurred on the following dates for the durations shown:

Dec-2009	40.88 hours	Primary Superheater
Jan-2010	31.02 hours	Primary Superheater
Jun-2011	49.22 hours	Primary Superheater
Aug-2012	31.4 hours	Primary Superheater



#### Your Touchstone Energy" Cooperative

## Forced Outage Report

#### **Corrective Action**

1A ID Fan

Investigation identified one of two B phase 350MCM conductors was grounded between 1A ID Fan 4160V breaker and the speed changer switch location near the fan/motor. The failed conductor was disconnected after megger insulation testing and the fan was released to run on a single conductor for low speed operation. Only low speed is used for ID Fans at Green Station and which requires just a single 350MCM conductor per phase to operate. Two per phase 350MCM cables were originally installed to allow high speed operation if selected at the speed changer.





tube spacer on the north side.



### Green Boiler Tube Leak Record

Green Unit 1

Date and Time Unit Off: 17:44, 29-Jan-2013
Date and Time Unit On: 15:23, 31-Jan-2013
Type of Leak: (Check One)  Pin Hole X Thick Lip Failure Crack Thin Lip Failure  Tube Wall Thinning Other
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 Sootblower Erosion X  Other
Type of Repair: (Check One)  Dutchman (Length of Dutchman) Pad WeldX  Plug Tube Short Circuit Other
Description of Repair: Tube Size OD 2.0" Wall Thickness165"
Tube Material SA209-T1A  Welding procedure GS-P5-P5-NSR  Welded By: Titan
Exact Location of Leak: Be Specific
Bottom Primary Superheater, Panel 44 from east, top tube, caused by erosion at the

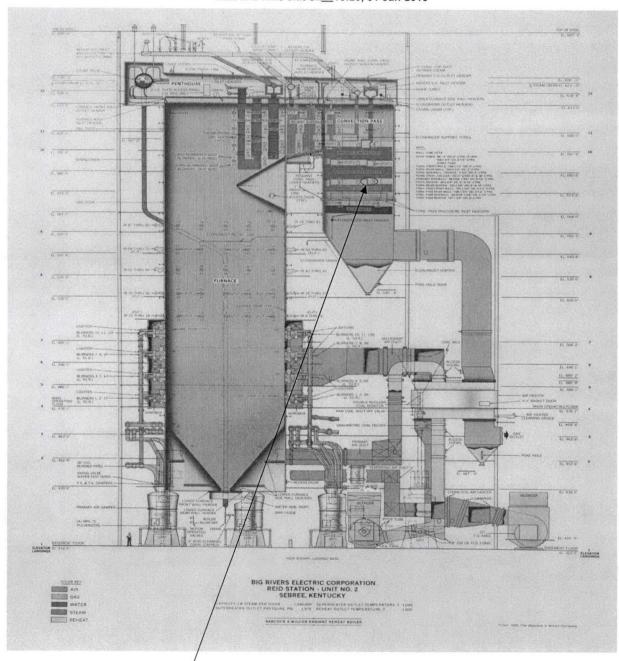




#### Your Touchstone Energy" Cooperative

### **GREEN STATION UNIT 1** (1) TUBES INVOLVED

Date and Time Unit Off\_17:44, 29-Jan-2013 Date and Time Unit On\_15:23, 31-Jan-2013



Bottom Primary Superheater, Panel 44 from East, top tube, caused by erosion at the tube spacer on the north side. Pad Weld



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

Your Touchstone Energy Cooperative

Report Type

Standard

Report Number

1

Report Title

SOE STANDARD

Recorder Number

1

Triggered on ....

29-Jan-2013 17:44:51:659

Number of Event Records

Event Time	State	All	O Tag Name	Tag Description	SER Index
29-Jan-2013 17:46:48:403	CLOSED	٨	G122ANN40700E	HEATER 2 BS ISOL VALVE CLOSED	69
29-Jan-2013 17:46:46:061	NORMAL		G122ANN18880E	HTR 3 LVL HI OR DRAING BYP	115
29-Jan-2013 17:46:46:002	ALARM	٨	G122ANN18890E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:45:669	NORMAL		G122ANN18830E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:45:559	ALARM	٨	G122ANN18880E	HTR 3 LVL HI OR DRAING BYP	115
29-Jan-2013 17:46:35:711	NORMAL		G125ANN18580E	HTR 6 LVL HI OR DRAINS BYP	116
29-Jan-2013 17:46:32:974	ALARM	A	G125ANN18580E	HTR 6 LVL HI OR DRAINS BYP	116
29-Jan-2013 17:46:28:387	CLOSED	٨	G122ANN40590E	HEATER 4 BG ISOL VALVE CLOSED	67
29-Jan-2013 17:46:26:367	NORMAL		G125ANN18580E	HTR 6 LVL HI OR DRAING BYP	116
29-Jan-2013 17:46:23:026	OK		G132ANN32680E	AIR FLOW LOW TRIPS	250
29-Jan-2013 17:46:21:386	OK		G141ANN20980E	BFP B LUBE OIL PRESSURE LOW	34
29-Jan-2013 17:46:20:771	NORMAL		G122ANN18880E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:20:735	ALARM		G122ANN18880E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:20:675	LOW	۸	G141ANN20980E	BFP B LUBE OIL PRESSURE LOW	34
29-Jan-2013 17:46:19:377	ALARM	A	G125ANN18500E	HTR 6 LVL HI OR DRAINS BYP	116
29-Jan-2013 17:46:16:384	OPENED		G103BBFPSTSSOE	18 BFP STATUS	258
29-Jan-2013 17:46:11:085	OK		G125ANN23780E	DRUM LEVEL LOW<	46
29-Jan-2013 17:46:09:186	NORMAL		G122ANN18880E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:09:050	ALARM	٨	G122ANN18880E	HTR 3 LVL HI OR DRAINS BYP	115
29-Jan-2013 17:46:07:343	CLOSED	۸	G122ANN40500E	HEATER 3 BO IDOL VALVE CLOSED	68
29-Jan-2013 17:45:47:972	RUNG	۸	G148ANN13000E	TURB LO MTR SUCT PMP STATUS	11
29-Jan-2013 17:45:42:450	LOW	٨	G132ANN32680E	AIR FLOW LOW TRIPS	250
29-Jan-2013 17:45:38:947	LOW	۸	G140ANN11080E	TURB OIL PUMP SUCTION PRS LOW	5
29-Jan-2013 17:45:31:824	ALARM	٨	G125ANN18600E	HTR 5 LVL HI OR DRAINS BYP	93
29-Jan-2013 17:45:25:904	NORMAL		G132ANN28880E	EMGNCY FURN PRS CNTRLR OPER	122
29-Jan-2013 17:45:24:778	CLOSED	۸.	G125ANN40480E	HEATER 5 BS ISOL VALVE CLOSED	66
29-Jan-2013 17:45:21:468	RUNNG	A		TURN GEAR OIL PMP RUNNINGS	91
29-Jan-2013 17:45:14:257	RUNG	A	G141ANN17280E	EMGNCY BRNG OIL PMP STATUS	105
29-Jan-2013 17:45:09:886	CLOSED	٨	G132ANN329BOE	B MILL RATING DAMPER CLOSEDS	249
29-Jan-2013 17:45:09:873	OK		G155ANN31380E	MAIN STEAM PRESSURE LOW-	76
29-Jan-2013 17:45:07:131	NORMAL			CONTROL SYSTEM RUNDOWN REQD	220
29-Jan-2013 17:45:06:741	CLOSED	٨	G133ANN34900E	D MILL RATING DAMPER CLOSED<	117
29-Jan-2013 17:45:06:504	LOW	۸	G125ANN23780E	DRUM LEVEL LOW<	46
29-Jan-2013 17:45:01:357	NORMAL		G133ANN33500E	CONTROL SYSTEM RUNBACK REGO-	177
29-Jan-2013 17:45:01:208	TRIPPO	٨	G150ANN070BOE	GEN EXCITER FLD BKR AUTO TRIP	3
29-Jan-2013 17:45:01:123	RNDOWN			CONTROL SYSTEM RUNDOWN REQD	220
29-Jan-2013 17:45:00:396	RESET			CV #1 NO LOAD TRIP<	234
29-Jan-2013 17:45:00:396	RESET			MSV #2 NO LOAD TRIP«	233
29-Jan-2013 17:45:00:289	CLOSED			G1 A BUS 1T1 TIE STATUS	188
29-Jan-2013 17:45:00:258	RESET		G103AMNTRPSOE	G1 A MAIN TRIP	125
29-Jan-2013 17:45:00:256	CLOSED		G1031T2TIESTSSOE	G1 8 BUS 1T2 TIE STATUS	203
29-Jan-2013 17:45:00:252	RESET		G103BMNTRPSOE	G1 B MAIN TRIP	129
29-Jan-2013 17:45:00:240	OPENED		G103AMNBTBBOE	G1 A MAIN STATUS	126
29-Jan-2013 17:45:00:232	OPENED		G103BMNSTSSOE	G1 B MAIN STATUS	130
29-Jan-2013 17:45:00:201	RESET		G150ANN44000E	GEN TRP ON REVERSE POWER	86
29-Jan-2013 17:45:00:200	RESET		G150ANN42500E	GENERATOR DIFF RLY (87G) TRIP	81
29-Jan-2013 17:45:00:198	TRIPPO	A	G103BMNTRP00E	G1 B MAIN TRIP	129
29-Jan-2013 17:45:00:198	TRIPPO	٨	G103AMNTRPDOE	G1 A MAIN TRIP	125
29-Jan-2013 17:45:00:195	TRIPPO	A	G150ANN05880E	GENERATOR RELAY 86G1 TRIP	2
29-Jan-2013 17:45:00:188	TRIPPO	٨	G150ANN44080E	GEN TRP ON REVERSE POWER	86
29-Jan-2013 17:45:00:188	TRIPPD	٨	G150ANN42580E	GENERATOR DIFF RLY (87G) TRIP	81
29-Jan-2013 17:44:56:598	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 17:44:54:552	TRIPPO	A		BOILER TRIP TO TOSK	229
29-Jan-2013 17:44:54:106	OK		G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245



	29-Jan-2013 17:44:53:883	HIHI	A	G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245
	29-Jan-2013 17:44:53:047	OK		G155ANN258BOE	COLD RH DRIP POT 2 LVL HI-HI	245
	29-Jan-2013 17:44:52:651	TRIPPO	A	G140CVNOLOADSO	ECV#1 NO LOAD TRIP«	234
	29-Jan-2013 17:44:52:641	RESET		G140PBORDCSTTS0	TURB TRIP PB OR OPER DCS TRIP	221
	29-Jan-2013 17:44:52:589	ACTIVE	A	G132ANN28880E	EMGNCY FURN PRS CNTRLR OPER	122
	29-Jan-2013 17:44:52:553	OPENED		G103DPULVSTSSOE	1D PULVERIER STATUS	201
	29-Jan-2013 17:44:52:449	HIHI	A	G155ANN25830E	COLD RH DRIP POT 2 LVL HI-HI	245
	29-Jan-2013 17:44:52:400	TRIPPO	٨	G148MSVNOLOADS	CMBV #2 NO LOAD TRIP«	233
	29-Jan-2013 17:44:52:342	OPENED			18 PULVERIZER STATUS	170
	29-Jan-2013 17:44:52:319	OPENED		G103APASTSSOE	1A PA FAN STATUS	212
	29-Jan-2013 17:44:52:314	OPENED		G103BPASTSSOE	18 PA FAN STATUS	226
	29-Jan-2013 17:44:52:265	TRIPPO		G133ANN31980E	MASTER FUEL TRIP	78
	29-Jan-2013 17:44:52:171	OK		G155ANN25850E	COLD RH DRIP POT 2 LVL HI-HI	245
	29-Jan-2013 17:44:52:133	CLOSED	Α.	G125ANN40380E	HEATER 6 BS ISOL VALVE CLOSED	65
>>>	29-Jan-2013 17:44:51:659	TRIPPO	A	G140ANN15880E	TURBINE TRIP	41
	29-Jan-2013 17:44:51:650	TRIPPO	A		TURE TRIP PE OR OPER DOS TRIP	221
	29-Jan-2013 17:38:00:660	CLOSED		G133ANN33900E	C MILL RATING DAMPER CLOSED	132
	29-Jan-2013 17:38:00:405	NCLED		G133ANN33900E	C MILL RATING DAMPER CLOSED	132
	29-Jan-2013 17:34:16:082	CLOSED	A	G132ANN32890E	A MILL RATING DAMPER CLOSED	94
	29-Jan-2013 17:15:31:820	LOW	A	G155ANN31300E	MAIN STEAM PRESSURE LOW-	76
	29-Jan-2013 17:06:55:864	CLOSED	A	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
	29-Jan-2013 17:06:54:856	NCLSD	~	G133ANN33980E	C MILL RATING DAMPER CLOSEDS	132
	29-Jan-2013 16:43:44:759	ALARM	٨	G131ANN33680E		
	29-Jan-2013 16:43:37:492	NORMAL	^	G131ANN33680E	FUEL-AIR HIGHILOW LIMITING<	244
	29-Jan-2013 16:43:02:673	ALARM	*	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:42:55:908		^		FUEL-AIR HIGH/LOW LIMITING<	244
		NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:42:11:820	ALARM	٨	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:42:04:559	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:42:02:554	ALARM	٨	G131ANN33680E	FUEL-AIR HIGHILOW LIMITING<	244
	29-Jan-2013 16:41:54:036	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:41:53:784	ALARM	^	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:41:40:511	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:41:33:245	ALARM	^	G131ANN33690E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:41:26:731	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:41:16:962	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:41:09:198	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:49:656	ALARM	٨	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:41:892	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:38:133	ALARM	٨	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:24:857	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:40:21:599	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:14:586	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:40:11:332	ALARM	٨	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:56:800	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:39:53:543	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:47:031	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:46:781	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:37:512	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:33:755	ALARM	٨	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:25:488	NORMAL		G131ANN33680E	FUEL-AR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:39:15:968	ALARM	٨	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:38:51:670	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:38:45:408	ALARM	A	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:38:34:638	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:38:27:873	ALARM	A	G131ANN336B0E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:37:49:547	NORMAL		G131ANN33500E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:37:45:790	ALARM	^	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:37:30:011	NORMAL		G131ANN336BOE	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:37:29:508	ALARM		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:37:16:482	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:37:15:228	ALARM	A .	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:36:54:941	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:36:54:186	ALARM	^	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:36:44:417	NORMAL		G131ANN336B0E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:36:42:413	ALARM	^	G131ANN33680E	FUEL-AIR HIGHLOW LIMITINGS	244
	29-Jan-2013 16:36:33:897	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
	29-Jan-2013 16:35:39:537	ALARM	۸	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
	29-Jan-2013 16:35:32:021	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
	representation of the second s				The same of the sa	244





29-Jan-2013 16:34:40:419	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:34:33:406	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:34:23:639	ALARM		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:34:16:373	NORMAL		G131ANN33680E	FUEL-AIR HIGHILOW LIMITING«	244
29-Jan-2013 16:33:41:300	ALARM	A	G131ANN33600E		
29-Jan-2013 16:33:35:038		^		FUEL-AIR HIGH/LOW LIMITING<	244
	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:28:49:469	ALARM	^	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:28:42:706	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
29-Jan-2013 16:27:13:276	ALARM	A	G131ANN33690E	FUEL-AIR HIGH/LOW LIMITING«	244
29-Jan-2013 16:27:06:263	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:22:45:243	ALARM		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:22:38:729	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	
29-Jan-2013 16:17:04:310					244
	ALARM	^	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:16:57:549	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:16:37:007	ALARM	A	G131ANN336BDE	FUEL-AIR HIGH/LOW LIMITING«	244
29-Jan-2013 16:16:29:494	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING«	244
29-Jan-2013 16;16;26;488	ALARM	A	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:16:16:967	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:16:12:459	ALARM	٨	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:59:182	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:52:420	ALARM		G131ANN33600E		
		•		FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:42:148	NORMAL	200	G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:39:893	ALARM	A	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:25:114	NORMAL		G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:15:24:863	ALARM	A	G131ANN33600E	FUEL-AIR HIGHILOW LIMITING<	244
29-Jan-2013 16:15:14:592	NORMAL		G131ANN33600E	FUEL-AIR HIGH/LOW LIMITING«	244
29-Jan-2013 16:15:11:836	ALARM	A	G131ANN33680E	FUEL-AIR HIGH/LOW LIMITING<	244
29-Jan-2013 16:11:36:156	OK		G155ANN313DOE	MAIN STEAM PRESSURE LOW-	76
29-Jan-2013 16:03:35:951	RNBACK		G133ANN33580E		
		^		CONTROL SYSTEM RUNBACK REGO<	177
29-Jan-2013 16:02:21:301	LOW	^	G155ANN31380E	MAIN STEAM PRESSURE LOW<	76
29-Jan-2013 16:00:29:761	OPENED		G103AFDSTSSOE	1A FD FAN STATUS	183
29-Jan-2013 16:00:29:058	OPENED		G103AIDSTSSOE	1A ID FAN STATUS	290
29-Jan-2013 15:59:51:851	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:51:355	HIGH		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:51:097	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:49:853	HIGH		G122ANN22590E	CONDENSER HOTWELL LEVEL HIGH-	113
29-Jan-2013 15:59:45:590	OK	~	G122ANN22500E		
		-		CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:44:345	HIGH	^	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:43:086	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:41:842	HIGH	٨	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:35:074	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:34:833	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:27:064	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:26:569	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH«	113
29-Jan-2013 15:59:25:061	OK		G122ANN225BOE	CONDENSER HOTWELL LEVEL HIGH	113
29-Jan-2013 15:59:24:819	HIGH	٨	G122ANN22580E		
		^		CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:59:17:804	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:57:08:428	TRIPPO	٨	H133ANN46500E	BLR MSTR TRP TO MAN<	138
29-Jan-2013 15:57:07:179	TRIPPO	٨	H133ANN46380E	FUEL MSTR TRP TO MAN<	135
29-Jan-2013 15:57:06:925	TRIPPD	Α.	H132ANN46480E	AIR FLW MSTR TRP TO MAN<	137
29-Jan-2013 15:54:05:383	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:54:02:874	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:49:25:751	CLOSED	A	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 15:49:24:996	NCLSD	~	G133ANN339BOE		
				C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 15:48:10:869	HIGH	^	G132ANN28490E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:49:07:610	NORMAL		G132ANN28480E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:48:02:351	HIGH	A	G132ANN28480E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:47:59:096	NORMAL		G132ANN28480E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:47:44:067	HIGH	A	G132ANN28480E	SEC AIR DUCT PRESSURE HIGH«	61
29-Jan-2013 15:47:42:063	NORMAL		G132ANN28480E	SEC AIR DUCT PRESSURE HIGH«	61
29-Jan-2013 15:46:55:971	HIGH	A	G132ANN28400E	SEC AIR DUCT PRESSURE HIGH	61
29-Jan-2013 15:46:53:213	NORMAL	- 5	G132ANN28400E	SEC AIR DUCT PRESSURE HIGH-	61
29-Jan-2013 15:46:34:930	HIGH	A	G132ANN28490E	SEC AIR DUCT PRESSURE HIGH-	51
29-Jan-2013 15:46:34:427	NORMAL		G132ANN28480E		
				SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:38:56:887	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:56:137	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:55:386	HIGH	٨	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:54:881	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113



29-Jan-2013 15:38:52:633	HIGH	٨	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:51:629	OK		G122ANN225BOE	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:51:380	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:38:14:032	OPENED		G103APULVSTSSOE	1A PULVERIZER STATUS	157
29-Jan-2013 15:36:07:438	NORMAL		G130ANN25600E	IGNITION OIL PRESS HIGH/LOW<	53
29-Jan-2013 15:35:14:334	ALARM	A	G130ANN25680E	IGNITION OIL PRESS HIGH/LOW<	53
29-Jan-2013 15:35:02:326	HIGH	Α.	G125ANN22680E	DEAERATOR LEVEL HIGH	43
29-Jan-2013 15:35:01:580	OK	.,	G125ANN22680E	DEAERATOR LEVEL HIGHS	
29-Jan-2013 15:35:01:071	HIGH	٨	G125ANN22680E		43
29-Jan-2013 15:33:01:071		^		DEAERATOR LEVEL HIGH<	43
	OK		G125ANN22680E	DEAERATOR LEVEL HIGH<	43
29-Jan-2013 15:32:57:401	CLOSED	٨	G133ANN33980E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 15:32:56:646	NCLSD		G133ANN339B0E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 15:32:45:538	NORMAL		G130ANN25600E	IGNITION OIL PRESS HIGH/LOW<	53
29-Jan-2013 15:32:38:275	ALARM	A	G130ANN25680E	IGNITION OIL PRESS HIGH/LOW<	53
29-Jan-2013 15:28:42:307	HIGH	A	G132ANN28450E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:28:41:053	NORMAL		G132ANN28490E	SEC AIR DUCT PRESSURE HIGH<	61
29-Jan-2013 15:28:34:794	HIGH	A	G132ANN28480E	SEC AIR DUCT PRESSURE HIGH«	61
29-Jan-2013 15:28:33:792	NORMAL		G132ANN28490E	SEC AIR DUCT PRESSURE HIGH	61
29-Jan-2013 15:29:32:037	HIGH	A	G132ANN284B0E	SEC AIR DUCT PRESSURE HIGH«	61
29-Jan-2013 15:29:31:286	NORMAL		G132ANN28480E	SEC AIR DUCT PRESSURE HIGH	61
29-Jan-2013 15:25:33:432	NORMAL		G130ANN25600E	IGNITION OIL PRESS HIGH/LOW<	
29-Jan-2013 15:24:05:262	ALARM				53
		A	G130ANN25600E	IGNITION OIL PRESS HIGH/LOW<	53
29-Jan-2013 15:22:17:022	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:22:16:277	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH«	113
29-Jan-2013 15:22:14:771	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:22:14:522	HIGH	٨	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 15:22:13:268	OK		G122ANN22590E	CONDENSER HOTWELL LEVEL HIGH«	113
29-Jan-2013 15:03:41:028	HIHI	A	G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 15:02:55:446	CLOSED	A	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 15:02:53:189	NCLSD		G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 14:44:49:212	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH«	113
29-Jan-2013 14:44:48:957	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH-	113
29-Jan-2013 14:44:39:447	HIGH	A	G122ANN225BOE	CONDENSER HOTWELL LEVEL HIGH	113
29-Jan-2013 14:44:39:195	OK	2.0	G122ANN22580E		
29-Jan-2013 14:44:36:443				CONDENSER HOTWELL LEVEL HIGH<	113
	HIGH	٨	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH	113
29-Jan-2013 14:44:35:939	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:32:436	HIGH	^	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:31:685	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:30:687	HIGH	^	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:29:931	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:29:685	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:26:927	OK		G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH<	113
29-Jan-2013 14:44:25:927	HIGH	A	G122ANN22580E	CONDENSER HOTWELL LEVEL HIGH«	113
29-Jan-2013 14:17:30:476	OK		G155ANN25800E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 14:16:08:366	CLOSED	A	G133ANN33980E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 14:16:06:358	NCLSD		G133ANN33980E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 14:00:42:106	CLOSED		G133ANN33980E	C MILL RATING DAMPER CLOSED«	132
29-Jan-2013 14:00:39:095	NCLSD	-	G133ANN33980E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 13:58:28:957	HIHI	٨	G155ANN25890E	COLD RH DRIP POT 2 LVL HI-HI	
29-Jan-2013 13:54:51:511	OK	^			245
			G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 13:54:51:478	HIHI	۸	G155ANN25830E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 13:28:53:753	CLOSED	^	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 13:28:51:497	NCLSD		G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 12:36:31:307	OK		G155ANN258DOE	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 12:26:25:645	CLOSED	٨	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 12:26:22:387	NOLSD		G133ANN33980E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 12:05:54:729	HIHI	٨	G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 11:38:50:197	OK		G155ANN25830E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 11:38:50:157	HIHI	٨	G155ANN25800E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 11:18:05:985	OK		G155ANN25800E	COLD RH DRIP POT 2 LVL HIHII	245
29-Jan-2013 11:02:42:560	the state of the s	٨	G133ANN33900E	C MILL RATING DAMPER CLOSED<	132
29-Jan-2013 11:02:39:549	NCLSD	-		C MILL RATING DAMPER CLOSED«	132
29-Jan-2013 10:25:25:765	CLOSED		G133ANN33900E	C MILL RATING DAMPER CLOSED	132
29-Jan-2013 10:25:23:007	NCLSD		G133ANN33900E	C MILL RATING DAMPER CLOSED	132
29-Jan-2013 10:25:07:302	HIHI	٨	G155ANN25800E	COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 10:18:31:986	OK	-	G155ANN25880E		-
29-Jan-2013 10:18:31:947				COLD RH DRIP POT 2 LVL HI-HI	245
29-Jan-2013 10:16:31:947 29-Jan-2013 10:12:49:757	HIHI	^	G155ANN25880E	COLD RH DRIP POT 2 LVL HI-HI	245
20 00: 2010 10:12:40:707	OK		G155ANN25800E	COLD RH DRIP POT 2 LVL HI-HI	245



#### Your Touchstone Energy" Cooperative

## Forced Outage Report

#### Other Work Completed While Unit Was Offline

Mist eliminator nozzles inspected and cleaned

Recycle header pig tail nozzles cleaned

1A Reaction Tank pumped down to check bleed suction line

Ductwork inspected and repaired 13 large holes on 1A Precip Outlet, 1 hole on 1B Precip Outlet (roof) and 1 hole (approx.4'x4') on 1B Precip hot roof under a T-R set.

ID Fan Dampers stroked

MATS testing ports installed for "A" side FGD Inlet

Precipitator B Side:

2nd Field East side installed 4 pieces of angle iron.

6th Field West removed broken electrode.

7th Field East/West repaired hole in roof under TR.

Repacked #5 & #6 RCV's

Replaced manual isolation valve for Air Heater sootblower

Air Heaters 1A & 1B wash

Inspect Burners & Flame Scanners

Boiler wash down - internal





Operators Event Log

Big Rivers LOG BOOK	(
S ELECTRIC COMPORATION	DATE 1-29-10
GREID GREEN CONTROL OPERATOR AUXILIARY OPERATOR UTILITY OPERATOR	SCRUBBER SHIFT SUPERVISOR SCRUBBER OPERATOR SCRUBBER AUXILIARY OPERATOR SOLID WASTE OPERATOR SCRUBBER UTILITY OPERATOR
THIS FORM TO BE COM	IPLETED IN INK
TIME	MARKS
Temple, M. Conb., Cook, R.	eron, Collins, Makon,
GI Load 180 A, 0+0 M.) Soz, 08 Nor, 20	The preside 4 - 6
Soz ,08 Nor 20	00014 10.1
62 10-1 150 3 011 10 11	
G2 1001 180 A, D+CM.N, Sox. 09 Nos. 23	precips 300
	graning - 1
Slokes 61-OUT 19'423'	
gry 2 on 77.6" 54 sil	5:10
IV Aconveyers A+C Drums #	1511, 70 #2 smoot 36"
11 1 1 1 1 1 Siles 47-	0 Jo-0 IV15.5he
10 11 h-1 20 6.5 kg & 1.	0 11:
W. W. W.	- 41.0
12:00 add Jolflock To 14 Thickney ret	orn Takk
- 1A29 8 of 5'5" 2022	W 5 71-11
- 1A 29.8 of 5'5" 2A37	4 0. 6/0
ZA add flock to IA Reading	Tack
1 - 251 OPER	SUP'R
1457 'A Aux handon growd inst 'A	Do Far ground faregor 4/6
1524 dropping to 110 Net 2ND	
1603 A' ID For off In An Classified	4 752m
01 A-=to-125	(168 ( SIGNED ) ADA CO
2-242 SH-17.73 W	101 -(-)7 F155.12 R 1/93





Your Touchstone Energy Cooperative



LOG BOOK

DATE 1-29-13

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

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
4:14	IV Down 50 screwcond Droken 17 in Tanks
4:00	add flock To GI TRT
4.00	1A 29.4 0° 5'4" 2A - 0° 6'90 1D 149 0° 6'9 2D - 0° 6'9°
6:00	add flock To 1 A Realton Tank
6:15	George Hollander not coming in Today
	1 A Thickner 5'3"
	OPER

OPER	SUP'R
1ST	
2ND	
SRD	2322
4.200 中央国际	SIGNED





Your Touchstone Energy Cooperative

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Kirk	Rivers
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LOG BOOK

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TIME	REMARKS
7Am	Beauer Reed Pittmeyer (school) Quisenberry Hepkins Berry, Kuhna Bell, Rigdon, Gerrell, Duvall
	Kunna, Bell, Kigder, Gerrell, Duvall
G-1	LOAD 250 CAP 250 3 mills C=5/B
	LOAD 250 Cap 250 3 mills C=5/B 502.22 NOX 20 opacity 7.27. ADS in 4 Precips out
	LOAD 233 CAP 242 3 mills D=518
	ADS in 3 Preciposout 6.87.
	SLAKERS G-1 OUT 20.4 22.8
F SN -	G-2 4 ON 21.3 22.1 #4
	Prep 3 on 79.17 *3
	IU OUT 26 TANKS
	51/0's PRESS. & SAFETY'S & #1-37' #2-33'
	-1-37 -2-33
	E-1.5 E5 W-1.0 W5
200	1A Thickner 4'3" - Polymer in every 2 Houre

SUP'R
TW 7A-87

F155.12 F1 1/93



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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1030	1A OFF OT-4'4" DA OFF OT-6'10"  1B OFF 3T-6'10" 2B OFF OT-6'11"
	STACK dearns OK
1200	2 Liters OF CATIONIC polymen to IA Thickness
	Chaused From ANIONIE Polymon to CATIONIE Platymen (LOCATED IN Read WATER PLANT)
	G-1 Aux. TRANSFIRMEN WINDING X" GROWNER
-	C. Tucken Fonce Hotsyet on xmp - 1A IDFAN GREENO SHEWING ON 4160
324	G-1 out of ADS Despoing to 110 NET
	R. Walfe CAlled weeds some Help ont AT IN CALLED PERSONAL - D. GATLIN WILL be IN

W 7A-8P

F155.12 R 1/93





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TY.	D.	
Kim	Rive	ma
DIE.	TUVC	13
0	ELECTRIC CORPO	RATION

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THIS FORM TO BE COMPLETED IN INK

	N. PRINTE CALLED FROM COAL HAMBLIN FEELING SICK - Leaving work
	T. Mari
901	Zime silo's 33/34 35/37 6/4 18/15 Dig 19'2"
338	Amill OFF
	1A ID FAN OFF 1A FD FAN OFF
	B' SIDE FlyAsh OFF PER P. Bowley - opacity
544	Tripped G-1 Roler-Transive - Air Flow problems
623	ON GEAR
11:00	add flee To 1A Ded level 32

SUP'R
N 7A-87





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KI	ort	1X/	pre
1/1	8	CTRIC CO	ers

LOG BOOK

DATE 1-30-13

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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
12M	Host, Hayes, Outler, J Darron, Collins, Hoover, M. Conks Cook, Temple, R Parker, Dlackburn
	Cook, Temple, & Parker, Blackburn
61	Down for ortage
62	Son 10 Nor. 25 apaing 8.3
	302,10 Nor. US Upainy 8.3
5 laken	61 OUT 24.2 + 24.7
	61 out 24.2 + 24.7 62 3on 25.8 + 23.0 #45:10 prep 2on 84.5" \$75:11
IU	Aconveyors A+B Droms 5/sde 25 625 noof 36"
	25': - Tanks Silos 45.0 40.0 [U 10] EZ.0 E1.0
	1A 14 Los 2A 12 Los W15 W.5
	DSLIN Hold \$79 on GI 100.9 Gen discorrect
	Add flow To reaction tank & Thickner
	ald sloe To reaction Tank + Thickness

1ST 2ND SRD

F155.12

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LOG BOOK

DATE 1-30-17

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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1:44A	all Fans on 61 off
2 A	add flow To Beaution Tank & IATLickner
34	Thorgson here To wash Doiler
4:00	1A 28 0 42" 2A 38 0 610"
5:30	1A 4.10.

OPER	SUP'R
1ST	
2ND	
3RD	2200-





O ELE	Rive	RATION			D	ATE/-	30-13	
REID GREEN COLEMA WILSON	IN	O CONTR	OL OPERA ARY OPERA OPERATO	TOR	SCRUE SCRUE SOLID	BER OPER BER AUXIL WASTE OP	IARY OPERAT	TOR
8AM-8	Sem.	1	HIS FORM T	O BE COMPLI	ETED IN INK			
ME				REMA				
300 1	Bauon-	Heer -	Pittneyer	- Denton	- Strick	land-Mas	han-Thon	104-
7	oursen	P-Lous	18olig	and				
			U					
	5-1 Out	aga						
6	5-2 2000	1 2001		C=0.21	12	2 M		ACTOR ACT
	by. 230	0.04		C3 171	10	2/10	ls on Doff peity 7.60	
		w in Sec		30.170	200000	+ . The	Petty 7.60	
	DRY LONG	ios an pace	crac		WOLFER OU	y og selle	roc	
	Eu m &	you're - 1	A Conve	mar - A	1+BJM	ems - #	1 March	1.1
-7	lime pr	te of 2	2' lin Si	you - A	+B DM =2 Imoo Ko	ems - #	1 flyach 36 %	1.1
-7	line pr	# 1 Bis # 2 Bis Rep 1	at her So willing our Se Building	you - how ton	24.3/2 24.3/2 23.6/8 10n 87.9	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	1 flyach 36 %	1.1
-7	line pr	# 1 Bis # 2 Bis Rep 1	at her So willing our Se Building	you - how ton	24.3/2 24.3/2 23.6/8 10n 87.9/	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	I flyach	1.1
-7	line pr	# 1 Bis # 2 Bis Rep 1	at her So willing our Se Building	you - how ton	24.3/2 24.3/2 23.6/2 /on 87.9/ 20/36	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	0 6'9" 0 6'8"	1.1
-7	line pr	# 1 Bu # 2 Biss # 2 Biss Rep 6 18) 4 Sils Re Ails	alling our de Bullang of 199 (53)	you - how ton	24.3/2 24.3/2 23.6/2 /on 87.9/ 20/36	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	0 6'9" 0 6'8"  2) 8	1.1
-7	line pr	# 1 Bu # 2 Biss Prep 1 10 4 Sils Re Lofeto	alling our de Bullang of 199 (53)	you - how ton	24.3/2 23.6/2 /on 87.9/ 20/36 /on 87.9/	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	1 Albank 36 %	1.1
9	line pr	# 1 Bu # 2 Biss # 2 Biss Rep 6 18) 4 Sils Re Ails	alling our de Bullang of 199 (53)	Lype - A hour - when ton the fleenice wise 3 pm in Service 0 5'10 10 6'6"	24.3/2 24.3/2 23.6/2 /on 87.9/ 20/36	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	1 Alback 36 8 36 8 36 8 4 2) 2 3 5 5 5 5	1.1
-7	line pr	# 1 Bu # 2 Biss Prep 1 10 4 Sils Re Lofeto	alling our de Bullang of 199 (53)	Lype - A hour - when ton to of blearing wine 3 pm in bennies 0 5'10 10 6'6"	24.3/2 23.6/2 /on 87.9/ 20/36 /on 87.9/	ems - # T Systes 4.3 2.8 #4 fil 8 *3 file	1 Albank 36 %	1.1
9	line pr	# 1 Bu # 2 Biss Prep 1 10 4 Sils Re Lofeto	alling our de Bullang of 199 (53)	Lype - A hour - when ton the fleenice wise 3 pm in Service 0 5'10 10 6'6"	24.3/2 23.6/2 /on 87.9/ 20/36 /on 87.9/	ems - # 1 System 2.8 #4 fil 3 *3 sile 1.3 (2) 1.6 (218)	0 6'9" 0 6'8"  \$ SUPR	1.1
-7	line pr	# 1 Bu # 2 Biss Prep 1 10 4 Sils Re Lofeto	alling our de Bullang of 199 (53)	Lype - A hour - when ton to of blearing wine 3 pm in bennies 0 5'10 10 6'6"	24.3/2 23.6/2 /on 87.9/ 20/36 /on 87.9/	ems - # 1 System 2.8 #4 fil 3 *3 sile 1.3 (2) 1.6 (218)	0 6'9" 0 6'8"  \$ SUPR	1.1
9	line pr	# 1 Bu # 2 Biss Prep 1 10 4 Sils Re Lofeto	alling our de Bullang of 199 (53)	Lype - A hour - hour ton when your ton wine 3 pm in Service 0 5'10 10 6'6"	24.3/2 23.6/2 /on 87.9/ 20/36 /on 87.9/	ems - # 1 System 2.8 #4 fil 3 *3 sile 1.3 (2) 1.6 (218)	1 Alback 36 8 36 8 36 8 4 2) 2 3 5 5 5 5	1.1





Big!	Rive	ers PRATION	LOG BOOK	DATE		1-30-13
REID GREEN COLEN WILSO	IAN	SHIFT SUPERVI CONTROL OPER AUXILIARY OPERA UTILITY OPERA THIS FORM	RATOR	SCRUBBER SCRUBBER SOLID WAS SCRUBBER	AUX TE O	ILIARY OPERATOR
TIME			REMA			
	Elyash	Siloi Savels "			431	
100		18) 20.0 (00) 18) 29.4 (161)				610"
		aci kestu was				
330	Setting	G-1 Boiles for	- Hydeo			
Note	Owkily G-1 ( to Dearning	in found #5	extraction the Son	Lock to get	t d	leaving line on the leaking what rived.
430	Underfle	OWN 1A) How 94 1B) How 189	0 68	" 24) 35 " 25) 54.6	0	6'9"
515	Bygood	ed G-1 Cooling	tower -			
530	Thomps	in done wi	th Clea	min 6-1	Box	lu
			OPER	7		SUPR
			1ST			
			2ND		4	- C - C

F155.12 R 1/93

3RD

SIGNED





Your Touchstone Energy Cooperative

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Kio	RIVERS
118	Rivers

LOG BOOK

DATE 1-30-13

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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
100	Maitros, Bods, Fuley, Lawrence, Wh. Hedge, Herry, Paker Travis, Strughter, Melter, Tapp
930	Filling 6-1 Reaction trusts.
1100	Film G.1 Boller Br Hydo.
11 00	1A - 0 2 2A 54.4 0 6" 1B - 0 7 2B 36.6 0 60
	5-1 AH wish complete.

OPER	SUP'R
1ST	Store.
2ND	
3RD	







GREEN GOLEMAN	or Pinn	LOG BO	OK	
REID GREEN GOLEMAN GOL	gnive	rs	DAT	E 1/3//13
TIME  12ª 6-1 Owings / shripp.  62 Cap 242 CH 210  502 125 NOR . (87 gpac 4.7)  1laber 61 D 24/24  52 3 23/23  H 3 84.52 Hy  500 bys 10 - 0 7 213 33.4 0 4"  18 - 0 7 213 34.8 0 6"  18 - 0 7 213 34.8 0 6"  18 - 0 7 26 34.8 0 6"  18 - 12' 42 - 36 2  5.165 H1-42 50 5-0 H2-29' 5-05-0  18 M. Turner Called for P.D.  18 M. Turner Called for	REEN OLEMAN /ILSON	O CONTROL OPERATOR O AUXILIARY OPERATOR O UTILITY OPERATOR	SCRUBBI SCRUBBI SCRUBBI SOLID W	ER SHIFT SUPERVISO ER OPERATOR ER AUXILIARY OPERA ASTE OPERATOR
12  6-1  avinge / shrhip.  62  Cap 242	ME			
62 Cap 242 CH. 210  502 J25 NOR . 187 Apac 4.7  Ilabers 61 D 24/24  52 3 23/23  H 3 84.57 A4  Solders 18 - 0 7 28 32.4 0 4"  18 - 0 7 28 34.8 0 6"  PU Pa Soviet, A 5, de, A+B am, # 1 - 23 T  Talls - 12' # 2 - 36 %  5.165 #1-42 50 5-0 #2-29' 5-05-0  F-5 W.1.5 F.5 U-0  1º M. Tirme Colled for P.D.  1º Frand SH spray block to be closed - its apar  now and backfilling sh.  2 10 Hydro Complete + Pulling Upe.  1- Income book 0 1225 OPER SUPR  unit Good for nex a 2122 ND	2 6-1	outage / shehr	2.	
16203 61 0 24/24  52 3 23/23  H 3 84.57 #4  SNOW No 0 7 28 34.8 0 6"  DU In Server, A 5. dx, A+B an, #1-23T  Talks - 12' #2-36 2  5. lbs #1-42 &0 5-0 #2-29 5-05-0  F5 W.1.5 E.5 U-0  1e M. Turne Callal for P.D.  1et Frank SH spray black to be closed - its again and back Alling 5B.  2 15 Hydro Complete + Pulling loe.  1- fine in back 21225 OPER SUPR  unit field 2 1523 OPER SUPR  unit good for nex 2 212200	A REPORT OF THE PROPERTY OF TH			( / 2
SNOWS IN - 0 7 20 33.4 0 4"  IB - 0 7 2B 34.8 0 6"  DU FOR SOVICE, A SINCE, A+B Para, \$1 - 23 T  TIMES - 12' \$20 5.0 \$2 - 36 2  Silver \$1-42' \$20 5.0 \$2-29' \$5.05-0  F. 5 U.1.5 \$6.5 U0  I'M Turner Cellal for P.D.  I'M From \$44 spray black to be closed - its aparana and brokefilling \$8.  2 43 Hydro Complete + Pulling loo.  2 45 Hydro Complete + Pulling loo.  1 - Linear book \$1323 OPER SUPR  unit \$2000 for max \$212200				
De De Server, A side, A+B Am, # 1-23T  Tills - 12' # 2-36 %  5.165 #1-42 \$0 5-0 #2-29 5-05-0  F-5 W.1.5 E-5 U-0  18 M. Turner colled Ar P.D.  19 Franch SH spray block to be closed - its aparana and backfilling sp.  245 Hydro Complete + Pulling Voe.  245 Hydro Complete + Pulling Voe.  246 Super Super Super Super Super Unit (200) 1523 OPER SUPER Unit (200) 1523 IST CARLLED UNIT (200) ISD IST CA			213 33.4	
1 th Throng called for P.D.  1 th Frond 5H spray block to be closed - its again now and brokelling of.  2 to Hydro Complete + Pulling Upe.  1 - Inch to book a 1225 OPER SUPER unit tied a 1523 IST PRINTS				
1 th Front SH spray block to be closed - its open now and brokelling of.  2 th Hydro Complete + Pulling Ube.  1 - fine in book a 1225 OPER SUPER unit (iel a) 1523 IST PRINTS	5.165 \$1-4	2 50 5-0 E5 U.1.5	#2-29'	5-0 6-0 5 U-0
1 pt Frond 5H spray block to be closed - its apar now and brok Alling of.  2 13 Hydro Complete + Pulling Upe.  1 - fue in book a 1225 OPER SUPR  unit list a 1523 1ST  wit good for nox a 21202ND	e M. Turn	e culted for	P.D.	
2 th Hydro Complete + Pulling Upo.  I - fine in boile a 1225 OPER SUPIR unit tiel a 1523 1ST PRINTS UNIT SOOD for more a 21202ND	UT Frank	5H spray block	to be close	1 - its gan
unit tield 1523 IST SUPR				
3. 36 - 34 - 8.62 34 135 dans 100 000011 00	unit ties wit good.	Bedにありるる OP の 1523 IST	NO DELATE	SUP'R
3RD SIGNED		3RD	SIGI	NED









LOG BOOK

DATE 1-31-13

- O REID
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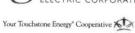
THIS FORM TO BE COMPLETED IN INK

IME	REMARKS	Air
4 60	Fund small tube look in the other. Onch p	155
500	Peachen taks Full	
	OPER SUP'R	

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







	D:		LOG BOOK						
JIG.	Rive	ers		DAT	TE	1-31-13			
<u> </u>	RECTRIC COR	PORATION		UA	IC	1 31 13			
REID	u	SHIFT SUPER	VISOR	□ SCRUBB	ER SH	IIFT SUPERVISOR	R		
COLEN		O CONTROL OP	ERATOR	SCRUBB	ER OF	PERATOR			
WILSO	N	O UTILITY OPER	ATOR	O SOLID W	ASTE	XILIARY OPERAT	ron		
		0		SCRUBB	ER UT	ILITY OPERATOR	4		
Sm-	0.	THIS FOR	RM TO BE COMP						
TIME	opp								
20	Rans	H. 11 +	HEN	MARKS	מינו				
- AM	Friebl	- Beer - Hust	- Messer ( B)	V-Deveton -	Kitts	reige - Butti	4-		
	DATE OF THE PROPERTY OF THE PARTY OF THE PAR					*			
	G-1 Ou	tore							
		0							
	G-2 L00	0 241	Cap 2	24	3 11.	llson Day			
	Nox . 21	7	33.170						
	ADS Con	tro in Service		3 Parejo o	it or	Secure.			
	Stakers "1 Building out of Securie 242/24.2								
		# Building in &	Luxie 300	229/229 # 3	Sila				
		Breg Badling	in Service 20	n 24.23 4,	dis				
	N/A	8							
	DI me	ewice - 7	The system of		of a	Must	*		
		to a separate por	- American	- Lynn		to de	A second		
	Action	- THE PARTY OF THE	一个人	Colibrati	non A	coles			
855	9	0.10.1	1 11.1		V				
0	Tungeny	up G-1 Dorler 9	for Hydro						
940	CUR	0.112	1/20 #						
1003	Die	su fad for	1600 #	10,00	4	51 41	1.		
017	Brust	IN MANUEL	to firen	level + 80			lee		
V311	AV	- B pump	The wal	values -	CM	ing to A Sia	4		
	075	- B pump	e v mou	-UK					
	1 5 5 5								
			OPER			SUP'R			
			1ST						
			2ND		H	ma 21-8p			
			3RD		Jul	24.84			
				SIG	NED				
				old	HED		F155.12		
							FI 1/83		





Your Touchstone Energy Cooperative

-	-		
Kı	ort	2 TV	ers
101	51	UV	CID

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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
	Flyash Sile levels ") 32' #3) 39'
	Flyash Silo Readings #1) #2)
	Sality 0
	Baghade Ent 1.5 1.0
0.30	
72	dave a land of Sulfar here - Buttery in Unit
-	Fires established in G-1 Notified 18/1
900	Underflows 1A) How 82 0 6'10" 2A) 36 2 0 6'11" 18) How 16A 0 6'2" 28) 37.4 0 6'11"
AND DESCRIPTION	Underflower 1A/254 0 6'9" 2A/ 330 0 6'10"
	Pulling Vac. + Sealing turbine on G-1
250	Betting Switching orders from Beg Rivers disgatche

OPER	SUP'R
1ST	
2ND	Surna 8x-80
SRD	Junior in g
	SIGNED

F155,12









LOG BOOK

DATE /-31-13

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THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS	
33	Tred G-1 on line	
33	G-1 Rengo in Service - Notified 11/2	
	Line Stat # 35/35 # 37/37 # 20/5 # 35/19 Digital 23	19
	anderflown IA) Flow 81 0 6'10" 2035 0 6'10"  12) Flow 179 0 6'8" 2037.1 0 6'10"  Stock Drains OK	
Name and Address of the Owner, which the	Took and oil out of G-1 Boilse	
62	G-1 Siling . 0225 Hood for Wm. Day	
	G-1 Silica . @ 275 Good for 1600 Deur	
Tes	Motors, Fochey, Bilds, Carrence, Whitelye, Horrer, Rober Trais, Slaughter, Shellon, Tepp.	
925	Marters, Falsey, Bilds, Lawrence, Whitelye, Hower, Robert Traix, Slaughter, Shellon, Tapp.	
925	Marters, Falsey, Olds Lawrence, Unitelye, Hower, Robert Travis, Stanglister, Shellon, Tepp. 6-1 good de Max press 6-1 g Max and is ADS	
925 108	Marters, Felley, Bilds, Lawrence, Whitelye, Hover, River Travic, Slaughter, Shellon, Tapp.  6-1 gent de Max press  6-1 g Max and is ADS  118-0410 28 34.7 04"  18-0410 28 36.60 06"	
925 108	Marters, Fachey, Bilds, Lawrence, Whittelye, Hower, River Travis, Slavepher, Shellon, Tepp.  6-1 good de Max press  6-1 g Max and is ADS  11A - 0 4 10 2 3 4.7 0 4"  18 - 0 4 10 2 8 36.4 0 6"  \$\frac{\pi}{2}   39 \tag{7} \tag{8} \tag{8} \tag{8} \tag{8} \tag{8} \tag{9} \t	
925 108	Marters, Felley, Bilds, Lawrence, Whitelye, Hover, River, River, Shellow, Texp.  6-1 good der Max press  6-1 good der Max press  119 - 0 k 10 219 217 34.7 0 411  18 - 0 4 10 28 34.6 0 611  # 1-35' 5-0 6-0 OPER SUPR  6-1 W-1 IST	
925 10 <sup>E</sup>	Marters, Fachey, Bilds, Lawrence, Whittelye, Hower, Rober Travis, Slavephler, Shellon, Tepp.  6-1 good de Max press  6-1 g Max and is ADS  119 - 0 4 10 21 34.7 a 2"  18 - 0 4 10 28 34.7 a 2"  \$\frac{1}{2}\$ 35 5-0 6-0 OPER SUPR  \$\frac{\pi}{6-1}\$ W-1 1ST	
925 10 <sup>E</sup>	Marters, Forkey, Bilds, Lawrence, Whittelye, Hower, Rober Travis, Slavepher, Shellon, Tepp.  6-1 good de Max press  6-1 g Max and is ADS  119 - 0 4 10 21 34.7 0 4"  18 - 0 4 10 28 36.6 0 6"  #1-35' 5-0 6-0 OPER SUPR  6-1 W-1 IST	





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## Forced Outage Report

#### **Estimated Outage Costs**

'1A' ID Fan Motor - grounded conductor:

Labor (Inside)

\$ 734.07

Materials cost

\$ 43.35

\$ 777.42

Black furnace:

Labor (Inside)

\$ 15,931.11

Materials cost

\$4,799.48

\$ 20,730.59

\$ 21,508.01 Total





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Green 1 - G1-13-02	Produ	uction Cos	st
Date & Time Off Line	1/29/13 17:44	MW		/MW
Date & Time On Line	1/31/13 15:23	163	\$	26.40
Outage Duration	45 hr. 39 min.	181	\$	25.96
Outage Code	UO1	235	\$	25.45
Outage Reason	Manually tripped unit due to combustion issues after A ID fan			2

motor tripped to ground.

Date	DA LN	IP Average	RT LM	IP Average	ART P&L	Lost portunity
1/29/13 (HE 16-24)	\$	24.49	\$	23.95	\$ 1,470	\$ 
1/30/13 (HE 1-24)	\$	26.01	\$	25.62	\$ (1,395)	\$ -
1/31/13 (HE 1-24)	\$	29.06	\$	31.29	\$ 479	\$ (9,240)
Total					\$ 555	\$ (9,240)

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		9,755	DART P&L	\$	555
S/U Fuel Price	\$	3.18	Lost Opportunity	\$	(9,240)
S/U Fuel Cost	\$	(31,050)	S/U Fuel Cost	\$	(31,050)
			Total	\$	(39,735)

#### 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



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### **Forced Outage Report**

To: Bob Berry

From: Daryl Chinn

Date: 21-Jan-2013

Plant: Coleman Unit: 1 GADS Class: UO2

#### **Duration**

Trip Time: 2-Jan-2013 10:54 Tie Time: 5-Jan-2013 15:38

Total Time Offline: 76:44

#### **Outage Description**

Coleman unit 1 was removed from service in a controlled manner on Wednesday, 2-Jan-2013 at 10:54 and returned to service on Saturday, 5-Jan-2013 at 15:38 for duration of 76:44 against an initial target of 72:00. This was an unplanned event, and as such is classified as a Class I (UO2) forced outage. The unit was removed from service due to a tube leak in the reheat section of the boiler on the east side near 7R soot blower, approximate elevation 197'.

#### **Root Cause**

An internal inspection of the boiler revealed the 5<sup>th</sup> tube in the third assembly from the east wall had experienced external tube erosion caused by 7R soot blower. This erosion thinned the tube causing a catastrophic tube rupture which damaged adjacent tubes in the 2<sup>nd</sup> assembly. Titan replaced a total of nine dutchman; four in the second assembly from east wall, and five in the third assembly from east wall. One additional base metal repair was made, and a hard tie was replaced in the first assembly from the east wall to facilitate re-alignment. The root cause is linked to the age of these elements in which "creep" has elongated the tubes to the point the elements are being forced out into the gas lane. With the subsequent tubes out into the gas lane leaves them exposed to the abrasion caused by flue gas flow and intensified by the action of the relative soot blower. It should also be noted that the soot blower is within 12" to 14" from the face of the tubes in this area. The first and second tubes are shielded but it is impossible to access any deeper tubes to apply shields.



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#### **Failure History**

13-Oct-2012	Reheater Tube Leak	74:45
14-Aug-2012	Reheater Tube Leak	64:48
11-Apr-2012	Reheater Tube Leak	68:07
11-Nov-2011	Reheater Tube Leak	53:37
5-Nov-2011	Reheater Tube Leak	108:47

#### **Corrective Action**

This section of the reheater is scheduled to be replaced during the spring outage of 2013.

#### **SOE Print Out**

N/A



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### Forced Outage Report

#### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance Outage Tasks**

6084916 1C PA FAN HAS SOME VIBRATION IN THE FLOAT BEARING Checked bolting and opened fan housing - cleaned blades, tightened bearing and base plate bolting

6076626 1C Foster Wheeler Mill Inspection. Completed PM 1C mill inspection - replaced set of classifiers, and shimmed rolls as needed

6082847 1C mill slide gate not going full open or full closed Replaced 1C mill pyrite slide gate

6086971 UNIT #1 WETBOTTOM EAST SEAL SUPPLY LINE IS BROKE OFF. Replaced section of seal water supply line on east side of wetbottom

6086886 C1 FLYASH #9 AH HOPPER COWBELL IS WORN OUT AND PULLS ON HOPPER AT ALWAYS SO OTHER HOPPERS WILL NOT SWITCH OUT Replaced #9 AH hopper valve

6086959 C1 FLYASH AH HOPPER SWEEP LINE HAS A HOLE IN IT BETWEEN #8 & 9 HOPPERS (TEMP PATCHED) Replaced section of ash line between 8 and 9 hopper

6087280 C1, Tube leak in R/H section at elevation 200' near 7R sootblower. Replaced nine total dutchman - 4 from second assembly from east wall and five from third assembly from east wall, one additional base metal repair was made, and hard tie replaced in first assembly to re-align. 1st hydro found tube at rear HRA elevation 180' ## tube from east wall - base metal repair

6087401 C1 - "D" PA fan rating damper bearings are bad. Replaced bearings on 1D PA Fan rating damper

6087224 C-1 outage setup, open & close doors, blank gas valve. Opened and closed doors, install and removed gas blank, installed tube shields in back pass of boiler

6077261 1A Foster Wheeler Mill Inspection. Completed PM 1A mill inspection - patched hole in mill dome, and shimmed rolls as needed

6081740 1B BFP INBOARD BEARING DEFLECTOR HAS An OIL LEAK Repaired inner deflector to inboard bearing. Replacement required during C1 planned outage



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6082253 1A PA FAN FIXED BEARING HAS A BAD OIL LEAK ON INPUT SEAL. Repaired oil leak on 1A PA fan fixed bearing, replaced rubber gaskets on cooling water lines to bearing housing

6085432 C1, Replace all five economizer dust valves.

Replace coupling between 1 and 2 hoppers." Replace all 5 dust valves and laterals

6084862 C1 TURBINE DRAIN #4 AIR OPERATED VALVE PACKING IS LEAKING. Repacked air operated valve for turbine drain #4

6087587 Replace drum gauge glass on C-1 all of them. Replaced all gauge glasses on C1 drum level column

6087123 has piece of metal in it that we can't get out. Got a small piece out but can't get the rest. Removed section of metal from throat of #9 hopper

6075514 C1, Gas leaks around APH inlet on both APHs. Repaired four gas leaks at AH expansion joints, patched hole at inspection port on east side "B" AH, one gas leak on SW corner Econ Outlet EJ "A" side, sealed membrane and casing leaks at 8R and 10R S/B penetrations and at RH outlet header penetrations through rear HRA

6077875 1B ROFA Fan Inlet expansion joint leaking (temp repair) - replace joint Baker Bohnert replaced 12R "B" ROFA inlet joint

6081583 1B Foster Wheeler Mill Inspection. Completed PM 1B mill inspection - replaced set of classifiers, and shimmed rolls as needed

6080812 UNIT #1 #6 AIR HTR, HOPPER HAS HOLE IN NORTH SIDE OF HOPPER. Large holes on east side of hopper at throat patched - metal very thin

6084017 UNIT #1 - #10 PRECIP HOPPER HAS A HOLE IN THE GATE - TEMP PATCHED ITInstalled complete dust valve assembly on #10 precip hopper

6085040 1C MILL HAS COAL LEAK ON RAW COAL PIPE NORTH SIDE Patched coal leak on 1C mill raw coal pipe

6084861 C1, #1 TURBINE DRAIN AIR OPERATED VALVE IS LEAKING THROUGH. Installed a new manual valve at #1 turbine drain, need to replace with air operated valve during C1 planned outage



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6084917 C1 SOOT BLOWING ISOLATION VALVE ON THE ROOF NEEDS CHANGING OUT - WILL NOT MOVE Sootblowing Isolation valve on top of penthouse replaced

6084897 C1 SOOTBLOWING ROOT VALVE NEEDS REPLACED Sootblowing Isolation root valve replaced

6075852 1D Foster Wheeler Mill Inspection. Completed PM 1D mill inspection - patched hole in mill dome, and shimmed rolls as needed

6083420 C1 STEAM COIL ISOLATION VALVE AT DRUM NEEDS PACKING REPLACED LEAKS WHEN VALVED Repacked steam coil isolation valve at C1 drum

5984822 1B MILL INPUT SEAL TO GEARBOX IS SLINGING OIL. Replaced 1B input seal to gearbox, re-aligned motor

6081773 UNIT #1 W/B WET SEAL OVER FLOW ON THE NORTH SIDE HAS LEAK IN 90 - GRAY TAPE ON THE LEAK Patched W/B Seal overflow line

6083340 1B mill oil temp running higher than normal and oil looks bad probably needs to flushed and fresh oil added Removed and replaced gearbox oil

6087639 C1 pit stop outage - 1/2/13 - replace section of economizer drain line below the root valve - froze and busted Section of economizer drain line froze on startup and busted. Section of line replaced below root valve

6087638 C1 Booster Fan Inspection - Hub oil level, Blade inspection, and check for hydraulic leaks, checked oil level in hub - level OK. No leaks on hydraulic lines. Blades inspected - look very good and photos on shared drive

#### **Electrical & Instrument Maintenance Outage Tasks**

6087197- Cleaned all igniter and main flame scanners.

6081771- Performed drum level trip checks.

6082261- Performed calibration on A, B, C, and D stock feeders.

6087201- Cleaned furnace pressure taps and sensing lines.



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6087200- Blew back secondary air flow transmitters taps and sensing lines.

6087194- Stroked and calibrated turbine valves.

6087211- Stroked all PA fan dampers, FD fan dampers, and Feedwater regulator.

6087212- Stroked air registers and ROFA dampers.

6081047- Checked for wiring issues on all ED relays and 63-AST-3 that could have caused the turbine to trip. Found no issues.

6087202- Blew back mill taps and sensing lines.

6084736- Hooked up soot blowing regulator feedback to DCS, removed SV-1 solenoid, re-tubed regulator and tested for proper operation.

6087214- Removed and cleaned booster fan stall probe.

6087173- Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Cleaned HV bushings inside and outside. Replaced rubber boot on rappers as needed. Power up T/R's and electrical air testing looks good.

6087178- A & B FD Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6087175- A & B BFP Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6022942- Replaced bad secondary fuse in 1A3 PT cubicle, this was causing no bus voltage on 4160 relays.

6087213- Unwire and wired 1B mill motor for M/M, verified proper rotation.



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### Operators Event Log

1/2/2013	10:15	C1 HAS A TUBE LEAK E									
		CALLED GLEN CALHOL		LICOTAL		JANIA AAI	III OINII			-	-
				INF REPO	ORTED	OPACITI	ES AND TRIE	DIME			-
		C1 OFF LINE-TUBE LEAKCALLED HOTLINE REPORTED OPACITIES AND TRIP TIME GLEN CALHOUN CALLED BACK TOLD HIM WE HAVE COVERAGE									
		WASHING 1A MILL OUT									-
		AIR TO CAMERA ON C		-							1
		OPENING BOILER DOO									-
		WARM WATER RECIRC		8 C3							
		INLAND IS ON SITE	JIO OF EN ON OZ	. 0.00						+	-
		COMPLETED BINDICAT	OR CHECKS								
		DRAINING WET SEAL A	EAI DIAT	ES ON	^1						
	19:00	"B" SHIFT (DOOLEY) HER			01				-	-	
	19.00					D MILL	C D CADM	ANI VAC D	DAVAIE D. TALL	LEENHERY	HEDE
	S. HOWARD, A. MAYFIELD, M. CHRISTIAN, N. MOORMAN, D MILLS, R. CARMAN VAC, R. PAYNE, D. TAUL, J.										, HERE
		Unit	Load	Opacity	Nox	502	CBD PH	Silica	Capability		
		1	Outage	Opacity	140%	302	CODTI	Jilica	N w/o Gas		
		2	155	20.5	0.37	5.05	0.00	0.130		-	
		3		1.00			9.60	0.129	138 N w/o Gas	-	
		3	164	47.1	0.37	4.61	9.90	0.058	155 N w/o Gas	-	
		CO No.	0.20								
		FGD Nox	0.38								
		FGD Removal %	98.2%								
		3A Mill Amps	90								
		3B Mill Amps	94								
		COND. STOR. TNK	20.5/20								
		Instr. Air Dew Point	-82.0								
	;	Sootblowing									
		#1 S/B Out of Service	NONE								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE					-		1	
		HASNTAS	NO THREATS							-	-
		TIAO-ITIAO	NO TIMEATS		-					-	
	19:30	OPENED 3A CWP WAR	M-WATER RECIE	PC.							
					F WES	TWALL					1
		INLAND MOVING TO THE EAST SIDE WASHING THE WEST WALL  C1 BOILER CLEAN AND DESLAGGED - INLAND TEARING DOWN AND GOING TO SET UP FOR AIR HEATER WASH AND WILL WASH C1 WET SEAL									
	22:05	J KENNEDY TAKING 12	HOLIB VACATION	1 1/4/2012	7D TO 1	14/2012	74 NO COVE	DACE NEE	n		
			D								
11010045	22:24	INLAND STARTING TO CLEAN C1 W/B WET SEAL  3B GLAND STEAM EXHAUSTER ON - 3A MAKING NOISE - BEARING MAY BE GOING OUT - MR# 6087264									-
1/3/2013	1:09			MAKING N	OISE - I	BEARING	MAY BE GO	JING OUT -	MH# 6087264		
	1:30	C1 W/B CLEAN AND TA	and the second of the second o	VEOR ST							
	1:35	C1 W/B WET SEALS CL								<u> </u>	
	1:35	HOSES ARE RAN FOR (			THE W	ASH HE	ADS AND UP	AND REAL	DY TO BE INSTALLE	:D	
	2:30	INLAND VACUUMING O		FEEDER							
	3:13	1A COAL FEEDER CLEA									
	3:30	J HERNANDEZ HERE - S							/	-	
	3:50	J GOODMAN CALLED V					r - CALLING	THRU THE	LIST		
	3:52	CALLED D LINER TO CO									
		CALLED J MILLER TO C	IO CALL	_							
	3:53										
	3:53 3:54 3:56	CALLED F GRAY TO CO	ME IN - LEFT ME		CALL						



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7:00	"C"SHIFT (Gatton) HER	E B SHIFT (D	ooley) LE	AVING						
	K.Grantland VAC, L.Shea	arn, M.Young, W.	Mills , J.Go	odman '	VAC , A.	Lindsey S/L,	M.Lee, S.K	urz Here G. Tivitt, L.	Pile here on OT	
	11-4									
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
	1	OUTAGE						0 N w/o Gas	OPEN	
	2	155	20.6	0.36	4.71	9.60	0.118	138 N w/o Gas	CLOSED	
	3	165	40.5	0.37	4.48	9.85	0.058	155 N w/o Gas	CLOSED	
	FGD Nox	0.37								
	FGD Removal %	98.2%								
	3A Mill Amps	88								
	3B Mill Amps	93								
	COND. STOR. TNK	22/22								
	Instr. Air Dew Point	-83.6								
	Sootblowing									
	#1 S/B Out of Service	NONE								
	#2 S/B Out of Service	NONE								
	#3 S/B Out of Service	NONE								
	HASNTAS	NO THREATS								
	00.077.111.000									
6:10	C3 STEAM COIL BACK-L			ITS TO	SOLATIO	ON VALVE H	AS A LEAK	UNDER INSULATIO	N ON E/S AH	ECKMR#6087
7:00	OPENING AH DOORS FO								-	
7:20 7:25	MAIN STEAM STOP VAL	The state of the s								
	FILLING BOILER WITH S			- TIE 1	VEEK OF	10 TO 1110	***		-	
7:35	COMPLETED A&T FORM					1/6 10 1/12	/13			
8:05	CALLED GLEN CALHOU				ASAP					
8:44	DISPATCH ISSUED HOL	D #5 FOR C.1 030	3 DISCON	INECT						
NOTE:	ALL BOILER DOORS OF DOOR, 4 DOORS ON U.	N EAST SIDE AR	E OPEN, I	RS, 2 D						
9:55	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT V GLEN CALHOUN IS HERI	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E	E OPEN, I	RS, 2 D						
9:55 10:00	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT V GLEN CALHOUN IS HERI BOILER IS FULL & SET F	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO	E OPEN, I	RS, 2 D						
9:55 10:00 10:58	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT V GLEN CALHOUN IS HERI BOILER IS FULL & SET F STARTED AIR HEATER V	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH	E OPEN, I IR HEATE JRNER DE	RS, 2 D						
9:55 10:00 10:58 11:00	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WELL OF THE BOILER IS FULL & SET FOR STARTED AIR HEATER WELL ISOLATING 1A BUSS TO	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSI	E OPEN, I IR HEATE JRNER DE	RS, 2 D ECK	OORS A	T SOUTH S	IDE OF AH	HOPPERS, 2 DOOF		
9:55 10:00 10:58 11:00	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WELL AS THE BOILER IS FULL & SET FOR STARTED AIR HEATER WISOLATING 1A BUSS TO 1A BUSS HAS A BAD PT	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSU T HOLDER WILL	E OPEN, I IR HEATE JRNER DE	RS, 2 D ECK	OORS A	T SOUTH S	IDE OF AH	HOPPERS, 2 DOOF		
9:55 10:00 10:58 11:00 NOTE:	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WE GLEN CALHOUN IS HERT BOILER IS FULL & SET ISOLATING 1A BUSS TO 1A BUSS HAS A BAD PTHEADCOUNT COMPLETE	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSU T HOLDER WILL	E OPEN, I IR HEATE JRNER DE	RS, 2 D ECK	OORS A	T SOUTH S	IDE OF AH	HOPPERS, 2 DOOF		
9:55 10:00 10:58 11:00 NOTE: 13:25	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WE GLEN CALHOUN IS HERE BOILER IS FULL & SET FOR STARTED AIR HEATER ISOLATING 1A BUSS TO 1A BUSS HAS A BAD PHEADCOUNT COMPLETE 1A BFP ON	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSU T HOLDER WILL	E OPEN, I IR HEATE JRNER DE	RS, 2 D ECK	OORS A	T SOUTH S	IDE OF AH	HOPPERS, 2 DOOF		
9:55 10:00 10:58 11:00 NOTE: 13:25 13:27	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WE GLEN CALHOUN IS HERE BOILER IS FULL & SET FOR STARTED AIR HEATER WE ISOLATING 1A BUSS TO 1A BUSS HAS A BAD POTHEADCOUNT COMPLETE 1A BFP ON 1A BFP OFF 1800# PSI	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSH T HOLDER WILL E	E OPEN, I IR HEATE JRNER DE ES HAVE TO	RS, 2 DECK	OORS A	T SOUTH S	CE AT A LA	HOPPERS, 2 DOOF		
9:55 10:00 10:58 11:00 NOTE: 13:25 13:27 14:05	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WE GLEN CALHOUN IS HERE BOILER IS FULL & SET FOR STARTED AIR HEATER WE ISOLATING 1A BUSS TO 1A BUSS HAS A BAD PTHEADCOUNT COMPLETE 1A BEP ON 1A BEP OFF 1800# PSI WET BOTTOM HAS BEEL	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSI T HOLDER WILL E	E OPEN, I IR HEATE JRNER DE ES HAVE TO	RS, 2 DECK ORDER	R PART	T SOUTH S  AND REPLA	CE AT A LA	HOPPERS, 2 DOOF	RS ON SOUTH	SIDE OF AH O
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9:55 10:00 10:58 11:00 NOTE: 13:25 13:27 14:05 14:15 14:30	ALL BOILER DOORS OF DOOR, 4 DOORS ON UP AH DECK, 1 DOOR AT WE GLEN CALLOUN IS HERE BOILER IS FULL & SET F STARTED AIR HEATER WE ISOLATING 1A BUSS TO 1A BUSS HAS A BAD PT HEADCOUNT COMPLETE 1A BFP ON 1A BFP OFF 1800# PSI WET BOTTOM HAS BEEF HAVE ONE LEAK IN PRIVENTS  PLATES ARE ON THE WE	N EAST SIDE AR PPER SIDE OF A WINDBOX ON BU E FOR HYDRO WASH CHECK PT FUSS T HOLDER WILL E WARY SUPERHE ET SEAL BUT IT ES OFFMR#60	E OPEN, I IR HEATE JRNER DE ES HAVE TO DIS DRY AT AREA DOES NO 187485	RS, 2 DECK ORDER	R PART	AND REPLA  EANED JET  ARY SUPER	CE AT A LA	HOPPERS, 2 DOOF	RS ON SOUTH	SIDE OF AH O
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Your Touchstone Energy® Co	poperative X
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		Sootblowing	Nevia				-				
		1 S/B Out of Service	NONE								
	#	2 S/B Out of Service	NONE								
	#	3 S/B Out of Service	NONE								
		HASNTAS	NO THREATS								
		# 10 COAL CONV HAS A			OUT						
		ADDING 2 BARRELS OF I									
		#10 CONV MOTOR RUNS				NG MR#	6087494				
		#10 CONV HAS A BAD CO									
	21:18	C3 HAS 3 OPACITIES AT		HOUR -	8:48P A	T 72.57%	AND 9:06P	AT 74.40%	AND 9:18 AT 76.30%	CALLED HOT	LINE AND TO
		DARK TO COMPLETE A M									
	23:00	D WALL AND K MAYFIEL	D GOING HOME								
/4/2013	1:00	MIKE HENDRICK GOING	HOME								
	3:11	C1 AIR HEATER WASH C					OR INLAND TO	REMOVE	THE WASH HEADS		
	5:55	INLAND RELEASED C1 A	IR HEATERS - F	PUTTING (	ONAIR	DRIVE					
				1							
	7:00AM	"A" SHIFT (SHAVER) HE									
		L.Pile, D. Haynes Vac, D. Li		ller,L.Sm	ith,R.Jo	nes,D.S		HEREA	.Mayfield covering		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability		
		1	OFF						150 N w/o Gas		
		2	153	24.7	0.37	4.60	9.60	0.106	138 N w/o Gas		
		3	165	30.7	0.38	4.30	9.80	0.052	155 N w/o Gas		
		FGD Nox	0.4								
		FGD Removal %	98								
		3A Mill Amps	89.6								
		3B Mill Amps	92.6								
		COND. STOR. TNK	23/23								
		Instr. Air Dew Point	-81.6								
		Sootblowing									
		#1 S/B Out of Service	NONE								
		#2 S/B Out of Service	NONE	-		4					
		#3 S/B Out of Service	NONE	-							
		HASNTAS	NO THREATS			-					
	7.00 444	DI ACED NEW MONTH IN	EU DET IDN EU	TED DOT		0001					
		PLACED NEW MONTHLY							AND C2		
		WILL TRY AND GET ADD			ERAGE	FORSIA	ART UP TOMO	RROW			
		CALLED SCOTT HOWARI		AGE							
		CALLED PAT GATTONL		WORK :	-	00141					
		CALLED MIKE CHRISTIAN			OWOR	ROW					
		CALLED MIKE CHRISTIAN			-						
		CALLED NICK MOORMAN CALLED DEREK MILLS			-	-	-				
		CALLED ROBERT CARME				+					
					IN TOR	10DDO					
		MIKE CHRISTIAN CALLE			IN TON	IORROV	,				
		CALLED JOHN KENNEDY									
		CALLED DARRICK TAUL.		C		10-				-	
		CALLED RICK PAYNEL		-							
		CALLED MIKE LEELEF				+				-	
		CALLED STEVE KURZL		LVIDO	1 14/40	001	INI.				
		PAT GATTON CALLED B						-		-	
		STEVE KURZ CALLED B. LAB REPORTS CHLORIDE		OWE IN	IO IRA	IN AS Al	J.K	-			
			-	INJECT	ONIVAL	VEC TO	DDAIN AND	MATER	AT MAY HAVE COTT	NUMBER TO THE	A DUDING ATTITU
		RALPH AND DARREN OP HAVING JEFF AND DWAY						VAIERIH	AT WAT HAVE GOTTE	IN INTO THEM	I DURING AH WA
		E RECYCLE PUMP DISCH						5097504 10	CLIED		
		A RECYCLE PUMP NEED								OTHER DUM	DC WOT COST
	0.001 101	ISSUED	O THE INFELLE	IN INOPE	SIEDII	13 PULL	ING ON AVE	IVAGE IDAI	VIFO LEGO THAN THE	OTHER PUM	F3VV O# 608/5
	NOTE	MAKE SURE TO ANNOU	NCE LISING DE	SI ACCIN	G TOO	ONICO	TONICHT D	DIOD TO C	TARTING MUCH WE	DROBLOSE	
		CALLED JOHN KENNEDY			3 1001	L ON C2	ONIGHT PI	NOR IUS	TARTING WHEN WE	DROP LOAD	
		CALLED DARRICK TAUL.									
		CALLED BARRICK TAUL.	A PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY.	_							
		CALLED MIKE LEELEF									
		DRUM GAUGE GLASS ON		BE LOOK	ED AT	DRIOD TO	STARTIR	CI SE DIF	TV 2 BI II DC OUT	IO# 6007504	ICCLIED
		FRED HAD EMERGENCY									ISSUED
		RALPH AND DARREN WA									
		HAVE CALL IN TO JEFF N									
		MM RELEASED WATER T									





Your Touchstone Energy Cooperative

	7:00PM	"D" SHIFT (STERLING) H	IERE "A" SHIFT	(SHAVE	R) LEAV	/ING							
		V.RamseyVAC, B.Johnso	n, R.Payne, G.1	rivitt, S.I	Emberto	n. B.Hur	A.Mayfield	HERE					
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability	T			
		1	OUTAGE	Opaoic	IIIOX	001	ODDIII	Oillea	Capability	-			
				00.0	0.007	4.70							
		2	155	29.0	0.037		9.51	0.11	138N W/O GAS				
		3	165	43.0	0.039	4.62	9.75	0.05	155N W/O GAS				
		FGD Nox	0.4										
		FGD Removal %	98.2										
		3A MILL AMPS	90										
		3B MILL AMPS	92										
		COND. STOR. TNK	22/22										
		Instr. Air Dew Point	-81.2										
		Sootblowing											
		#1 S/B Out of Service	NONE										
		#2 S/B Out of Service	NONE										
		#3 S/B Out of Service	NONE										
		HASNTAS	NO THREATS										
	7:00PM	HYDROING UNIT #1 BOIL	ER AND PULLING	G VAC (	N REHE	ATER		1					
		NO LEAKS ON UNIT #1 BO				TILIN.			1				
				3 FRESS	OFF.			-	-	-			
		ABSORBER CHLORIDES	6100										
	11:30PM	2B MILL OFF											
5/2013	12:00AM	INLAND ON SITE TO ROD	OUT UNIT #1 RE	HEAT P	ASS.								
		RUNNING B LIMESTONE I							1				
		RUNNING HOTWELL LOS		IIT #2				-					
					IT IN	F 1001	THO FOR	TAN TO T	FRAIR	-			
		#1 ECON. INLET HDR DR					TING FOR T	ITAN TO R	EPAIR.				
	2:30AM	LOST 1 1/2" ON UNIT #2 H	HOTWELL CHEC	K STM. (	COILS IN								
	2:45AM	BECKY JEAN CALLED IN	SICK A&T FILLE	ED OUT.									
	3:00AM	RUNNING #3 HOTWELL L	OSS CHECK										
		LOST 1/2" ON UNIT #3 HO											
		INLAND DEPARTS HAS #		CECTION	LOLEAN								
		DWAYNE LINER CALLED											
	5:00AM	#1 ECON. HOPPERS CLE	AN. ALL BOILER	R DOORS	S AND M	ILL DOO	RS ARE CLO	OSED.					
	5:00AM	UNIT #2 2.5L SOOTBLOW	VER HUNG IN BO	ILER									
		UNIT #2 2.5L SOOTBLOW			FLECTRI	CIANS W	ORKING ON	d					
						CIAINO	OKKING OF	4.					
		#1 F.D.FANS ON CHECKI	ING BUILER DUC	JRS FUR	LEANS.								
		MIKE CHRISTIAN HERE											
	6:00AM	STEVE KURZ HERE											
	6:15AM	#1 AIR TEST OK NO BOIL	KING.										
		"A" SHIFT (SHAVER) HE			G) LEAV	/ING							
							haction ALL	HEDE M	Christian I Charm	C Vurm have for	r atart un C1		
		L.Pile, D.Haynes, D.Liner PD, F.Gray, J.Miller, L.Smith, R.Jones, D.Sebastian, ALL HEREM.Christian, L.Shearn, S.Kurz here for start up C1											
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability				
		1	OFF						150 N w/o Gas				
		2	153	20.3	0.37	4.74	9.50	0.112	138 N w/o Gas				
		3	165	44.3	0.40	4.47	9.70	0.051	155 N w/o Gas				
		FGD Nox	0.4	-		H. M. S	-11.5						
		FGD Removal %	97.8										
		3A Mill Amps	89.5										
		3B Mill Amps	91.3										
		COND. STOR. TNK	22/22										
		Instr. Air Dew Point	-80										
			-00							-			
		Sootblowing						-	-	-			
		#1 S/B Out of Service	NONE										
		#2 S/B Out of Service	2.5					-					
		#3 S/B Out of Service	NONE							1			
		HASNTAS	NO THREATS							1			
		TINO TITNO	IIIILAIS			-				+			
	0.00***	TITAN DELEASES	. TO T !=	D TO	Pierr	10 71 -	NOUS						
		TITAN RELEASED WATER						غست ومطا					
	9:24AM	BRINGING CONDENSATE	PUMP ON TO TO	OP OFF	DRUM FO	OR PURC	E VIA SLOV	V BOILER I	FILL				
	NOTE	HAD ISSUE WITH A BFP	DISHARGE VALV	VEABC	ORTED A	WENT	VITH BTH	EN GOT A	ISSUE RESOLVED				
	10:40AM	FIRE IN C1 BOILERACE	S HAS BEEN NO	OTIFIED	AND TO	D OF O	JR ANTICIP	ATED TIME	OF 3:00PM				
		#5 HOLD ON C1 HAS BEE						THE THE	C. C.OCI III	-			
								A 4.00D	DE MECHOLIE	AVE O CODIA			
		PSI COMING A LITTLE SL				UPUSH	08 001 10	A 4:00PM	IIE WE SHOULD M	AKE 3:30PM			
	2:08PM	WARMING SEALS AND P											
		CALLED JOE HOLLAND T	OLD HIS WIFE 1	THAT WE	NEED	HIM IN A	T 3:00AMS	SHE WILL T	TELL HIM WE WILL	HOLD JOSH O	VER DUE TO N		
	2:55PM	BEING TIED ON YET											
			COENTRICITY	000									
		ROLLING C1 TURBINEE	CCENTRICITY	5 3.0									
		1A PHOSPHATE PUMP SH	HEARED THE CO	DUPLING	WO# 6	6087643	ISSUED FOR	R IT1B D	OESN'T SOUND GRE.	AT EITHER WA	TCH CLOSEL		



#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

	Plant: Coleman	Unit: <u>1</u>
Type of Leak: (Check	One)	
Pin Hole Thick	Lip Failure	Thin Lip FailureX
Tube Wall Thinning _	X Other	
Orientation of Ruptu	re: (Check One)	
Longitudinal		
Probable Cause: (Che	eck One)	
Stress Overheat_	Erosion <u>X</u> Int	ernal Corrosion
External Corrosion	Weld Failure	_ (Shop Field)
Internal Obstruction	to Flow Sootblo	wer Erosion <u>X</u>
Other		





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## **Forced Outage Report**

Type of Repair: (Check One)

Dutchman X (Length of Dutchman ~36") Pad Weld
Plug Tube Short Circuit Other
Description of Repair:
Tube Size OD 2.250" Wall Thickness 0.150"
Tube Material ASTM <u>SA 213 T12</u> , replaced with <u>SA 213 T22</u>
Welding Rod Used 9018 B3L
Welded By:TITAN

**Exact Location of Leak:** East side, elevation 197' near 7R sootblower 2<sup>nd</sup> and 3<sup>rd</sup> assemblies



#### **Pictures**

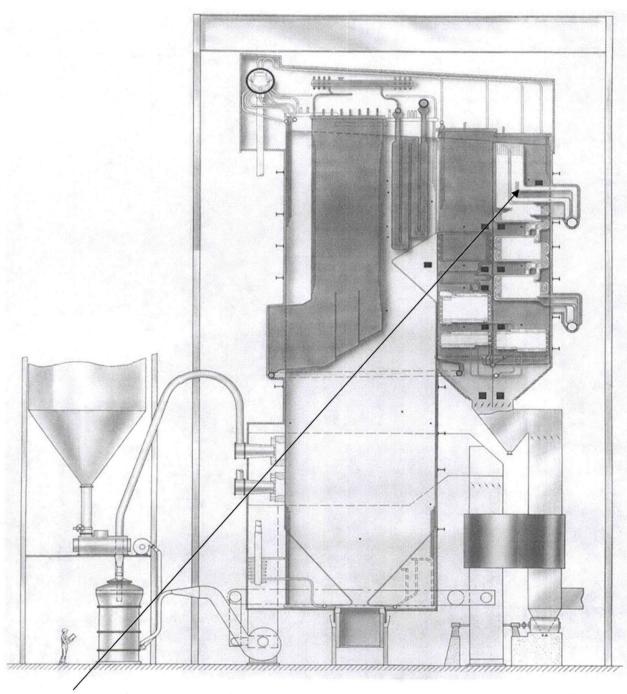










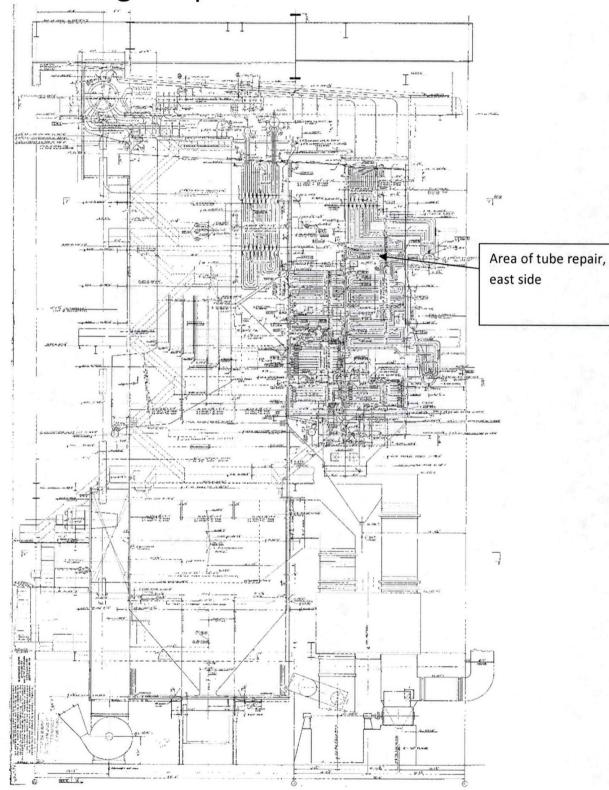


<u>Tube Leak Here:</u> East side (near side) elevation 197' near 7R sootblower 2<sup>nd</sup> and 3<sup>rd</sup> assemblies.















#### **Lost Sales Opportunity Report**

	IVIISO	DAKIR	eve	nue and l	LC	ST OPPOR	TUNITY		
Unit	1000	Coleman 1	- C1	-13-01			Product	ion C	ost
Date & Time Off Line		1/2/13	10:5	4			MW		\$/MW
Date & Time On Line	On Line 1/5/13 15:38						84	\$	28.93
Outage Duration	76 hr. 44 min.						117	\$	27.48
Outage Code							150	\$	26.99
Outage Reason	Repair	reheat secti sootb		be leak by 7R					4
Date	DA LN	IP Average	RTI	_MP Average		DART P&L	Lost Opportunity		
1/2/13 (HE 12-24)	\$	35.65	\$	34.45	\$	(13,420)	\$ -		
1/3/13 (HE 1-24)	\$	28.45	\$	30.72	\$	(12,541)	\$ -		
1/4/13 (HE 1-24)	\$	29.97	\$	25.31	\$	-	\$ (10,694)		
1/5/13 (HE 1-23)	\$	26.14	\$	26.18	\$	1,649	\$ -		
Total					\$	(24,312)	\$ (10,694)		
Start Up Fu	el Cost						Total Forced	Outa	ge Cost
S/U Fuel Consumed		572					DART P&L	\$	(24,312
S/U Fuel Price	\$	4.70	(tree				Lost Opportunity	\$	(10,694
S/U Fuel Cost	\$	(2,689)				The state of the s	S/U Fuel Cost	\$	(2,689
							Total	\$	(37,694
NOTES:									





To: **Bob Berry** 

From: Daryl Chinn

Date: 23-Jan-2013

Plant: Coleman Unit: 1 GADS Class: UO2

#### Duration

Trip Time: 18-Jan-2013 04:45 Tie Time: 20-Jan-2013 17:44

Time Offline: 60:59

Reserve Hours 19-Jan-2013 16:45 to 20-Jan-2013 17:44

24:59 min

#### Outage Description

Coleman unit 1 was removed from service on Friday, 18-Jan-2013 at 04:45 and returned to service on Sunday, 20-Jan-2013 at 17:44 for duration of 60:59 against an initial target of 48 hrs. This was an unplanned event, and as such is classified as a Class I (UO2) forced outage. The unit was removed from service in a controlled manner due to a suspected leak in the upper (hot) reheater section. Repairs were completed in 36:00 and the unit was placed in reserve status for 24:59.

#### **Root Cause**

The second loop tube from the face of the 3rd element from the west wall of the high temperature reheater section failed due to wall loss from coal ash corrosion. In addition. the reheat tube failure caused the erosion of the back tube in the first and second element of the HRA screen tube. The failure of the HRA eroded the first and second reheater tubes in the second element. Two lead tubes in the 2<sup>nd</sup> reheat element were also damaged; altogether, eight tubes were replaced.





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#### **Failure History**

2-Jan-2013	Reheater Tube Leak	76:44
13-Oct-2012	Reheater Tube Leak	74:45
14-Aug-2012	Reheater Tube Leak	64:48
11-Apr-2012	Reheater Tube Leak	68:07

#### **Corrective Action**

This section of the reheater is scheduled to be replaced during the spring outage of 2013.

#### **SOE Print Out**

N/A



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### Forced Outage Report

#### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance Tasks Completed**

6088828- Superheat spray block valve- Disassembled valve and replaced the plug and seat, stroked and adjusted valve.

6088924- Superheat spray block valve- Removed packing and repacked.

6088474- PA fans- Cleaned and inspected oil leaks on A, B & C fans, Replaced rubber gaskets on water lines for B. Other two was able to reseal them.

6088892- #7 Igniter- Installed service airline on 7 and replaced air hose on #8 burner. Titan went in with torch and cut piece of shield out that was blocking igniter scanner on #7.

6088811- Holding Bin Water Supply Valve- Inspected valve replaced complete valve assembly and actuator.

6088887- C Mill door- Found a couple bolt holes were stripped out, Drilled and installed thread repair kits.

6088876- D Mill #7 shut off damper- Inspected and found it needed to be cleaned and lubricated.

6089132- FD fans- Drained and flushed oil out of bearings on both fans; B fan replaced sight glass on both fixed and floating bearings.

6089042- Outage setup- Blanked gas valve and pulled blank, opened and closed boiler doors.

6087645- Econ inlet drain- Cut out root valve and replaced with new valve.

6077089- 1B BFP- Disassembled inspected pump barrel and inner assembly. Found that the barrel had some weld repairs made on last rebuild did not cut out for clearance on inner assembly to make contact to gasket surface min .015 had to be cut out. Had Atlas Machine come in and set up boring bar made cuts for clearance. New inner assembly was not machined to size .020 to big, Sent inner assembly to Atlas they turned assembly down to size. Once assembly was back reassembled pump and returned to service.



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6089040- RH tube leak- Upper section at 210' elevation, 3<sup>rd</sup> and 4<sup>th</sup> assemblies from west wall replaced 2 tubes on 3<sup>rd</sup> section and 6 tubes in 4<sup>th</sup> section.

#### Electrical & Instrument Maintenance, C1, Completed Outage Tasks

6088991- Cleaned all igniter and main flame scanners.

6088990- Stroked and calibrated turbine valves.

6088993- Replaced "E" O2 probe and electronics.

6087804- Replaced east secondary air flow transmitter and valve manifold.

6088828- Stroked and set superheat spray block valve after M/M made repairs.

6088992- Misc. Instrumentation outage tasks: Pulled all igniters rods due to high pressure water de-slagging of the furnace. Tested all igniter rods and reinstalled once de-slagging was completed. Repaired loose ribbon cable connection on display board of "A" stock feeder. Verified calibration of the "B" BFP flow transmitter. Installed T/C's in B BFP.

6089046- Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Cleaned HV bushings inside and outside. Replaced 2 bolts holding the plates together at the bottom in the "A" side outlet section. Power up T/R's and electrical air testing looked good.

6089077- A,B,C & D Mill and PA Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6049143- Repaired cooling fan on 1D 4160/480 volt transformer.

6089112- Wired Titan's 4 pack welders on 5<sup>th</sup> floor, unwired when Titan was completed.



#### Your Touchstone Energy Cooperative

### Operators Event Log

18/2013			~4											
	2:15 2:15	RUNNING HOTWELL ON C		AND W	AI KING	ROLEP	DOWN							
	3:15	RUNNING HOTWELL ON O		AIND W	THING	DOILER	DOWN							
		C1 LOST 3.29"												
	100000000000000000000000000000000000000		IT DUBINING LIG	TAITH	21104									
		VALVED EVERYTHING OF		INVELL C	JN C1									
	4:00	C1 LOST 3.61" IN 15 MINU		DIV :	1801 -	===	1015							
		CALLED JOSH LADNEIR			WILL B	E HERE	ASAP							
	4:22	CALLED APM TO TAKE C												
	4:30	#5 COAL CONVEYOR UP						MR#6088	985					
		INLAND HAS BEEN CALL												
	4:35	C1 ECONOMIZER SWEET												
	4:40	3B MILL HAS A BAD COA		ST END F	RAW CO	AL PIPE	MR#60889	987						
	4:45	C1 OFFLINE CALLED HO	TLINE											
	5:10	JOSH LADNEIR IS HERE												
	5:30	JOE HERNANDEZ IS HER	E											
	7:00AM	"D" SHIFT (STERLING) H	IERE "C" SHIFT	(GATTO	N) LEA	VING								
		V.Ramsey, B.Johnson, R	.Payne, G.Tivitt	, S.Embe	erton, B.	Hunt, G	3.Calhoun							
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability					
		1	OUTAGE											
		2	155	27.2	0.034	5.00	9.70	0.18	138N W/O GAS					
		3	146	25.9	0.034	5.16	9.64	0.06	155N W/O GAS					
		FGD Nox	0.04			1		1						
		FGD Removal %	98.8											
		3A MILL AMPS	94											
		3B MILL AMPS	95			1		+	·					
		COND. STOR. TNK	20/22											
		Instr. Air Dew Point	-79.3						+					
			-13.3	-	1	-	-	1	-					
		Sootblowing	NONE	-		-		-						
		#1 S/B Out of Service												
		#2 S/B Out of Service	NONE											
		#3 S/B Out of Service HASNTAS	NONE			-								
		HASNIAS	NO THREATS			+								
	0.00444	IN AND ON SITE WALK	NO DOU ED ENT	DV TAGO	140711									
		INLAND ON SITE. WALKI			WITHI	NLAND.								
		#1 SETTING UP TO DESL												
		#1 S.H.SPRAYS VALVED		EDIOR	EPAIRE	SLOCK V	LV.							
		#1 GEN.HOLD # 20 O303												
					TO DESI	AG DO	ORS							
		#1 PRICIPS REDTAGGED	M INLAND FINISHED IN BIG ROOM MOVING DOWN TO DESLAG DOORS											
		M #1 PRICIPS REDTAGGED FOR ELECTRICIANS. M 1A PRIMARY AIR FAN REDTAGGED FOR MAINT. TO REPAIR OIL LEAKS.												
		1A PRIMARY AIR FAN RE	DTAGGED FOR	MAINT. T			EAKS.							
	1:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI	DTAGGED FOR ED FOR MAINT.	MAINT. T			EAKS.							
	1:00PM 1:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES	DTAGGED FOR ED FOR MAINT. 6000	MAINT. T TO REPA	IR LEAR	CS.								
	1:00PM 1:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER	DTAGGED FOR ED FOR MAINT. 6000	MAINT. T TO REPA	IR LEAR	CS.		SECTION	FOR MAINT. TO CHANGE C	UT ECON. INLET				
	1:00PM 1:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES	DTAGGED FOR ED FOR MAINT. 6000	MAINT. T TO REPA	IR LEAR	CS.		SECTION	FOR MAINT, TO CHANGE C	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE	MAINT. T TO REPA	IR LEAR	CS.		SECTION	FOR MAINT, TO CHANGE C	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:45PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV.	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE	MAINT. T TO REPA	IR LEAR	CS.		SECTION	FOR MAINT. TO CHANGE C	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR. DRAIN ROOT VLV. RUNNING A LIMESTONE I	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL	MAINT. T TO REPA	IR LEAR	CS.		SECTION	FOR MAINT, TO CHANGE C	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HOR DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL	MAINT. TO REPA	IR LEAP	CS.	NING ECON.	SECTION	FOR MAINT, TO CHANGE C	UT ECON, INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATEI HDR. DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL M AND REDTAGGE	MAINT. TO REPA	TAGGEI	CS.  D. DRAI	NING ECON.	SECTION	FOR MAINT. TO CHANGE C	UT ECON, INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 5:30PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTON #1 WETBOTTOM CLEAN, PULLED #1 SEAL PLATES	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL AND REDTAGGE S OFF WETBOTT	MAINT. TO REPARENTED. WATE	TAGGEI	CS.  D. DRAI	NING ECON.	SECTION	FOR MAINT, TO CHANGE C	UT ECON, INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 5:30PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HOR. DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN. PULLED #1 SEAL PLATES #1 WETBOTTOM SEAL PL	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL M AND REDTAGGE S OFF WETBOTT LATES ARE BAC	MAINT. TO REPARED. WATE	TAGGEI	CS.  D. DRAI	NING ECON.	SECTION	FOR MAINT, TO CHANGE C	UT ECON, INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 5:30PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTON #1 WETBOTTOM CLEAN, PULLED #1 SEAL PLATES	DTAGGED FOR ED FOR MAINT. 6000 R TO THE BOILE MILL M AND REDTAGGE S OFF WETBOTT LATES ARE BAC	MAINT. TO REPARED. WATE	TAGGEI	CS.  D. DRAI	NING ECON.	SECTION	FOR MAINT. TO CHANGE C	UT ECON, INLET				
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	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 6:00PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HOR DRAIN ROOT VLV. #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN. #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE	DTAGGED FOR MAINT. 6000 R TO THE BOILE MILL MAND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (8	MAINT. TO REPARENT OF THE PARENT OF T	TAGGEI  TAGGEI  ER UNDE L IS CLE  G) LEAN	CS. D. DRAI DER EAST EAN.	NING ECON.		FOR MAINT, TO CHANGE C	UT ECON, INLET				
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	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 6:00PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATEF HDR. DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN, PULLED #1 SEAL PLATE; #1 WETBOTTOM SEAL PLATE; UNIT #1 #7 AIR REGISTE "A" SHIFT (SHAVER) HE L.Pile, D.Haynes, D.Liner, I Unit	DTAGGED FOR MAINT. 6000 R TO THE BOILE MILL MAND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (8	MAINT. TO REPARED. WATER IS RECOMMENDED. WATER TOM SEARIC ON.	TAGGEI  TAGGEI  ER UNDE  L IS CLE  G) LEAN	CS. D. DRAI DER EAST EAN.	NING ECON.	0	Capability	UT ECON. INLET				
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	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 6:00PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HOR DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN, #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L.Pile, D. Haynes, D. Liner, Unit 1 2	DTAGGED FOR MAINT. 60000 R TO THE BOILE MILL. MAND REDTAGGE S OFF WETBOT ATES ARE BAC R IS REDTAGGE RE "D" SHIFT (I F.Gray,W.Mills,L Load	MAINT. TO REPARED. WATER TOM SEA IX ON. ED.  STERLIN Smith, F. Opacity 21.2	ER UNDE L IS CLE C. Jones, Nox	ER EASTEAN.  //ING D.Sebas	NING ECON.  I SIDE.  stian, All Here CBD PH 9.80	e Silica 0.181	Capability 150 N w/o Gas 138 N w/o Gas	UT ECON, INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 4:45PM 5:30PM 6:00PM 6:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HOR DRAIN ROOT VLV. RUNNING A LIMESTONE I #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN. PULLED #1 SEAL PLATES #1 WETBOTTOM SEAL PL UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L.Pile, D. Haynes, D. Liner, I Unit 1 2 3	DTAGGED FOR MAINT. 60000 R TO THE BOILE WILL MAND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (5 F. Gray, W. Mills, L Load 155 165	MAINT. TO REPARED. WATE	ER UNDE L IS CLE C) LEAN L Jones,	ER EAST EAN. /ING D.Sebas SO2	NING ECON.  T SIDE.  Stian, All Here  CBD PH	e Silica	Capability 150 N w/o Gas	UT ECON. INLET				
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	1:00PM 1:30PM 1:30PM 1:30PM 4:30PM 5:30PM 5:30PM 6:00PM 7:00PM 7:00PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR. DRAIN ROOT VLV. RUNNING A LIMESTONE #1 DELAG COMPLETE PULLING #1 WETBOTTOM #1 WETBOTTOM CLEAN. #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L-Pile, D. Haynes, D. Liner, I Unit  1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service #4 S	DTAGGED FOR MAINT. 60000 R TO THE BOILE MILL MAND REDTAGGE MILL ATAND REDTAGGE MILL ATES ARE BAC R IS REDTAGGE RE "D" SHIFT (15 F.Gray,W.Mills,L Load 155 165 0.35 98.4 94.3 94.9 22/24 -76.7 NONE NONE NONE NONE NO THREATS STER CLEAREN. QUEST HIS PD EFT MESSAGE ET MESSAGE	MAINT. TO REPARIS RECED. WATER TOM SEAR K ON. ED. STERLIN Smith, F. Opacity 21.2 27.6	TAGGEI  TAGGEI	CS.  D. DRAI  D. DRAI  JING  D. Sebas  SO2  4.66  5.15	stian, All Here CBD PH 9.80 9.70	e Silica 0.181 0.064	Capability 150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:30PM 4:30PM 5:30PM 5:30PM 6:00PM 7:00PM 7:00PM 8:20PM 8:23PM 8:23PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV. #1 DELAG COMPLETE PULLING #1 WETBOTTON #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L.Pile, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox FGD Rox FGD Rox SHIFT (SHAVER) HE L.Pile, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox FGD Rox FGD Rox SHIFT (SHAVER) HE L.PILE, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox SIB MILL AMPS SIB Out of Service #3 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service HASNTAS SIGNED ON #7 AIR REGIS DARREN SEBASTIAN RE CALLED RICK PAYNE L CALLED RIKE LEE LEF	DTAGGED FOR MAINT. 6000 R TO THE BOILE MILL AND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (\$ 165 0.35 98.4 94.3 94.9 22/24 -76.7 NONE NOTHREATS RONE NOTHREATS STER CLEAREN QUEST HIS PD EFT MESSAGE ET MESSAGE ET MESSAGE ET MESSAGE ET MESSAGE ET MESSAGE	MAINT. TO REPART IN TO REPART I	TAGGEI  TAGGEI	CS.  D. DRAI  D. DRAI  JING  D. Sebas  SO2  4.66  5.15	stian, All Here CBD PH 9.80 9.70	e Silica 0.181 0.064	Capability 150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 5:30PM 6:00PM 6:00PM 7:00PM 7:00PM 7:00PM 8:20PM 8:23PM 8:25PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV. #1 DELAG COMPLETE PULLINS #1 WETBOTTOM #1 WETBOTTOM CLEAN, #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L.Pile, D.Haynes, D. Liner, I UNIT #1  2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TINK Instr. Air Dew Point Sootblowing #1 5/B Out of Service #2 S/B Out of Service #3 S/B Out of Service #4 SNTAS SIGNED ON #7 AIR REGIS DARREN SEBASTIAN RE CALLED RICK PAYNE L CALLED MIKE LEE. LEF CALLED DARRICK TAUL.	DTAGGED FOR MAINT. 6000 R TO THE BOILE MILL MAND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (1 F.Gray, W. Mills, L Load 155 165 0.35 98.4 94.9 22/24 -76.7 NONE NONE NONE NOTHREATS STER CLEAREN, USES AGE ETT MESSAGE LEFT MESSAGE LEFT MESSAGE LEFT MESSAGE LEFT MESSAGE	MAINT. TO REPARIS RIS RED. WATE TOM SEA K ON Smith, F. Opacity 21.2 27.6	TAGGEI  TAGGEI	CS.  D. DRAI  D. DRAI  JING  D. Sebas  SO2  4.66  5.15	stian, All Here CBD PH 9.80 9.70	e Silica 0.181 0.064	Capability 150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	UT ECON. INLET				
	1:00PM 1:30PM 1:30PM 1:45PM 4:30PM 5:30PM 6:00PM 6:00PM 7:00PM 7:00PM 7:00PM 8:20PM 8:23PM 8:25PM	1A PRIMARY AIR FAN RE #1 FLYASH IS REDTAGGI ABSORBER CHLORIDES #1 ISOLATION OF WATER HDR DRAIN ROOT VLV. #1 DELAG COMPLETE PULLING #1 WETBOTTON #1 WETBOTTOM SEAL PI UNIT #1 #7 AIR REGISTE  "A" SHIFT (SHAVER) HE L.Pile, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox FGD Rox FGD Rox SHIFT (SHAVER) HE L.Pile, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox FGD Rox FGD Rox SHIFT (SHAVER) HE L.PILE, D.Haynes, D. Liner, I  1 2 3 FGD Nox FGD Rox FGD Rox FGD Rox SIB MILL AMPS SIB Out of Service #3 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service HASNTAS SIGNED ON #7 AIR REGIS DARREN SEBASTIAN RE CALLED RICK PAYNE L CALLED RIKE LEE LEF	DTAGGED FOR MAINT. 6000 R TO THE BOILE MILL MAND REDTAGGE S OFF WETBOT LATES ARE BAC R IS REDTAGGE RE "D" SHIFT (1 F.Gray, W. Mills, L Load 155 165 0.35 98.4 94.9 22/24 -76.7 NONE NONE NONE NOTHREATS STER CLEAREN, USES AGE ETT MESSAGE LEFT MESSAGE LEFT MESSAGE LEFT MESSAGE LEFT MESSAGE	MAINT. TO REPARIS RIS RED. WATE TOM SEA K ON Smith, F. Opacity 21.2 27.6	TAGGEI  TAGGEI	CS.  D. DRAI  D. DRAI  JING  D. Sebas  SO2  4.66  5.15	stian, All Here CBD PH 9.80 9.70	e Silica 0.181 0.064	Capability 150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	UT ECON. INLET				





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1/19/2013	12:00AM	NOTHING IN THE RAIN G	SAUGE									
		LOST 1.25" ON C2 HOTV		-				1				
		LOST .5" ON C3 HOTWE										
		BACK FROM CHECKING		PRING	ANY COM	ADLICAT	TONG THEY	CHOLLD	E DONE IN THE DOLL	ED IN A COLIF	I E OF HOURS	
		ECON INLET DRAIN ROO				VIFLICA	TONS THE	SHOULD B	DE DONE IN THE BOIL	EK IN A COUP	LE OF HOURS	,
		TITAN NOT SURE WHAT				/E DIEC	E EDOM OU	TOIDE THA	T IC CALICINIC IONITT	D ICCLIE MAIL	TALK TO OTT	- \
	3.00AW	WHEN THEY GET HERE	10 DO AT #7 BU	KINEK CA	AN I WO	E PIEC	E FROIVI OU	ISIDE INA	1 15 CAUSING IGNITE	K 155UE WILL	. TALK TO STE	:VE
		WHEN THEY GET HERE										
	7:00 444	"D" CHIET (CTEDI INC)	HEDE "A" CHIET	(CILAL/E	D)   EA)	(IN)						
	7:00AM	"D" SHIFT (STERLING)					0 "					
		V.Ramsey, B.Johnson,										
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability			
		1	OUTAGE									
		2	130		0.028	100,000	9.75	0.18	138N W/O GAS			
		3	150	31.6	0.036	5.25	9.55	0.06	155N W/O GAS			
		FGD Nox	0.3									
		FGD Removal %	98.5									
		3A MILL AMPS	94									
		3B MILL AMPS	95									
		COND. STOR. TNK	23/24									
		Instr. Air Dew Point	-78.3									
		Sootblowing										
		#1 S/B Out of Service	NONE									
		#2 S/B Out of Service	NONE									
		#3 S/B Out of Service	NONE									
		HASNTAS	NO THREATS									
		1170-1170	NO THILLAIS									
	7:30AM	FILLING UNIT #1 BOILER	NAITH SLOW BO	II ED EII	LCONT	ACTED	ΙAD	+		-		
		#2 SECONDARY AIR FLO						6000110				
		CALLED RICK PAYNE TO						0009110				
				FORD	ARKENL	EFI IVIE	SSAGE.	-				
		CALLED MIKE LEE LEFT										
		CALLED STEVE KURZ LI						-	-			
		CALLED DARRICK TAUL										
		CALLED JOHN KENNED										
		HAVE A HEAD COUNT F						1				
	9:15AM	1A BOILER FEED PUMP	DISCHARGE VLV	/. WILL I	NOT CLO	SE STEI	M NUT IS ST	RIPPED O	Л.			
	9:33AM	1A BOILER FEED PUMP	ON FOR HYDRO	ON UNI	JOHN K	ENNED'	Y CALLED E	BACK HE W	ILL BE IN TONIGHT F	OR DARREN.		
		1B MILL IS REDTAGGED										
	9:35AM	1D STEP DOWN 4160VB	IS REDTAGGED	AND 10	1B 480V	B IS RE	DTAGGED F	OR ELECT				
	9:43AM	1800LBS ON UNIT #1 DR	RUM BOILER FEET	PUMP	OFF.							
	10:45AM	NO LEAKS ON HYDRO D	RAINING DOWN	TO PORT	OF WA	TER.						
	1:45PM	CALLED NICK MOORMA	N LEFT MESSAGE	E TO CO	ME IN FO	OR STAR	TUP OF UN	IT TO TRAIN	N.			
	1:45PM	CALLED STEVE KURZ LI	EFT MESSAGE TO	COME	IN FOR	STARTUR	OF UNIT T	O TRAIN.				
		RONNIE PAYNE REQUES										
	1:55PM	CALLED MELVIN YOUNG	LEFT MESSAGE									
		CALLED JEFF MILLER H			E							
		AUX HAS ARP SCREENS				OFIRE						
		1A BOILER FEED PUMP					AINT TO RE	PAIR STEM	NIT			
		DRAINING #1 WETBOTT							11101.			
		POTABLE WATER TO TH						WING.				
		#1 BOILER IS SET FOR F										
								NI.				
		#1 HIGH PRESSURE SEA		OIVIP VV	NO IANE	IN OFF F	EK D.CHINI	V				
		POTABLE WATER BACK		LDED 4:5	ED 1111	/F 0F **	DAOK 6:::	A (ETD OTTO				
		SEAL PLATE ON WETBO			KED HAV	/E SEAL	BACK ON I	WEIROLLO	IM.			
		#1 F.D.FANS ON CHECK		RS.								
		F.D.FANS OFF DOORS										
	6:00PM	#1 SEAL OIL HEATER IS	ON									





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	7:00PM	"A" SHIFT (SHAVER) HE													
		L.Pile, D.Haynes, D.Liner,	F.Gray,W.Mills,L			,D.Seba	astian PDA	ALL HERE.	J.KENNEDY covering	ıg					
		Unit	Load	Opacity	/ Nox	SO2	CBD PH	Silica	Capability						
		1	12hr STBY						150 N w/o Gas						
		2	117	15.0	0.42	4.75	9.60	0.133	138 N w/o Gas						
		3	135	12.6	0.35	4.97	9.50	0.044	155 N w/o Gas						
		FGD Nox	0.36												
		FGD Removal %	99.1												
		3A Mill Amps	93.0												
		3B Mill Amps	94.8												
		COND. STOR. TNK	22/24												
		Instr. Air Dew Point	-72.4												
		Sootblowing													
		#1 S/B Out of Service	NONE												
		#2 S/B Out of Service	NONE												
		#3 S/B Out of Service	NONE												
		HASNTAS	NO THREATS												
	6:50PM	SENT FRED BACK HOME	SO HE CAN TRA	AIN ON S	START UP	P TOMOR	RROWHE	WILL WOR	K SOMETIME TO GET	HIS HOURS	CORRECT				
		SENT FRED BACK HOME SO HE CAN TRAIN ON START UP TOMORROWHE WILL WORK SOMETIME TO GET HIS HOURS CORRECT CLEANED ALL INTAKES													
	8:45PM														
		TAKING 2B AND 3B MILL													
	NOTE	#1 HIGH PRESSURE SE	AL OIL BACKUP	PUMP V	VAS TAP	KEN OF	PER D.CH	INNWHE	N BREAKER IS RACH	ED BACK IN	SOMEONE N	EED			
	NOTE	TO STANDBY PUMP AN													
/20/2013	12:00AM	NOTHING IN RAIN GAUGI													
		ALL TAGS HAVE BEEN P		1EXC	EPT GAS	VALVE	AND HOLD								
		CALLED STEVE KURZ AI						RTUP							
		#9 CONVEYOR NEEDS A													
		2B AND 3B MILLS BACK				TOOOLD									
		ALL VALVE TESTING AN													
	0.077 411	THE THEFE TECHNOTH	D OIL HAI ILOI	O O I VIII L											
	7:00AM	"D" SHIFT (STERLING)	HERE "A" SHIFT	(SHAVE	R) I FA	/ING									
	7.007 411	M "D" SHIFT (STERLING) HERE "A" SHIFT (SHAVER) LEAVING  V.Ramsey, B.Johnson, R.PayneVAC G.Tivitt, S.Emberton, B.HurJ.Miller here													
		Unit	Load	Opacity		SO2	CBD PH	Silica	Canability						
		1	OUTAGE	Opacity	NOX	302	CBDPH	Silica	Capability	-					
		2	120	27.8	0.020	4.68	0.60	0.45	420N W/O CAC						
		3	140				9.60	0.15	138N W/O GAS						
		FGD Nox		21.6	0.033	4.93	9.64	0.08	155N W/O GAS		-				
		FGD Removal %	0.3 99.5					-							
		3A MILL AMPS	94												
		3B MILL AMPS	95				-								
		COND. STOR. TNK	23/24												
		Instr. Air Dew Point	-74.6												
		Sootblowing													
		#1 S/B Out of Service	NONE				-	-							
		#2 S/B Out of Service	NONE												
		#3 S/B Out of Service	NONE												
		HASNTAS	NO THREATS												
	0.00														
		ABSORBER CHLORIDES													
		1 GAS VLV. BLANK PULLE													
		#1 F.D.FANS ON AIR		RA VALV	ED IN.										
	11:10AM	GAS FIRE IN UNIT #1 BO	ILER STM.C	OIL CRO	SSTIE V	ALVED (	OUT.								
		#1 DRUM VENTS ARE CL	OSED. CALLED	LAB											
	12:50PM	#1 BOOSTER FAN ON													
	1:40PM	KINSEL SWIHART CALLE	ED REQUESTING	VAC. FO	OR MONE	DAY 1-2	1-13 7A-7P								
	1:45PM	JUSTIN HOWE WILL WO	RK FOR KINSEL	TOMMOR	ROW.										
	2:15PM	WARMING #1 TURBINE S	EALS GLAND S	TM. EXH	AUSTER	ON.									
	2:40PM	#1 CONDENSER VAC. P	UMPS ON HEA	TER DRA	AINS CLO	OSED.									
	2:45PM	MARK OBRYAN AND KEV	IN MAYFIELD HE	ERE.											
					ATING LI	UBE OIL	WITH #2 L.F	P.HTR DRA	IN PUMP.			-			
				-											
		M #1 SEAL OIL HTR. IS ON AND WORKING AND HEATING LUBE OIL WITH #2 L.P.HTR DRAIN PUMP. M ROLLING #1 TURBINE													
	4:00PM	ROLLING #1 TURBINE RELEASED HOLD #020 C	ON COLEMAN #1	0303 GE	N. DISC	ONNECT									
	4:00PM 4:12PM				N. DISC	ONNECT	;								





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### **Boiler Tube Leak Record**

### Initial failure at hot reheat

Plant: Coleman Unit: 1
Type of Leak: (Check One)
Pin Hole 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 Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other Coal ash corrosion



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### **Forced Outage Report**

Type of Repair: (Check One)

Dutchman X (Length of Dutchman ~ 4')
Pad Weld
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Tube Size OD <u>2.250"</u> Wall Thickness <u>0.150"</u> Tube Material <u>SA213 T22</u>
Welding Rod Used 9018 B3L
Welded By:
Exact Location of Leak: Be Specific

Elevation 209'-6"

The second loop tube from the face of the 3<sup>rd</sup> element from the west wall of the high temperature reheater section failed due to wall loss from coal ash corrosion. In addition, the reheat tube failure caused the erosion of the back tube in the first and second element of the HRA screen tube. The failure of the HRA eroded the first and second reheater tubes in the second element. Two lead tubes in the 2<sup>nd</sup> reheat element were also damaged; altogether, eight tubes were replaced.



**Pictures** 





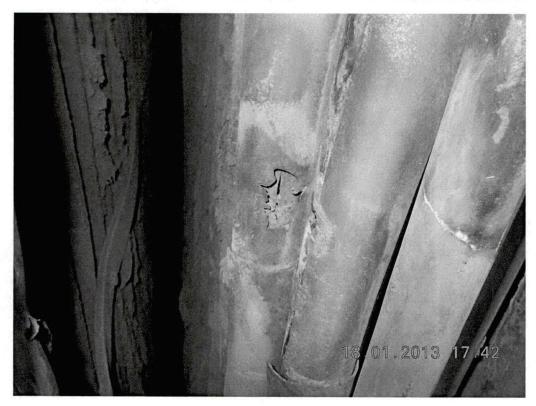


























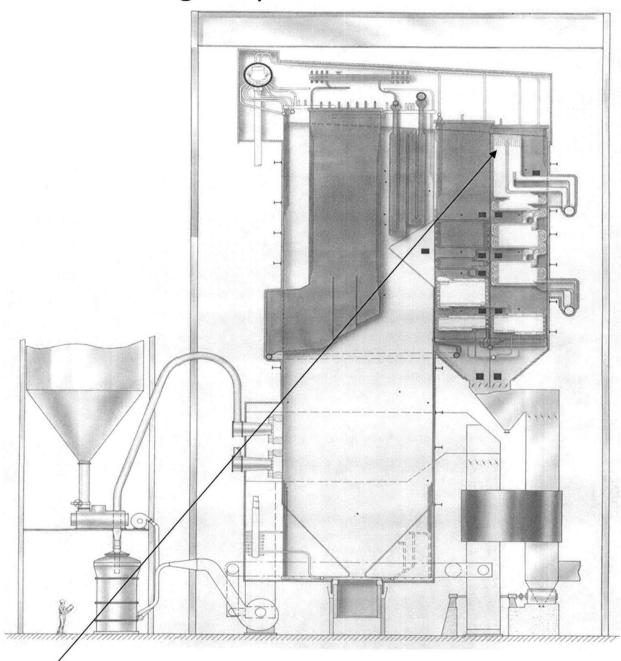










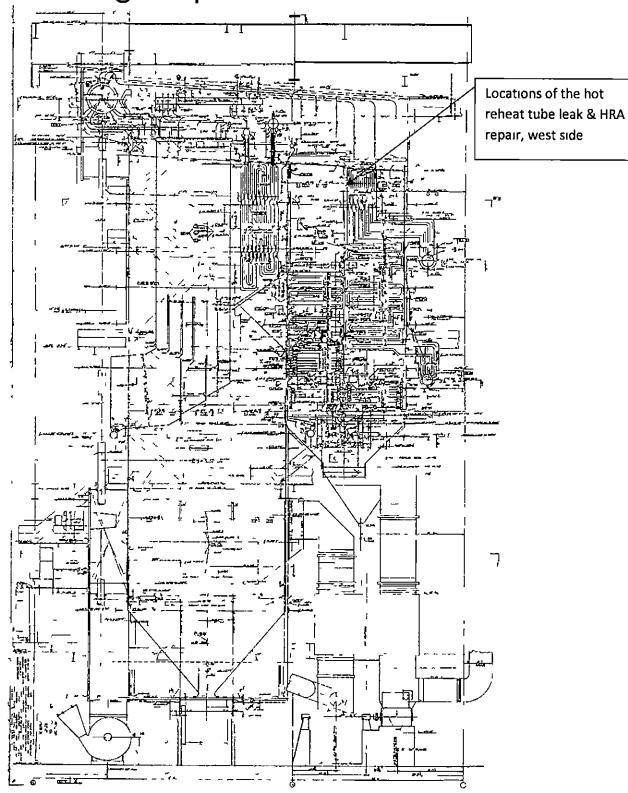


Tube Leak Here: The second loop tube from the face of the 3rd element from the west wall (far side) of the high temperature reheater section failed due to wall loss from coal ash corrosion. In addition, the reheat tube failure caused the erosion of the back tube in the first and second element of the HRA screen tube. The failure of the HRA eroded the first and second reheater tubes in the second element. Two lead tubes in the 2<sup>nd</sup> reheat element were also damaged; altogether, eight tubes were replaced.





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#### **Lost Sales Opportunity Report**

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

Unit	Coleman 1 - C1-13-02	Produ	ection Cos	st
Date & Time Off Line	1/18/13 4:45 & 1/19/13 16:45	MW	1	5/MW
Date & Time On Line	1/19/13 16:45 & 1/20/13 17:44	73	\$	29.62
Outage Duration	36 hr. 0 min & 24 hr. 59 min.	117	\$	27.48
Outage Code	UO2 & RH	150	\$	26.99
Outage Reason	Repair tube leaks in reheater and partition wall. Unit placed in reserve due to weak market. Total duration was 60 hr. 59 min.			

Date	DA LM	P Average	RT LI	MP Average	ı	DART P&L	Орј	Lost portunity
18/13 (HE 6-24)	\$	29.85	\$	24.04	\$	7,635	\$	(4,147)
I/19/13 (HE 1-24)	\$	24.55	\$	23.89	\$	-	\$	-
/20/13 (HE 1-24)	\$	26.92	\$	22.96	\$	(2,021)	\$	-
1/21/13 (HE 1-8)	\$	26.31	\$	22.75	\$	(880)		-
Total					\$	4,734	\$	(4,147)

Start Up Fu	el Cost		Total Forced	Outag	e Cost
S/U Fuel Consumed		756	DART P&L	\$	4,734
S/U Fuel Price	\$	4.70	Lost Opportunity	\$	(4,147)
S/U Fuel Cost	\$	(3,551)	S/U Fuel Cost	\$	(3,551)
			Total	\$	(2,964)

#### 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: Daryl Chinn

Date: 31-Jan-2013

Plant: Coleman Unit: 1 GADS Class: UO2

#### **Duration**

Trip Time: 22-Jan-2013 23:15 Tie Time: 25-Jan-2013 04:59

Time Offline: 53:44

#### Outage Description

Coleman Unit 1 was removed from service on Tuesday, 22-Jan-2013 at 23:15 and returned to service on Friday, 25-Jan-2013 at 04:59 for duration of 53:44 against an initial target of 48 hrs. This was an unplanned event, and as such is classified as a Class I (UO2) forced outage. The unit was removed from service in a controlled manner due to a suspected leak in the upper (hot) reheater section. Repairs were completed in 45:14 but due to inclement weather and only 6 available igniters the start-up was extended 4:51 min due to issues attaining acceptable pressure and temperature required to roll the turbine.

The Unit tripped during start up due to No-Load Steam Flow and was off line another 1:12.

#### **Root Cause**

The first loop tube from the face of the 28th element from the east wall of the hot end reheater failed due to wall loss from coal ash corrosion. In addition, the reheat tube failure caused the erosion of the back tube in the 28<sup>th</sup> and 29th element of the HRA screen tube. The failure of the HRA eroded the first reheater tubes in the 29th element. Two reheat tubes were replaced, two HRA tubes were replaced and two were pad welded.



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#### Failure History

18-Jan-2013	Reheater Tube Leak	60:59
2-Jan-2013	Reheater Tube Leak	76:44
13-Oct-2012	Reheater Tube Leak	74:45
14-Aug-2012	Reheater Tube Leak	64:48
11-Apr-2012	Reheater Tube Leak	68:07

#### **Corrective Action**

This section of the reheater is scheduled to be replaced during the spring outage of 2013.

#### **SOE Print Out**

N/A



#### Other Work Completed While Unit Was Offline

#### Mechanical Maintenance Outage Tasks Completed 1-23-13

6089423 Replaced two R/H tubes and two partition wall tubes in 28<sup>th</sup> bank from east wall at elevation 211'. Replaced two R/H tubes and pad welded two partition wall tubes in 29<sup>th</sup> bank from east wall at elevation 211'. Installed tube shields on R/H tubes.

6089001 Freed up, lubricated and stroked inlet dampers on B ROFA Fan.

6089457 Freed up, lubricated and stroked lower right ROFA dampers.

6089379 Cleaned and freed up #6 APH dust valve. Disassembled, cleaned and reattached gate to extension shaft on #9 APH dust valve.

6089381 Cleaned and freed up #8 APH dust valve.

6089604 Removed insulation and weld repaired two gas leaks on seal skirt at W/B.

#### Electrical & Instrument Maintenance, C1, Completed Outage Tasks

6089430- Cleaned all igniter and main flame scanners.

6088993- Replaced dip shunt in DCS for "E" O2 probe indication.

6089429- Stroked and calibrated turbine valves.

6089211- Replaced solenoid valve on #8 PA shut off damper.

6089347- Blew back taps and sensing lines on "C" PA flow transmitter. Verified transmitter temperature, differential pressure and barometric pressure readings were reading correct. Rebuilt V-1, V-2, and V-3 solenoid valves.

6089434- Stroked the air registers and ROFA dampers, took measurements on the air registers.

6089431- Pulled and tested all igniter rods, replaced five igniter spark plugs and three igniter rods, and reinstalled. Verified "C" mill speed reducer high temperature alarm is working properly.

6062556- Calibrated sootblowing pressure and flow transmitters.



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6092361- Performed precipitator internal inspection, found ash buildup on the inlet sections electrodes and cleaned as needed. Cleaned HV bushings inside and outside. Power up T/R's and electrical air testing looked good.

6092363- B & D Mill Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6092363- A, B, C, & D PA Fan Motors: Cleaned all PA fan motor inlet vents and changed oil in B PA fan motor.

6092365- Wired Titan's 4 pack welders, unwired when Titan was completed.



#### Your Touchstone Energy" Cooperative

### **Operators Event Log**

21.44 21.44 21.54 23.11 23.42 23.2013 0.11 0.13 1.25 2.00 2.000 1.13 1.25 2.000 1.14 4.06 4.11 4.22 4.22 4.22 5.15 5.25 5.45 7.00A	5 HEAR A ROAR 1 LEVEL 5 TAKING C1 OFF LINE 6 TAKING C1 OFF LINE 7 C1 OFF LINE - CALLEC 7 C1 GAS BLANK INSTAL D LINER CALLED IN SI HAVE A H-23 HOLD ON 6 CALLED J LADNIER TO CALLED J HEIFFER T CALLED J PHEIFFER T CALLED J PHEIFFER T CALLED J HEIFFER T CALLED J HEIFFER T CALLED J HEIFFER T CALLED J HEIFFER T CALLED J HOLD TO CALLED J HOLD TO CALLED J MILLER TO CALLED MYOUNG TO CALLED D MILLS TO C C CALLED	ON C1 - LOST 2 ABOVE THE PR HOT LINE LED OTHER CK - A&T MADE 0303 GENERATO COME IN AT 3A O COM	OUT OR DISCO M - LEFT / AM - OK V STARTING 3 DOORS NEEDS TC R# 6089421 D HOT LINE MESSAGE MESSAGE MEWM VM (DOOLEY	NNECT A MESS VILL BE TO GET TO CALITO	AGE TO IN COOL  B BFP- J	CALL BACK	WANTS '	Capability	PUMP						
21.4: 21.5: 23.1: 23.4: 23.1: 23.2013	5 HEAR A ROAR 1 LEVEL TAKING C1 OFF LINE 5 C1 OFF LINE - CALLEE 5 C1 OFF LINE - CALLEE 6 C1 GAS BLANK INSTAL D LINER CALLED IN SI HAVE A H-23 HOLD ON CALLED J LADNIER TO CALLED J PHEIFFER T CALLED T CALLED T CALLED T CALLED T CALLED D MOUNG TO CALLED J MILLER TO C CALLED D MILLS TO C C C CALLED D MILLS TO C C C C C C C C C C C C C C C C C C C	ABOVE THE PR HOT LINE LED CK - A&T MADE 0303 GENERATO 0 COME IN AT 3A 1 E 1 E 1 E 1 E 1 E 1 E 1 E 1 E 1 E 1 E	OUT OOR DISCO M - LEFT / AM - OK V STARTING G DOORS NEEDS TC R 608942i D HOT LINK MESSAGE MESSAGE MMM VM (DOOLEY Willis, L. Smil Opacity 28.6	NNECT OF A MESS.  D BE 1E TO GET TO CALL  O LEAVI  LEAVI  LEAVI  NOX  0.37	AGE TO IN COOL  B BFP- J  LL  L  NG  NG  SO2  4.69	CALL BACK  EFF BROWN  ebastian All H CBD PH	WANTS	Capability	PUMP						
21:56 23:11 23:41 23:42 23:2013 0:11 0:14 0:53 1:03 1:03 1:03 1:02 2:00 NOT 4:06 4:15 4:21 4:22 4:22 5:16 5:25 5:45 7:00A	6 TAKING C1 OFF LINE 6 TAKING C1 OFF LINE 7 C1 GAS BLANK INSTAL D LINER CALLED IN SI HAVE A H-23 HOLD ON CALLED J LADNIER TC CALLED J PHEIFFER T CALLED J CALLED TO THE CALLED TO THE TO THE TE CALLED TO THE TO THE TE CALLED MY COUNG TO CALLED J MILLER TO C CALLED J MILLER TO C CALLED D MY COUNG TO CALLED D MY COUNG TO CALLED D MY CALLED TO THE TE CALLED THE THE	HOT LINE LED CK - A&T MADE 0303 GENERATI 0 COME IN AT 3A 0 COME IN AT 3A 0 COME IN AT 3A 10 COME IN AT 3A 11 COME IN - LEFT IN MIN 12 COME IN - LEFT IN P TAGGED FOR MEAN 14 COME IN - LEFT IN P TAGGED FOR MEAN 15 COME IN A LEFT IN TAGGED FOR MEAN 16 COME IN A LEFT IN TAGGED FOR MEAN 16 COME IN A LEFT IN TAGGED FOR MEAN 17 COME IN A LEFT IN TAGGED FOR MEAN 18 COME IN A LEFT IN TAGGED FOR MEAN 19 SA 10 SA 10 SA 11 SA 12 SA	OUT OR DISCO M - LEFT / AM - OK / STARTING G DOORS NEEDS TO R# 608942: D HOT LINE MESSAGE MESSAGE MM VM (DOOLEY Wills, L. Smir Opacity 28.6	NNECT A MESS VILL BE TO GET TO CALL TO CALL D. LEAVID. LEAVID. LEAVID. Nox.	AGE TO IN COOL  B BFP- J  LL  L  NG nes, D.S  SO2  4.69	CALL BACK  EFF BROWN  ebastian All H CBD PH	WANTS	Capability	PUMP						
23.11 23.4 23/2013 0.11 0.14 0.55 1.03 1.13 1.25 2.00 NOT 4.06 4.15 4.22 4.23 5.16 5.25 5.45 7:00A	5 C1 OFF LINE - CALLED 7 C1 GAS BLANK INSTAL D LINER CALLED IN SI HAVE A H-23 HOLD ON CALLED J HADNIER TO CALLED J PHEIFFER T C3 MILL INLETS ON TH C1 WET BOTTOM CLE/K K HARLEY GOING HOW 100 F ON C1 BOILER O WHEN STARTING C1 IC C1 BABFAR HEATER W C1 PRECIP OUT OF SE CALLED D MILLS TO C C3 GLAND STEAM TRA C3 VAC DEHYDRATOR C1 C1 C3 GLAND STEAM TRA C3 VAC DEHYDRATOR C1 ECON HOPPER CLE M "A" SHIFT (SHAVER) H L PIIIe, D. Haynes, F. Gra Unit 1 2 3 FGD Nox FGD Removal % 3A MIII Amps 3B MIII Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service  #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service #1 S/B Out of Service	LED CK - A&T MADE CK - A&T MADE CK - A&T MADE COME IN AT 3A COME IN - LEFT IN AM COME IN - LEFT IN AM COME IN - LEFT IN AM ERE "B" SHIFT TY, D.LinerSL, W.M. LOAD COFF 154 165 0.35 98.1 93.8 93.1 23/23	OR DISCO M - LEFT / AM - OK W STARTING G DOORS NEEDS TC R# 6089421 D HOT LINE MESSAGE MESSAGE MESSAGE WM WM VM (DOOLEY Willis, L. Smil Opacity 28.6	A MESS VILL BE TO GET  D BE 1E  E TO CAL TO CAL TO CAL TO CAL TO CAL O Nox  0.37	IN COOL  BFP- J  LL  LL  NG nes, D.S SO2 4.59	EFF BROWN ebastian All H CBD PH	lere	Capability	PUMP						
23.4' 23/2013 0:11 0:14 0:53 1:03 1:03 1:22 2:00 2:00 NOT 4:06 4:15 4:22 4:22 4:23 5:11 5:25 5:49 7:00A	7 C1 GAS BLANK INSTAL D LINER CALLED IN SI HAVE A H-23 HOLD ON CALLED J LADNIER TO CALLED J PHEIFFER T GA MILL INLETS ON TH C1 WET BOTTOM CLE K HARLEY GOING HOM C1 WET BOTTOM CLE K HARLEY GOING HOM C1 WE BOTTOM CLE C1 BABFAR HEATER V C1 PRECIP OUT OF SE CALLED M YOUNG TO CALLED J MILLER TO C CALLED D MILLS TO C C C CALLED D MILLS TO C C C CALLED D MILLS TO C C C C C MEN TO C C C MEN TO C C C MEN TO C C C C C C C C C C C C C C C C C C C	LED CK - A&T MADE CK - A&T MADE CK - A&T MADE COME IN AT 3A COME IN - LEFT IN AM COME IN - LEFT IN AM COME IN - LEFT IN AM ERE "B" SHIFT TY, D.LinerSL, W.M. LOAD COFF 154 165 0.35 98.1 93.8 93.1 23/23	OR DISCO M - LEFT / AM - OK W STARTING G DOORS NEEDS TC R# 6089421 D HOT LINE MESSAGE MESSAGE MESSAGE WM WM VM (DOOLEY Willis, L. Smil Opacity 28.6	A MESS VILL BE TO GET  D BE 1E  E TO CAL TO CAL TO CAL TO CAL TO CAL O Nox  0.37	IN COOL  BFP- J  LL  LL  NG nes, D.S SO2 4.59	EFF BROWN ebastian All H CBD PH	lere	Capability	PUMP						
8:00A 8:00A 8:18A 8:58A 9:00A 9:12A 9:28A 9:28A	D LINER CALLED IN SI HAVE A H-23 HOLD ON CALLED J LADNIER TO CALLED J PHEIFFER T CALLED J TON	CK - A&T MADE 0303 GENERATI 0 COME IN AT 3A 10 COME IN AT 3A 11 EE 12 PENING DESLAC 13 P 13 F FP ON 14 IN OF RIVIN MIN 15 RVICE - CALLEC 16 COME IN - LEFT 17 COME IN - LEFT 17 COME IN - LEFT 18 P TAGGED FOR MEAN 18 ERE "B" SHIFT 19 TAGGED FOR MEAN 16 COFF 16 COME 16 COME 17 SHIFT 18 SHIFT 19 SHIFT 1	OR DISCO M - LEFT / AM - OK W STARTING G DOORS NEEDS TC R# 6089421 D HOT LINE MESSAGE MESSAGE MESSAGE WM WM VM (DOOLEY Willis, L. Smil Opacity 28.6	A MESS VILL BE TO GET  D BE 1E  E TO CAL TO CAL TO CAL TO CAL TO CAL O Nox  0.37	IN COOL  BFP- J  LL  LL  NG nes, D.S SO2 4.59	EFF BROWN ebastian All H CBD PH	lere	Capability	PUMP						
8:00A 8:584 9:00A 9:12A 9:00A 9:12A 9:28A 9:28A 9:28A 9:28A	HAVE A H-23 HOLD ON CALLED J LADNIER TO CALLED J PHEIFFER T C3 MILL INLETS ON TH C1 WET BOTTOM CLE/ K HARLEY GOING HOM D100 F ON C1 BOILER C WHEN STARTING C1 I C1 PAECE OUT OF S CALLED J MILLER TO C C3 CLALED J MILLER TO C C3 CLAND STEAM TRA C3 VAC DEHYDRATOR C1 PECON HOPPER CLE M "A" SHIFT (SHAVER) H L. Pile, D. Haynes, F. Gra Unit 1 2 3 FGD Nox FGD Removal % 3A MIII Amps 3B MIII Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #15/B Out of Service  #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service #15/B Out of Service	0303 GENERATO 0 COME IN AT 3A 0 COME IN AT 3A 0 COME IN AT 3A E SOUTH SIDE S IN IE PENING DESLAC JP 1ST BFP ON JILL NOT RUN MI REVICE - CALLED COME IN - LEFT COME IN - LEFT IN P TAGGED FOR M EAN JERE "B" SHIFT Y,D.LinerSL,W.M 164 165 0.35 98.1 93.8 93.1 23/23	OR DISCO M - LEFT / AM - OK W STARTING G DOORS NEEDS TC R# 6089421 D HOT LINE MESSAGE MESSAGE MESSAGE WM WM VM (DOOLEY Willis, L. Smil Opacity 28.6	A MESS VILL BE TO GET  D BE 1E  E TO CAL TO CAL TO CAL TO CAL TO CAL O Nox  0.37	IN COOL  BFP- J  LL  LL  NG nes, D.S SO2 4.59	EFF BROWN ebastian All H CBD PH	lere	Capability	PUMP						
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8:00A 8:00A 8:18A 8:58A 9:00A 9:12A 9:28A 9:28A	3 C3 MILL INLETS ON THE COLOR OF THE COLOR O	E SOUTH SIDE S  N E PENING DESLAC JP 1ST BEP ON VILL NOT RUN MF RVICE - CALLEC COME IN - LEFT IN P TAGGED FOR M EAN ERE "B" SHIFT Y, D. Liner SL, W. In 164 165 0.35 98.1 93.8 93.1 23/23	G DOORS NEEDS TO R# 608942:0 D HOT LINE MESSAGE MESSAGE MESSAGE MWM VM (DOOLEY Wills, L. Smir Opacity 28.6	D BE 1E 5 E TO CAL TO CAL TO CAL Th, R.Jon Nox 0.37	BFP- J	ebastian All H CBD PH	lere	Capability	PUMP						
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8:00A 8:18A 8:18A 9:00A 9:05A 9:05A 9:10A 9:12A 9:25A	"A" SHIFT (SHAVER) F. L. Pile, D. Haynes, F. Gra Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	IERE "B" SHIFT y, D. Liner SL, W. N Load OFF 154 165 0.35 98.1 93.8 93.1 23/23	Opacity 28.6	Nox 0.37	SO2 4.59	CBD PH									
8:00A 8:18A 8:58A 9:00A 9:05A 9:05A 9:05A 9:12A 9:25A 9:28A	L. Pile, D. Haynes, F. Gra Unit  1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	y, D. Liner SL, W. N Load OFF 154 165 0.35 98.1 93.8 93.1 23/23	Opacity 28.6	Nox 0.37	SO2 4.59	CBD PH									
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8:58A 9:00A 9:03A 9:05A 9:08A 9:10A 9:12A 9:25A 9:28A	ASK FRED AND LES TO CLEAN ALL OF THE FEEDERS GLASS TODAY ON C1SIDE PLATES AND DOORS														
9:00A 9:03A 9:05A 9:08A 9:10A 9:12A 9:25A	TALKED WITH BOB MOSS HE WILL TRY TO GET US A NEW PRINTER TO REPLACE THE 6600 ON THE BACK SS DESK														
9:03A 9:05A 9:08A 9:10A 9:12A 9:25A	CALLED MIKE CHRISTIAN FOR START UP COVERAGE TOMORROWLEFT A MESSAGE														
9:05A 9:08A 9:10A 9:12A 9:25A	CALLED MICK MOORMAN FOR START UP COVERAGE TOMORROWLEFT A MESSAGE(WIFE HAD BABY YESTERDAY)														
9:05A 9:08A 9:10A 9:12A 9:25A	CALLED JASON GOODMAN FOR START UP COVERAGE TOMORROWLEFT MESSAGE(WIFE HAD BABY YESTERDAY)														
9:08A 9:10A 9:12A 9:25A 9:28A	M CALLED ROBERT CAR	CALLED JASON GOODMAN FOR START UP COVERAGE TOMORROWLEFT MESSAGE  CALLED ROBERT CARMEN FOR START UP COVERAGE TOMORROWLEFT MESSAGE													
9:10A 9:12A 9:25A 9:28A															
9:12A 9:25A 9:28A		CALLED MELVIN YOUNG FOR START UP COVERAGE TOMORROWLEFT MESSAGE CALLED JEFF MILLER FOR START UP COVERAGE TOMORROWLEFT MESSAGE													
9:25A 9:28A															
9:28A	M CALLED DEREK MILLS														
	M CALLED DARRICK TAL														
9:30A	M CALLED JOHN KENNEI														
	M CALLED RICK PAYNE														
9:33A	M CALLED MIKE LEE FOR	R START UP COV	ERAGE TO	OMORR	OWLE	FT MESSAGE									
9:37A	M CALLED STEVE KURZ	FOR START UP C	COVERAGE	E TOMO	RROW	LEFT MESSA	AGE								
	AM WO# 6089455 ISSUED														
	AM WO# 6089456 ISSUED						INE ROOT	TVALVE ON C1							
	AM #11 CONVEYOR TUNIN								ID LEET A MESSA	GE					
	AM 2A AH EXPANSION JOI														
							m 000940.	Z ISSUED FUR UUT	100						
	AM JEFF MILLER CALLED														
	AM DEREK MILLS CALLED														
	M ISSUED HOLD # 24 ON							_							
	PM RELEASED AND UNTA							Г							
12:50F	PM MARK HITE SIGNED ON	N TO HOLD# 24 T	O MAKE R	REPAIRS	ON 030	3 DISCONNE	CT								
12:58F	M STEVE KURZ CALLED	BACK HE WILL	BE TO W	ORK TO	MORRO	OW									
1:14P	M MARK HITE SIGNED OF	F OF HOLD# 24	REPAIRS	ON 030	3 DISCO	NNECT ARE	COMPLET	E							
						TAGGED AND	RELEACE	D LAM SIGNED O	N HOLD#35 HOLD	DING IT TH					
1.53P	HOLD #25 IS IN PLACE ON 0303 DISCONNECT AND 125V PTS  HOLD#24 ON 307 AND 309 BUS DISCONNECTS AND 125PT'S UNTAGGED AND RELEASED I AM SIGNED ON HOLD#25 HOLDING IT TIL														
	I HOLD#24 ON 307 AND 309 BUS DISCONNECTS AND 125PT'S UNTAGGED AND RELEASED I AM SIGNED ON HOLD#25 HOLDING IT TIL OUTAGE IS COMPLETE														
2:22P		LLED BACKTO	OLD HIM V	VE ALR	EADY H	AVE COVERA	AGE								
	OUTAGE IS COMPLET  M JASON GOODMAN CA	LLED BACKTO						N TRAIN ON PROB	ABLE UNIT STAR	TUP ON C1					
	OUTAGE IS COMPLET  M JASON GOODMAN CA  M ROBERT CARMEN CA	ROBERT CARMEN CALLED BACKTOLD HIM WE ALREADY HAVE COVERAGE INFORMED FRED TO COME IT AT 11:00AM TIL 11:00PM INSTEAD OF 7A-7P SO HE CAN TRAIN ON PROBABLE UNIT START UP ON C1													
	OUTAGE IS COMPLET  M JASON GOODMAN CA M ROBERT CARMEN CA M INFORMED FRED TO	OME IT AT 11:0		E OF C	2 4440	ENT TEMPO	DRODDIN	C TO 10 DECDEES T	CONICHT						
	OUTAGE IS COMPLET  M JASON GOODMAN CA  M ROBERT CARMEN CA	COME IT AT 11:0 ITANS REQUEST				TO FILL HYDR			UNIGHT						



V.Rameey, B. Johnson, R.Payine G. Thitt, S.Emberton, B. Hunt, G. Calhoum Unit Unit Load OUTAGE 1 OUTAGE 2 1558 29, 9 0.040 5.05 9,74 0.17 138N W/O GAS 3 165 37.1 0.039 5.25 9,53 0.06 158N W/O GAS 5.00 FOD Nov 0.3 FOD Removal 1/4 98,5 AMILL AIRPS 95 COLD, S. DETO, Third International Color of Service Nove 1 Provided Prov		V Ramsey R Johnson	HERE "A" SHIFT	t S Emb	arton D	Hunt '	Calhaur			
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FGD Removal %			165	37.1	0.039	5.25	9.53	0.06	155N W/O GAS	
3 MILL AMPS 3 B MILL AMPS 3 B MILL AMPS 3 B MILL AMPS 5 COND, STOR, THK 23/24 Instr. Art Dew Point 5 COND, STOR, THK 23/24 Instr. Art Dew Point 7-4.9PM Sootblowing #1 SIB Out of Service NONE #2 SIB Out of Service NONE #2 SIB Out of Service NONE #2 SIB Out of Service NONE #3 SIB Out of Service NONE HAS-NTAS NO THREATS			0.3							
SB MILL AMPS		FGD Removal %	98.5							
COND. STOR. THK		3A MILL AMPS	94							
Instr. Air Dew Point		3B MILL AMPS	95							
Instr. Air Dew Point		COND. STOR. TNK	23/24							
# SIS Dut of Service NONE #2 SIB Out of Service NONE #2 SIB Out of Service NONE #3 SIB Out Out Service NONE *3 SIB Out SIB Out SI										
## \$18 Out of Service NONE #\$3 SIB Out of Service NONE #\$3 SIB Out of Service NONE HAS-NTAS NO THRATS  7:15PM DWAYNE LINER CALLED IN SICK A&T FILLED OUT 7:40PM DEWATERING ON A BELT 8:00PM ABSCREER CHLORIDES 6000 0.00PM \$-HID TOWN ILMESTONE MILL 2:00AM TITAN HAS TUBE LEAKS REPAIRED 3:00PM ABSCREER CHLORIDES 6000 0.00AM BACKWASHING #\$2 SEATS SIDE CONDENSER 9:15AM BACKWASHING #\$2 WEST SIDE CONDENSER 9:15AM BACKWASHING #\$2 WEST SIDE CONDENSER 9:15AM BACKWASHING #\$2 WEST SIDE CONDENSER 9:00AM SI-MARCH PROWNER OF THE WEST SIDE CONDENSER 9:00AM SI-MARCH PROWNER SIDE CONDENSER 9:00AM SI-MARCH PROWNER SIDE CONDENSER 9:00AM SI-MARCH PROWNER SIDE CONDENSER 9:00AM SIDE SIDE CONDENSER 9:00AM SI-MARCH PROWNER SIDE CONDENSER 9:00AM SIDE SIDE SIDE SIDE SIDE SIDE SIDE SIDE			-70.0							
#2 S/B Out of Service NONE #3 S/B Out of Service NONE HASNTAS NO THREATS  7.15PM. DWAYNE LINER CALLED IN SICK A&T FILLED OUT  7.40PM. DEWATERING ON A BELT SOME SOME SERVICE STATE OF SOME SERVICE STATE S			NONE					-		
#3 SIB Out of Service NONE HAS-NTAS NO THRATS 7.15PM DWAYNE LINER CALLED IN SICK A&T FILLED OUT 7.40PM DEWATERING ON A BELT 8.00PM ABSCRBER CHLORIDES 6000 0.00PM SHUT DOWN LIMESTORE MILL 2.00AM TITAN HAS TUBE LEAKS REPAIRED 3.15AM BACKWASHING #2 STATS TIBLE CONDENSER 3.15AM BACKWASHING #2 STATS TIBLE CONDENSER 8.15AM BACKWASHING #2 STATS TIBLE CONDENSER 8.15AM BACKWASHING #2 LEAST SIDE CONDENSER 8.00AM #1 HAS BEEN SET TO HYDRO AND PLUL VAC. 9.10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 9.10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 9.10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 9.10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 9.10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 9.10AM #2 SHIFT (SHAVER) HERE "B" SHIFT (DOOLEY) LEAVING 1. LPIPLO, Haynes, F. Gray, D.LInerSL, W. Mills, L. Smith, R. Jones, D. Sebastian All Here. J. J.Miller, D. Mills, S. Kurz covering 1. LPIPLO, Haynes, F. Gray, D.LInerSL, W. Mills, L. Smith, R. Jones, D. Sebastian All Here. J. J. Miller, D. Mills, S. Kurz covering 1. LPIPLO, HAYNES, F. GRAY, D.LINES, W. MILL S. M								-		
### HAS-NTAS NO THREATS  ### T-40PM DEWATERING ON A BELT  ### T-40PM DEWATERING  ### T										
7:15PM DWAYNE LINER CALLED IN SICK A&T FILLED OUT 7:40PM DEWATERING ON A BELT 8:00PM ABSORBER CHLORIDES 6000 0.00PM SHUT DOWN LIMESTONE MILL 2:00AM TITAN HAS TUBE LEAKS REPAIRED 3:00AM BACKWASHING #2 WEST SIDE CONDENSER 3:15AM BACKWASHING #3 WEST SIDE CONDENSER 8:15AM BACKWASHING #3 WEST SIDE CONDENSER 1:00AM #1 HAS BEEN SET TO HYDRO AND PULL VAC. 5:10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 5:15AM SHUT DOWN DEWATERING 5:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL LPIRO, D. Haynes, F. Gray, D. LinerSt, W. Millis, L. Smith, R. Jones, D. Sebastian All Here J. Miller, D. Mills, S. Kurz covering Unit Load Opacity Nox SQ2 CBD PH Silica Capability 1 OFF 2 1 154 27.0 0.34 4.65 9.80 0.168 138 N w/o Gas 3 165 44.0 0.32 4.37 9.70 0.058 155 N w/o Gas FGD Nox 0.34 FGD Romoval % 98 3.4 Mill Amps 93.7 3.8 Mill Amps 93.7 3.8 Mill Amps 93.1 COND. STOR. TINK 19/19 Instr. Air Dew Point 7-6 Sootblowing #1 S/B Out of Service NONE #3 S/B Out of Ser										
27-40PM   DEVNATERING ON A BELT		HASNTAS	NO THREATS							
27-40PM   DEVNATERING ON A BELT										
27-40PM   DEVNATERING ON A BELT	7:15PM	DWAYNE LINER CALLED	IN SICK A&T F	ILLED O	JT					
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COOPM   SHUT DOWN LIMESTONE MILL							1	1		
TITAN HAS TUBE LEAKS REPAIRED										
3:05AM BACKWASHING #2 WEST SIDE CONDENSER 3:15AM BACKWASHING #2 WEST SIDE CONDENSER 4:00AM BACKWASHING #3 WEST SIDE CONDENSER 4:00AM BACKWASHING #3 WEST SIDE CONDENSER 4:00AM BACKWASHING #3 WEST SIDE CONDENSER 4:00AM #1 HAS BEEN SET TO HYDRO AND PULL VAC. 5:15AM #2 AST SIDE CONDENSER 4:00AM #1 HAS BEEN SET TO HYDRO AND PULL VAC. 5:15AM #2 AST SIDE CONDENSER 8:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL 7:00AM "A" SHIFT (SHAVER) HERE "B" SHIFT (DOOLEY) LEAVING  LPIIe, D. Haynes, F. Gray, D. LinerSL, W. Mills, L. Smith, R. Jones, D. Sebastian All Here J. Miller, D. Mills, S. Kurz covering  Unit										
3:15AM HEATING UP #1 LUBE OIL 1:00AM BACKWASHING #2 WEST SIDE CONDENSER 4:00AM #1 AS BEEN SET TO HYDRO AND PULL VAC. 5:10AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 5:15AM SHUT DOWN DEWATERING 3:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL 7:00AM #1 AS BEEN SET TO HYDRO AND PULL VAC. 5:15AM SHUT DOWN DEWATERING 3:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL 7:00AM #1 AS BEEN SET TO HYDRO AND BOILER FILL 7:00AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 5:15AM SHUT DOWN DEWATERING 3:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL 7:00AM #2 & #3 CONDENSERS ARE BACK TO NORMAL 5:15AM SHUT DOWN DEWATERING 3:30AM FILLING #1 SHIFT (DOOLEY) LEAVING LPIIE, D. Haynes, F. Gray, D. Liner'SL, W. MIIIS, L. Smith, R. Jones, D. Sebastian All Here J. Miller, D. Mills, S. Kurz covering Unit Load Opacity Nov SO2 CBD PH Silica Capability 1 OFF 1 OFF 2 154 27.0 0.34 4.55 9.80 0.168 138 N w/o Gas 2 154 27.0 0.34 4.55 9.80 0.168 138 N w/o Gas 3 165 44.0 0.32 4.37 9.70 0.058 155 N w/o Gas 4 FGD Removal *9 8 3 AMIII Amps 93.7 3 BMIII Amps 93.7 3 BMIII Amps 93.7 3 BMIII Amps 93.1 COND. STOR. TNK 19/19 Instr. Air Dew Point -76 SOOtblowing #1 S/B Out of Service NONE #2 S/B Out of Service NONE #2 S/B Out of Service NONE #2 S/B Out of Service NONE #3 S/B Out of Service NONE #3 S/B Out of Service NONE #3 S/B Out of Service NONE #4 S/B Out of Service NONE #5 S/B AND SETVICE CLEANING ECON HOPPERS NOTE NORTH TO THE NORTH THE NORTH THE NORTH THE YEEKENDAST FORMS ARE FILLED OUT *5 S/B AND SETVICE CLEANING ECON				CED				1		
MEATING UP #1 LUBE OIL						-	-		-	
## A00AM BACKWASHING #2 WEST SIDE CONDENSER ## A00AM BACKWASHING #2 EAST SIDE CONDENSER ## A00AM #1 HAS BEEN SET TO HYDRO AND PULL VAC. ## 1 HAS BEEN SET TO HYDRO AND PULL VAC. ## 1 HAS BEEN SET TO HYDRO AND PULL VAC. ## 1 HAS BEEN SET TO HYDRO MITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## A00AM #1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL ## B0 Out of Service NONE ## SIB OUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SIB OUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## SAM WITH SLOW BOILER FILL ## B0 BUT OF SERVICE NONE ## B0 BUT OF SERVICE ## B0 BUT OF SERVICE NONE ## B0 BUT OF SERVICE ## B0 BUT OF SERVIC				SEK	-		-	-		
## AGOAM ## 1 HAS BEEN SET TO HYDRO AND PULL VAC.  \$10AM ## 2 & #\$ CONDENSERS ARE BACK TO NORMAL  \$15AM ## 2 & #\$ CONDENSERS ARE BACK TO NORMAL  \$15AM \$1UT DOWN DEWATERING  \$10AM ## 1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL  ## TUTOWN DEWATERING  \$10AM ## 1 HAS BEEN SET TO HYDRO WITH SLOW BOILER FILL  ## TUTOWN DEWATERING  #										
#1 HAS BEEN SET TO HYDRO AND PULL VAC. #2 & #3 CONDENSERS ARE BACK TO NORMAL  5:150AM #2 & #3 CONDENSERS ARE BACK TO NORMAL  5:150AM SHUT DOWN DEWATERING  6:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL  7:00AM "A" SHIFT (SHAVER) HERE "B" SHIFT (DOOLEY) LEAVING  LPIIE, D.Haynes, F. Gray, D.LinerSL, W.Millis, L. Smith, R. Jones, D. Sebastian All Here J.Miller, D. Millis, S. Kurz covering  Unit										
#2 & #3 CONDENSERS ARE BACK TO NORMAL  SHUTDOWN DEWATERING  B:30AM FILLING #1 FOR HYDRO WITH SLOW BOILER FILL  7:00AM "A" SHIFT (SHAVER) HERE "B" SHIFT (DOOLEY) LEAVING  LPIIe,D.Haynes,F. Gray,D.LinerSL,W.Millis,L.Smith,R.Jones,D.Sebastian All HereJ.Miller,D.Millis,S.Kurz covering  Unit Load Opacity Nox SO2 CBD PH Silica Capability  1 OFF 150 N w/o Gas  2 154 27.0 0.34 4.65 9.80 0.168 138 N w/o Gas  3 165 44.0 0.32 4.37 9.70 0.058 155 N w/o Gas  FGD Nox 0.34  FGD Removal % 98  33 Mill Amps 93.7  38 Mill Amps 93.1  COND. STOR. TNK 19/19  Instr. Air Dew Point -76  Sootblowing #1 S/B Out of Service NONE #2 S/B Out of Service NONE #3 S/B Out of Service NONE HASNTAS NO THREATS  3:30AM STARTED FILLING C1 WITH SLOW BOILER FILL S45AM FRED WORKING 11:00A TO 11:00P TODAY FOR START UP TRAINING  3:21AM HYDRO C1 BOILER FOR FIRE S55AM TITAN STARTING ON CLOSING DOORS WE WILL DO AN AIR TEST WHEN THEY GET DONE  1:50PM SETTING BOILER TO FIRE S55AM TITAN STARTING ON CLOSING DOORS WE WILL DO AN AIR TEST WHEN THEY GET DONE  1:50PM BICK MOORMAN CALLED IN FOR FIT THROUGH THE WEEKENDA&T FORMS ARE FILLED OUT BRUCE AND CO CLOOKING AT C1 GAUGE GLASS FOR US DOESN'T LOOK QUITE RITE  2:15PM GAUGE GLASS WAS FROZE I WENT UP AND THAVWED IT OUT WITH AUX AND UTILITY  3:20PM FIRE ESTABLISHED IN C1 BOILERSHOTTLING NOT FITED  3:20PM FIRE ESTABLISHED IN C1 BOILERSHOTTLING NOT FITED  3:21PM GAUGE GLASS WAS FROZE I WENT UP AND THAVWED IT OUT WITH AUX AND UTILITY  3:22PM BACK FROM SWITCHYARD HOLD #25 HAS BEEN RELEASED AND IS READY FOR SERVICE										
SHUT DOWN DEWATERING	4:00AM	#1 HAS BEEN SET TO HY	DRO AND PULL	VAC.						
FILLING #1 FOR HYDRO WITH SLOW BOILER FILL	5:10AM	#2 & #3 CONDENSERS A	RE BACK TO NO	RMAL						
FILLING #1 FOR HYDRO WITH SLOW BOILER FILL										
COMM				I FR FILL				1		
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Section   Sect				27.0	0.34	4.65	9.80	0.168		
FGD Nox 0.34 FGD Removal % 98 3A Mill Amps 93.7 3B Mill Amps 93.1 COND. STOR. TNK 19/19 Instr. Air Dew Point -76 Sootblowing ## S/B Out of Service NONE #2 S/B Out of Service NONE #3 S/B Out of Service NONE #3 S/B Out of Service NONE HASNTAS NO THREATS  3:30AM STARTED FILLING C1 WITH SLOW BOILER FILL  3:45AM FRED WORKING 11:00A TO 11:00P TODAY FOR START UP TRAINING  7:00AM TAGGING C1 SEAL OIL HEATER  8:21AM HYDRO C1 BOILER  8:245AM SETTING BOILER TO FIRE  8:25AM SETTING BOILER TO FIRE  9:25AM STARTED FILLING C1 COSING DOORS WE WILL DO AN AIR TEST WHEN THEY GET DONE  10:00AM LES AND STEVE CLEANING ECON HOPPERS  NOTE PICKING TAGS AS THEY ARE RELEASED NICE AND STEVE CLEANING ECON HOPPERS  NOTE PICKING TAGS AS THEY ARE RELEASED NICE AND CO LOOKING AT C1 GAUGE GLASS FOR US DOESN'T LOOK QUITE RITE  2:15PM GAUGE GLASS WAS FROZE I WENT UP AND THAVED IT OUT WITH AUX AND UTILITY  8:20PM FIRE ESTABLISHED IN C1 BOILERHOTLINE NOTIFIED  8:20PM STILL WAITING ON JEFF FULKERSON AND 1B CWP BREAKER NOTE WE ARE OUT OF PROPANE CYLINDERS DEREK MILLS GONE TO SOUTHERN STATES TO GET SOME  8:25PM BACK FROM SWITCHYARD HOLD #25 HAS BEEN RELEASED AND IS READY FOR SERVICE										
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	7 DOPM D SHIFT (STERLING)	HERE A SHIFT	(SHAVE	R) LEAV	ING	]	Γ	Τ	T —	] -	1
	V Ramsey, B Johnson,	R.Payne G Tivit	t, S Emb	erton, B	Hunt, C	Calhoun !	Gray trail	ning	Ť T	1	
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability			
	1	OUTAGE	[	7		1	Ţ	i	Ī		- 1
	2	155	28 4	0 035	4.62	9 86	0 16	138N W/O GAS	Ī	·	- ;
	, 3	166	43.5	0 038	4.81	9 53	0 06	155N W/O GAS			•
	FGD Nox	03							Ī	1	1
	FGD Removal %	98 3	į			!	1		[	ŢŢ	_ [
	3A MILL AMPS	93	L				1				- 7
	3B MLL AMPS	93	' <del></del>								
	COND STOR, TNK	23/24	•			ļ	[	1	1		
	Instr Air Dew Point	75.2				!	}	1	ł	1	
	Sootblowing		1			į	]	] _	+	]	-1
	#1 S/B Out of Service	NONE			-	Į.	Į	<u></u>	1	ļ	7
_	#2 S/B Out of Service	NONE			1	i	1		1	I.	_
	#3 S/B Out of Service	NONE	1		ı	1	1	T -	1	4 -	,
	HAS NTAS	NO THREATS				!	<u> </u>	· <del></del>		1 <del>1</del>	
<del></del>	S CODE ADSCRIPTION OF COURSE		<u> </u>			<u> </u>				· <del></del>	
	8 00PM ABSORBER CHLORIDES					VAC DAY	FRIDAY 1	25-13		1	+
	11 00PM #1 POWER RELIEF FRO						ŀ	' -	4	į	
410510040	11 30PM #1 POWER RELIEF UNTI				r	i	}	r	ļ	Ļ	
1/25/2013		K PKESS ON UNI	I #1 BUI	LER		1	1		}	ŀ	
	1 25AM FIRES OUT OF UNIT#1	ODENED DECL	1	30 AND 1	010 000	 	i Nede abe	L	1	+	-
	2 00AM BOTTLED UP #1 BOILER 2 49AM FIRE BACK IN #1 BOILE		AG DOOR	Ø WND I	SIG RUC	M DOOR I	HEKE AKE	NO SIGNS OF A TUB	E LEAK.	+	1
	3 45AM PULLING VAC ON #1						1	_	<del> </del>	l I	
	4 24AM ROLLING #1 TURBINE	#1 BOOSTER F	AN UN			+	1	·	ļ		
	4 59AM   UNIT #1 TIED ONLINE (	ALLED HOTH INC				,	1		<del></del>		
	_ 4 59AW   COLEMAN #1 TRIPPED (	WITED LOTTINE	L DETM	ELOW		t	- <b>[</b>	<b>-</b>	<del> </del>		
	5 20AM MIKE MILLAY SICK A&T		ן היסושו	FLOVY	<del></del> -	4.			-		
	5 23AM FIRE BACK IN UNIT #1		<u>-</u>	_	+	<b>+</b> -	1				•
	6 22AM TIED #1 ONLINE	CATTED LOIDIÑ	<b>∓</b> −		+ -	4	÷		<del> </del> -		- +
	0 ZZZAWI IIED #1 CNUME	_	. –	-				_	L	L	١





#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

### Initial failure at hot reheat

Plant: Coleman Unit: 1
Type of Leak: (Check One)
Pin Hole 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 Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other Coal ash corrosion



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## Forced Outage Report

Type of Repair: (Check One)

Elevation 209'-6"

Dutchman X (Length of Dutchman ~ 4')
Pad Weld
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Tube Size OD <u>2.250"</u> Wall Thickness <u>0.150"</u> Tube Material <u>SA213 T22</u>
Welding Rod Used 9018 B3L
Welded By:
Exact Location of Leak: Be Specific

Titan replaced two R/H tubes and two partition wall tubes in the 28<sup>th</sup> bank from east wall at elevation 211'. They also replaced two R/H tubes and pad welded two partition wall tubes in 29<sup>th</sup> bank from east wall at elevation 211'.



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#### **Pictures**



























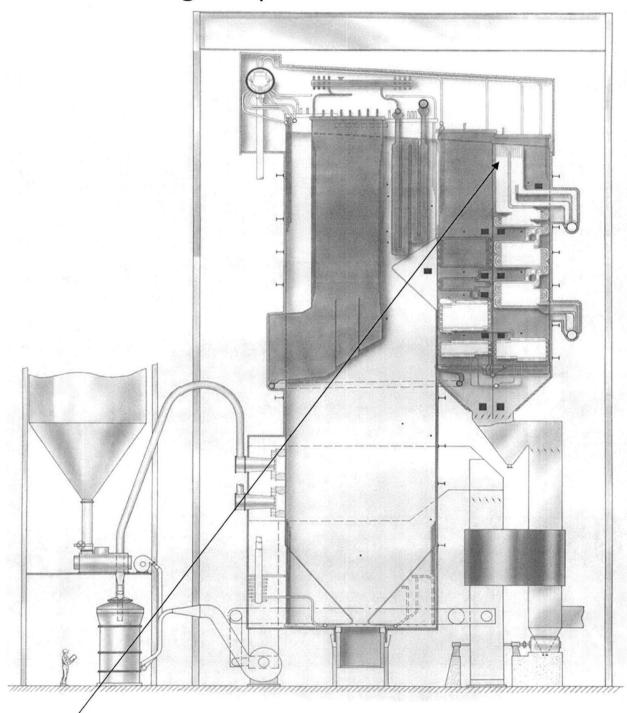










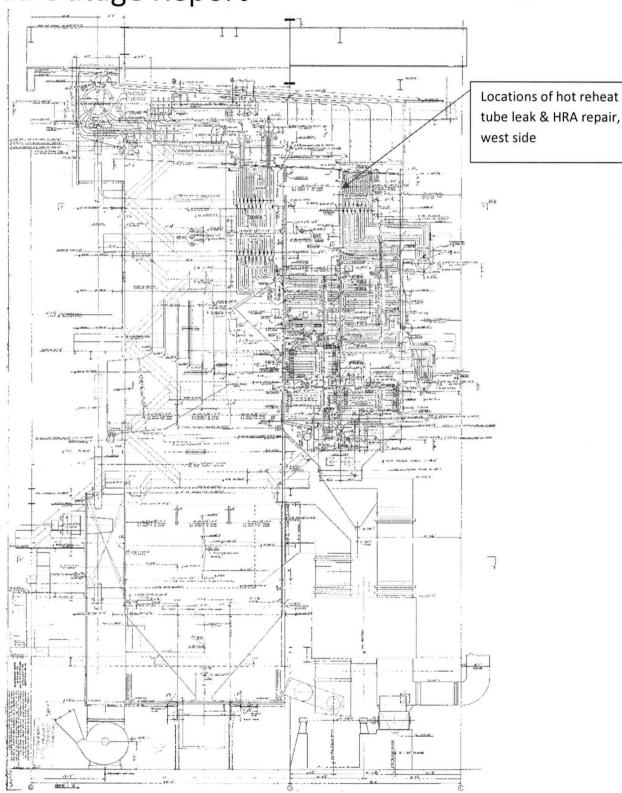


Tube Leak Here: Titan replaced two R/H tubes and two partition wall tubes in the 28th bank from the east wall (near side) at elevation 211'. They also replaced two R/H tubes and pad welded two partition wall tubes in 29th bank from east wall at elevation 211'.













#### Your Touchstone Energy Cooperative

#### **Lost Sales Opportunity Report**

						OST ANA			
	IVIISO	DAKIK	ev	enue anu i		SI UPPUR	CIUNIII		
Unit	Cole	man 1 - C1-	13-0	3 & C1-13-04			Produc	tion C	ost
Date & Time Off Line	1/2	22/13 23:15	& 1	/25/13 5:10			MW		\$/MW
Date & Time On Line	1/	25/13 4:59 8	<u>k</u> 1/2	25/13 6:22			73	\$	29.62
Outage Duration	53	hr. 44 min	& 1	hr. 12 min.		***	95	\$	28.34
Outage Code		UO2 w/ S	SF 8	UO1			150	\$	26.99
Outage Reason	declar tempe	artition wall. red when un	Star able t trip	to build steam ped after start					
Date	DA LN	/IP Average	RT	LMP Average		DART P&L	Lost Opportunity		
1/22/13 (HE 23-24)	\$	29.98	\$	29.47	\$	(339)	\$ -		
1/23/13 (HE 1-24)	\$	33.56	\$	28.16	\$	(4,451)	\$ -		
1/24/13 (HE 1-24)	\$	32.99	\$	29.63	\$	-	\$ (21,584)		
1/25/13 (HE 1-15)	\$	30.96	\$	25.33	\$	2,626	\$ -		
Total					\$	(2,164)	\$ (21,584)		
Start Up Fu	el Cost						Total Forced	Outa	ge Cost
S/U Fuel Consumed		1,522					DART P&L	\$	(2,164
S/U Fuel Price	\$	4.70					Lost Opportunity	\$	(21,584
S/U Fuel Cost	\$	(7,154)					S/U Fuel Cost	\$	(7,154
							Total	\$	(30,902
NOTES:	nev out	of nocket			_				
All negative values are mo DART Revenue is calculat			204.	an the DA ave	d	and DT avanta			





To:

**Bob Berry** 

From: Daryl Chinn

Date: 24-Jan-2013

Plant: Coleman

Unit: 2

GADS Class: UO3

Duration

Trip Time: 5-Jan-2013 23:09

Tie Time: 8-Jan-2013 19:48

Total Time Offline: 68:39

#### **Outage Description**

Coleman Unit 2 was removed from service in a controlled manner on Saturday, 5-Jan-2013 at 23:09 and returned to service on Tuesday 8-Jan-2013 at 19:48 for duration of 68:39 against an initial target of 72:00. This was an unplanned event, and as such is classified as a Class I (UO3) forced outage. The unit was removed from service due to extensive slag build up in the superheater and the convection pass, as well as the need to wash the air heaters. During the hydro-static test of the boiler a tube leak was discovered on the south waterwall at elevation 184', the 57th tube from east wall, near an inspection port. The area surrounding the leak was excavated and Titan welders applied a base metal weld repair.

#### **Root Cause**

The slag accumulation was most likely caused by the mixture of reclaimed coal that was burned in the last week. Slag carry-over to the convection pass required cleaning the back pass of the boiler.

#### Failure History

19/Mar-2011

The unit was removed from service to de-slag the secondary superheater.

48:08





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### Forced Outage Report

#### **Corrective Action**

Opened and inspected all four pulverizers and disassembled and inspected #5 burner seeking the reason for excessive slag formation. No mechanical cause for excessive slagging was determined.

#### **SOE Print Out**

N/A

#### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance Tasks**

6071462 Inspected all four mills. Checked and stroked classifiers. Re-shimmed tensioners. Changed oil in all rolls.

6084434 Replaced 90 degree elbow on aspirating air line near A6 sootblower.

6086194 Installed 4" valves on inlet and outlet ducts to APHs for carbon injection testing.

6086918 Welded large patch on east side of pyrite box on C mill.

6087106 Welded up port on side of B1 sootblower. This blower is no longer being used.

6086770 Replaced 45 degree elbow on #2 heater vent line.

6087114 Weld repaired gas leaks around expansion joints on APHs.

6080329 Visually inspected APH seals. Normal wear visible. No missing or damaged seals.

6085046 Removed and installed W/B hopper overflow lines for cleaning and to repair leak on west pipe.

6086920 Welded plate inside #6 APH hopper to repair gas leak.

6087670 Replaced lance and feed tube on 2.5R sootblower.



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## Forced Outage Report

- 6086919 Replaced 90 degree elbow on APH header.
- 6087110 Repacked intermediate S/H drain root valve.
- 6082257 Replaced root and isolation valves on secondary S/H outlet header drain.
- 6082606 West W/B slope jet nozzles were cleaned by Ops dept.
- 6085324 Replaced adapter bowl on #1 economizer hopper.
- 6087586 Replaced 45 degree elbow on economizer header above A FD Fan.
- 6087107 Replaced isolation valve on secondary S/H vent line.
- 6087674 Disassembled #5 burner for inspection. Replaced impeller and distribution cone.
- 6087682 Replaced complete dust valve assembly on #12 precip hopper.
- 6054729 Installed new S/B regulator.
- 6087691 Replaced L/S governor valve actuator.
- 6087672 A tube leak was discovered on boiler hydro on south waterwall at elevation 184', 57<sup>th</sup> tube from east wall, near inspection port. Ground out and weld repaired.

#### **Electrical and Instrument Maintenance Tasks**

- 6087673- Cleaned all igniter and main flame scanners.
- 6083726- Performed calibration on A, B, C, and D stock feeders.
- 6081771- Performed drum level trip checks.
- 6087676- Blew back secondary air flow transmitters taps and sensing lines.
- 6087677- Cleaned furnace pressure taps and sensing lines.
- 6052539- Replaced display board on "D" stock feeder.



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6082469- Installed wells and thermometers in B & C mill speed reducers.

6087679- Stroked all PA fan dampers, FD fan dampers, and Feedwater regulators. Replaced solenoid valve on D PA fan shut-off damper.

6087680- Stroked air registers and OFA dampers. Recorded measurements on air registers.

6087678- Blew back mill taps and sensing lines.

6054729- Installed new sootblowing regulator, positioner, wired up, programmed, tested and verified proper operation.

6027795- Calibrated feedwater flow, east and west secondary air flow, and tempering air flow transmitters.

6087675- Misc. Instrumentation outage tasks: Removed instrumentation from #5 burner and reinstalled after M/M replaced the spinner. Assisted IT with turbine over speed test, Replaced igniter rod on #1 burner and replaced igniter spark plug on #3 burner.

6087671- Stroked and calibrated turbine valves. Removed LVDT from left governor valve and reinstalled after M/M replaced cylinder.

6087689- Replaced stall probe on #2 booster fan.

6087690- Booster fan misc. outage tasks i.e. rodding out and blowing back the taps, sensing lines and halo's.

6090157- Performed internal inspection on precipitators, found nothing abnormal. Wiped down HV bushings in penthouse. Air tested T/R's and all looked good.

6090159- A, B, C & D PA Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6090159- A, B, C, & D Mill Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6090160- Wired Titan's 4 pack welders, unwired when Titan was completed.



#### Your Touchstone Energy" Cooperative

### Operators Event Log

		( and a second s												
1/5/2013		M STARTING DOWN WITH UNIT #2 TAKING COAL OFF FEEDERS. M RAN UNIT #3 EMERGENCY SEAL OIL AND LUBE OIL PUMP TEST. PAPERWORK TURNED IN.												
									IN.					
		DEREK MILLS CALLED B		E IN TON	MOROV	N FOR C	DUTAGE SUF	PPORT.						
		COLEMAN UNIT #2 OFFLI	NE											
		#2 TURBINE ON GEAR.												
1/6/2013		UNIT #2 HEATERS ARE D												
	12:00AM	1A MILL FEEDER IS PLUC	GGED TAKING C	OFF TO C	CLEAN	DUT.								
	2:00AM	1A MILL BACK ON												
	2:23AM	#2 GEN.HOLD # 007 FOR	0403 GEN DISC.	AND PT	rs.									
	2:30AM	#2 GAS VALVE IS REDTA	GGED FOR TITA	N TO IN	STALL B	BLANK.								
	2:30AM	#2 BOOSTER FAN IS RED	TAGGED											
	2:30AM	UNIT #2 2.5L SOOTBLOW	VER IS REDTAGO	GED TO	CHANGE	E LANCE								
	2:30AM	PEAKED #3 MILLS RECO	RDED DATA.											
	3:15AM	TITAN HAS #2 GAS VLV.	BLANKED											
	3:15AM	#2 F.D.FANS OFF OPENII	NG BOILER DOO	RS.										
	3:20AM	#2 BOILER ENTRY IS REA	ADY											
	3:25AM	TESTING UNIT #1 TURBIN	IE VALVES											
	4:30AM	INLAND HERE RIGGING T	O DESLAG AND	WALKIN	NG TAGS	S.								
	5:00AM	EXPRO ON SITE												
	6:00AM	ALL UNIT #2 MILLS ARE F	REDTAGGED AN	D BUNKE	ER GATE	E TO CA	LIBRATE FE	EDERS.						
	6:15AM	BLAKE HUNT TAKING PE	RSONAL DAY TO	NIGHT.	DESLA	AGGING :	#2 BOILER							
	7:00AM	"A" SHIFT (SHAVER) HE	RE "D" SHIFT (S	TERLIN	G) LEA	VING								
		L.Pile, D.Haynes, D.Liner					Sebastian.Al	LL HEREI	M.Christian, D.Mills here					
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability					
		1	157	19.9	0.41	5.09	9.80	0.29	150 N w/o Gas					
		2	OFF						138 N w/o Gas					
		3	165	33.0	0.38	4.52	9.80	0.051	155 N w/o Gas					
		FGD Nox	0.4											
		FGD Removal %	98											
		3A Mill Amps	88.7											
		3B Mill Amps	91.4											
		COND. STOR. TNK	22/22											
		Instr. Air Dew Point	-78											
		Sootblowing												
		#1 S/B Out of Service	NONE											
		#2 S/B Out of Service	2.5L											
		#3 S/B Out of Service	NONE											
		HASNTAS	NO THREATS											
	8:30AM	HOTWELL LOW LEVEL A	LARM WILL NOT	CLEAR	ON C1.	WO# 6	087684 ISSU	JED						
	8:35AM	1B MILL GEARBOX VENT	LINE IS PLUGGI	ED BLOV	NING O	IL OUT	WO# 60876	85 ISSUED						
	NOTE	BLAKE HUNT REQUESTE	D PD FOR TONK	SHT WIL	L CALL	THROUG	SH FOR COV	'ERAGE						
	8:54AM	CALLED MIKE LEELEFT	MESSAGE											
	8:57AM	CALLED STEVE KURZ.LE	EFT MESSAGE											
	9:00AM	CALLED JASON GOODM	AN LEFT MESSA	GE										
	9:02AM	CALLED MELVIN YOUNG	LEFT MESSAGE											
		CALLED MELVIN YOUNG LEFT MESSAGE CALLED WAYNE MILLS LEFT MESSAGE												



		2ND CALL TO MIKE LEE.								
	10:33AM	2ND CALL TO STEVE KUR	RZLEFT MESS	AGE						
	10:37AM	STEVE KURZ CALLED B	ACK HE WILL C	OME IN						
	11:00AM	JEFF AND LES ARE GOIN	NG TO THE ARP							
	11:25AM	DEREK MILLS AND RALP	HARE OPENING	DOORS	FOR TH	E AH W	ASHCOM	PLETED		
		RUNNING A & B WELL PL								
	2:12PM	DOOR ON WEST SIDE OF	C2 DOGHOUSE	LOWER	HINGE	IS BROK	ENWO#	6087697 IS	SUED	
	2:35PM	VALVING IN STEAM FROM	M C1 COILS TO	C2 COILS	COM	PLETED				
		WORKING ON PULLING O								
	1	WELL PUMPS OFF LAB		731 12141	DEOLAC					
		STARTED AH WASH ON								
	O. TOPIVI	STARTED AR WASH ON	52	-						
	7:00DM	"D" CHIET (CTEDI INC) L	EDE "A" CUIET	CHAVE	D)   FA)	INC				
	7.00PW	"D" SHIFT (STERLING) H		•						
		V.RamseyVAC, B.Johnso	The state of the s			1				
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability	
		1	140	11.9	0.033	4.98	9.49	0.73	120N W/O GAS	
		2	OUTAGE							
		3	165	47.2	0.037	4.28	9.81	0.50	155N W/O GAS	
		FGD Nox	0.037							
		FGD Removal %	98.2							
		3A MILL AMPS	90							
		3B MILL AMPS	92							
		COND. STOR. TNK	22/22							
		Instr. Air Dew Point	-79.4							
		Sootblowing	70.4							
		#1 S/B Out of Service	NONE							
		#2 S/B Out of Service	2.5L							
		#3 S/B Out of Service	NONE							
		HASNTAS	NO THREATS							
	7:00PM	1D MILL TRIPPED ON SE	AL AIR WILL NO	T START	TAKING	OFF TO	CLEAN OU	TCALLED	APM WE ARE GOOD F	OR 130NET
		INLAND WASHING UNIT #			., ., ., .,	011 10	022711100	OTTELLE	THE THE GOOD I	OTT TOOTIE T.
		#2 WETBOTTOM CLEAN		HI ORIDE	\$ 5900					
		#2 WETBOTTOM REDTAC		LOIGE	.0 0000					
		1D MILL BACK ON	JOED	1				<u> </u>		
7/2013		COAL HANDLING CLEAN	NG INTAKES							
112010		#1 & #2 D.C.LUBE OIL PL		ADERWA	DK TI ID	NED IN			-	
		BACKWASHING #2 COND		AI LINVO	ALC TOIL	NED IIV.				
	11.6.5.			INO COL	T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		ANOINO IO	05 14/47	ED DEDMIT	
		TITAN HAS LOCATED TUE						J. OF WAT	ER PERMIT.	
		#2 ISO. OF WATER PERM						25014		
		#2 WETBOTTOM SEAL PL		AND IN	4 BOCKE	HITALI	E UIILITY L	DESK.		
		#2 BOILER IS SET TO HY								
		INLAND SETTING UP TO			L.					
		B JEAN CALLED IN SICK								
		RAN #1 TURBINE OIL TRI			KNED IN					
		TITAN HAS UNIT #2 TUBE								
		2B CONDENSATE PUMP								
		2B BOILER FEED PUMP I		ND READ	Y.					
		#2 E.H.PUMPS ARE RED	Control of the Contro							
	5:55AM	THOMPSON INDUSTRIAL	IS ON SITE TO V	NASH DO	<b>DWN AB</b>	SORBER				



	S. HOWARD, A. MAYFIE		LING) LEA		D MILL	S P CAPM	AN D DAY	NE D TAIL I VE	NNEDV HED
	Unit	Load	Opacity		SO2	CBD PH	Silica		INNEUT, HERI
	1	160						Capability	
			26.3	0.35	5.11	9.70	0.250	150 N w/o Gas	
	2	OFF						138 N w/o Gas	
	3	165	41.1	0.31	4.25	9.90	0.065	155 N w/o Gas	
	FGD Nox	0.37	-						
	FGD Removal %	97.7%							
	3A Mill Amps	88.2							
	3B Mill Amps	91.4							
	COND. STOR. TNK	19/17	17						
	Instr. Air Dew Point	-81.4	-						
		-01.4							
	Sootblowing	NONE	-						
	\$1 S/B Out of Service	NONE							
	#2 S/B Out of Service	2.5L							
	#3 S/B Out of Service	NONE							
	HASNTAS	NO THREATS							
7:05AM	GETTING READY FOR HY	DRO WAITING	FOR INLA	ND HEAI	COUNT				
	HYDRO AND REHEAT VA						CK SH INL	ET DRAIN ROOT VA	LVE
	11/13 FLOP GATE TUNIN								
10:20AM	SETTING UP TO RUN HO	TWELL ON C3 M	IGHT HAV	E A LEA	K ?15	0 TO 170 TH	OUSANDS	DIFFERENCE BETV	VEEN FW AND
	FLOW								
10:52AM	ONLY LOST 6/10 ON C3 H	HOTWELL CHEC	K PLITE	VERYT	ING BA	CK TO NORM	MAI		
	3B WARM WATER RECI								
	LAB REPORTS CHLORID			O 0, E, .			,		
	C2 SH HAS BEEN DRAIN	The second secon	REPLACE	MENTA	ND PAC	KINGLEAK	REPAIRS		
	SETTING C-2 BOILER V					Turio LL ut			
0.00	C-2 AH WASH COMPLET		77	ADS					
				Carlotte Committee Committ	DOM C				
4:45PM	CALLED G. HVITT TO CO		STARTUR			)K			
	CALLED G. TIVITT TO CO			TOMOR	ROWC	K			
5:00PM	CALLED S. EMBERTON-	LEFT MESSAGE		TOMOR	ROVVC	K			
5:00PM 5:03PM	CALLED S. EMBERTON- CALLED B. HUNTLEFT	LEFT MESSAGE MESSAGE		TOMOR	ROVVC	K			
5:00PM 5:03PM 5:05PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUNL	LEFT MESSAGE MESSAGE EFT MESSAGE.				OK .			
5:00PM 5:03PM 5:05PM 5:06PM	CALLED S. EMBERTON- CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN				)K			
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM	CALLED S. EMBERTON CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN T MESSAGE	E. AL (3 TIM			)K			
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM	CALLED S. EMBERTON- CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN-	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN T MESSAGE LEFT MESSAGE	E. AL (3 TIM			)K			
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN-G. CALHOUN CALLED BA	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN T MESSAGE LEFT MESSAG ACKWILL BE IN	E. AL (3 TIM			)K			
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON- CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED BA D. SEBASTIAN CALLED	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN TT MESSAGE LEFT MESSAG ACKWILL BE IN BACK.	EL (3 TIM	ES CALI		K			
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED B/ D. SEBASTIAN CALLED "C"SHIFT (Gatton) HERI	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN ET MESSAGELEFT MESSAG ACKWILL BE IN BACK.	AL (3 TIM	ES CALI	ING)		Kurz Here		
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED BA D. SEBASTIAN CALLED BA TO SEBASTIAN C	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN ET MESSAGELEFT MESSAG ACKWILL BE IN BACK.	AL (3 TIME EN arley) LE	ES CALI AVING an , A.Li	ING)	/L, M.Lee, S.			
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5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUN-L CALLED L. SMITHGOT CALLED D. SEBASTIAN-G. CALHOUN CALLED B. D. SEBASTIAN CALLED B. C"C"SHIFT (Gatton) HERI K.Grantland , L.Shearn, M  Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN TI MESSAGELEFT MESSAGE ACKWILL BE IN BACK. E "B" SHIFT (H: L'young, W.Mills  Load 160 OUTAGE 165 0.36 98.1% 86 92 22/22	AL (3 TIM EEN Arley) LE J.Goodm Opacity 26.9	AVING Pan , A.Li Nox 0.35	ndsey S	/L, M.Lee, S. CBD PH 9.54	Silica 0.228	150 N w/o Gas 0 N w/o Gas	CLOSED OPEN
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5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUN-L CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED B. D. SEBASTIAN CALLED D. "C"SHIFT (Gatton) HERI K. Grantland , L. Shearn, M  Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	LEFT MESSAGE MESSAGE EFT MESSAGE EFT MESSAGE DISTRESS SIGN TT MESSAGELEFT MESSAGACKWILL BE IN BACK. LYoung, W.Mills  Load 160 OUTAGE 165 0.36 98.1% 86 92 22/22 -83.6 NONE	AL (3 TIM EEN Arley) LE J.Goodm Opacity 26.9	AVING Pan , A.Li Nox 0.35	ndsey S	/L, M.Lee, S. CBD PH 9.54	Silica 0.228	150 N w/o Gas 0 N w/o Gas	CLOSED OPEN
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUNL CALLED L. SMITHGOT I CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED B. D. SEBASTIAN CALLED B. TC"SHIFT (Gatton) HERI K. Grantland , L. Shearn, N  Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	LEFT MESSAGE MESSAGE EFT MESSAGE. DISTRESS SIGN TT MESSAGELEFT MESSAGACKWILL BE IN BACK. LYoung, W.Mills  Load 160 OUTAGE 165 0.36 98.1% 86 92 22/22 -83.6	AL (3 TIM EEN Arley) LE J.Goodm Opacity 26.9	AVING Pan , A.Li Nox 0.35	ndsey S	/L, M.Lee, S. CBD PH 9.54	Silica 0.228	150 N w/o Gas 0 N w/o Gas	CLOSED OPEN
5:00PM 5:03PM 5:05PM 5:06PM 5:07PM 5:10PM 5:35PM 5:45PM	CALLED S. EMBERTON-CALLED B. HUNTLEFT CALLED G. CALHOUN-L CALLED L. SMITHGOT CALLED R. JONESLEF CALLED D. SEBASTIAN- G. CALHOUN CALLED B. D. SEBASTIAN CALLED D. "C"SHIFT (Gatton) HERI K. Grantland , L. Shearn, M  Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	LEFT MESSAGE MESSAGE EFT MESSAGE EFT MESSAGE DISTRESS SIGN TT MESSAGELEFT MESSAGACKWILL BE IN BACK. LYoung, W.Mills  Load 160 OUTAGE 165 0.36 98.1% 86 92 22/22 -83.6 NONE	AL (3 TIM EEN Arley) LE J.Goodm Opacity 26.9	AVING Pan , A.Li Nox 0.35	ndsey S	/L, M.Lee, S. CBD PH 9.54	Silica 0.228	150 N w/o Gas 0 N w/o Gas	CLOSED OPEN





	19:30	ADDING 4 BARRELS OF	MILL BALLS TO	3A MILL E	BEFORE	AMPS 8	6 AFTER 93A	MPS			
		ADDING 2 BARRELS OF									
		C2 WETBOTTOM IS CLE							PLETE ANY NEEDE	D REPAIRS	
	NOTE:	CHECKED OUT 8 BARR	RELS OF 2" BA	LLS. PUT	6 BARR	RELS IN.	THERE IS 3	BARRELS	STAGGED OUTSID	E C3 FOR NE	XT TIM
		TOOK ALL EMPTY BAR								_ 00 / 0// //2	7.1 1110
	22:00	COMPLETED MONTHLY									
	22:05	INLAND RELEASED C2 A						RIVE			
	22:10	SETTING C2 INSIDE PRE	ELIGHT CHECK	LIST FOR F	FIRE						
	22:15	C1 MERLI ISN'T READIN	G CORRECT LE	VELMR#	6087802						
	22:45	C3 #26 SOOTBLOWER K	EEPS TRIPPING	ROTATIO	N OVER	LOADS	MR#608780	03			
	22:55	C1 SECONDARY AIR IS	170 KPPH - 190	KPPH DIFF	ERENC	E BETW	EEN EAST A	ND WEST.	MR#6087804		
1/8/2013	0:00	NO RAINFALL									
	1:05	COMPLETED MONTHLY	INVENTORY OF	SUPPLIES	3						
	2:40	WORKING ON C1 #1 EC	ONOMIZER								
	3:00	INLAND HAS FIN TUBES						ER HOPPER	RS		
	4:00	C2 WETBOTTOM IS CLE									
	4:20	MIKE HENDRICK CALLE	D IN SICKFILL	ED A&T FC	DRM SE	NT S. KE	NNEDY AN E	-MAIL			
	4:55	C2 ECONOMIZERS ARE			OMIZER	LEVEL (	GRATING NO	W			
	5:00	PLACING DESLAG PLUG									
	5:05	C2 WETBOTTOM IS COM	IPLETE UTILIT	TES ARE F	PLACING	WETS	EAL PLATES	BACK ON			
	7:00	"B" SHIFT (DOOLEY) HERE									
		S. HOWARD, A. MAYFIE CALHOUN HERE	LD, M. CHRISTI	AN, N. MO	ORMAN	I, D MILL	.S, R. CARM	AN, R. PAY	NE, D. TAUL, J. KE	NNEDY, G TI	/ITT, G
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	160	37.8	0.34	4.99	9.50	0.228	150 N w/o Gas	CLOSED	
		2	OUTAGE						0 N w/o Gas	OPEN	
		3	165	41.0	0.30	4.41	9.50	0.066	155 N w/o Gas	CLOSED	
		FGD Nox	0.34								
		FGD Removal %	97.3%								
		3A Mill Amps	90								
		3B Mill Amps	96								
		COND. STOR. TNK	23/22								
		Instr. Air Dew Point	-81.0								
		Sootblowing	02.0								
		#1 S/B Out of Service	NONE								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
			-								
	7.00	HASNTAS	NO THREATS								
	7:00	REQUESTED E/D CHECK									
	8:35	SWAPPING ABSORBER GRIMES AWARE			BE 10.	B. PROB	E - APPEAR	S TO HAVE	GOT WET FROM TI	HE WASH DO	WN - P
	8:41	COMPLETED FW HEATE		Debt Statement Statement and Statement							
	9:48	C1 ASH SLUICE PUMP (				- ON 1/9	2013 AT 10	:00 AM NEE	DS TO BE PUT BA	CK ON ARP	
		C2 BOILER SET FOR FIR									
		GAS FIRE IN C2 BOILER									
		ON C1 VALVED OUT #2 H				L DRAIN	REGULATO	R HAS LEA	K ON #2 HEATER SI	DE OF # 6087	962
		C2 TRIPPED ON HIGH DI			LINE						
		GAS FIRE BACK IN C2 B			D						
		LAB REPLACING "A" ABS									
		CLOSING PH FEED FOR									
	17:00	C2 - 4160 V BREAKER A DOOR MR# 6087965	KIVI LINKAGE BE	KOKE 2B M	IILL, 2A	FD FAN,	ZA BFP, 2B	FD FAN AN	ID 2C PA FAN NEED	S HOLE CUT	OUTC





Your Touchstone Energy Cooperative

19 00 C SHIFT (Gatton) HERE B SHIFT (Dooley) LEAVING
K Grantland L Shearn M Young W Mills J Goodman A Lindsey S/L M Lee S Kurz Here I

		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk. <sub>l</sub>
		1	160	26 4	0 35	5 01	9 52	0 222	150 N w/o Gas	CLOSED
_		<u> </u>	START UP	-			-		0 N w/o Gas	OPEN
		3	165	20 5	0 32	4 54	9 48	0 056	155 N w/o Gas	CLOSED
		FGD Nox	0 36	•						
		FGD_Removal %	97 8%	_			1			
		3A Mill Amps	90					ī		
	_	3B Mill Amps	96_							·
		COND STOR TNK	20/21							
		_ Instr_Air Dew Point	75 <u>5</u>				'			
		Sootblowing								
_	- —	#1 S/B Out of Service	NONE _	_						
		#2 S/B Out of Service	NONE							
_		#3 S/B Out of Service	NONE	+		_				
		HAS NTAS	NO THREATS				į			·   '
	18 00	LAB CHANGING A PH P	ROBE THEY A	RE UNABL	E TO G	ETITO	CALIBRATE	SO THEY A	RE REINSTALLING	PROBE WILL LET P
		GRIMES KNOW								
	18 15	ABSORBER PUMPS BACK	CIN SERVICE			,	,	1		
	18 20	C2 BOOSTER FAN ON AN	D BYPASS CLO	OSED				ĺ		r
	19 00	NICK MOORMAN STAYING	OVER FOR S	TART UP			<del>-</del>			i
	19.05	ROLLED C2 TURBINE								. 1
	19 30	2A FD FAN HOUSING IS O	RACKED BET	WEEN HOU	ISING A	ND FLO	T BEARING	ABOUT 4 A	BOVE GROUND LE	VEL. MR#6087971
	19 <u>48</u>	C2 TIED ON LINE					·			



#### Your Touchstone Energy" Cooperative

### **Boiler Tube Leak Record**

Plant: Coleman Unit: 2
Type of Leak: (Check One)
Pin Hole Thick Lip Failure CrackX Thin Lip Failure
Tube Wall Thinning Other
Orientation of Rupture: (Check One)
Longitudinal Circumferential X
Probable Cause: (Check One)
Stress X Overheat Erosion Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other A small crack had developed at the weld line on the bent tube for the
inspection port opening.





Your Touchstone Energy Cooperative

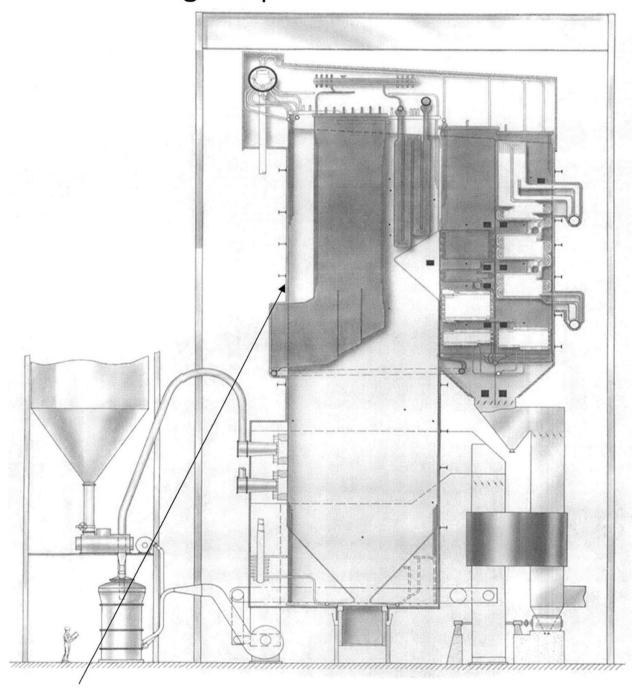
Type of Repair (Check One)

Dutchman (Length of Dutchman ~)	Pad Weld X
Plug Tube Short Circuit Other	er
Description of Repair	
Pipe Size OD <u>2 250"</u> Wall Thickness _	0 203" Tube Material SA 178 C
Welding Rod Used 7018 A1	<b>-</b>
Welded By	

Exact Location of Leak. Elevation 183'-8", south wall, east inspection port



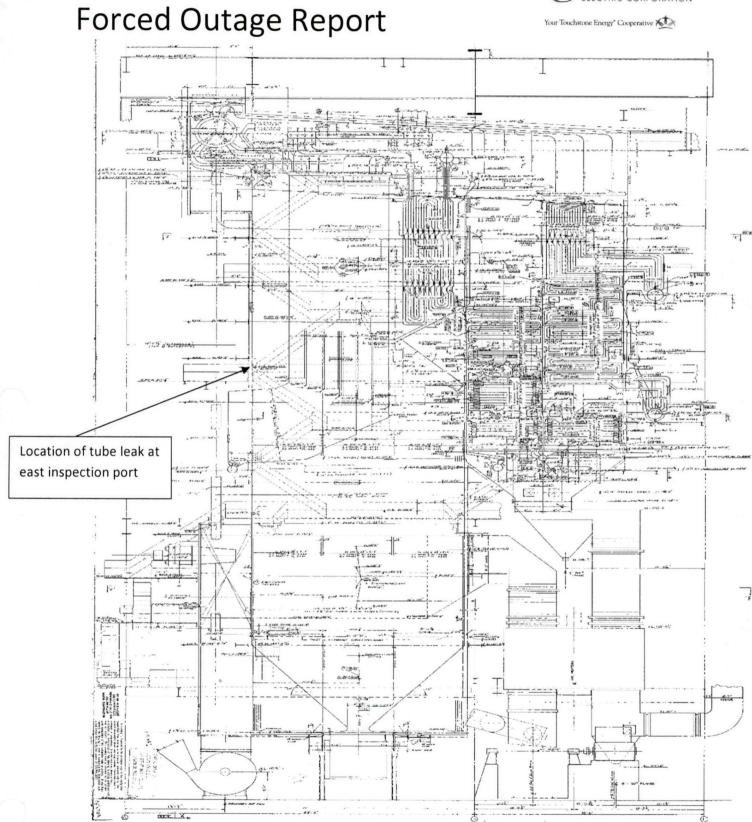




<u>Tube Leak Here:</u> Elevation 183'-8", south wall, east inspection port.











**Lost Sales Opportunity Report** 



### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Coleman 2 - C2-13-01
Date & Time Off Line	1/5/13 23:09
Date & Time On Line	1/8/13 19:48
Outage Duration	68 hr. 39 min.
Outage Code	UO3
Outage Reason	Unit was removed from service to clean furnace and wash air heaters

Produ	uction Cos	st
MW	9	S/MW
73	\$	29.18
106	\$	27.41
139	\$	26.61

Date	DA LN	IP Average	RT LN	IP Average	DART P&L	Lost Opportunity	
1/5/13 (HE 24)	\$	23.27	\$	22.12	\$ 95	\$	-
1/6/13 (HE 1-24)	\$	26.30	\$	27.68	\$ (3,759)	\$	-
1/7/13 (HE 1-24)	\$	29.19	\$	46.35	\$ -	\$	(8,513)
1/8/13 (HE 1-24)	\$	28.40	\$	26.37	\$ (158)	\$	(6,370)
1/9/13 (HE 1-6)	\$	23.49	\$	24.45	\$ 266	\$	-
Total					\$ (3,557)	\$	(14,883)

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		636	DART P&L	\$	(3,557)
S/U Fuel Price	\$	4.70	Lost Opportunity	\$	(14,883)
S/U Fuel Cost	\$	(2,989)	S/U Fuel Cost	\$	(2,989)
			Total	\$	(21,429)

#### 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: 5-Feb-2013

Plant: Wilson Unit: 1 GADS Class: UO3

**Duration** 

Trip Time: 26-Jan-2013 23:27 Tie Time: 28-Jan-2013 14:09

Time Offline: 38:42

#### **Outage Description**

Wilson Station was removed from service on Saturday, 26-Jan-2013 at 23:27 due to tube leaks in the east and west waterwalls at the 8<sup>th</sup> - 9<sup>th</sup> floor elevations. Titan Contracting performed base metal repairs on both tube leaks. The leak on the east wall was the 1<sup>st</sup> bent tube north of the IR-30 wall blower at elevation 499'-3" (between 8<sup>th</sup>-9<sup>th</sup> floors). The leak on the west wall was the 3<sup>rd</sup> tube south of the IR-8 wall blower at elevation 487'-11"(8<sup>th</sup> floor) The tubes being repaired were 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 west waterwall tube failed as a result of a pinhole in the original circumferential field weld. The east waterwall appeared to fail as a result of excessive soot blower erosion. Neither tube failure resulted in a dutchman being installed; the base metal was able to be repaired in both instances. There have been numerous tube leaks in this area over the past few years. However, both the wall blower erosion tube leak and the circumferential weld tube leak were not the same type of failure mode as those that have occurred in these areas over the last couple of years. The east waterwall tube leak was in the area that was supposed to have a 6' x 20' waterwall panel installed during the spring 2012 outage (that was cancelled),



#### Your Touchstone Energy® Cooperative

#### **Failure History**

The last waterwall tube leak was on 8-Dec-2012 on the east waterwall at the 8<sup>th</sup> floor elevation. The cause of this tube leak was weld overlay being applied to tube material that was too thin. There were three leaks in the east waterwall due to this problem in 2012 and one in 2011.

#### **Corrective Action**

The recommendation is to install six (6) new waterwall panels during the fall 2013 Wilson Station Outage.

#### Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

- · Repaired purge air heater in precipitator
- Repaired and inspected east precipitator box
- Stroked and troubleshoot FGD guillotine dampers

#### INSTRUMENTATION

- Flashed firmware on the #2 coal feeder
- Calibrated #2 coal feeder
- Calibrated all O2 probes
- Cleaned and serviced opacity monitors
- Performed blowback on all mill, secondary air and furnace pressure taps

#### **MECHANICAL**

- Repaired leak in deaerator (#5 Heater)
- · Repaired leaks in primary airheater steam coils
- Repaired bonnet gasket leak on #7 bank of #1 secondary airheater steam coils
- Repacked boiler feed pump recirc valves
- · Replaced platen inlet header vent valves
- Installed insulation on the back side of the nose arch waterwall tubes
- Replaced JD-2 discharge piping at Scrubber
- Installed new drain valve on JA2 suction line drain
- Repaired RV-3 drum safety valve
- · Repaired hole on over fire air duct
- Patched four (4) leaks in precipitator outlet duct
- Repaired leak on gland steam desuperheater header
- Repaired precipitator outlet louver damper that was bound
- · Base metal repair on the continuous blow down tank piping



### **Operators Event Log**

You	r Touchstone	Energy*	Cooperative	XTX

1/26/2013	11:27pm	Unit offline due to tube leak
		Ammonia pumps off, Purging boiler, turbine on gear, CT fans off, power flushing wet seal,
1/27/2013	12:00am	Jogging mills
		Boiler set to hydro
		Blew out steam coils
	2:00am	#4 module RT
		WO# 6089773 Control Air Receiver tank filter dirty
		WO# 6089774 JB2 underflow pump fluid drive leaking oil thru sight glass
	-	WO# 6089776 JA2 circ pump drain vv broke in open position
		WO# 6089775 1CV-66702 at ammonia pumps has packing leak
		PAH gas inlet doors open, turbine drains open, CT bypassed, CT makeup block vv closed, 1 circulator o
	7-	Air heaters off
	4:17am	Starting Hydro
***************************************	4:41am	Drum at 1800psi
		RT IR-30 for removal
		2000B & 2000Q boiler drains open
	8:00 AM	Peercy, Owens in / Feeney out
	0.007	McCarty, Roby, Wilson, Worley, Trogdon, McElwain, Winders, in
	-	Gas Duct Inspection
		Changing Bowser Filter Bags
	4:00 PM	R Dye out
	8:00pm	Feeney/Crowe in, Peercy/Owens out
	o.oopiii	McIntyre, Algood, Hall, Piper, Drake, Barrett in
		Safety Briefing
		Turbine bldg set to fire
		Hotwell full to tube bundles
		Weekly Sootblowing bypass log
	+	C/W on overfire duct
1/28/2013	12:00am	Water Run
1/20/2010	12:09am	Pulled RT on DA regulator
	12.000111	Aux BFP on, starting hydro
		Linda Gibson called requesting personal day. AT submitted
	1:47am	At 1800psi drum pressure
	2:21am	Dry boiler
	3:53am	•
	J.JJaiii	Steve Waltrip called requesting personal day. AT submitted  Hydrogen Readings
	-	Daily Report
	5:44am	Released to fire
	J. 44aiii	Plant Head Count
		Roby Stewart ,Baker,Poore VAC,Stovall,Jones,Calhoun VAC
	7:58AM	Fire in Boiler,
	2:02PM	#1 mill on
	2:04PM	Precip's in service,
	2:09PM	Unit on line
	2.03F W	OTHE OTHER



#### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

Plant: <u>Wilson</u> Unit: <u>1</u>
Type of Leak: (Check One)
Pin Hole X Thick Lip Failure Thin Lip Failure
Tube Wall Thinning X Other: There were two (2) tube leaks; the east waterwall tube leak was a result of the tube thinning from a wall blower while the west waterwall tube leak was a result of a circumferential weld failure.
Orientation of Rupture: (Check One)
Longitudinal Circumferential X
Probable Cause: (Check One)
Stress Overheat ErosionX Internal Corrosion
External Corrosion Weld Failure _X (Shop Field)
Internal Obstruction to Flow
Other:

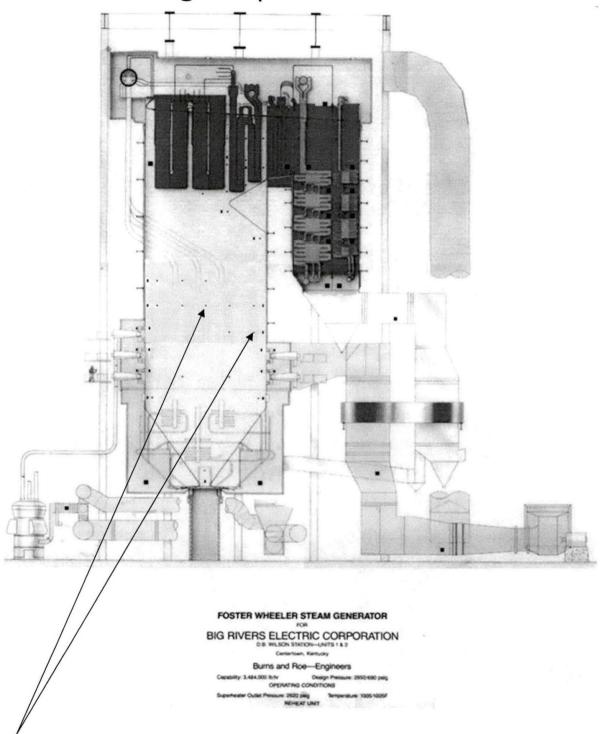




Type of Repair: (Check One)
Dutchman: Pad Weld:Yes
Plug Tube Short Circuit Other:
Description of Repair:
Tube Size OD: 3" Wall Thickness: 0.368" M.W.
Tube Material: SA-210C
Welding Rod Used
Welded By: _James Larkin, Matt Abney: Titan Contracting
Exact Location of Leak: Be Specific
West Wall, 3 <sup>rd</sup> tube south of IR-8 wall blower, 8 <sup>th</sup> floor, elevation 487'-11"
<u>East Wall</u> , 1 <sup>st</sup> tube north of IR-30 wall blower, between 8 <sup>th</sup> and 9 <sup>th</sup> floors, elevation 499'-3". Titan welders performed base metal repairs on both tube leaks.

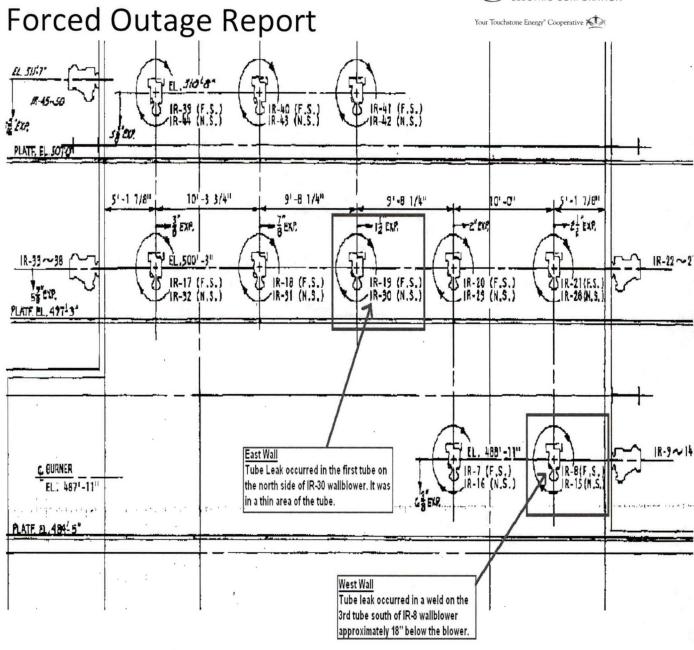






<u>Tube Leaks Here</u> – <u>West Wall</u>, (Far Side) 3<sup>rd</sup> tube south of IR-8 wall blower, 8<sup>th</sup> floor, elevation 487'-11": <u>East Wall</u>, (Near Side) 1<sup>st</sup> tube north of IR-30 wall blower, between 8<sup>th</sup> and 9<sup>th</sup> floors, elevation 499'-3". Performed base metal repair on both tube leaks.









**Lost Sales Opportunity Report** 

### Your Touchstone Energy Cooperative

## **FORCED OUTAGE COST ANALYSIS**

## MISO DART Revenue and LOST OPPORTUNITY

Unit	Wilson - W1-13-01	Produ	uction Co	st
Date & Time Off Line	1/26/13 23:27	MW	,	\$/MW
Date & Time On Line	1/28/13 14:09	240	\$	24.12
Outage Duration	38 hr. 42 min.	300	\$	23.26
Outage Code	UO3	420	\$	22.32
Outage Reason	Repair two water wall tube leaks.			

Date	DA LN	IP Average	RT L	_MP Average	DART P&L	O	Lost oportunity
1/27/13 (HE 1-24)	\$	25.65	\$	25.19	\$ 146	\$	(33,235)
1/28/13 (HE 1-24)	\$	27.43	\$	27.72	\$ 16,531	\$	(51,120)
Total					\$ 16,677	\$	(84,356)

Start Up Fue	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		26,289	DART P&L	\$	16,677
S/U Fuel Price	\$	3.15	Lost Opportunity	\$	(84,356)
S/U Fuel Cost	\$	(82,704)	S/U Fuel Cost	\$	(82,704)
			Total	\$	(150,383)

#### 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: Bart Boles

Date: 11-Jan-2013

Plant: Wilson Unit: 1 GADS Class: UO2

**Duration** 

Trip Time: 29-Dec-2012 13:48 Tie Time: 01-Jan-2013 05:29

Time Offline: 63:41

### **Outage Description**

Wilson Station was removed from service on Saturday, December 29, 2012 at 13:48 due to a tube leak in the "B" Platen Superheat section of the furnace at the 12<sup>th</sup> floor elevation. Titan Contracting replaced a section of "B" Platen Superheat Tube that was approximately 8' in length. This was the 13<sup>th</sup> tube from the outside tube on the north side. The tube being replaced was 1.75" O.D. x 0.260" MW, SA-213 T11 material. 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 a slip tie failing, thus causing tubes to rub together, which eventually led to a tube rupture. The failure was vertical, and was approximately 16" in length. The total damaged area was approximately 8' in length. The "B" Platen Superheat tubes were replaced during the 2009 outage. There have been no previous leaks in this area since the tubes were replaced. A full inspection of the Platen and Finishing Superheat tubes was scheduled to take place during the spring, 2013 outage. The failed slip tie would have most likely been caught during the inspection and repaired.

## **Failure History**

There have been no similar failures in the last three years.



### Your Touchstone Energy® Cooperative

### **Corrective Action**

The recommendation is to re-inspect the "B" Platen Superheat elements during the next scheduled outage to ensure there are no other cracked or failed bundle ties.

## Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

- Precip inspection (east box)
- · Grit blasting east precip box
- Repaired #1 Circulating Water Pump discharge valve
- Repaired #3 conveyor fire alarm
- · Repaired fly ash transport line inlet valve limit switch

### **INSTRUMENTATION**

- Adjusted the alarm setting for the outboard pump bearing on the #2 BFPT
- Stroked and calibrated all turbine valves
- Mill PA flow blowback
- Secondary air flow xmtr blowback
- Furnace blowback
- Repaired the seal air solenoids on #3 and #4 coal feeders
- Replaced the controller on #4 coal feeder
- · Calibrated #4 coal feeder

#### **MECHANICAL**

- Replaced refractory on 13<sup>th</sup> floor in the dead air space behind the nose
- Performed work in precip outlet duct patched hole in the roof
- Replaced three (3) valves on steam coils in FD Fan room
- Repaired #1 module ME inlet door
- Inspected Back pass of boiler
- Replaced two (2) turbine drain valves



### Your Touchstone Energy® Cooperative

## **Operators Event Log**

12/29/2012	1:48 PM	Unit Off Line with a tube leak / Notified H/L
	2:00 PM	Called Thompson in for Deslag / 5:00 pm arrival
	5:00 PM	Thompson in
	7:00pm	Feeney in
		Unit Offline
	8:00pm	McIntyre, Algood, Hall, Piper, Drake, Barrett in
		Safety Briefing
	9:00pm	Crowe in, Peercy out
	9:48pm	Generator Hold #717
		Freeze Protection
		Drained & blew out steam coils- drains still open
12/30/2012	12:00am	Water run
	1:30am	Inspected superheats. Boiler clean. Passed by Titan
	2:00am	Thompson out
	8:00 AM	Peercy, Mattingly in / Feeney, Crowe out
		McCarty, Roby, Wilson, Worley, Trogdon, McElwain, in
		Outage
		Called Thompson in for BA Surge Tank
	9:30 AM	Thompson in
	1:00 PM	WO# 6086911 #1 Mill - pyrite doors/seals leaking
		6086912 1AL20E - throat plugged / remove cap for access
		6096915 Finishing SH - inlet header drain valve will not operate / sheered pin
		6086916 Fly Ash Piping - leak in transport line just passed row 5E outlet gate
		Called Inland in for module cleaning
	3:00 PM	Inland in
	7:00pm	Feeney in, Peercy out
	8:00pm	McIntyre, Algood, Hall, Piper, Drake, Barrett in
		Boiler set to hydro- HMV-170 closed, Turbine set to fire
	8:30pm	Thompson out
		Took out trash
		Freeze Protection
		Daily Vehicle Check
		WO# 6086928 Expedition passenger side high beam out
	9:30pm	Inspected #1 & 2 modules
	,	WO# 6086929 #2 module inlet east and west walls missing 1st rows of tiles
12/31/2012	12:00am	Unit Status Update
, , , , , , , , , , , , , , , , , , , ,		Inspected Econ Hoppers-all empty
		Bottom Ash System back in service
		Hydrogen Tank Readings
	3:00am	Inspected #4 module & #3 inlet ledge
	3:30am	Inland out
	6:15am	Released to Hydro
	6:30am	Aux BFP on



	8:00AM	Cooper Peercy in Feeney out
		MW 451 KPPH 377 SO2 5.58/5.58 NOX .055 OPAC 6.9 REMOV 91.4 CO2 9.8 /10.8 4 MILLS 4
		MODULES 16 CIRC PUMPS
		MVARS 99 SLURRY FEED TANKS 14.4/14.9 CO 68/343 Sludge tanks 5.8/5.1 VOLTAGE 23.8
		BED LEVEL 96"
		Roby Stewart VAC ,Baker,Poore,Jones,Calhoun,McCarty McElwain,S Roby,Trogdon,Winders Stovall J Stewart Wilson
		Safety briefing
		Flushing wet seal
		Daily vehicle check
	7:00AM	Unit off Line with a tube leak
	10:22AM	Terr and scanner fans on
	10:30AM	Head count
	10:45AM	Sec and primary air htr on
	10:56AM	ID and FD fan on
	11:20AM	Fire in Boiler, H/L notified
	5:20PM	Rolling Turbine
	6:09PM	Trip Turbine, H/L notified
	7:00pm	Crowe/Feeney in, Cooper/Peercy out
	8:00pm	McIntyre, Algood, Hall, Piper, Render, Barrett, Tichenor, Caldwell, Daugherty, Mason, in Blandford P/D
		Safety Briefing
		Bottom ash dragchain broken, Unit on stand-by until dragchain repaired.
		Setting Boiler & Turbine to fire
	11:00pm	Dragchain released and filling wet bottom
1/1/2013	12:00am	Taped fuel oil storage tanks, West-14'4" & East-14'5"
	12:10am	Oil Fires Established - H/L notified
	1:45am	CSI in service
	2:45am	Sealing main turbine
	4:07am	Rolling Turbine
	5:25am	Precip's in service, H/L notified
	5:29am	Unit tied on line. Notified H/L



Your Touchstone Energy® Cooperative

# **Forced Outage Report**

## **Boiler Tube Leak Record**

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 tube misalignment and tubes rubbing together, thus causing a thin area in the tube.
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
Other: X Slip Tie Failure, which caused tube misalignment and tube rubbing



D.	D.
Kim	KINDER
DIE	TUNCID
0	ELECTRIC CORPORATION
Your Touch	stone Energy Cooperative

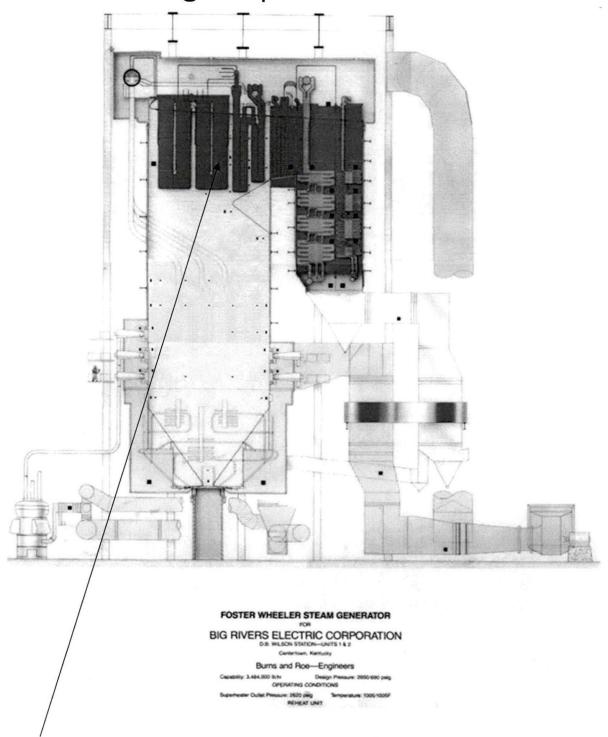
Type of Repair. (Check Offe)
Dutchman: X Length of Dutchman: 8' Pad Weld: No
Plug Tube Short Circuit Other:
Description of Repair:
Tube Size OD: 1.75" Wall Thickness: 0.260" M.W.
Tube Material: <u>SA-213 T11</u>
Welding Rod Used
Welded By: James Larkin, Matt Abney: Titan Contracting

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

"B" Platen Superheat Section, 13<sup>th</sup> Floor, 3<sup>rd</sup> Element from the East Wall, 13<sup>th</sup> Tube from the Outer Tube (North side), Elevation 558'-0", 8' Dutchman.







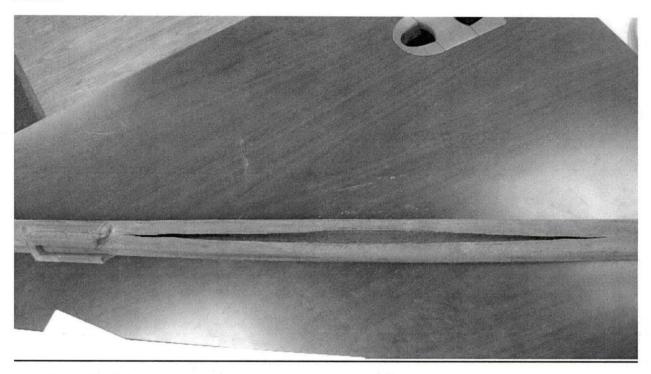
Tube Leak Here – "B" Platen Superheat Section, 13<sup>th</sup> Floor, 3<sup>rd</sup> Element from the East Wall (Near Side) 13<sup>th</sup> Tube from the North, Elevation 558'-0". Installed an 8' Dutchman.

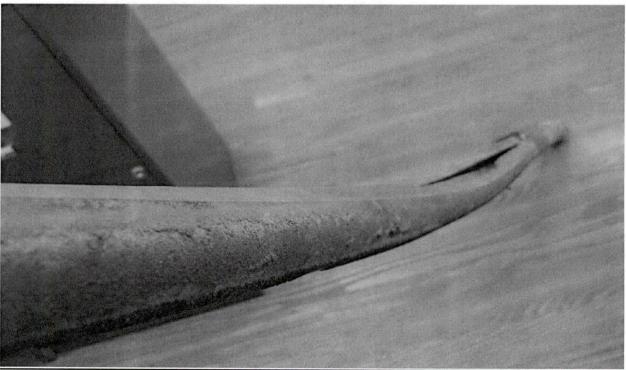




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## Photos









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**Lost Sales Opportunity Report** 

	MISO	DARTR	eve	nue and l	LC	ST OPPOR	RTUI	NITY		
Unit		Wilson -	W1-1	2-17				Producti	ion C	ost
Date & Time Off Line		12/29/1	2 13:4	48				MW		\$/MW
Date & Time On Line		1/1/13					300	\$	24.13	
Outage Duration		63 hr.	٦.				380	\$	23.36	
Outage Code		U					420	\$	23.15	
Outage Reason	aten S	SH leak.								
Date	DA L	MP Average	RT L	.MP Average		DART P&L	Op	Lost		
12/29/12 (HE 14-24)	\$	28.84	\$	26.68	\$	(15,626)	_	-		
12/30/12 (HE 1-24)	\$	25.78	\$	25.88	\$	(27,351)		-		
12/31/12 (HE 1-24)	\$	27.49	\$	26.46	\$	-	\$	(43,422)		
1/1/13 (HE 1-11)	\$	22.08	\$	23.73	\$	297	\$	-		
Total					\$	(42,680)	\$	(43,422)		
Start Up Fuel Cost								Total Forced	Outa	ge Cost
S/U Fuel Consumed		24,050					D	ART P&L	\$	(42,680
S/U Fuel Price	\$	3.15	1				Lost	Opportunity	\$	(43,422
S/U Fuel Cost	\$	(75,661)	in.				S/l	J Fuel Cost	\$	(75,661
								Total	\$	(161,763
NOTES: All negative values are mo		Α								





To:

**Bob Berry** 

From: Billy Boarman

Date: 27-Feb-2013

Plant: HMP&L Station Two

Unit: 1

GADS Class: UO2

Duration

Trip Time: 24-Feb-2013 09:50

Tie Time: 27-Feb-2013 06:12

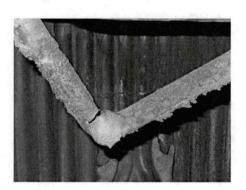
Time Offline: 68:22

## **Outage Description**

HMP&L Station Two Unit 1 was removed from service on Sunday, 24-Feb-2013 at 09:50 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

## **Root Cause**

Tube leak on the Radiant SH Outlet 3rd element from the west wall, on the outer loop at elevation 537' - 5" was caused by external corrosion.



## **Failure History**

16-Mar-2013

31:31

Tube leak in the radiant superheat outlet

section, 3rd element from the west wall,

inner loop

3-Aug-2013

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





## Your Touchstone Energy® Cooperative

## **Corrective Action**

The outer loop (E10) was replaced along with an additional 36" dutchman on the north side of the loop on the 3<sup>rd</sup> element. The next 2 inner loops (E9 & E8) that were washed by the spray from the leak on the outer loop were also replaced. A new handcuff was installed on the lower section of the 2<sup>nd</sup> outlet element from the west wall.

## **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 24-Feb-2013 09:50:35:090

Interest to the residence of the second of t		and bridge of the same of the	
Event Time	State	Tag Name	Tag Description
24-Feb-2013 09:51:07:898	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:51:07:495	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:51:02:602	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:51:02:107	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:51:01:358	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:51:00:632	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
24-Feb-2013 09:50:57:234	OK	H150OCB162CSTP	OCB 0162 GEN H1 CS TRIP
24-Feb-2013 09:50:56:749	TRIP	H150OCB162CSTP	OCB 0162 GEN H1 CS TRIP
24-Feb-2013 09:50:47:957	OPEN	H150OCB166ST	OCB 0166 GEN H1 STATUS
24-Feb-2013 09:50:47:905	OK	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
24-Feb-2013 09:50:47:901	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
24-Feb-2013 09:50:47:826	OK	H150OCB166GETP	OCB 0166 GEN H1 TRIP
24-Feb-2013 09:50:47:824	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
24-Feb-2013 09:50:47:824	OK	H150OCB162GETP	OCB 0162 GEN H1 TRIP
24-Feb-2013 09:50:47:819	LKOUT	H150GENLO86G2	GEN DIFFERENTIAL LO (86G2)
24-Feb-2013 09:50:47:817	OK	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
24-Feb-2013 09:50:47:799	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
24-Feb-2013 09:50:47:799	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
24-Feb-2013 09:50:47:796	TRBLE	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
24-Feb-2013 09:50:39:586	OK	H133LMISTP	LAST MILL IN SERVICE TRIP
24-Feb-2013 09:50:37:099	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
24-Feb-2013 09:50:35:903	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
24-Feb-2013 09:50:35:855	OK	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
24-Feb-2013 09:50:35:832	OK	H133BLRFLAMEFL	BLR TOTAL FLAME FAILURE
24-Feb-2013 09:50:35:592	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
24-Feb-2013 09:50:35:340	FAIL	H133BLRFLAMEFL	BLR TOTAL FLAME FAILURE
24-Feb-2013 09:50:35:090	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
24-Feb-2013 09:50:35:082	OK	H133BLRFLAMEFL	BLR TOTAL FLAME FAILURE



Your Touchstone Energy Cooperative

## **Forced Outage Report**

## Other Work Completed While Unit Was Offline

- Clean Seal Trough
- Repaired gas leaks SCR duct work and coal leaks on the mills
- Precipitator inspection
- Back-pass inspection
- Calibrated all coal feeders.
- Changed oil in both PA Fans
- Changed oil in both FD Fans
- Replaced 3 boiler observation ports
- Cleaned ME's and nozzles
- Replaced west drum glass water side root valve
- Replaced Main Steam north side drain valves
- Replaced #5 Extraction, north and south traps
- Replaced #4 Extraction, south trap
- Replaced #31 soot blower
- Made repairs to EHC System (replaced filters, replaced "A" motor, replaced check valves)
- Replaced B2 coal feeder belt
- Replaced "A" AH hot end soot blower lance
- Replaced #3 FW heater water side drain valve
- Repaired economizer hopper valves
- Replaced west side economizer drain valve
- Repaired gas leak on the "B" Hot End Air Heater duct
- Air heater Wash (8 hour Pass)
- Cleaned Economizers
- Replaced EHC fluid





### Your Touchstone Energy® Cooperative

## Operators Event Log

	H1	OFF LINE										
		STBY		40								
	UNIT R1				SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
8:00AM	MORRIS,	DENTON \	/AC, REYN	OLDS, GA	TTON, BA	KER, TATE	, EDWARD	os			D SHIFT M.ASKINS	
					FOR MAI	INT TO CHA	ANGE FILT	EKS				
3;46AM	H2 BACK	IN ADS			V EOR MA	NT TO OU	NGE EUT	EDE				
			_	NEES FOR	RDESLAG							
NOTE	CLEANING	G H1-B A.H	. AIR OUT	(METAL)		NEEDKE	MOVAL					
11;50PM	H1 PREC	IP HOPPE	RS CLEAN				CTION					
8;00PM	SAFETY E	BRIEFING										
					8 1/4"							
		C.H.	HMPL					SILO LVL	2EVEN	BOOTHE	SYSTEM	0
	FUEL OIL	TANKS		-								
	H2- 36,38,	40 BYPA	ASSED-1,2,	4,5,7,9,10,	15,18,19,20	,21,22,23,2	24,34,35					
								-				
	H2							INNING - B	WEST DRU	M LEVEL	XMTR	OK
	R1 H1	EH IOM	PRESSU	RE/STFAM	SEAL LOW	V PRESSI	IRE					GAUGE GLASSES
	C.T.	ON STAN	DBY	65								
	H2	142	165	152	0.39	10.5	0.051	21	93	11.21	167/C	3.1
	H1	OFF LINE	165									
		STBY										
						CO2 N PSI = 3.6	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
U,UUANI						, ALDEING	J TON , MLI	- ANDER			O SHIFT CARTER	
							STON ALL	EYANDED			C SHIET CARTER	
			ACUUM PU	IMPS ON F	OR VACUL	JM CHECK						
			TING UP T	O VACUUN	H-1 PENT	HOUSE &	H-1 SCRU	BBER M.E.	S			
-				& VACUUM	CHECK							
			=R									
NOTE	H-1 SCR 2	4" VENT V										
					DULD NOT	START - H	AD TO JUI	MPER OIL F	RESSURE	SWITCH	- ISSUED W/O	
					LS ARE BL	OWN OUT	- 1568 LB	ON BOILER	2			
						R 1B PCC	IKIPPED.	ISSUED W	70			
					NO TOWE	D 4D DOO	TOIDDED	IOOUEDIA	10			
						OF LEAK	ON H-1 - I	NOTIFIED A	CES - TAKI	NG H-1 OI	F	
	8:35AM NOTE 8:51AM 9:00AM 9:00AM 9:50AM 9:55AM NOTE 11:12AM 11:25AM 1:25AM 1:25AM 2:25PM 3:46PM 8:00AM 8:00AM 11:50PM 11:50PM 11:50PM 11:55PM 11:	8:35AM NOTE	8:35AM H-1 HOTWELL CHEC NOTIFIED J. FRANCE 8:51AM GIVE H-1 SCR STOP 9:00AM TRANSFERRED H-1 9:17AM 01. FIRE IN H-1 BOIL 9:55AM H-1 TRIPPED - LOST H-1 PRECIPS OUT C H-1 TURBINE TURNIN NOTE H-1 SCR 24" VENT V 11:25AM H-1 A.H.'S OFF 11:25AM DRAINING H-1 BOILE 7:17PM H-1 F.D. FANS OFF 11:25AM DRAINING H-1 BOILE 7:17PM H-1 F.D. FANS OFF 11:25AM H-1 VACUUM PUMP 8:00AM EDMONDS, JACKSO UNIT LOAD R1 24HR STBY H-1 CONDENSER V. 3:46PM H-1 VACUUM PUMP 8:00AM EDMONDS, JACKSO UNIT LOAD R1 24HR STBY H-1 OFF LINE H-2 C.T. ON STAN ALARMS: R1 H-1 E.H. LOW H-2 COND DE SOOTBLOWERS TA R1- 16,19,28,29,30, H-1 20,31 / 5,6,7,8,9 H-2-36,38,40 BYPA FUEL OIL TANKS LEVELS C.H. 9° 11"  NOTE DESLAG INLAND MM SAFETY BRIEFING 9:00PM H-1 M.E.S CLEAN S H-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER START SHIPPING H-1 BOILE 9:11"  NOTE DESLAG INLAND MM SAFETY BRIEFING 9:00PM H-2 M-2 SCLEAN S H-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER WH-1 SOOTBLOWER H-1 SOOTBLOWER START SHIPPING H-1 SOOTBLOWER START SOOTBLOWER	8:35AM NOTE NOTIFIED J. FRANCIS, R. PARI 8:51AM GIVE H-1 SCR STOP SIGNAL THANSPERSED H-1 AUXILIARI 9:00AM TRANSFERRED H-1 AUXILIARI 9:17AM OIL FIRE IN H-1 BOILER FOR S 9:50AM H-1 TRIPIPED - LOST ALL OIL 0:17AM OIL FIRE IN H-1 BOILER FOR S H-1 TRIPIPED - LOST ALL OIL 0:17AM OIL FIRE IN H-1 BOILER FOR S H-1 TRIPIPED - LOST ALL OIL 0:17AM H-1 FOR 24" VENT WOULD NOTE H-1 SCR 24" VENT WOULD NOTE H-1 BOILER FOR H-1 DOILER FOR H-1 DOILER FOR H-1 DOILER FOR H-1 DOILER FOR H-1 F.D. FANS OFF WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF - V/8 STANGER WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 BOILER FOR H-1 VACUUM PUMPS OFF OR MILL PE WITH H-1 VACUUM	8:35AM H-1 HOTWELL CHECK LOST 5" IN 10 MIN NOTE NOTIFIED J. FRANCIS, R. PARKER & B. C. 8:51AM GIVE H-1 SCR STOP SIGNAL 9:00AM TRANSFERRED H-1 AUXILIARIES - COOLD OIL FIRE IN H-1 BOILER FOR SHUT DOW 9:50AM H-1 TRIPPED - LOST ALL OIL GUNS - MILL 9:55AM H-1 PRECIPS OUT OF SERVICE NOTE H-1 TURBINE TURNING GEAR MOTOR W. NOTE H-1 SCR 24" VENT WOULD NOT OPEN - H-1 SCR 24" VENT WOULD NOT OPEN SCR 24" VENT WOULD	8:35AM NOTE NOTE: ED J. FRANCIS, R. PARKER & B. CHEATHAM NOTE 8:51AM GIVE H-1 SCR STOP SIGNAL TRANSFERRED H-1 AUXILIARIES - COOLING TOWE 9:10AM TRANSFERRED H-1 AUXILIARIES - COOLING TOWE 9:17AM OIL FIRE IN H-1 BOILER FOR SHUT DOWN 9:50AM H-1 TRIPPED - LOST ALL OIL GUNS - MILLS ARE BL 9:55AM H-1 PRECIPS OUT OF SERVICE H-1 TURBINE TURNING GEAR MOTOR WOULD NOT NOTE H-1 SCR 24" VENT WOULD NOT OPEN - HAD TO GE 11:12AM H-1 A. H. 'S OFF 11:25AM DRAINING H-1 BOILER 15:0PM H-1 BOILER SET FOR HYDRO & VACUUM CHECK 15:0PM H-1 BOILER SET FOR HYDRO & VACUUM CHECK 16:0PM H-1 VACUUM PUMPS OFF - VACUUM CHECK 17:0PM H-1 F.D. FANS OFF 18:00AM EDMONDS, JACKSON , GRIFFIN, HOGAN, BOWLEY UNIT LOAD UNIT CAP NET CAP, SO2 R1 24HR 48 48 NITROGE STBY H1 OFF LINE 165 H2 142 165 152 0.39  C.T. ON STANDBY 65 ALARMS: R1 H1 E.H. LOW PRESSURE/STEAM SEAL LOV H2 COND DRAIN TANK HI LEVEL - TURNING SOOTBLOWERS TAGGED R1- 16,19,28,29,30,31 H1 20,31 / 5,67,8,910,11 H2- 36,38,40 BYPASSED-1,2,4,5,7,9,10,15,18,19,20 FUEL OIL TANKS LEVELS C.H. HMPL NORTH SOUTH 9' 11" 12' 10" 15' 10 112' 8 1/4"  NOTE DESLAG INLAND MOVING TO BURNERS SAFETY BRIEFING 9: 00PM H1 M.E.s CLEAN/ SHOOT HEADERS TOMMORROW 9:17PM INLAND DONE WITH H1 BURNER DESLAG READY INLAND DONE WITH H1 BURNER DESLAG READY 11:50PM H1 PRECIP HOPPERS CLEAN NOTE TITAN FOUND MORE SLAG SPOTS IN BOILER THAT NOTE CLEANING H1-B A.H. AIR OUT (METAL) 1:39AM SHOOTING SHOT GUN @ H1 KNEES FOR DESLAG H1 DESLAG COMPLETE 1:39AM MAINT ON H1 BOILER ENTRY PERMIT H2 BACK IN ADS NOTE H1 E.H. UNIT DRAINED & CLEAN READY FOR MAI 3:36AM MAINT ON H1 BOILER ENTRY PERMIT H2 BACK IN ADS NOTE H1 E.H. UNIT DRAINED & CLEAN READY FOR MAI 3:36AM MAINT ON H1 BOILER ENTRY PERMIT H2 BACK IN ADS NOTE H1 E.H. UNIT DRAINED & CLEAN READY FOR MAI 6:55AM R. DENTON TAKEN VACATION DAY  BEOMAN MORRIS, DENTON VAC, REYNOLDS, GATTON, BAI UNIT LOAD UNIT CAP NET CAP, SO2 R1 24HR 48 48	8:35AM H-1 HOTWELL CHECK LOST 5" IN 10 MINUTES NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK 8:51AM GIVE H-1 SCR STOP SIGNAL 9:00AM TRANSFERRED H-1 AUXILIARIES - COOLING TOWER 1B PCC 9:17AM OIL FIRE IN H-1 BOILER FOR SHUT DOWN 9:50AM H-1 TRIPPED - LOST ALL OIL GUNS - MILLS ARE BLOWN OUT H-1 TURBINE TURNING GEAR MOTOR WOULD NOT START - H NOTE H-1 TURBINE TURNING GEAR MOTOR WOULD NOT START - H NOTE H-1 SCR 24" VENT WOULD NOT OPEN - HAD TO GET MAINT T 11:2AM H-1 A H-3 OFF 11:25AM DRAINING H-1 BOILER SET FOR HYDRO & VACUUM CHECK 2:20PM M. INANO HERE - SETTING UP TO VACUUM H-1 PENTHOUSE & 2:17PM H-1 F.D. FANS OFF 11:25AM DRAINING H-1 BOILER SET FOR HYDRO & VACUUM CHECK GOOD EDMONDS, JACKSON , GRIFFIN, HOGAN, BOWLEY, WADLING DEMONDS, JACKSON , GRIFFIN, HOGAN, BOWLEY, WADLING DEMONDS, JACKSON , GRIFFIN, HOGAN, BOWLEY, WADLING HERE - STBY H-1 OFF LINE 165 152 0.39 10.5 C.T. ON STANDBY 65 ALLARMS: R1 H-1 E.H. LOW PRESSURE/STEAM SEAL LOW PRESSUR H-1 COND DRAIN TANK HI LEVEL - TURNING GEAR OIL SOOTBLOWERS TAGGED R1 - 16,19,28,29,30,31 H-1 20,31 / 5,6,7,8,9,10,11 H-2.36,38,40 BYPASSED-1,2,4,5,7,9,10,15,18,19,20,21,22,23,10 H-1 20,31 / 5,6,7,8,9,10,11 H-2.36,38,40 BYPASSED-1,2,4,5,7,9,10,15,18,19,20,21,22,23,10 FUEL OIL TANKS LEVELS C.H. HMPL NORTH SOUTH PRECIPE POPERS CLEAN SHOOT HEADERS TOMMORROW 9,17PM INLAND DONE @ H1 PENTHOUSE / MOVING TO H1 ECONS H1,50PM H1 R.E.S CLEAN SHOOT HEADERS TOMMORROW 9,17PM INLAND DONE WITH H1 BURNER DESLAG READY FOR MAINT ON H1 BURNER DESLAG READY FOR MAINT OCH. 1:50PM H1 PRECIPE HOOPERS CLEAN MILL PEAKING 3:36AM MAINT ON H1 BOILER ENTRY PERMIT 3:36AM MAINT ON H1	NOTE	## 1 HOTWELL CHECK LOST 5" IN 10 MINUTES  NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED AR  ## 1 SCR STOP SIGNAL  ## 1 SCR STOP SIGNAL  ## 1 SCR STOP SIGNAL  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER FOR SHUT DOWN  ## 1 FIRE IN H-18 DICER  ## 1 FIRE IN H-18 DICER  ## 1 FIRE IN H-18 DICER  ## 1	## 8-33AM H-1 HOTWELL CHECK LOST 5" IN 10 MINUTES NOTE NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKI ## 8-51AM GIVE H-1 SCR STOP SIGNAL ## 9:00AM TRANSFERRED H-1 AUXILIARIES - COOLING TOWER 1B PCC TRIPPED - ISSUED W/O ## 9:17AM OIL FIRE IN H-1 BOILER FOR SHUT DOWN ## 9:50AM H-1 TRIPPED - LOST ALL OIL GUNS - MILLS ARE BLOWN OUT - 1588 LB ON BOILER ## 9:55AM H-1 PRICIPS OUT OF SERVICE ## 1 TURBINE TURBING GEAR MOTOR WOULD NOT START - HAD TO JUMPER OIL PRESSURE ## 1 TURBINE TURBING GEAR MOTOR WOULD NOT START - HAD TO JUMPER OIL PRESSURE ## 1:25AM H-1 ALS OFF ## 1:25AM H-1 ALS OFF ## 1:25AM DRAINING H-1 BOILER ## 1:25PM H-1 BOILER ## 1:25PM H-1 BOILER ## 1:25PM H-1 BOILER ## 1-1 DE ANS OFF	## HI HOTWELL CHECK LOST 5" IN 10 MINUTES  ## NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKING H-1 OF 15-14 MINUTES  ## NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKING H-1 OF 15-14 MINUTES  ## NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKING H-1 OF 15-14 MINUTES  ## NOTIFIED J. FRANCIS, R. PARKER & B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKING H-1 OF 15-14 MINUTES  ## NOTIFIED J. FRANCIS CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPERS OF THE TOWN  ## NOTIFIED J. CHEMPERS OF J. CHEMPE	## 1- HOTWELL CHECK LOST 5" N 10 MINUTES  ## 1070E NOTTINED J FRANCIS, R. PARKER B. B. CHEATHAM OF LEAK ON H-1 - NOTIFIED ACES - TAKING H-1 OFF  ## 1080M TRANSPERBED H-1 AURILARIS - COQUING TOWER 19 PCC TRIPPED - ISSUED WIO  ## 1080M TRANSPERBED H-1 AURILARIS - COQUING TOWER 19 PCC TRIPPED - ISSUED WIO  ## 1080M TRANSPERBED H-1 AURILARIS - COQUING TOWER 19 PCC TRIPPED - ISSUED WIO  ## 1080M H-1 PREFIDE - LOST ALL OLUNAS - MILLS ARE BLOWN OUT - 1509 LB ON BOILER  ## 1080M H-1 BOILER FOR SHIT DOWN  ## 1080M H-1 BOILER FOR SHIT DOWN  ## 1080M H-1 BOILER FOR THE TOWN  ## 1080M H-1 BOILER CONTINUED NOT OPEN - HAD TO GET MAINT TO REMOVE LIMITORQUE - STILL COULDN'T OPEN ALL THE WAY  ## 1123AM H-1 AT S OFF  ## 1123AM H-1 AT



		ALARMS:											
		R1											
		H1	E.H. LOW	PRESSUR	RE/STEAM	SEAL LOV	V PRESSU	JRE					GAUGE GLASSES
		H2						PUMP RU	NNING - B	WEST DRU	M LEVEL	MMTR	OK
			OWERS TA										
			,28,29,30,3										
			/ 5,6,7,8,9,		457040	F 40 40 00	04 00 00	04.04.05					
		nz- 30,38,	40 6174	SSED-1,2,4	4,5,7,9,10,	15,18,19,20	,21,22,23,	24,34,35					
		FUEL OIL	TANKS										
		LEVELS		HMPL	NORTH	SOUTH							
				12' 9 3/4"									
	8:00AM	SAFETY E	BRIEFING										
								ATER WAS	н				
				H-1 BOILE			TS NOTIFI	ED					
	44.00444			FF H-1 STE				-					
				ME HEADE									
				K TOMORE									
				CLOSE - E		STRANGM	ISSIONS (	COMING OL	IT TO CHE	CK			
											- L BRFF	DEN - S CUTSHAW	TO CALL THE PLANT.
				EATER AIR		5/ 10 OI - O/	. 1.001 141 1	LITIVILOC	AOL TOR	J. 111001140	- L. DIXLL	DEN - O. COTOTIAV	TO OALL THE PLANT.
				AN FOR R				-	-				
						H-1 EH UN	NIT - GOIN	G TO FILL F	RESERVOI	₹.			
	NOTE	OPENING	FDFAN	DOORS FO	R AIR HEA	TER WAS	Н						
	7:30PM	H-1 #3 HT	R VALVED	OUT TO R	EPLACE V	VATER SID	E DRAIN	DRAIN PLU	GGED UP				
25/2013	8:00PM			R,EMBRY,	HILLYARD							A SHIFT T. TOW	
		DUVALL,	BEAN										
		LIAUT											
		UNIT	LOAD	UNIT CAP		SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
		R1	24HR	55 NIT ON BO	48								
		H1	STBY	NIT ON BO									
		nı.	UNIT OFF	TUBE LEA	153 K								
		H2	142	165	152	0.348	10.5	0.057	7.6	93.5	10.93	175	3
					.02	0.010	10.0	0.007	7.0	00.0	10.00	170	
		C.T.	STBY	65									
											GAUGE G	LASSES	
		ALARMS:									OK		
		R1											
		H1	STEAM S	SEAL HI/LO	BURNER	MANGT.	EH PRES	SURE LO/F	UMP STAF	RTREQ			
		H2	T.G. OIL	PUMP RUN	INING, DR	UM MAINT							
			OWERS TA										
		R1 1,2,3	,6,7,16,17,	18,19,22L,2	8,29,30,31								
		R1 1,2,3, H1 5,6,7,	,6,7,16,17, ,8,9,10,11,2	1 <b>8,</b> 19, <b>22</b> L,2 20,31		24 25 22	9 40 42				011.0		
		R1 1,2,3, H1 5,6,7,	,6,7,16,17, ,8,9,10,11,2	18,19,22L,2		, <b>34,35,</b> 36,3	88,40,43				SILO		
		R1 1,2,3 H1 5,6,7 H2 1,2,4	,6,7,16,17, ,8,9,10,11,2 ,5,7,9,10,1	18,19,22L,2 20,31 5,18,19,20,2	21,22,23,24		88,40,43				SILO 19'		
		R1 1,2,3, H1 5,6,7, H2 1,2,4,	,6,7,16,17, ,8,9,10,11,2 ,5,7,9,10,15 C.H.	18,19,22L,2 20,31 5,18,19,20,2 HMPL	21,22,23,24 NORTH	SOUTH	88,40,43						
		R1 1,2,3, H1 5,6,7, H2 1,2,4,	,6,7,16,17, ,8,9,10,11,2 ,5,7,9,10,15 C.H.	18,19,22L,2 20,31 5,18,19,20,2	21,22,23,24 NORTH	SOUTH	38,40,43						
	8:00PM	R1 1,2,3, H1 5,6,7, H2 1,2,4,	6,7,16,17, ,8,9,10,11, ,5,7,9,10,15 C.H. 9' 5 1/4"	18,19,22L,2 20,31 5,18,19,20,2 HMPL	21,22,23,24 NORTH	SOUTH	38,40,43						
		R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS	6,7,16,17, ,8,9,10,11,3,5,7,9,10,18 C.H. 9' 5 1/4"	18,19,22L,2 20,31 5,18,19,20,2 HMPL	21,22,23,24 NORTH 14' 9 1/4"	SOUTH	88,40,43						
	8:00PM	R1 1,2,3 H1 5,6,7 H2 1,2,4 FUEL OIL LEVELS SAFETY E	6,7,16,17, ,8,9,10,11,3 ,5,7,9,10,15 C.H. 9' 5 1/4" BRIEFING WORKING (	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4"	NORTH 14' 9 1/4"	SOUTH 8 1/4"	88,40,43						
	8:00PM 8:00PM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING	6,7,16,17, 8,9,10,11, 5,7,9,10,11 C.H. 9' 5 1/4" BRIEFING WORKING C H-1 AIR H	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4"	NORTH 14' 9 1/4" H-1 SH DRAIN	SOUTH 8 1/4"							
	8:00PM 8:00PM 8:30PM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S	6,7,16,17, ,8,9,10,11, ,5,7,9,10,15 C.H. 9' 5 1/4" BRIEFING WORKING C H-1 AIR H AID H-1 AII	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA	21,22,23,24 NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE	SOUTH 8 1/4"	0	EANED OU	BOTTOMS				
	8:00PM 8:00PM 8:30PM 8:45PM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1	6,7,16,17, 8,9,10,11, 5,7,9,10,15 C.H. 9' 5 1/4" BRIEFING VORKING C H-1 AIR H AID H-1 AII PRECIPS	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER HAD A LITT	NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE	SOUTH 8 1/4" S ADY TO GO RUST ON S	O SIDES CLE	EANED OU' 2-26-13 FOF		S			
	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C	6,7,16,17, 8,9,10,11, 5,7,9,10,11  C.H. 9' 5 1/4"  SVORKING C H-1 AIR H AID H-1 AII PRECIPS ED SOLO LARK TO V	8,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER HAD A LITT FROM INLA VORK 8P-8	21,22,23,24 NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE TLE ASH C KND SAID TAIL	SOUTH 8 1/4" S ADY TO GO RUST ON S	O SIDES CLE			S			
	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS  SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANING	6,7,16,17, 8,9,10,11, 5,7,9,10,11  C.H.  9' 5 1/4"  SVICKING ( VORKING ( VORKING ( H-1 AID H-1 AID PRECIPS ED SOLO LARK TO V G ON H-1 F	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER HAD A LITE FROM INLA VORK 8P-8 D FANS AF	NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE ILE ASH C AND SAID A 2-26-13 IND PAD	SOUTH 8 1/4"  S ADY TO GE RUST ON S TO BE BAC	O SIDES CLE KK AT 7A 2	2-26-13 FOF		S			
	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE 11:45PM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANING INLAND D	6,7,16,17, 8,9,10,11, 5,7,9,10,11, 9' 5 1/4"  BRIEFING WORKING O H-1 AIR H AID H-1 AII PRECIPS ED SOLO LARK TO V G ON H-1 F ONE WITH	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER HAD A LITT FROM INLA VORK 8P-8 D FANS A!	NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE ILE ASH C LND SAID A 2-26-13 I ND PAD OING HOM	SOUTH  8 1/4"  S ADY TO GG RUST ON S TO BE BAC	O BIDES CLE K AT 7A 2	2-26-13 FOF		S			
₹6/2013	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE 11:45PM 12:08AM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANING INLAND D D CLARK	6,7,16,17, 8,9,10,11, 5,7,9,10,11; 9' 5 1/4"  BRIEFING WORKING C H-1 AIR H AID H-1 AIR PRECIPS ED SOLO LARK TO W 3 ON H-1 F ONE WITH CALLED B	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER HAD A LITT FROM INLA VORK 8P-8 D FANS AI ECONS GO ACK WILL	NORTH 14' 9 1/4"  H-1 SH DRAIN WASH RE TLE ASH C ND SAID SAID SAID SAID SAID SAID SAID SAI	SOUTH  8 1/4"  S ADY TO GO RUST ON S TO BE BACK  JM  E WILL BE	O SIDES CLE K AT 7A 2 E BACK AT	2-26-13 FOF		S			
26/2013	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE 11:45PM 12:08AM NOTE	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANING INLAND D D CLARK TOOK PLU	6,7,16,17, 8,9,10,11,2 5,7,9,10,11  C.H.  9' 5 1/4"  BRIEFING VORKING C H-1 AIR H AID H-1 AIR PRECIPS ED SOLO LARK TO V G SON H-1 F ONE WITH CALLED B ASTIC OFF	18,19,22L,2 20,31 5,18,19,20,2 HMPL 12'9 3/4" DN ECONS EATER WA R HEATER HAD A LITT FROM INLA VORK 8P-8 D FANS AP ECONS G ACK WILL PA FANS	NORTH 14' 9 1/4" H-1 SH DRAIN WASH RE ILE ASH C AND SAID ND PAD OING HOM BE IN TON	SOUTH  8 1/4"  S  ADY TO GO  RUST ON S  TO BE BACK  JM  E WILL BE  IGHT AT BO  ANEL AND	O SIDES CLE K AT 7A 2 E BACK AT P-8A O SEAL AIR	2-26-13 FOF	R AIR HEAT	S ER WASH	19'		
26/2013	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE 11:45PM 12:08AM NOTE	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANING INLAND D D CLARK TOOK PL TOOK BA	6,7,16,17, 8,9,10,11,2 5,7,9,10,11  C.H.  9' 5 1/4"  BRIEFING VORKING C H-1 AIR H AID H-1 AIR H AID H-1 AIR H CALLED B ASTIC OFF CK PLATE	B,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER WA R HEATER WA R HEATER WA D FANS AR ECONS GR ACK WILL PA FANS S OFF ECC	NORTH  14' 9 1/4"  H-1 SH DRAIN WASH RE ILE ASH C AND SAID A 2-26-13 IND PAD OOING HOM BE IN TON FLYASH P DNS CLEAN	SOUTH  8 1/4"  S ADY TO GG RUST ON S TO BE BAC  JM  E WILL BE IGHT AT 86 ANEL AND NED SAME	O SIDES CLE EX AT 7A 2 E BACK AT P-8A D SEAL AIR E MAIN A	2-26-13 FOR T7A R FANS AIR LINE LA	AIR HEAT	S ER WASH	19'	P	
26/2013	8:00PM 8:00PM 8:30PM 8:45PM 9:39PM 9:58PM NOTE 11:45PM 12:08AM NOTE 2:00AM	R1 1,2,3, H1 5,6,7, H2 1,2,4, FUEL OIL LEVELS SAFETY E INLAND W OPENING INLAND S BEAT H-1 CONTACT CALL D C CLEANINC INLAND D D CLARK TOOK PA TOOK BA #1 HOPPE	6,7,16,17, 8,9,10,11, 5,7,9,10,11, 9' 5 1/4"  BRIEFING WORKING O H-1 AIR H AID H-1 AIR PRECIPS ED SOLO LARK TO V G ON H-1 F ONE WITH CALLED B ASTIC OFF CK PLATE ER AIR LIN	B,19,22L,2 20,31 5,18,19,20,2 HMPL 12' 9 3/4" DN ECONS EATER WA R HEATER WA R HEATER WA R HEATER WA D FANS AR ECONS GR ACK WILL PA FANS S OFF ECC	NORTH 14' 9 1/4"  H-1 SH DRAIN WASH RE FILE ASH C ND SAID A 2-26-13 I ND PAD OING HOM BE IN TON FILYASH P NNS CLEAR	SOUTH  8 1/4"  S ADY TO G RUST ON S TO BE BAC /M  E WILL BE IGHT AT 86 ANEL AND NED SAME NED SAME NET WILL N	DO SIDES CLE EX AT 7A 2  BACK AT 7A 2	2-26-13 FOF	AIR HEAT	S ER WASH	19'	P	



	6:05AM	H-1 BOILE	RFEEDF	UM OFF H	ELD PRES	SURE FOR	10 MINS						
				SUNS COUL				THER 5 AR	ECLEAN				
				GENT ON C			,,,,,,,	THE TO THE	CLLA				
				VED BACK									
				VED BACK	. IIV								
	7:30AM	H-1 DRY E	OILER										
100/0040	0.00444	MODDIO	DENTON	0.00000		TON DAY							
26/2013	8:00AM			S/L, REYNO		TON, BAK	ER, TATE,	EDWARDS				D SHIFT M.ASKINS	
		ONAN, HO	GAN, WA	DLINGTON									
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
		R1	24HR	55	48								
			STBY	NIT ON BO	DILER								
		H1	0	165	153								
			UNIT OFF	TUBE LEA	K								
		H2	142		152	0.36	10.5	0.06	11	94	10.56	175	3
				100	102	0.00	10.0	0.00		04	10.00	170	3
		C.T.	STBY	65									
		0.1.	SIBT	65									
											GAUGE G		
		ALARMS:									OK		
		R1											
		H1		SEAL HI/LO				SURE LO/P	UMP STAF	RTREQ			
		H2	T.G. OIL	PUMP RUN	INING, DR	UM MAINT							
		SOOTBLO	WERS TA	AGGED									
		R1 1,2,3,	6.7.16.17.	18, 19, 22L, 2	8.29.30.31			-					
		H1 5,6,7,			-,,,-								
				5,18,19,20,2	24 22 23 24	34 35 36 3	9 40 43	-		-			
		112 1,2,4,	3,7,3,10,1	3, 10, 13,20,2	1,22,23,24	,34,33,36,3	10,40,43	-		011.0			DOOT IS OVER
										SILO			BOOTHE SYSTEM
		FUEL OIL			NORTH					12'			IN
		LEVELS	9' 3 3/4"	12' 9 3/4"	14' 9 1/4"	8 1/4"							
	8:00AM	H-1 E.H. F	UMPS ON	TO CHECK	K FOR LEA	KS							
	8:15AM	H-1 PREC	IP DOORS	CLOSED	SOING TO	AIR TEST							
	8:15AM	H-1 E. H.	PUMPS TA	AGGED TO	FIX LEAK								
				SPRAYS TO		ON 4TH F	LOOR						1
				ST FINISHE				ED WASH					
				AIR DRIVE									
					STOPPED,	MAINT GC	JING TO C	HECK.					
				R TO FIRE									
				UST BELOV					R MAINT T	O REPLAC	E DRAIN \	ALVE.	
				AIR DRIVE		MAINT GO	ING TO C	HECK.					
	NOTE	RAISED D	RYING AC	SENT TO 15	%								
	NOTE:	ELEC CLE	ANING H	1 480V MAIN	NS								
	11:30AM	MAINT CA	NT GET H	I-1 A AIR HE	EATER AIR	DRIVE TO	STAY RU	NNING GO	NG TO RE	LEASE A A	ND B ELE	CT DRIVES TO RUN	
	12:00PM	R. DENTO	N IS OFF	AND ON SI	CK LEAVE	WILL RET	URN TO W	ORK ON 4	1/13				
	12:50PM	L. BREED	EN RETUR	RNED CALL	- NOT NEE	EDED							
							INT TO SE	TEH PRE	SSURF A	MPS A 15	5 R 17 6 F	OTH RUNNING AT 1750	PSI
				18.4 FOR									
	4-50DM			NTER IS BA									
				ON H-1 EC									
				ED AND ALI				. A EH PUN	IP ON AND	BYPASS	OPEN ON	UNIT	
				ASH FINISH									
	5:30PM	STARTED	CLEANING	G H-1 B STI	EAM COILS	3.							
	NOTE	MAINT IS	GOING TO	CHANGE (	OUT H-1 A	AIR HEATE	R AIR DR	IVE MOTOR	?				
	5:35PM	ALL BACK	PLATES	ARE ON H-	1 PRECIP	hoppers.							
				ON H-1 TH									
				TO SIGN HIM						-			İ
				CLOSING			2						-
				IR HEATER									-
	7.55FIVI	IIIAN GO	IN D A	IN HEATER	10 KEPA	IIX HOLE II	FLOOR	-					-
26/2040	0.00014	EELTY O	CII DI A	ID EMPOY	UII I VADO							A CHIET T TOTAL	
26/2013	8:00PM			IR,EMBRY,								A SHIFT T. TOW	
		DUVALL,E	SEAN	TYOUNG	AND D CL	ARK HERE							
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLOW	BACK PRESSURE
		R1	24HR	55	48								
			STBY	NIT ON BO	DILER								
		H1	0		153								
				TUBE LEA									
		H2	162		152	0.495	10.7	0.073	19.4	91	11.43	212	3.3



		C.T.	STBY	65								
											GAUGE C	GLASSES
		ALARMS:									OK	
		R1							- 1			
		H1	STEAM S	SEAL HI/LO	BURNER	MANGT.	EH PRES	SURE LO/P	UMP START	REQ		
		H2	T.G. OIL	PUMP RUN	INING, DRI	UM MAINT						
		SOOTBLO	OWERS TA	AGGED								
		R1 1,2,3,	6,7,16,17,	18,19,22L,2	8,29,30,31							
		H1 5,6,7,	,8,9,10,11,	20,31								-
		H2 1,2,4,	5,7,9,10,1	5,18,19,20,2	21, 22, 23, 24,	34,35,36,	38,40,43				SILO	
											10.7'	
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH						
		LEVELS	9' 5 1/4"	12' 9 3/4"	14' 9 1/4"	8 1/4"						
				184 7								
	8:00PM	SAFETY E	BRIEFING									
	8:15PM	FD FANS	CLEAN NO	OTIFIED TITA	AN CLOSIN	G SAME						
	8:29PM	H-1 BOILE	R PUMPE	D BACK TO	FIRING LE	VEL, MA	INT WORK	ING ON HO	LE BETWEE	N B STEA	M COILS	AND AIR HTR
	9:10PM	TOOK DR	YING AGE	NT TO 10%								
	9:20PM	H-1 FD FA	NS RELE	ASED RACK	KING IN SA	ME FOR	AIR TEST					
	9:48PM	AIR HTRS	, SEAL AI	R FAN, BUR	NER COOL	ING AIR	AN FD FA	NS ON FOR	AIR TEST			
	NOTE	SHUT OF	F 1 SEAL	AIR FAN TO	MAKE SU	RE OTHE	R AUTO ST	TARTED THA	AN THE OTH	ER BOTH	AUTO ST	ARTED OK
	10:15PM	BACKED	OFF FD FA	ANS PORT	WITHOUT O	SASKETF	REPAIRING	SAME				
	10:35PM	RAISED F	D FANS B	ACK UP TO	PURGE B	OILER BO	ILER WILL	NOT PURG	E FOUND E	-2 SHROL	D IN STO	P PUT TO AUTO
	10:45PM	PURGING	H-1 BOILE	ER								
	10:55PM	FIRES IN	H-1 BOILE	R 10:56 LO	ST FIRES 1	1:04 FIRE	S IN H-1 1	1:07 LOST F	IRES 11:14	FIRES IN	11:16 LOS	STFIRES
		11:24PM F	FIRES IN F	1-1 BOILER								
2/27/2013	12:23AM	GOT RELE	EASE ON	HOLD #H-65	0169 DISC	CONNECT	FROM DIS	PTACH				
	1:01AM	CLOSED	N 0169 DIS	SCONNECT								
	1:22AM	H-1 DRUM	PRESSU	RE 51 TEM	P 285 A2 B	1 B2 OIL (	GUNS IN					
	1:25AM	TOOK A-4	OIL GUN	OFF H-2 TO	PUT IN A-	1 ON H-1	HAD A TER	RRIBLE TIME	GETTING	OIL GUNS	TO STAY	IN
	2:00AM	HAVE A1,	2,3,4 AND	B1,2 OIL G	UNS IN DR	UM 129 TI	EMP 254					
	2:30AM	H-1 A 1,2,	3,4 AND B	1,2 OIL GUI	NS IN DRUI	M PRESS	URE 355 T	EMP 472				
	2:45AM	CANT GE	T FIELD BI	KR RACKED	IN ELECT	CHECKIN	IG ON SAN	ME WHEN T	HEY ARRIV	E		
	3:00AM	H-1 A 1,2,	3 OIL GUN	IS IN DP 56	5 TEMP 554	4						
	4:07AM	SEALING	H-1 TURB	INE 4:10 AM	PULLING	VACCUM						
	4:30AM	H-1 A 1,2,	3,4 OIL GU	JNS IN DP 7	72 ST 621	SH 82 VA	C -12					,
	4:45AM	WAITING	ON EH TE	MP TO ROL	L TURBINE							
	5:12AM	ROLLING	H-1 TURBI	NE EH TEM	P 90 DEGF	REES						
	6:12AM	H-1 TIED	ON LINE TI	RIED CLOS	NG 0162 3	TIMES W	OULD NOT	CLOSE OK	ED FROM D	DISPATCH	TO TIE O	N WITH 0166
		TRIED 016	2 AFTER	UNIT TIED C	N WOULD	NOT CLO	SE NOTIFI	ED DISPAT	CH SOMEO	NE COMIN	G OUT	
	NOTE	H1 & H2 D	C GROUN	ID LIGHTS F	LICKERING	D.SHEL	TON NOTIF	IED				



Your Touchstone Energy Cooperative

## Forced Outage Report

## Boiler Tube Leak Record

Plant: HMP&L Station Two Unit: 1
ype of Leak:
Pin Hole Thick Lip Failure Crack Thin Lip Failure
ube Wall ThinningOther
Orientation 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 V Pad Weld Plug Tube Short Circuit Other

## **Description of Repair:**

Tube leak on the Radiant SH Outlet  $3^{rd}$  element from the west wall, on the outer loop at elevation 537' - 5"; The outer loop (E10) was replaced along with an additional 36" dutchman on the north side of the loop on the  $3^{rd}$  element. The next 2 inner loops (E9 & E8) that were washed by the spray from the leak on the outer loop were also replaced. A new handcuff was installed on the lower section of the  $2^{nd}$  outlet element from the west wall.

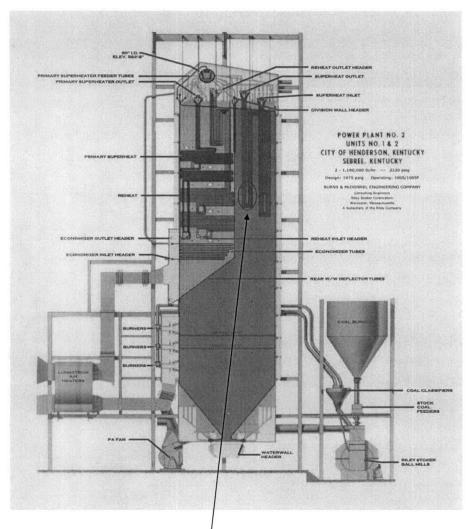


**Exact Location of Leaks:** 

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## **HMPL STATION UNIT 1** 2013 (3) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 09:51 2-24-13
Date and Time Unit On Stand-by\_\_\_0612 2-27-13



Tube leak on the Radiant SH Outlet 3rd element from the west wall, on the outer loop at elevation 537' - 5", The outer loop (E10) was replaced along with an additional 36" dutchman on the north side of the loop on the 3rd element. The next 2 inner loops (E9 & E8) that were washed by the spray from the leak on the outer loop were also replaced. A new handcuff was installed on the lower section of the 2<sup>nd</sup> outlet element from the west wall.



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

**Lost Sales Opportunity Report** 

	Company of the last					ST ANA				
	MISO	DART R	eve	nue and l	LO	ST OPPOR	TUNIT	ſΥ		
Unit		HMP'L 1 -	- H1-	13-01				Product	ion Co	est
Date & Time Off Line		2/24/1	3 9:5	50			N.	/IVV		\$/MW
Date & Time On Line		2/27/1	3 6:	12			8	39	\$	30.82
Outage Duration		68 hr. :	22 m	in.			1	33	\$	28.93
Outage Code		U	02				1	55	\$	28.79
Outage Reason	R	epair superh	eater	tube leak						
Date	DA LI	VIP Average	RT	LMP Average		DART P&L		ost		
2/24/13 (HE 11-24)	\$	26.43	\$	23.57	\$	9,393	\$	-		
2/25/13 (HE 1-24)	\$	28.37	\$	27.88	\$	-	\$	-		
2/26/13 (HE 1-24)	\$	26.50	\$	24.90	\$		\$	-		
2/27/13 (HE 1-15)	\$	26.13	\$	30.92	\$	(506)	\$	-		
Total					\$	8,888	\$	-		
Start Up Fu	el Cost						Tot	al Forced	Outag	ge Cost
S/U Fuel Consumed		8,516					DAR	T P&L	\$	8,888
S/U Fuel Price	\$	3.19					Lost Op	portunity	\$	-
S/U Fuel Cost	\$	(27,136)					S/U F	uel Cost	\$	(27,136
							Т	otal	\$	(18,249
NOTES:										





Your Touchstone Energy Cooperative

## Forced Outage Report

To: Bob Berry

From: Billy Boarman

Date: 27-Mar-2013

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

**Duration** 

Trip Time: 23-Mar-2013 04:37 Tie Time: 26-Mar-2013 02:39

Time Offline: 70:02

### Outage Description

HMP&L Station Two Unit 1 was removed from service on Sunday, 23-Feb-2013 at 04:37 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 east wall inner (hairpin) loop, at elevation 542' was caused by external corrosion.



## **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



Your Touchstone Energy® Cooperative

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

### **Corrective Action**

The inner loop (E1) on Panel 4 was replaced along with the addition of a 67" dutchman on the north side leg, up to the swage and a 24" dutchman on the south side leg. The leak from the 4th element washed tubes on the 3rd element. UT indications on 14 of the tubes (E9-E1) on the north side of the element and tubes (E1 – E5) on the south side of the element all at elevation 544' revealed tube wall thinning ranging from .248" down to .101" with the original thickness being .313. E9-E1 on the north side and E1 – E5 on the south side of the 3<sup>rd</sup> element all had 24" dutchman installed. Samples of these tubes will be sent out to confirm failure and life expectancy.

### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 23-Mar-2013 04:36:50:217

Event Time	State	Tag Name	Tag Description
23-Mar-2013 04:36:58:057	OPEN	H150OCB166ST	OCB 0166 GEN H1 STATUS
23-Mar-2013 04:36:58:011	OK	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
23-Mar-2013 04:36:58:006	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
23-Mar-2013 04:36:57:934	OK	H150OCB166GETP	OCB 0166 GEN H1 TRIP
23-Mar-2013 04:36:57:932	OK	H150OCB162GETP	OCB 0162 GEN H1 TRIP
23-Mar-2013 04:36:57:931	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
23-Mar-2013 04:36:57:926	LKOUT	H150GENLO86G2	GEN DIFFERENTIAL LO (86G2)
23-Mar-2013 04:36:57:924	OK	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
23-Mar-2013 04:36:57:906	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
23-Mar-2013 04:36:57:906	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
23-Mar-2013 04:36:57:903	TRBLE	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
23-Mar-2013 04:36:54:964	OK	H133LMISTP	LAST MILL IN SERVICE TRIP
23-Mar-2013 04:36:51:099	OK	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
23-Mar-2013 04:36:50:992	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
23-Mar-2013 04:36:50:970	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
23-Mar-2013 04:36:50:217	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
23-Mar-2013 04:36:50:046	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW



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## **Forced Outage Report**

## Other Work Completed While Unit Was Offline

- Clean Seal Trough
- · Repaired gas leaks SCR duct work and coal leaks on the mills
- Precipitator inspection
- · Back-pass inspection
- · Calibrated all coal feeders.
- · Repaired leak on SE #2 Steam Coil
- Repaired leak on B4 oil gun
- · Repaired coal leak on B Mill



### Your Touchstone Energy® Cooperative

## **Operators Event Log**

3/23/2013														
								TANK LEVE						
	2;40am							#48 SOOTE						
								AN HEAR BL	OWING &	TUBES BLO	WING AR	OUND		
	3;30AM	H1 HOTW	ELL CHEC	K LOST 6"	20 MIN J.F	RANCIS N	OTIFIED							
	3;37AM	STARTING	DOWN W	VITH H1										
	3;38AM	EXPRO N	OTIFIED TA	ALKED TO	JASON WI	LL CALL B	ACK FOR	ETA						
	3;41AM	ACES NO	TIFIED AB	OUT H1 CO	MING OFF									
	3;42am	H1 FUEL	OIL IN BOIL	LER										
	3;50am	EXPRO CA	ALLED BA	CK ETA AR	OUND 11A	M PER JA	SON							
	3;50am	H1 SCR S	TOP SIGN	AL										
	4;34AM	H1 PRECI	PS OUT											
	4;37AM	H1 OFF LI	INE											
				NS IN PEN	THOUSE		-			-				
		H1 TURBI						-					-	-
		H1 DRAIN												
				VACUM CF	DEIM HEDE	E A BOUND	0.00 0.30	14.44					-	
		J.ARNOLE		VACOIVI CI	YEAN HELK	AROUNL	0,00-0,30	AIVI					+	
				000 011104									-	
	NOTE	LAB CHEC	CKING HZ	CBD SILICA	`									
														-
3/23/2013	8:00AM	CLARK, C	ONN, BRE	EDEN, CUT	SHAW HI	GGINS, BL	ANKS					B SHIFT	PENDLEY	
		YOUNG -										2 01 1	LITOLLI	-
		UNIT	LOAD	LINIT CAP	NET CAD	. SO2	CO2	NOX	OBACITY	REMOVAL	DUST	AMM EI	C DACK DD	ECCLIDE
		R1	24HR	55	48	STNDBY	002	NIT. ON B		KEWOVAL	0031	AIVIIVI. FL	CBACKFR	ESSURE
		111	241111	55	40	STINDET	-	INIT. ON B	OILER	-				
		H1	0	165	0		-							
		m			U	-	-		-					
		H2	OFF TUBI	_	450	0.000	10.0	0.050						
		HZ	164	165	152	0.396	10.8	0.058	19.8	92.3	13.07	237	2.2	
		C.T.	CTDV	65		-							-	
		0.1.	STBY	65			-				041105.0	1.40050		
		AL ADMO.	-				-				GAUGE G			
		ALARMS:		-		-					OK			
		R1												
		H1					EH PRES	SSURE LO/P	UMP STAF	RTREQ				
		H2	T.G. OIL F	PUMP RUNI	NING, DRI	UM MAINT								
		SOOTBLO	OWERS TA	GGED										
		R1- 16,19	,28,29,30,3	31						SILO			BOOTHE	SYSTEM
		H1 20 / 5,	6,7,8,9,10,	11						5'			IN	
		H2- 36,38,	40,43 BY	PASSED-1	,2,4,5,7,9,	10,11,15,18	3,19,20,21	,22,23,24,39	,44					
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH								
		LEVELS	8' 6 1/4"	12' 2 1/2"	13' 11"	8 1/4"								
3/23/2013	8:00AM	SAFETY E	BRIEFING											
	8:00AM	EXPRO CA	ALLED - BE	E HERE AR	OUND 11:	MAOO								
	8:15AM	TAGGED	OUT H-1 R	H. & S.H. S	SPRAYS &	PRECIPS								
				GED OUT			K GOOD							
				H-1 PRECI										
				R HYDRO 8		CHECK								
		H-1 FANS							-					
		INLAND A											-	
					WAS NO	DIDE TOAL	I ER ON S	SITE - THEY	HAVE CAL	LED TO CE	T ONE DE	OLIGHT IN		
		H-1 'A' BFI			WAS INO	I L IIVAI	LLIN ON S	ME - INET	INVE CAL	LED TO GE	I ONE BE	OUGHI II	•	
					INCUR	DUEATER	ATU DU	IDI E EDOM	EACTIA				+	-
							- 41H BUN	NDLE FROM	EASTWA	LL			-	-
				S ON FOR	VACUUM	CHECK								
		EXPRO AT												
		-		S OFF - VA		ECK OK	-							
				INISH HYDI										
	11:48AM	H-1 'A' BF	P OFF - DF	RUM PRES	SURE AT	1440#								
				BELOW DRI		Contract Con								



Your	Touchstone	Energy*	Cooperative	XD
LOUI	roughtstoric	Littingy	Cooperative	16.00

<b>O</b> .	CCC		ulc	180	110	PU							
	12:00PM	MAINT OL	JT OF BOIL	ER - EXPR	O STARTIN	IG DE-SLA	.G						
	12:00PM	INLAND T	RAILER HE	RE - SETT	ING UP TO	VACUUM	PENTHOU	SE					
	12:05PM	H-1 BOILE	R FEEDPL	JMPS TAG	GED OUT								
				ACUUMING									
				OILER - HO									
		-		ITH DE-SLA	AG - PULLI	NG WETB	OTTOM DO	WN & TA	GGING OUT				
		EXPRO LE											
				ULLED DO				-					
				WETBOTTO								ļ	
	5:35PM	INLAND F	INISHED A	T PENTHO	USE - MOV	ING TO E	CONOMIZE	R HOPPE	RS				
3/23/2013	8;00PM	EDMONDS	S,JACKSO	N , GRIFFI	N, HOGAN	BOWLEY	,ALEXAND	ER				C SH	IIFT CARTER
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLO	BACK PRESSUR
		R1	24HR	48	48	NITROGE	N PSI = 2.	1					
			STBY										
		H1		165	OFF TUBE	LEAK							
		H2	152	165	152	0.481	10.4	0.078	13	91.1	12.19	192/C	2.8
		C.T.	ON STAN	DBY	65								
		ALARMS:											
		R1					-		-				
		H1	DUDNED	MANAGEN	AENIT/OTE A	MCEALL	OW DDEC	CLIDE					GAUGE GLASSE
		H2		G GEAR OI					I VMTD				OK
		112	TORIVIN	J OLAN OI	L F OWN TX	DIVIVINO - L	VVLSTDI	CON LL VL	L AVIIIX				OK
		SOOTRI	OWERS TA	GGED	-			-					
		-	,28,29,30,3		-				-				
			,6,7,8,9,10,										
		-		PASSED-1	24579	10 11 15 18	19 20 21	22 23 24 4	4				
		112-00,00	,40,40	T AGGED-	1,2,4,0,1,0,	10, 11, 10, 10	, 10,20,21,	22,20,24,4	1				
		FUEL OIL	TANKS	-									
		LEVELS	7	HMPL	NORTH	SOUTH		-	SILO LVL	12'	BOOTHE	SYSTEM	OUT
		LEVELO		12' 2 1/2"		8 1/4"	1		OILO LVL	12	DOOTTIL	OTOTEM	001
			0 0 1/4	12 2 1/2	10 11	0 1/4							
	8:00PM	SAFETY E	BRIEFING									-	
				OP HOOPE	RS								
				ENSATE SU		SS-TIF VA	ALVE		1			-	
				RS CLEAN									
				BER DOOF	RS			1				-	
3/24/2013				GEAR SPR									
	12;20AM	H2 OUT O	F ADS FO	R TV-GV TI	EST								
	1;00AM	HELD WE	EKLY SAF	ETY MEET	ΠNG								
		-	S CLEAN- R SET FOR	INLAND LE R HYDRO	AVING								
3/24/2013	8:00AM			EDEN, CU	TSHAW HI	GGINS, BL	ANKS					B SHIFT I	PENDLEY
		YOUNG -	SCHOOL										
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLO	BACK PRESSUR
		R1	24HR	55	48	STNDBY		NIT. ON I				_	
		ш	0	105	0								
		H1	0	165	0								
		uэ	OFF TUBE		450	0.540	10.1	0.057	40.4	00.4	44.00	404	2.20
		H2	143	165	152	0.542	10.1	0.057	12.4	90.1	11.83	194	2.28



											GAUGE G	LASSES		
		ALARMS:									ОК			
		R1												
		H1	STEAMS	EAL HI/LO	BURNER	MANGT	EH PRESS	URE LO/P	UMP STAF	RTREO				
		H2		UMP RUNI				ONE EON	01111	,,,,,,				
		112	1.0. 01.1	OWN TROTA	viivo, bivo	141 1417 (114)								
		COOTEL	NA/EDO TA	COED										
			OWERS TA							011.0			DOOTHE	OVOTEN
			,28,29,30,3							SILO			BOOTHE	SYSTEM
			,6,7,8,9,10,							13'			OUT	
		H2- 36,38,	40,43 BY	PASSED-1	,2,4,5,7,9,1	0,11,15,18	,19,20,21,2	2,23,24,44						
		<b>FUEL OIL</b>	C.H.	HMPL	NORTH	SOUTH								
		LEVELS	8' 6 1/4"	12' 2 1/2"	13' 11"	8 1/4"								
/24/2013	8:00AM	SAFETY E	RRIFFING											
				F.D. FAN	FOR MAIN	г								
		1	IP DOORS		T OIL WITCH								-	
					IED MANIET	TO DUT D	LATER ON	-	-			-	-	-
				AN - NOTIF		10 PUT P	LATES ON							
				H-1 'A' F.D.									-	
	NOTE	CLEANING	G IN H-2 BA	ASEMENT -	TAKING N	ON HAZAF	RDOUS WA	STE BARF	RELS TO S	TORAGE A	REA			
	12:19PM	H-1 TURB	INE OFF T	URNING GE	EAR FOR IN	IST. TO RE	EPLACE TO	JRNING GE	AR OIL PE	RESSURE	SWITCH			
	12:43PM	H-1 BACK	ON TURN	ING GEAR										
	NOTE	WASHING	IN H-1 & I	H-2 WETBO	TTOM PITS	3								
				ACK ON H										
				NKS & L.BI			MORROW							-
	7 101 141	30112001	LD INDEA			101011								
10410040	0.00014	EDMOND	e IVCREO	N , GRIFFI	N HOCAN	BOW! EV	AI EVAND	ED					HIFT CART	FR
124/2013	8;00PM	EDMOND	S,JACKSU	N , GRIFFI	N, HOGAN,	BOWLET	ALEXAND	EK				CS	HIFT CART	EK
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVA	DUST	AMM. FL	CBACK PR	ESSURE
		R1	24HR	48	48	NITROGE	N PSI = 2.1							
			STBY											
		H1		165	OFF TUBE	LEAK								
		H2	162	165	152	0.617	10.7	0.058	17.6	87.6	11.4	229/C	3.3	
			102	100	102	0.017	E E E E	0.000	17.0	01.0	,	22010	0.0	
		C.T.	ONICTAN	DRV	e E									
		C. 1.	ON STAN	DBY	65									
							-			-				
		ALARMS												
		R1												
		H1	BURNER	MANAGEN	MENT/STEA	M SEAL L	OW PRES	SURE					GAUGE G	BLASSES
		H2	TURNING	G GEAR OI	L PUMP RU	JNNING - E	B WEST DE	RUM LEVE	L XMTR				OK	
		SOOTBL	OWERS TA	GGED										
		-	9,28,29,30,		1						-	-		-
					1			-		-				-
			,6,7,8,9,10,		24570	0 44 45 44	10 20 24	22 22 24 44			-			-
		HZ- 36,38	,40,43 B	YPASSED-1	1,2,4,5,7,9,	10, 11, 15, 18	5, 19,20,21,2	2,23,24,44			-	-		-
				-			-			-				
		FUEL OIL	7											
		LEVELS	C.H.	HMPL	NORTH	SOUTH			SILO LVL	15'	BOOTHE	SYSTEM	OUT	
			8' 6 1/4"	12' 2 1/2"	13' 11"	8 1/4"								
	8:00nm	SAFETY	BRIEFING											
				& B MILLS	3							1		1
					1									
	NOTE	HZ ADDE	D LITTLE E											
				1			1					-	-	
3/25/2013				D ACES A	BOUT H2 M	ILL PEAKI	NG WILL G	ETBACK	WITH ME					
	1;12AM	M.ASKIN	S CALLED	IN SICK										
	2;36AM	H2 OUT C	F AS FOR	MILL PEA	KING									
	3;29am	H2 BACK	IN ADS											
				NDER SCH	HEDULED.	6P-6A TO	NITE							
				GIVE OPTION										
						O HOME								
				4B CONV										
	6.300 M	RBLANK	S CALL G	IVE OPTIOI	NSTAYING	HOME								



/25/2013	8:00AM	MORRIS.	DENTON S	S/L. REYNO	LDS. GAT	TON. BAK	ER. EDW	ARDS, TAT	E-SCHOOL			DSHIFT	PENDLEY	
20.20.0	0.00	JOHNSO		,	,									
		22.11.00	Ť ·											
		UNIT	LOAD	UNIT CAP	NET CAP	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FI	BACK PR	ESSIIE
		R1	24HR	55	48	STNDBY	002	NIT. ON E		KLWOVAL	D031	AMIN. I L	DAONTIN	20001
		13.	241111	00	40	OTTADDT		IVII. OIV	JOILLIN					
-		H1	0	165	0				-					
		ш			U									
		un	OFF TUB		450	0.000	40.7	0.050	04.4	00.0	44.45	- 044	0.75	
		H2	162	165	152	0.396	10.7	0.058	24.1	92.2	11.15	241	2.75	
		C.T.	STBY	65										
											GAUGE C	BLASSES		
		ALARMS:									OK			
		R1												
		H1	STEAM	SEAL HI/LO	BURNEF	MANGT.	EH PRES	SSURE LO/	PUMP STAF	RTREQ				
		H2	T.G. OIL	PUMP RUN	NING, DRI	JM MAINT								
		SOOTBLO	OWERS TA	AGGED										
		R1- 16,19	,28,29,30,	31						SILO			BOOTHE S	SYSTE
		-	6,7,8,9,10							17'			OUT	
				YPASSED-1	,2,4,5,7,9	10,11,15,18	3,19,20,21	,22,23,24.4	4					
							,,	. , ,- ,-						
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH		-	-					
		LEVELS	8'	11' 3"	13' 11"	8 1/4"	1		-	-		-	-	
		LLVLLO	-	11 3	10 11	0 1/4	-					-		
125/2012	9.00014	SAFETY E	DIEEING											
25/2013				IN CICK FO	D TOMOS	DOW			-					
		-		IN SICK FO			0.001114		-					
				- MAINT CL			S ON H-1		-				-	
				H-1 'A' BFP	FOR HYDE	RO								
		H-1 'A' BF												
				OLD AT 144	0# DRUM -	H-1								
	12:25PM	H-1 'A' BF	P OFF											
	1:10PM	H-1 DRY	BOILER PE	ER J. WEST										
	1:45PM	H-1 BOILE	ER SET TO	FIRE										
	2:30PM	H-1 BOILE	R STOP V	ALVE WILL	NOT OPE	N - MAINT	& ELECT	. INVESTIG	ATING					
	3:00PM	PUT BOO	THE SYST	EM IN SER	VICE - SIL	0 17'								
	3:25PM	MAINT RE	LEASED	H-1 BFP'S,	WETBOTT	DM & AND	FUEL							
	3:50PM	ALL H-1 T	AGS PULL	ED - WAITI	NG ON AIF	RTEST								
	3:56PM	TAGGED	OUT H-1 M	AIN STOP	VALVE - N	AINT TAKE	NG MOTO	OR OFF TO	GET INTO	SEARBOX				
	NOTE	TITAN WO	ORKING OF	N BOILER P	ORT THAT	HAS A BE	ROKEN D	OGEAR ON	IT - WAITIN	IG ON AIR	TEST			
				OL PIECE IS										
		H-1 AIR TI		_										
					VALVE TO	TRY AND	OPENIT	- NO GO -	TAGGING E	BACK OUT				
		R. GENTE						00						
		FIRE IN H					-					-	-	
8/25/2013				IR,EMBRY,	HII I VARD							A SHIFT	T TOW	
72072010	0.001 141	DUVALL,I		J BOWLE			DE .	+	-			7. 011111	1. 1011	
		DOVALL,	CCA14	3 DOWLE	. I ALEXA	TOLK HE			-				1	
		UNIT	LOAD	LIMIT CAD	NET CAD	600	con	NOV	ODACITY	DEMOVA	DUCT	AMM FI	C D A C L D D	ECCUE
			LOAD	-	NET CAP.	SO2	CO2	NOX	UPACITY	REWOVAL	DUS 1	AWW. FL	BACK PRI	ESSUR
		R1	24HR	55 NIT ON D	48		-		-					
		114	STBY	NIT ON BO										
		H1	0	165	153									
				OILER MAI								200		
		H2	155	165	152	0.425	10.7	0.044	21	92.3	13.7	244	3.1	
		C.T.	STBY	65										
											GAUGE C	SLASSES		
		ALARMS:												
		R1												
		H1	STEAM	SEAL HI/LO	BURNEF	MANG.								
				PUMP RUN										



		SOOTBLO	OWERS TA	AGGED											
		R1 1,2,3	,6,7,16,17,	18,19,22L,2	28,29,30,31										
		H1 5,6,7	,8,9,10,11,	20											
		H2 1,2,4	,5,7,9,10,1	1,15,18,19,	20,21,22,23	,24,36,38,4	10,43,44				SILO				
							T	-			15'				
		FUEL OIL	C.H.	HMPL	NORTH	SOUTH	1		·						
		LEVELS		11' 3"	-		1								
				11 0	10 11	0 1/4									
	8:00PM	SAFETY E	BRIEFING		-		-						-		
				OII CLINIC I	N DRUM PE	DECCLIDE	e i DC I I II	DE OIL 03	ļ				-	-	
								6TH PORT							
					GH DRUW L	EVELON	LT IN INC	61H PURI	-				-	-	
		FIRE BAC			INC IN DOI	IM DDECC	LIDE Of L	IDE 011 00					-		
								UBE OIL 93							
				TOP VALVI	N DP 130 S	H1 343 LO	94	-						-	
						IN DD 405	CUITOGG	1.05005	0111004						
								, 1 DEGREE					-	-	
							, SHT 445	, -5 DEGRE	ES SH, LO	O 94				-	
	11:55PM	SEALING	THAN PUL	LING VAC	CUM ON H-	1									
10015-:-												-			
/26/2013								ES SH LO							
								78 DEGREE							
				E ,TURBIN	E ROLLED	OFF DP 7	55, SHT 62	20, 109 SH	ON CHART	89 COMP.	LO 96				
		H-1 TIED													
	2:42AM	H-1 PREC	IPS IN SE	RVICE											
	NOTE	H-1 PRECIPS IN SERVICE TURBINE BLOW DOWN VALVE WONT CLOSE INST CHECKING SAME													
	4:00AM	H-1 BYPASS DAMPER CLOSED													
	4:06AM	WHILE TRANSFERING AUX ON H-1 WHEN 52-204 WAS OPENED LOST CT 1A PCC LOST ALL SOUTH COOLING TOWER FANS													
		WHILE TRANSFERING AUX ON H-1 WHEN 52-204 WAS OPENED LOST CT 1A PCC LOST ALL SOUTH COOLING TOWER FANS WHEN TRING TO START BACK SPEED WOULD NOT CONTROL CALLING IN ELECT													
	4:40AM	CLOSED	WARMING	VALVES (	ON H-1 SCF	R BUT DIVE	ERSION DA	AMPERS S	TILL CALLIN	NG FOR 10	0 PUTTING	SCR THR	U SHUT DO	OWN	
	4:40AM	CALLED	ARNOLD	то соме	IN ON CT F	ANS			THE STATE OF THE S						
	5:19AM	ALL OIL C	UT OF H-1	BOILER			1								
	5:24AM	WARMING	H-1 SCR	S					1					1	
	6:25AM	H-2 OUT	OF ADS UN	NTIL GET S	OME COOL	ING TOW	ER FANS	RUNNING A	CES NOTIF	IED					
	6:32AM	H-2 A OU	TLET PRE	CIP TRIP 6:	32 BACK IN	1						1	-	-	
	6:35AM	TESTED H	H-1 STOP	VALVE TO	SEE IF BLO	OW DOWN	WOULD	CLOSE DID	NOT						
												1	-	-	
/25/2013	8:00AM	MORRIS,	DENTON S	S/L, REYNO	DLDS, GAT	TON, BAK	ER, EDWA	ARDS, TATE	-SCHOOL			D SHIFT	PENDLEY	1	
		JOHNSO							T-10/11						
									1				1	1	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FL	BACK PR	ESSURE	
		R1	24HR	55	48	STNDBY		NIT. ON B		T.C.III O T.A.	5001	A	CDAOICTIC	LOGOINE	
		1007.50		-	1-	3		014 6							
		H1	0	165	0		1		-						
			OFF TUBI		-										
		H2	162	165	152										
			102	100	102										
		C.T.	STBY	65									-	-	
		J. 1.	3101	00							CALICE	1 40050			
		AL ADMO.							-		GAUGE G				
		ALARMS:					-	-	-		OK				
		R1	CTEAN	CEAL LUG C	DUDNE	MANOT	FUEDES	OUDE LOS	I IMP OT	T DE 0					
		H1					EH PRES	SURE LO/F	UMP STAF	REQ					
		H2	I.G. OIL F	UMP RUN	INING, DRU	JM MAINT									
							-								
			OWERS TA												
			,28,29,30,3							SILO			BOOTHE	SYSTEM	
			6,7,8,9,10,							17'			OUT		
		H2- 36,38,	40,43 BY	PASSED-1	1,2,4,5,7,9,1	0,11,15,18	,19,20,21,	22,23,24,44							
		FUEL OIL		HMPL	NORTH	SOUTH									



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## **Forced Outage Report**

## **Boiler Tube Leak Record**

Plant: HMP&L Station Two	Unit:1
Type of Leak:	
Pin Hole Thick Lip Failure Crack Thin 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 Plug Tube Short Circui	t Other

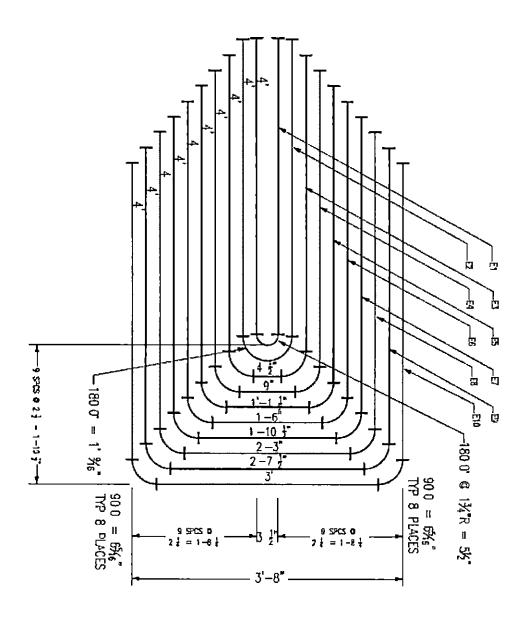
## **Description of Repair:**

It was determined to replace the tubes that had UT indications lower than .200. UT readings were taken on a total of 19 tubes on both of the  $3^{rd}$  and  $4^{th}$  elements with the total number of 14 tubes with lower than .200 readings. The inner loop (E1) on Panel 4 from the east wall was replaced along with the addition of a 67" dutchman on the north side leg, up to the swage and a 24" dutchman on the south side leg. The leak from the 4th element washed tubes on the 3rd element. UT indications on 14 of the tubes (E9-E1) on the north side of the element and tubes (E1 – E5) on the south side of the element all at elevation 544' revealed tube wall thinning ranging from .248" down to .101" with the original thickness being .313. E9-E1 on the north side and E1 – E5 on



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the south side of the 3<sup>rd</sup> element all had 24" dutchman installed. All material used 1 ½ X 313 MW SA213 T-22



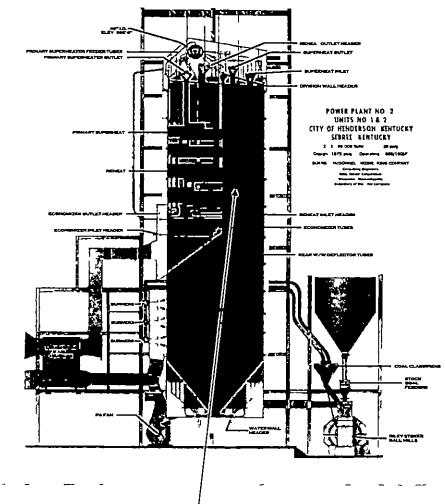


**Exact Location of Leaks** 

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## HMPL STATION UNIT 1 2013 (17) TUBES INVOLVED

Date and Time Unit Off\_\_\_\_ 0437 3 23 13 Date and Time Unit On Stand by\_\_\_0239 3 26 13



It was determined to replace the tubes that had UT indications lower than 200 UT readings were taken on a total of 19 tubes on both of the 3rd and 4th elements with the total number of 14 tubes with lower than 200 readings. The inner loop (E1) on Panel 4 from the east wall was replaced along with the addition of a 67 dutchman on the north side leg up to the swedge and a 24 dutchman on the south side leg. The leak from the 4th element washed tubes on the 3rd element. UT indications on 14 of the tubes (E9 E1) on the north side of the element and tubes (E1 – E5) on the south side of the element all at elevation 544 revealed tube wall thinning ranging from 248 down to 101° with the original thickness being 313. E9 E1 on the north side and E1 – E5 on the south side of the 3rd element all had 24 dutchman installed. All material used 1 ½ X 313 MW SA213 T 22.



Lost Sales Opportunity Report

### Your Touchstone Energy® Cooperative

## **FORCED OUTAGE COST ANALYSIS**

## MISO DART Revenue and LOST OPPORTUNITY

Unit	4 2	HMP'L 1 - H1-13-03					Product	tion Cos	st
Date & Time Off Line	3/23/13 4:37						MW		S/MW
Date & Time On Line	3/26/13 2:39						67	\$	32.67
Outage Duration		70 hr. 2 min.					122	\$	29.31
Outage Code	UO2						155	\$	28.89
Outage Reason	Unit removed from service to repair superheater tube leak								
Date	DA LMI	P Average	RT LMP	Average	D	ART P&L	Lost Opportunity		
3/23/13 (HE 4-24)	\$	33.04	\$	30.24	\$	(4,795)	\$ -		
0/04/40 / 15 4 04		00.04		0.1.00					

Date	DA LN	IP Average	RT LMP Average		DART P&L		Lost Opportunity	
3/23/13 (HE 4-24)	\$	33.04	\$	30.24	\$	(4,795)	\$	-
3/24/13 (HE 1-24)	\$	28.81	\$	31.06	\$	-	\$	-
3/25/13 (HE 1-24)	\$	32.45	\$	33.10	\$	368	\$	(11,301)
3/26/13 (HE 1-12)	\$	36.49	\$	30.22	\$	(345)	\$	(1,197)
Total					\$	(4,772)	\$	(12,498)

Start Up Fuel Cost			Total Forced Outage Cost			
S/U Fuel Consumed		7,986	DART P&L	\$	(4,772)	
S/U Fuel Price	\$	3.19	Lost Opportunity	\$	(12,498)	
S/U Fuel Cost \$	\$	(25,451)	S/U Fuel Cost	\$	(25,451)	
			Total	\$	(42,720)	

#### 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: Daryl Chinn

Date: 15-Apr-2013

Plant: Coleman Unit: 1 GADS Class: UO1

### **Duration**

Trip Time: 28-Mar-2013 14:09 Tie Time: 31-Mar-2013 01:48

Time Offline: 59:39

### **Outage Description**

Coleman unit 1 was removed from service on Thursday, 28-Mar-2013 at 14:09 and returned to service on Sunday, 31-Mar-2013 at 01:48 for duration of 59:39 against an initial target of 48 hours. This was an unplanned event, and as such is classified as a Class I (UO1) forced outage. The unit was removed from service in an uncontrolled manner due to a catastrophic waterwall tube failure in the nose arch area. Repairs were completed in 26:00. During the hydrostatic test that followed the repairs, two additional leaks were discovered. The first was an HRA roof tube above the hot reheater which was caused by a crack in a support lug weld to the reheat tube that impinged upon the HRA roof tube causing the leak. The second was a weeper inside the nose arch dead air space, behind the casing separating the nose arch area from the superheat convection pass, unrelated to the initial tube failure near the same area. This leak was caused by a crack in the casing that propagated into the tube wall causing a small leak. This crack was abrasively excavated, NDE tested and base metal repaired (pad welded).

#### **Root Cause**

A seal box welded to the 3<sup>rd</sup> tube of the nose arch, also welded to the furnace side wall, forms the seal between the nose arch and the side wall of the furnace such that the area inside the nose arch is sealed from the furnace. The weld that connects the seal box to the 3<sup>rd</sup> nose arch tube from the west side wall developed a crack, which allowed leaking high pressure water to impinge upon the 2<sup>nd</sup> tube of the nose arch which thinned the wall to the point of a catastrophic tube failure which quickly altered the furnace pressure to exceed pre-set parameters which tripped the unit off line.



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#### **Failure History**

Often the rupture of a water tube in the furnace causes the furnace pressure to exceed the value at which will trip the unit.

29-Sep-2012

87:27

A catastrophic water wall tube failure located beneath the nose arch, on the east side, in the

vicinity of #1-R soot blower. The 2<sup>nd</sup> tube from the east wall failed due to soot blower erosion

thinning the tube wall below its ability to

contain internal pressure.

15-Sep-2011

102:32

Sootblower erosion caused the thinning of the 2<sup>nd</sup> tube from the lead tube in the 13<sup>th</sup> element from the west wall in the load bearing screen tubes, better known as the "slag screen" at elevation 202'–6". The thinning of this tube allowed for a catastrophic longitudinal rupture, splitting the tube approximately 3' in length.

#### **Corrective Action**

This section of the nose arch and associated seal box is scheduled for repair/replacement during the next scheduled outage.

#### **SOE Print Out**

N/A

#### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance**

6089702 Tightened flange bolts on #7 coal pipe on top of D mill.

6093917 Weld repaired coal leak on top of B mill where #5 coal pipe connects to turret.



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6094274 Reinstalled and secured dust cover for mechanical seal on input shaft of "A" mill.

6089682 Rebuilt lower spray regulator. Replaced seat, plug and stem. Repacked and set stroke.

6092016 Repacked #3 heater normal drain regulator.

6089681 Rebuilt lower spray block valve. Replaced valve body, seat, plug and stem. Repacked and set stroke.

6089550 Freed up and lubricated lower left ROFA dampers. Checked for full range of stroke.

6065585 Welded patch on transition chute from feeder to C mill.

6094930 Replaced 90 and 45 degree elbows on steam coil supply line between APHs.

6092150 Inspected and stroked all economizer hopper dust valves. Replaced actuator and solenoid on #5. Replaced Y lateral at #5 hopper.

6094929 Repacked B steam cleaning device.

6094944 Inspected all four mills. Reshimmed tensioners. Replaced classifier vanes on B mill. Stroked and set classifiers.

6094945 Lubricated drive couplings on both APHs.

6094943 Cut out and replaced 2<sup>nd</sup> and 3rd nose tubes from west wall 3' long. Weld repaired five washed tubes on west waterwall approx. 2-3' south of west dead air space door at nose. Unit hydro revealed two more leaks. One roof tube along with adjacent R/H tube, 8<sup>th</sup> from west wall. Both were ground out and weld repaired. Also NW waterwall leak just north of west nose door. Ground out and weld repaired.

6095059 Replaced steam side root valve for drum gauge glass.

6095321 Replaced complete dust valve assemblies on 6,7 and 8 APH hoppers.

### Electrical & Instrument Maintenance, C1, Completed Outage Tasks

6095005- Cleaned all igniter and main flame scanners.

6090037- Performed drum level trip checks.





ook measurements on the air

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- 6095001- Stroked the air registers and ROFA dampers, took measurements on the air registers.
- 6090572- Performed calibration on A, B, C, and D stock feeders.
- 6095008- Cleaned furnace pressure taps and sensing lines.
- 6095007- Blew back secondary air flow transmitters taps and sensing lines.
- 6095010- Stroked all PA fan dampers, FD fan dampers, and Feedwater regulator.
- 6095009- Blew back mill taps and sensing lines.
- 6095006- Stroked lower spray regulator and block valves.
- 6094941- Stroked and calibrated turbine valves.
- 6095012- Removed and cleaned booster fan stall probe and blew back sensing lines.
- 6095013- Booster fan misc. tasks: blew back the sensing lines for the seal air switch. Rodded out the transmitter taps and blew back taps, halo's and sensing lines.
- 6095003- Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Cleaned HV bushings inside and outside. All HV ducts had moisture in them, used RTV to seal the openings. Power up T/R's and electrical air testing looks good.
- 6095004- A, B, C & D Mill Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.
- 6095004- A, B, C & D PA Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.
- 6095004- A & B BFP Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.
- 6092253- A & B BFP Motors: Checked 4160 volt motor leads in weather head, "A" BFP looked good, replaced the gasket material insulator on "B" BFP.
- 6095004- A & B FD Fan Motors: Cleaned inboard and outboard end bells, drained oil, cleaned site glasses, flushed bearing cavities and put in new oil.
- 6091111- Wired Titan's 4 pack welders, unwired when Titan was completed.





6095062- Wired #6 and #7 APH solenoids after the dust valve assemblies were replaced.

6091536- Stroked and set torque switches on #1 heater by-pass, inlet and outlet valve.

**Operators Event Log** 



Your Touchstone Enury Cooperative

3/28/2013	14 09	C1 TRIPPED ON HIGH FUR			AR A T	UBE LEA	K BY 1L SC	OT BLOWE	R CALLED HOT LI	NĒ	ļ	
	14 36_	INERTING C1 MILL TO SEE		LL STAR <u>T</u> _				·	<u> </u>	<u> </u>		<u> </u>
		11A MILL ON SWEEPING OF				4	!		Ì	1 .	1 -	
	<u>14</u> 50	1B 1C AND 1D MILLS NEE	<u>D TO BE WA</u>	SHED OUT		1			<del> </del>	<u> </u>		
	<u>1</u> 4 52	C1 TURBINE ON TURNING	GEAR ECC	2 35					I	Ĺ		1
	17 00	C1 PRECIP OUT OF SERVI	CE CALLED	HOT LINE		r	j	1	I ,	Ī	1	
	17 09	,C1 TUBE LEAK ON THE WI	EST WALL AS	BOUT 20 AE	OVE T	HE WES	T DESLAG F	PORT	1-	Ī		
	17 16	1A COND PUMP ON TO FIL	L C1 BOILER	1		1	т	1			!	
	17 20	S EMBERTON CALLED AN			JNG HIS	S OT TO	NIGHT	1	1	4	1	
+	17 21		_				1		-	1		
<del> </del>	19 00	B SHIFT (JOHNSON) HERE	C SHIFT (D	OOLEY) LEA	VING	<del>-</del>	1	<del>                                     </del>	<del> </del> -	<u> </u>		<u> </u>
1		S HOWARD A MAYFIELD	M CHRISTI	AN JGOO	DMAN	R CAR	WAN JKE	NNEDY HE	RE	1		
		D TAUL(F/I) G CALHOU	N (SDO)	N MOORE	MAN SI	MULATO	R TRAINING	<u> </u>	1	l '	L _	
		.l i	_	_			-		T		Γ	
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.		
		1 <u>1</u> [	_		-	1	Ī	1	0	OPEN	1	1 '
		2	115	170	0 37	5 05	9 65	0 112	138 N w/o Gas	CLOSED	1	<u>†</u>
		3	134	30 0	0 30	4 55	977	0 381	155 N w/o Gas	CLOSED		<del></del> -
+		1		<del> </del>	<u> </u>	1	1 -	}	10077170000	1 020020		7
		FGD Nox	0 32			<del>                                     </del>		<del> </del>		<del>                                     </del>	t	
		FGD Removal %	98 9%			1	ł	İ	<b>.</b>	1	ł	1 '
		·				1	t	!	ł	1	+	1
		3A Mill Amps	90			1	' - <del></del>		<del></del>	· <del>  </del>		<u> </u>
		3B Mill Amps	94			1	1	ì	4	! .		ı
		COND STOR TNK	20 / 21			I			ì	l		l
		Instr Air Dew Point	70 3			ŀ		[	t		į	
		Sootblowing				†		<del> </del>		i	<del>                                     </del>	<del></del>
		#1 S/B Out of Service	NONE	1		1			i .	1	t	L
		#2 S/B Out of Service	NONE			1		l	1	1	1	
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4	17 45						_	_	E WITH HIS WIFE	L		! _ '
_	17 47	<del></del>		πυ <u>ανινί</u>	<u>тнс 1</u>	<u> HE IS</u>	ON THE W	<u>AY</u>	!	ļ		<u> </u>
	17 55	<sub>4</sub> SHUT DOWN B DEWATER				1	İ		Į	ļ .		1
	_ 18_00_	<u>, INLAND WILL HAVE A CRE</u>						08 00 IN TI	HE MORNING		<u> </u>	
		DESLAG CREW WILL SET						т			r F	Ĺ
		RJ PAYNE CALLED BACK							1	[	ĺ	1
	19 00	INLAND HERE SIGNING	ON PERMIT A	and cha <u>s</u> ii	<b>VG</b> TAG	S FOR E	OILER ENT	₹Y		1 .		1
	19 45	BACKPLATES ARE OFF TH								<u> </u>		ì
	NOTE	1#5 ECONOMIZER HOPPER	l DOOR IS OI	PEN TO CL	EAN O	UT THE I	ECONOMIZE	R HOPPER	RS LATER ON	1 _	Ĺ	١
	20 30	<b>JUTILITIES HAVE THE ECON</b>	VOMIZER BAC	CKPLATES	OFF AN	ID THE B	ULK OF THE	WATER A	ND ASH IS OUT OF	THE HOPPERS	3 AS	1
		SOON AS INLAND IS FINIS	HED DESLAC	SING WILL	GO IN /	AND WA	SH OUT THE	ECONOMI	ZER HOPPERS			
		WILL NEED TO HAVE MAI						_		1	ſ	
+	20 45	INLAND DESLAGGING BIG				1		<u> </u>		1		<del></del>
	22 00	CLEANING INTAKES WITH					1	ŀ	†- <del></del> -	ļ-	†	· -
	22 45	BIG ROOM CLEARED IN			O SHO	OT FROM	DESLAGE	ORTS F	D FAN OFF	<del></del>		<del> </del>
	23 00	OPENING AIRHEATER DO								į ·	1	1 1
3/29/2013	0 00	NO RAIN IN THE RAIN GAU				20 74 T		, 20 00 mark		1		
	1 45	INLAND MOVING TO SHOO	_			HAD TO	JIKE GRUI T	CINTO O	I LEAR CHUNKS ON F	L. ODEA DODTO	_ ر	
	. +	SMALL CHUNKS REMAIN										1
				CRAL HMB	S VVIII	, oo BOC	w wun iug	r WOOLDN	TCOMEOUT WI	LL HAVE MAIN	LOOK	1
		AT THEM IN THE MORNING										į
		SUBMITTED W O # 60950					ALL 4 BO	LT FOR BA	ACKPLATE HAVE BI	ROKEN OFF	т	<b>-</b>
	2 45	C 1 BOILER DESLAG CON		ULLING WE			•		+		į	
	3 20				ADS	_HOSES	ARE ALREA	DY RUN		+	ļ	t
		#1 ECONOMIZER HOPPER		_				ı		1		1
	4 30	#1 WET BOTTOM CLEAN	TAGGING C	WON TUC				1	l	]	l	ı



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	"A" SHIFT (HARLEY) HE	INED W MILLS	I CAM	TH D	ONEC	ND D CEE	ACTION	EDE E 004V 000	UU ATOD
	L. PILE, D. HAYNES, D. I TRAINING	LINER, VV. WILLS	, L. SIVII	іп, к. J	UNES, A	ND D. SEB	ASTION H	EKEF. GRAYSIN	IULATOR
	TRAINING								
	Unit	Load	Opacity		SO2	CBD PH	Silica	Capability	
	1	UNIT OFF	TUBE L	EAK					
	2	157	28.0	0.36	4.73	9.69	0.111	138 N w/o Gas	
	3	165	35.0	0.33	4.53	9.65	0.323	155N w/o Gas	
	FGD Nox	0.336							
	FGD Removal %	96.5							
	3A Mill Amps	92.0							
	3B Mill Amps	94							
	COND. STOR. TNK	22 / 23							
	Instr. Air Dew Point	-69.6							
	Sootblowing								
	#1 S/B Out of Service	NONE							
	#2 S/B Out of Service	NONE							
	#3 S/B Out of Service	# 12			1	-			
	HASNTAS	NO THREATS							
	1101110	110 IIIILAIS							
7:00AM	TAGGED C-1 BOOSTER F	AN FOR INSDEC	MOITS						
			-	EC INI DE	DEDADA	TION OF ALL	MACH		
	RELEASED C-1 AH'S TO F STARTED AH WASH C-1.		ווא טאוע	LO IN P	CPARA	HON OF AH	WASH.	-	
						1			
8:15AM	STOPPED AH WASH C-1	NOT ENOUGH	FIRE W	ATER PR	RESSURE	E. WILL DIS	CONNECT	RENTAL TRUCK AND	USE BACKUP SLUICE
	WATER.								
8:45AM	STARTED AH WASH C-1	AGAIN. SLUICE	WATER	BACKE	D UP TO	FIRE WATE	R.		
	FIRE WATER WILL NEED							JCK	
	INLAND VACUUMING OUT								
	INLAND FINISHED WITH					T		-	
	INLAND VACUUM CREW		3						
	PUT AIR ON C-1 STEAM			NOTE:	ALL TH	E TRAPS OF	Π FT \/ΔI	VES ARE CLOSED	
	CLOSED C-1 FW MOTOR								OR LEAK TURLI
	SETTING C-1 BOILER FO				LISOLA	TION VALVE	ALIENN	LGOLATORCHECK I	OR LEAK THRO.
	PUT C-1A CONDENSATE								
	C-1A BFP RELEASEDV				ED FOR	LIVIDRO WI	TH DED		
								TO DETERMINE FOR	CUIDE LEET DVDAGO
NOTE	CHECKED C-1 FW VALV								
F-00DM	MOTOR OPERATED SHUT					E AFTER RI	EG. CLOSE	ED AND GOT WATER	OUT BOTH DRAINS.
	HAVE 1800 PSI ON C-1 B								
	CALLED N. MOORMAN TO								
	CALLED R. CARMAN TO		1 START	UPLE	FT MES	SAGE			
	CALLED M. CHRISTIAN-I								
	CALLED D.TAUL AND J.		MESSA	GES.					
	CALLED J. GOODMANI								
6:00PM	TAGGED C-1 STEAM COI	LS TO REPAIR L	EAK ON	SUPPLY	LINE.				
0.000111									
			/HADIE	Y) LEAV	ING SH				
	"D" SHIFT (STERLING) H								
					B.Hunt,	G.Calhoun			
	"D" SHIFT (STERLING) F V.Ramsey , B.Johnson, F Unit	R.Payne G.Tivit		berton,	B.Hunt, SO2	G.Calhoun	Silica	Capability	
	V.Ramsey , B.Johnson, F	R.Payne G.Tivit	t, S.Em	berton,			Silica	Capability	
	V.Ramsey , B.Johnson, F Unit	R.Payne G.Tivit Load	t, S.Em Opacity	berton, Nox	SO2	CBD PH			
	V.Ramsey , B.Johnson, F Unit 1 2	R.Payne G.Tivit Load OUTAGE 150	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, f Unit 1 2 3	R.Payne G.Tivit Load OUTAGE 150 160	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	CBD PH			
	V.Ramsey , B.Johnson, f Unit 1 2 3 FGD Nox	R.Payne G.Tivit Load OUTAGE 150 160 0.3	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal %	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90 93 21/24	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit  1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK Instr. Air Dew Point	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK Instr. Air Dew Point Sootblowing	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90 93 21/24 -72.2	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90 93 21/24 -72.2	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit  1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90 93 21/24 -72.2 NONE NONE	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	
	V.Ramsey , B.Johnson, F Unit 1 2 3 FGD Nox FGD Removal % 3A MILL AMPS 3B MILL AMPS COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	R.Payne G.Tivit Load OUTAGE 150 160 0.3 98.7 90 93 21/24 -72.2	t, S.Em Opacity 50.5	Nox 0.340	SO2 5.04	9.74	0.13	138N W/O GAS	



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		1	Table 200											
		SHUT DOWN #1 AIR HTR												
		#1 AIR HTRS ARE REDTA												
		INLAND SETTING UP TO					C. OUT #1 PE	ENTHOUSE						
		WALKING BOILER ENTRY												
		REDTAGGED #1 AIR HTR												
	10:00PM	MAINT. HAS CYLINDER F	REPLACED ON F	RIGHT HAI	ND TURB	INE GOV	V. VALVE.							
	10:00PM	INLAND HAS WASH HEA	DS REMOVED F	ROM #1 A	IR HTRS	6.								
	10:30PM	VAC.WORK HAS BEGUN	ON UNIT #1 PEI	NTHOUSE										
	10:30PM	MAINT. HAS UNIT #1 AIR	HTR HDR BROK	E AND CH	HECK VL	V. OFF								
	11:00PM	ABSORBER CHLORIDES	6400											
	11:30PM	#1 AIR HTR. HEADER HA	S BEEN WASHE	ED OUT.										
3/30/2013	12:00AM	SCAFFOLDING IS UP IN	THE BIG ROOM	CALLED 1	TAN.									
	12:30AM	UNIT #1 AIR HTR. HEADE	ER IS BACK TO	GETHER.										
	1:00AM	ADDED 2 BARRELS OF M	MILL BALLS TO	3A MILL										
	1:00AM	INLAND SETTING UP THE	RE VAC. TRUC	K ALONG	WITH O	JR FLYA	SH SYSTEM	FOR PEN	THOUSE					
		INLAND HAS #1 WETBOT												
		#1 AIR HTRS. ARE ON AI			UT.						-			
		RUNNING #2 HOTWELL C												
		LOST .3 OF AN INCH ON												
		HAVE WATER DRAINED				ATER IS	SOLATION							
		LOST 1" ON UNIT #3 HOT												
		HAVE BACK PLATES ON			ROUGH									
				., 02, 12 11	.00011									
	7:00	"A" SHIFT (JOHNSON) HERE "D" SHIFT (STERLING) LEAVINGSHAVER (VAC)												
		L. PILE, D. HAYNES, D. I												
		F. GRAYSIMULATOR TE		O, L. O.	11, 11. 00	J. 1120, A	ILD D. OLDA	OHOITHE						
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability					
		1	OUTAGE						Capability					
		2	135	21.0	0.37	4.80	9.70	0.118	138 N w/o Gas					
		3	155	19.0	0.34	4.41	9.66	0.232	155N w/o Gas					
								0.202	TOOLY IN O GUO					
		FGD Nox	0.34											
		FGD Removal %	98.3											
		3A Mill Amps	90											
		3B Mill Amps	94											
		COND. STOR. TNK	22 / 23											
		Instr. Air Dew Point	-74.7				-							
		Sootblowing	-14.1											
		#1 S/B Out of Service	NONE											
		#2 S/B Out of Service	NONE											
		#3 S/B Out of Service	# 12											
		HASNTAS	NO THREATS											
		11/10141/10	NO THIRLAIS											
		C-1 ECC 2.01ST STAC	SE TEMP 523	1ST STAC	FIFET	557 1	ST STAGE F	IGHT 563						
	6:15	CHECKING TUBE METAL					OI OIAGE R							
	6:30	TAGGED OUT SLUICE W					THREE LINIT	S AHEA	D OF RESTORING PORT	TARI E DI TRAII ER				
	6:50	RACKED IN C-1 SEAL OIL							D OF RESTORING POR	INDLE DI INVILER				
	8:00	INLAND VAC CLEANING							T VALVE REDI ACEMEN	NT				
		ABSORBER CHLORIDES		OLOGURE	I OR GA	NOGE GL	AGG GTEAN	SIDE ROC	VI VALVE KEPLACEMEN	NI				
	8:30	CLOSED DRAINS ON C-1		DEGLII ATI	NG STAT		ODENED	ID OI THE ET	\/A1\/E					
									VALVE					
	10:35	CALLED N. MOORMAN TO							CACE					
		CALLED F. GRAY TO COL												
		CALLED F. GRAY TO COL												
	10:39	CALLED D. MILLS TO CO												
	11:00 NOTE	AUXILIARIES HAVE CLEA												
	NOTE	UTILITIES HAVE STAGED												
		BACKING UP THE COOL	ING WATER TO	OCIRCUL	ATING \	WATER	PUMPS FOR	MONDAY	MORNING					





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	12:00	SETTING C-1 TO HYDRO	CETTING HEA	DOOLINE							
						-	+				
		1 A COND PUMP ONFI			-	-	-			-	
		HEADCOUNT COMPLETE		O	-		-				
		1 A BOILER FEED PUMP									
		1800 PSIG ON #1 BOILE						JM PUMPS	S ON		
		J. PFEIFFER WILL BE I									
		#1 BOILER HYDRO CLE									
		NOTIFIED J. LADNIER TI									
		C-1 ECONOMIZER HOPE								SED THE SLIDE	ES
		#1 WET BOTTOM HAS B				AND S	ETTING UP F	OR OPER	ATION		
		INLAND HAS FINISHED I									
		WET BOTTOM IS SET UP									
		D. SEBASTIAN REQUES							TRY AND GET COVE	RAGE	
		CALLED D. TAUL TO CO									
		CALLED J. KENNEDY TO									
	16:53	CALLED S. KURZ TO CO	ME IN TOMORRO	W FOR I	D. SEBA	STIAN	LEFT MESS	AGE			
	16:54	CALLED R. PAYNE TO C	OME IN TOMORE	ROW FOR	D. SEB	ASTIAN	LEFT MES	SAGE			
	16:55	J. KENEDY CALLED BAC	CKHE WILL BE	IN TOMO	DRROW I	FOR D.	SEBASTIAN.				
	17:15	REQUESTED B. WILLIS	TAKE A LOOK AT	T#1 DRU	M CAME	RANE	EEDS ALIGN	MENT			
	17:50	TAG IS PULLED ON GAS	LINE BLANK	MAINT SI	GNING C	ON GAS	VALVE TO P	ULL BLAN	K		
	18:00	C-1 STEAM COIL TRAP	<b>DUTLET VALVES</b>	ARE OPE	ENH	AD BEE	N CLOSED	TO FIND A	STEAM COIL LEAK		
	NOTE	DO NOT RUN 1 A ROFA	FAN UNTIL MAI	NT CAN	WATCH	IT RUN.	MONDAY	MORNING	FOR BALANCE SHO	т	
	7:00PM	"D" SHIFT (STERLING)	HERE "A" SHIFT	(JOHNS	ON) LEA	AVING	SHAVER VA	C.			
		V.Ramsey, B.Johnson,	R.Payne G.Tivi	tt, S.Em	berton,	B.Hunt,	G.Calhoun				
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability		
		1	OUTAGE								
		2	120	14.0	0.350	4.97	9.72	0.11	138N W/O GAS		
		3	135	17.0	0.310	4.38	9.61	0.25	155N W/O GAS		
		FGD Nox	0.3								
		FGD Removal %	98.9								
		3A MILL AMPS	90								
		3B MILL AMPS	93								
		COND. STOR. TNK	21/24								
		Instr. Air Dew Point	-72.2								
		Sootblowing									
		#1 S/B Out of Service	NONE								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		HASNTAS	NO THREATS								
	7:00PM	HAVE A ALL CLEAR ON	HEAD COUNT TO	FIRE UN	NT#1 BO	ILER.					
	7:15PM	GAS FIRE IN UNIT #1 BC	ILER CALLED H	OTLINE							
	7:30PM	WALKED BOILER DOWN	N CHECKED BOIL	ER DOO	RS EVER	RYTHIN	G OK.				
	8:40PM	CLOSED UNIT #1 DRUM	VENTS CALLED	LAB							
	10:00PM	#1 BOOSTER FAN ON									
	10:00PM	JIM WEDDING CALLED	IN SICK FOR 3-3	1-13 A&7	FILLED	OUT.					
		RELEASED HOLD #106									
		PULLING VAC.ON UNIT #									
3/31/2013		RAN WEEKLY LUBE OIL		UNIT#3	OK PAP	ERWOR	K TURNED I	N.			
		POPPED UNIT #1 POWE									
		ROLLING #1 TURBINE									
	12.4UAIVI										





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### **Boiler Tube Leak Record**

### Initial failure at nose arch

Plant: Coleman Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Crack Thin Lip FailureX
Tube Wall Thinning X Other
Orientation of Rupture: (Check One)
Longitudinal X Fish mouth
Probable Cause: (Check One)
Stress Overheat ErosionX _ Internal Corrosion
External Corrosion Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other Impingement from a small leak from an adjacent tube due to crack
propagation from the seal box weld to the 3 <sup>rd</sup> nose arch tube





## Forced Outage Report

Type of Repair: (Check One)

Dutchman $X$ (Length of Dutchman, 2 each on the upper side of nose arch $2^{nd}$ and $3^{rd}$ tube from west wall ~ 16" long)
Pad Weld X (4 each on furnace sidewall ~6" long)
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Tube Size OD 2.50" Wall Thickness 0.203" Tube Material SA210 A1
Welding Rod Used
Welded By:Titan
Exact Location of Leak: Be Specific
Rear wall nose arch 3 <sup>rd</sup> tube from west wall at Elevation 192'-6"





**Pictures** 















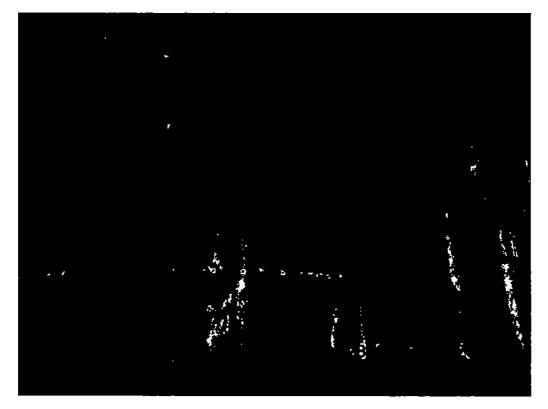






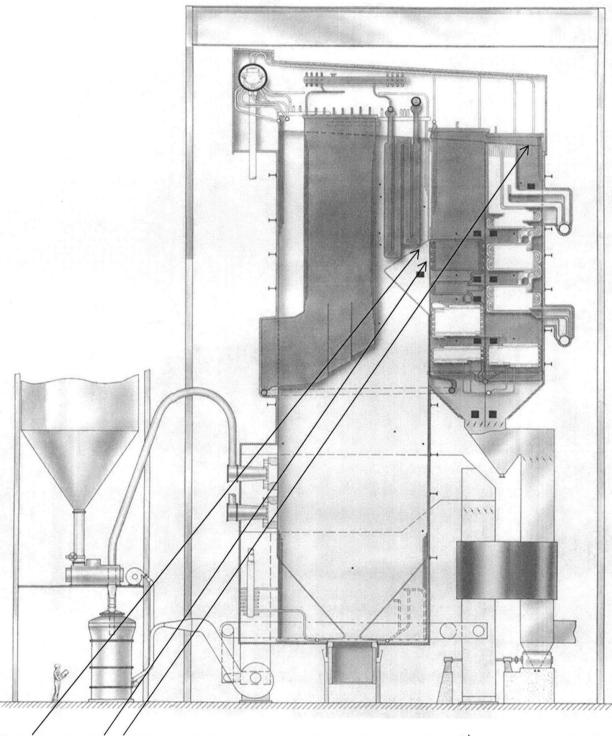












Tube Leaks Here: The weld that connects the seal box to the 3rd nose arch tube from the west side wall (far side) developed a crack, which allowed leaking high pressure water to impinge upon the 2<sup>nd</sup> tube of the nose arch which thinned the wall to the point



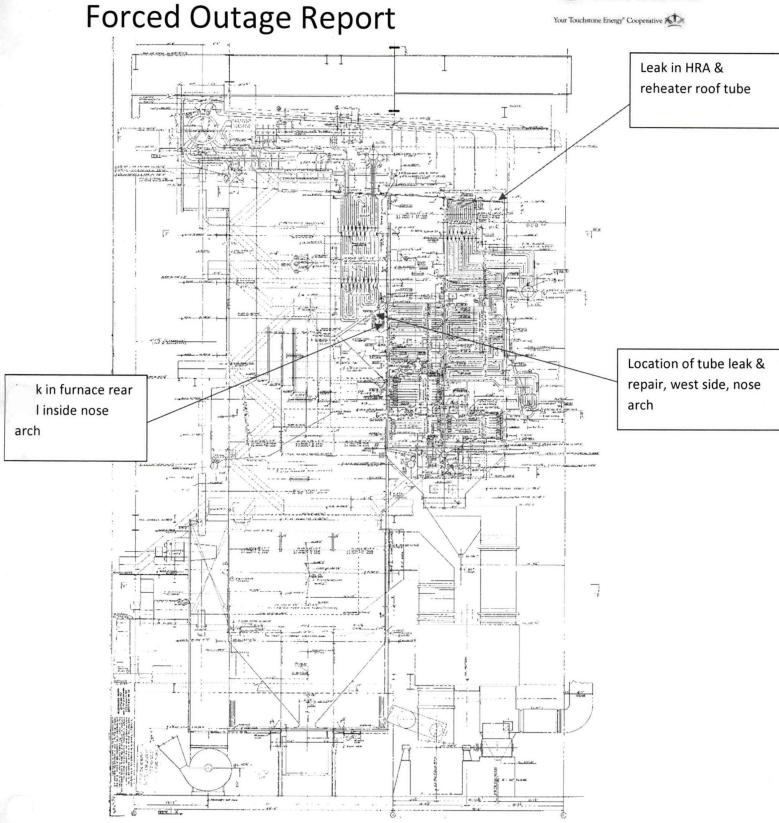


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of a catastrophic tube failure. The second was a HRA roof tube above the hot reheater which was caused by a crack in a support lug weld to the reheat tube that impinged upon the HRA roof tube causing the leak. The third was a weeper inside the nose arch dead air space behind the casing separating the nose arch area from the superheat convection pass.











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



#### **Lost Sales Opportunity Report**

#### FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY Unit Coleman 1 - C1-13-05 **Production Cost** Date & Time Off Line 3/28/13 14:09 MW Date & Time On Line 3/31/13 1:48 84 \$ 29.26 Outage Duration 59 hr. 39 min. 117 27.80 \$ **Outage Code** UO1 150 \$ 27.32 Tripped due to west water wall tube Outage Reason leak. Lost Date DA LMP Average RT LMP Average DART P&L Opportunity 31.24 3/28/13 (HE 15-24) \$ 27.04 \$ \$ 401 3/29/13 (HE 1-24) \$ 29.44 27.91 \$ \$ (2,197) \$ 3/30/13 (HE 1-24) \$ 28.78 \$ 33.83 \$ (4,673)\$ 3/31/13 (HE 1-12) 23.72 24.68 \$ (1,814)\$ Total \$ (3,609) \$ (4.673)Start Up Fuel Cost **Total Forced Outage Cost** S/U Fuel Consumed 753 DART P&L (3,609)S/U Fuel Price \$ 4.83 Lost Opportunity (4,673)\$ \$ S/U Fuel Cost (3,640)S/U Fuel Cost (3,640)\$ Total (11,922)NOTES: All negative values are money out of pocket. DART Revenue is calculated from differences between the DA award and RT events





### **Forced Outage Report**

To: Bob Berry

From: Daryl Chinn

Date: 27-Mar-2013

Plant: Coleman Unit: 3 GADS Class: UO1

**Duration** 

Trip Time: 20-Mar-2013 23:00 Tie Time: 21-Mar-2013 04:07

Time Offline: 05:07

Trip Time: 21-Mar-2013 04:20 Tie Time: 26-Mar-2013 03:29

Time Offline: 119:09 Total Time Offline: 124:16

#### **Outage Description**

Coleman Unit 3 tripped off line due to insufficient Electro-Hydraulic (EH) fluid pressure. After the unit tripped, the EH pressure returned to near normal which constituted a decision to attempt a re-start which was initially successful; however, after only about 15 minutes the unit tripped again due to low EH pressure. On 17-Sep-2012 the Emergency Governor Exerciser failed to complete its logical test cycle, which left certain EH solenoids energized, which in turn caused an inordinately low and fluctuating EH fluid pressure. It was determined that there was a substantial risk of tripping the unit if troubleshooting and/or repairs were attempted while on line. Since there was no risk to the unit being operated in this manner, and the fact that the unit would have to come off line soon to install injection ports for MATS testing, a decision was made to continue to operate the unit until an outage could be planned. During the troubleshooting phase, it was discovered that three solenoids on the turbine front standard needed replacement and one of the limit switches associated with the Governor Exerciser test needed repair. Upon replacement of the solenoids, "A" EH pump, limit switch repair, and sensor calibration adjustments, the Emergency Governor Exerciser passed all required tests.

The initial boiler trip forced all the boiler safety valves to open to relieve pressure as the unit was at or near MCR at the time of the trip. The pipe fitting in the "after seat drain" port of the "A" cold reheat safety valve was apparently expelled from the valve body at the time of the trip which allowed a jet-stream of steam to ricochet off the heel of the "B" safety valve, directing it downward causing the insulation and lagging of the cold reheat inlet line to be blasted off the pipe. The pipe insulation was confirmed to contain asbestos fibers which caused a substantial delay of many outage related activities while



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a rather large area down the west side of the boiler was abated of all pipe insulation by certified asbestos workers.

Turbine lube oil pump tests confirmed that "A" lube oil pump discharge check valve was malfunctioning allowing "A" pump to spin backwards when "B" pump was operating. After the turbine had cooled sufficiently to allow the lube oil system to be taken out of service, the reservoir was drained and it was discovered that "A" lube oil pump had a bent shaft, as well as excessive axial shaft movement, which required removal of the pump for inspection and repair. "B" pump also had excessive axial shaft movement, but not to the extent of "A" pump. Both pumps and associated check valves were immediately transported to Atlas Machine for disassembly, inspection and repair. Upon disassembly, it was determined that the most expedient repair would be by straightening the "A" pump shaft, undercutting the bearing and coupling area, weld build-up of those areas, and re-machine and cut new threads. The "B" pump shaft did not require straightening but did required similar weld and machining repairs, only not to the extent of "A". Both pumps thrust bearings were found to have excessive wear, and the bearing lock nut on "A" pump had also loosened allowing excessive axial movement of the shaft. Both pump discharge check valves were found to have excessive stem to bushing clearance and were replaced with new identical check valves. "A" and "B" AC pump motors were sent out for reconditioning; one of the motors did not pass the electrical surge test and had to be rewound. The rebuilt pumps and new valves were installed, the system was restored, and the required Emergency Bearing Oil Pump (EBOP) test was successfully completed.

#### **Root Cause**

#### EH system

Failure of certain solenoid valves and limit switches in the front standard of the turbine prevented the logical completion of the Emergency Governor Exerciser test, which placed an inordinate demand on the EH pumps, thus causing the low and fluctuating EH pressure.

#### Lube oil pumps

Coleman unit 3 does not have a shaft driven lube oil pump and one of two AC motor driven pumps must supply all of the lube oil requirements to the turbine 100% of the time. The last opportunity to disassemble, inspect and repair these pumps was during the valve inspection in the spring of 2009. The check valves are normally removed and inspected during the turbine overhaul which was last completed in 2003.



### Forced Outage Report

#### **Failure History**

#### EH system

The Emergency Governor Exerciser has, in the past, failed to logically complete its test but usually does not cause the symptoms as exhibited in this instance.

#### Lube oil pumps

At each 3 year interval the lube oil pumps are re-fitted with new thrust bearings and bushings as well as substantial coupling repairs. Usually these pumps are relatively trouble free during a three year period. There is no previous record of a lube oil pump discharge check valve failure.

#### **Corrective Action**

#### EH system

The Emergency Governor Exerciser is activated weekly, either it works or not, there are no known tests to predict impending failure short of regularly replacing solenoids and limit switches.

#### Lube oil pumps

Continue pump PM inspection and repairs at each 3 year outage interval, and check valve PM inspection and repair at each 9 year turbine overhaul interval.

#### **SOE Print Out**

N/A



### Forced Outage Report

#### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance**

- 6036853 Replaced one shell liner in "A" mill.
- 6039303 Replaced lagging and insulation around "B" APH hot end support bearing.
- 6074558 Welded patch on A3 coal pipe near fly ash water supply shack.
- 6076939 Replaced suction valve on #3 screen wash pump.
- 6080321 Weld repaired several leaks on seal skirt at W/B.
- 6081161 Replaced suction root valve for #3 screen wash pump. Replaced the connecting rod (stem extension) from valve to ground level.
- 6083376 Weld repaired coal leak on A1 coal pipe at sample valve elevation.
- 6083846 Removed "A" and "B" turbine lube oil pump motors and sent to motor shop for repairs.
- 6084092 Inspected "B" APH hot end support bearing oil level. Moved fill line to level position and secured. Remarked dip stick for proper oil level.
- 6085267 Repacked 5 and 6 feedwater heater bypass valves.
- 6085677 Weld repaired hole in west W/B hopper just above equalizing valve.
- 6085678 Replaced section of supply line to west side wetbottom slope jets.
- 6085845 Inspected "A" and "B" turbine lube oil pumps. Discovered both pumps had excessive end play. "A" pump had a bent shaft. Both pumps were pulled from storage tank and sent to Atlas Machine and Supply in Louisville for machining and repairs. Both discharge check valves were found to have excessive stem to bushing clearance and were replaced with new check valves. Pumps were reinstalled and tested.
- 6086199 Installed 16 valves on gas outlet duct for carbon injection testing.
- 6086865 Replaced S/B knocker valve.
- 6087006 Weld repaired several gas leaks in penthouse.



### **Forced Outage Report**

- 6087007 Replaced west S/H spray regulator outlet valve.
- 6087009 Replaced water and steam side root valves on drum level transmitter.
- 6087011 Replaced section of supply line to west side wetbottom jet.
- 6087012 Replaced bolting in top row of doghouse front cover.
- 6088277 Replaced scraper plates on #28, #38 and #36 sootblowers.
- 6089437 Repaired B3, B4, B5 and B10 steam coil traps.
- 6089455 Repacked inlet valves for B5 and B6 steam coil traps. Adjusted packing on A6 outlet valve, B10 and A6 inlet valves.
- 6089699 Rebuilt #11 Precip hopper dust valve.
- 6091204 Repacked high and low pressure root valves for BFP discharge flow transmitter.
- 6091205 Repacked root valve for BFP discharge pressure transmitter.
- 6091509 Replaced 8x8x6 lateral at #10 precip hopper.
- 6091780 Replaced shell side vent valve on #6 heater.
- 6091783 Replaced water side root valve for Merli drum level indicator.
- 6092162 Replaced poppet valves on #2, 5, 6 and 12 sootblowers.
- 6092164 Replaced all roller bearings with carbon graphite bearings on all four trickle valves. Installed double seals behind all bearings.
- 6092167 Replaced all four dust valves on economizer hoppers.
- 6092805 Weld repaired coal leak on "B" mill west outlet pipe.
- 6093765 Replaced hydraulic cylinder on turbine control valves.
- 6094297 Replaced bladder on "B" EH accumulator.
- 6094343 Replaced "A" EH pump.





6094344 Disassembled, cleaned and inspected pressure relief valve for "B" EH pump. No major problems found with valve.

- 6094561 Replaced sheared pin on east inlet condenser valve for Auma drive.
- 6094541 Replaced gaskets on "B" BFP suction flow transmitter nozzle. Weld repaired flanges.
- 6094514 Replaced over running clutch on "B" APH air drive.
- 6094362 Replaced turbine turning gear motor.
- 6083812 Replaced piping and tee on steam seal reg. bypass line.
- 6094558 Rebuilt #4 west RCV actuator.
- 6094345 Installed drain lines from west cold R/H safety valves to buckstay area.
- 6087005 Weld repaired gas leaks on expansion joints on gas outlet ducts.

#### **Electrical & Instrument Maintenance**

- 6086503 Calibrated A, B, C, and D stock feeders.
- 6094350 Cleaned furnace pressure taps and sensing lines.
- 6094351 Stroked all PA fan dampers, FD fan dampers, and both Feed water regulators.
- 6094353 Stroked air registers and OFA dampers.
- 6094354 Cleaned all igniter and main flame scanners, replaced B1 main flame scanner.
- 6094355 Blew back secondary air flow transmitters taps and sensing lines.
- 6090393 Performed drum level trip checks.
- 6094358 Stroked and calibrated turbine valves.



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6074157 Replaced and calibrated turbine bearing oil pump No. 2 run pressure switch. Calibrated AC bearing oil pump auto start pressure switch, DC EBOP auto start pressure switch, DC EBOP redundant pressure switch,, and "B" vacuum pump suction valve vacuum switches.

6094356 Misc. instrumentation outage tasks: Remove igniter rods and verified proper operation and put back in. Replaced igniter rod and spark plug on B2 igniter. Replaced ignition transformer on B4 burner. Reset BRC300 in the CCS.

6094359 Pulled booster fan stall probe, cleaned and re-installed.

6094360 Blew back sensing lines on booster fan seal air switch. Cleaned out transmitter taps and blew back taps, halo's and sensing lines.

6090325 Calibrated main steam flow, main steam pressure, east and west drum level and pressure, "A" and "B" BFP flow, east and west secondary air flow, east and west tempering air flow, "A" and "B" mill classifier differential pressure, and turbine 1<sup>st</sup> stage pressure transmitters.

6076968 Replaced the turbine emergency governor exerciser OSV,ECSV and ERSV solenoids. Repaired ETS-2 limit switch and tighten all connections on the exerciser time delay.

6089208 Replaced proximeter on turbine thrust bearing position.

6081301 Adjusted pressure on "A" and "B" EH pumps after M/M replaced "A" pump. With the turbine reset "A" pump was pulling 16 amps.

6081599 Replaced EH pressure transmitter and calibrated.

6088794 Repaired wiring in "B" mill east out T/C head.

5976182 Repaired T/C connections on #1 turbine bearing temperature indication.

6094367 Replaced "B" condensate pump suction pressure transmitter and calibrated.

6084491 Blew out DAS cabinet power supplies and verified NPM alarm was cleared.

6070447 Replaced west side SH spray regulator positioner, programmed, stroked and set.

6070447 Replaced boiler RH RA-34-1 T/C.



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6089369 Repaired turbine steam seal regulator linkage, cleaned, added dash pot oil, and lube all pivot points.

6052146 Replace LP heater drain tank level controller.

6071136 Replaced solenoids on "A" CWP discharge valve and verified proper operation.

6094086 Replaced cable assembly on A4 main flame scanner.

6084432 Calibrated switch on "B" vacuum pump and verified proper operation on pump suction valve.

6094549 Replaced flexible conduit on "B" mill west lift pump pressure switch.

6094550 Repaired conduit, replaced flexible conduit on "B" mill east lift pump pressure switch.

6094551 Repaired tubing on "A" PA fan discharge pressure tap.

6092941 Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Cleaned and checked connections in control cabinets. Power up T/R's and electrical air testing looks good.

6078742 Inspected and cleaned all high voltage bushings and ducts. Found some moisture in ducts, sealed duct covers with RTV.

6094370 Changed oil and cleaned screens in "A" and "B" BFP's, "A" and "B" FD fans, "A" and "B" Mills, "A" and "B" PA fans and #3 ASP motors.

6080742 Replaced O-rings on "B" FD fan motor sight glass.

6094357 Verified proper operation 3D1B 480 volt breaker.

6057935 Verified proper operation of alarm circuit on 43-1B 480 volt breaker.

6082400 Adjusted cell switch in "B" mill 4160 volt breaker.

6077844 Adjusted cell switch in "A" BFP 4160 volt breaker.

6080450 Adjusted cell switch in "A" Condensate pump 4160 volt breaker.

6094459 Adjusted breaker linkage on "B" EH pump 480 volt breaker.



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6094511 Replaced breaker in "A" bearing oil pump 480 volt MCC cubicle.

6051140 Replaced SOE trip relay in CD4 4160 volt cubicle.

6094362 Unwired defective turbine turning gear motor and wired new motor.

6094498 Stroked main steam shut-off valve and verified proper operation.

6094444 Unhooked economizer solenoids so Titan could replace actuators; hooked back up and verified proper operation.

6094559 Verified proper stroke on east condenser inlet valve after M/M replaced drive shaft key.

6094660 Unwired 3A and 3B turbine AC bearing oil pump motors, they were sent out for recondition; re-wired motors and verified proper rotation.

6094553 Performed EBOP test on DC lube oil pump and all looked very good; also ran test on both AC motors and they passed also.



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### **Operators Event Log**

11:46PM	#3 TURBINE ON GEAR													
12:21AM	GAS BACK IN #3 BOILER			1										
			INS CLO	SED	+									
				OLD		-	-							
		ONICEVEE							-					
			-		-									
		HE WILL DE IN	LAT 2.00											
		THE WILL BE IN	A 1 3:00A	AIVI	-	-	-							
				-	-	-	-		-					
		D 111 0101/ 4 0 T			-		-							
							PORT.							
		CALLED THEY V	VILL BE	HERE A	ROUND	NOON.								
6:00AM	A VAC PUMP IS REDTAG	GED												
6:00AM	#3 PROPANE AND NATUR	RAL GAS VLVS F	REDTAGO	SED										
7:00AM	"A" SHIFT (SHAVER) HE	RE "D" SHIFT (S	STERLIN	G) LEA	VING									
	L.Pile, D. Haynes Vac, D. Liner, W. Mills, L. Smith, R. Jones Vac, D. Sebastian Fl All Here F. Gray SIMULATOR TRAINING J Kennedy, A. Mayfid													
		1101, **.1411113, E.O.	mui,rx.00	nies va	C, D. 36D	astiali Fi P	MI HeleF	.Gray SINOLATOR IF	MINING J Kei	inedy, A.Mayii				
			F-2	150	1000									
								The state of the s						
								150 N w/o Gas						
			24.2	0.40	4.88	9.60	0.133	138 N w/o Gas						
		OFF												
	FGD Nox	0.33												
	FGD Removal %	98												
	3A Mill Amps	OFF												
	3B Mill Amps	OFF												
	COND. STOR. TNK	21/21												
	Instr. Air Dew Point	-70.5												
	Sootblowing													
		4L												
			1				1							
						1								
	11/1311/13	NO THILLAIS			-		-		-					
6:40AM	C3 OFF													
		TI IS	-	-	-	-	+							
			NITADED	OFF O	VED TO	THE BOOKE	ED EAN DA	D	+					
								ND .	-					
					LOSED L	IIVII I NOT IVI	AKING UP		-					
									-					
	the second control of the comment of the control of						:D		-					
									Т					
			TY ON C3	FOR I	VLAND S	O THEY CAL	N START V	ACUUMING						
2:15PM	INLAND DONE UPSTAIRS	MOVING TO EA	STSIDE	DESLA	G DOOR									
3:00PM	SENT EXPRO ON HOME D	ON'T NEEDJO	OHN PULI	LING C	3 WETBO	MOTTC								
3:40PM	WO# 6094382 ISSUED FO	OR ASBESTOS R	REMOVAL	SEN	T JOHN S	SOSH E-MAI	L							
								Y WILL TAKE A LISTE	N ASAP					
										SETTINGLIP				
						, , , ,								
5:31PM	WO# 6094388 ISSUED FO	OR CUT IN 3C FE	EDER R	FLT										
	12:21AM 12:50AM 1:10AM 1:18AM 1:18AM 2:00AM 4:07AM 4:20AM 4:41AM 4:45AM 5:00AM 6:00AM 7:00AM 7:00AM 7:00AM 10:09AM 10:09AM 10:09AM 10:22AM 10:09AM 11:40AM 11:	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC. ON UNIT # 1:10AM #3 TRIPPED ON LOW DR 1:18AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFEF 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:41AM BOBBY OSBORNE CALLE 5:00AM FLOCKER FROM EXPRO 5:05AM 6:00AM FLOCKER FROM EXPRO 6:00AM A VAC PUMP IS REDTAG 6:00AM A VAC PUMP IS REDTAG 6:00AM 7:00AM TURBINE ON GEAR 6:00AM A VAC PUMP IS REDTAG 6:00AM A VAC PUMP IS REDTAG 6:00AM 7:00AM TURBINE ON GEAR 7:00AM TA' SHIFT (SHAVER) HE L.PIIe, D. Haynes Vac, D. Li S. Kurz covering Unit 1 2 3 FGD NOX FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B Mill Amps 3B MILL AMPS 3B MILL STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service HASNTAS 6:40AM C3 OFF 7:40AM SENT E-MAIL ON C3 STA' WCST SIDE C3 GROUND 10:09AM HOLD # 094 ISSUED AND 10:09AM HOLD # 094 ISSUED AND 10:22AM 1A AND 1B MILL DIFF TAI 10:30AM TAGGING A AIR COMPRE 11:40AM VAYNE MILLS RUNNING 12:30PM LES AND JOHN ARE OPE 11:40PM TURNED COAL PILE RUN 11:40PM TURNED COAL PILE RUN 12:30PM LAB REPORTS CHLORIDE 1:40PM VO# 6094382 ISSUED BA 4:05FM ZD MC 6094382 ISSUED BA 5:15PM EAST TO WEST DESLAG ECONS	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC. ON UNIT #3 HEATER DRA 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:18AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE BOBBY OSBORNE CALLED IN SICK A&T 4:41AM BOBBY OSBORNE CALLED IN SICK A&T 5:00AM FLOCKER FROM EXPRO CALLED THEY IN 5:05AM #3 TURBINE ON GEAR 6:00AM A VAC PUMP IS REDTAGGED 6:00AM #3 PROPANE AND NATURAL GAS VLVS F 7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (SL.PIIE,D.Haynes Vac,D.Liner,W.Mills,L.SI S.KURZ COVERING Unit Load 1 158 2 155 3 OFF FGD Nox 0.33 FGD Removal % 98 3A MIII Amps OFF 3B MIII Amps OFF COND. STOR. TNK 21/21 Instr. Air Dew Point -70.5 Sootblowing #1 S/B Out of Service #2 S/B Out of Service #2 S/B Out of Service HASNTAS NOTHERATS 6:40AM C3 OFF 7:40AM SENT E-MAIL ON C3 STATUS 8:30AM WC# ISSUED ON C3 BOOSTER FAN OUT 10:09AM HOLD # 094 ISSUED AND HAS BEEN TAG 10:22AM 1A AND 1B MILL DIFF TAPS NEED TO BE 10:30AM TAGGING A AIR COMPRESSOR AT FGD F 11:00AM LES AND JOHN ARE OPENING MILL DOO 11:40PM TURNED COAL PILE RUN-OFF PUMP OFF 2:15PM INLAND DONE UPSTAIRS MOVING TO EAR 3:40PM WC# 6094382 ISSUED FOR ASBESTOS F 4 4.05PM 2D MILL HAS A SCRAPER OR SCRAPER 5:15PM EAST TO WEST DESLAG COMPLETEIN ECONS	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC. ON UNIT #3 HEATER DRAINS CLO 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:18AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00/ 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:41AM BOBBY OSBORNE CALLED IN SICK A&T FILLED ( 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VA 5:00AM FLOCKER FROM EXPRO CALLED THEY WILL BE 5:05AM #3 TURBINE ON GEAR 6:00AM #3 PROPANE AND NATURAL GAS VLVS REDTAGO 6:00AM #3 PROPANE AND NATURAL GAS VLVS REDTAGO 7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (STERLIN L. Pile, D. Haynes Vac, D. Liner, W. Mills, L. Smith, R. Jo S. Kurz covering  Unit Load Opacity 1 158 21.5 2 155 24.2 3 OFF FGD Nox 0.33 FGD Removal % 98 3A Mill Amps OFF COND. STOR. TNK 21/21 Instr. Air Dew Point -70.5 Sootblowing #1 S/B Out of Service HASNTAS NO THREATS 6:40AM C3 OFF 7:40AM SENT E-MAIL ON C3 STATUS 8:30AM WEST SIDE C3 GROUND LEVEL CAUTION TAPED 9:33AM WO# ISSUED ND HAS BEEN TAGGED ON 10:09AM HOLD # 094 ISSUED AND HAS BEEN TAGGED ON 10:09AM HOLD # 094 ISSUED AND HAS BEEN TAGGED ON 11:40PM TARGEN ARR COMPRESSOR AT FGD FOR ATLA 11:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 12:30PM LES AND JOHN ARE OPENING MILL DOORS INLAI 11:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 1:40PM TURNED COAL PILE RUN-OFF PUMP OFF PER PA 2:15PM INLAND DONE UPSTAIRS MOVING TO EASTSIDE IS 3:40PM US HILL DIFF TAPS NEED TO BE BLOWN 11:40PM TURNED COAL PILE RUN-OFF PUMP OFF PER PA 2:15PM INLAND DONE UPSTAIRS MOVING TO EASTSIDE IS 3:40PM US HILL DIFF TAPS NEED TO BE BLOWN 11:40PM TURNED COAL PILE RUN-OFF PUMP OFF PER PA 2:15PM INLAND DONE UPSTAIRS MOVING TO EASTSIDE IS 3:40PM US MED TO NEED L. JOHN PUL 2:30PM LAB REPORTS CHLORIDES@6400 1:40PM US MED TO NEED L. JOHN PUL 2:30PM LAB REPORTS CHLORIDES@6400 1:40PM US MED TO NEED L. JOHN PUL 2:51PM INLAND DONE UPSTAIRS MOVING TO EASTSIDE IS 3:40PM US MED TO NEST DESLAG COMPLETEINLAND ME ECONS	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC. ON UNIT #3 HEATER DRAINS CLOSED 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:18AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:41AM BOBBY OSBORNE CALLED IN SICK A&T FILLED OUT 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRU 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRU 5:00AM #3 TURBINE ON GEAR 6:00AM #3 TURBINE ON GEAR 6:00AM A VAC PUMP IS REDTAGGED 6:00AM #3 PROPANE AND NATURAL GAS VLVS REDTAGGED 7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (STERLING) LEA L. PIIE, D. Haynes Vac, D. Liner, W. Mills, L. Smith, R. Jones Va S. Kurz covering  Unit Load Opacity Nox 1 158 21.5 0.31 2 155 24.2 0.40 3 OFF FGD Nox 0.33 FGD Removal % 98 3A Mill Amps OFF 3B Mill Amps OFF 3B Mill Amps OFF 3B Mill Amps OFF COND. STOR. TNK 21/21 Instr. Air Dew Point -70.5 Sootblowing #1 S/B Out of Service NONE HASNTAS NO THREATS 6:40AM C3 OFF 7:40AM WEST SIDE C3 GROUND LEVEL CAUTION TAPED OFF O 9:33AM WOST SIDE C3 GROUND LEVEL CAUTION TAPED OFF O 9:33AM WEST SIDE C3 GROUND LEVEL CAUTION TAPED OFF O 9:33AM WWST SIDE C3 GROUND LEVEL CAUTION TAPED OFF O 9:33AM WOST SIDE C3 GROUND LEVEL CAUTION TAPED OFF O 10:29AM HOLD # 094 ISSUED AND HAS BEEN TAGGED OUT 10:29AM HOLD # 094 ISSUED AND HAS BEEN TAGGED OUT 10:29AM HOLD # 094 ISSUED AND HAS BEEN TAGGED OUT 10:29AM HOLD # 094 ISSUED AND HAS BEEN TAGGED OUT 11:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR II 1:40	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC. ON UNIT #3 HEATER DRAINS CLOSED 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:18AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:41AM BOBBY OSBORNE CALLED IN SICK A&T FILLED OUT 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRUCK #3 OU 5:05AM #3 TURBINE ON GEAR 6:00AM #3 TOURBINE ON GEAR 7:00AM #3 TOURBINE ON GEAR 7:00AM #3 TOURBINE ON GEAR 9:00AM #3 TURBINE ON GEAR 9:00AM WO# ISSUED ON C3 STATUS 8:00AM WO# ISSUED ON C3 BOOSTER FAN OUTLET DAMPER CLOSED LED ON C3 BOO	12:21AM GAS BACK IN #3 BOILER 12:25AM PULLING VAC. ON LOW DRUM LEVEL 11:0AM 3T RIPPED ON LOW DRUM LEVEL 11:8AM GAS FIRE BACK IN #3 11:45AM ROLLING #3 TURBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:241AM BOBBY OSBORNE CALLED IN SICK A&T FILLED OUT 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRUCK #3 OUTAGE SUPF S:00AM 5:00AM FLOCKER FROM EXPRO CALLED THEY WILL BE HERE AROUND NOON. 5:00AM #3 TURBINE ON GEAR 6:00AM #3 TURBINE ON GEAR 6:00AM #3 PROPANE AND NATURAL GAS VLVS REDTAGGED 7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (STERLING) LEAVING L.PIJE, D.Haynes Vac, D.Liner, W.Mills, L.Smith, R.Jones Vac, D. Sebastian Fl A S. Kurz covering  Unit Load Opacity Nox SO2 CBD PH 1 158 21.5 0.31 4.66 9.70 1 158 21.5 0.31 4.66 9.70 1 158 21.5 0.31 4.66 9.70 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 158 21.5 0.31 4.66 9.70 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12:50AM PULLING VAC. ON UNIT #3 HEATER DRAINS CLOSED  1:10AM #3 TRIPPED ON LOW DRUM LEVEL  1:18AM GAS FIRE BACK IN #3  1:45AM ROLLING #3 TRIPPED ON LOW DRUM LEVEL  2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00AM  4:07AM TIED #3 ONLINE  4:40AM #3 TRIPPED OFFLINE  4:41AM BOBBY OSBORNE CALLED IN SICK A&T FILLED OUT  4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRUCK #3 OUTAGE SUPPORT.  5:00AM FLOCKER FROM EXPRO CALLED THEY WILL BE HERE AROUND NOON.  5:05AM #3 TURBINE ON GEAR  6:00AM A VAC PUMP IS REDTAGGED  6:00AM #3 VAC PUMP IS REDTAGGED  6:00AM #3 VAC PUMP IS REDTAGGED  7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (STERLING) LEAVING  L Pile, D. Haynes Vac, D. Liner, W. Mills, L. Smith, R. Jones Vac, D. Sebastian Fl All Here FS. Kurz covering  Unit Load Opacity Nox SC2 CBD PH Silica  1 158 21.5 0.31 4.66 9.70 0.067  2 155 24.2 0.40 4.88 9.60 0.133  FGD Removal % 98  3A Mill Amps OFF  GOND. STOR. TINK 21/21  Instr. Air Dew Point -70.5  Sootbiowing  #1 S/B Out of Service NONE  #2 S/B Out of Service NONE  #3 S/B Out of Service NONE  HASNTAS NO THREATS  6.40AM C3 OFF  7.40AM SENT E-MAIL ON C3 STATUS  8.30AM WC# ISSUED ON C3 BOOSTER FAN OUTLET DAMPER CLOSED LIMIT NOT MAKING UP  10.22AM 1A AND 18 MILL DIFT FATPS NEED TO BE BLOWN BACK WC# 6094368 ISSUED  10.30AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR INLAND SO THEY CAN START V  11.00AM SENT E-MAIL ON C3 STATUS  11.00AM CAGGING A AIR COMPRESSOR AT FGD FOR ATLAS SERVICE REP  11.00AM ERPORTS CHLORIDES@6400  11.40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR INLAND SO THEY CAN START V  12.30PM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR INLAND SO THEY CAN START V  12.30PM LER REPORTS CHLORIDES@6400  14.40PM TURRED COAL PILE RUN-OFF PUMP OFF PER PATRICK  11.40AM WAYNE MILLS RUNNING FEEDERS EMPTY ON C3 FOR INLAND SO THEY CAN START V  12.30PM WOR 6094332 ISSUED FOR A SERSETOR SERVORAL SENT JOHN SOSH E-MAIL  4.40PM TURRED COAL PILE RUN-OFF PUMP OFF PER PATRICK  13.40PM WOR' 6094332 ISSUED FOR A SERSETOR SERVORAL SENT JOHN SOSH E-MAIL  4.40PM TURRED CO	12:21AM GAS BACK IN #3 BOILER 12:59AM PULLING VAC, ON LOW T #3 HEATER DRAINS CLOSED 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:10AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TRIBINE 2:00AM CALLED JOHN PFIEFFER HE WILL BE IN AT 3:00AM 4:707AM TIED #3 ONLINE 4:20AM #3 TRIPPED OFFLINE 4:20AM #3 TRIPPED OFFLINE 4:41AM BOSEN OSBORNE CALLED IN SICK AST FILLED OUT 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRUCK #3 OUTAGE SUPPORT. 5:00AM #3 TURBINE ON GEAR 6:00AM #3 TURBINE ON GEAR 6:00AM #3 TURBINE ON GEAR 6:00AM #3 TORPOPANE AND NATURAL GAS VLVS REDTAGGED 7:00AM "A" SHIFT (SHAVER) HERE "D" SHIFT (STERLING) LEAVING L. PIJE, D. Haynes Vac, D. Liner, W. Mills, L. Smith, R. Jones Vac, D. Sebastian Fil All Here F. Gray SIMULATOR TR 5. Kurz covering  1 Unit Load Opacity Nox SQ2 CBD PH Silica Capability 1 1 158 21.5 0.31 4.66 9.70 0.067 150 N w/o Gas 3 OFF FOD Nox 0.33 3 OFF FOD Nox 0.33 3 OFF FOD Nox 0.33 FOD Removal % 98 3 A Mill Amps OFF COND. STOR. TINK 21/21 Instr. Air Dew Point 7:0.5 Socitiowing 41 SiB Out of Service NONE #3 SIB Out of Service NONE	12:21AM GAS BACK IN #3 BOILER 12:50AM PULLING VAC ON UNIT #3 HEATER DRAINS CLOSED 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:10AM #3 TRIPPED ON LOW DRUM LEVEL 1:10AM GAS FIRE BACK IN #3 1:45AM ROLLING #3 TURBINE 2:20AM CALLED JOHN PRIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM TIED #3 ONLINE 4:20AM CALLED JOHN PRIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM CALLED JOHN PRIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:20AM CALLED JOHN PRIEFFER HE WILL BE IN AT 3:00AM 4:07AM TIED #3 ONLINE 4:45AM CALLED JASON HARVILLE FOR DESLAG AND VAC. TRUCK #3 OUTAGE SUPPORT. 5:00AM F1 TURBINE ON GEAR 5:00AM A VAC PUMP IS REPORAGED 6:00AM A VAC PUMP IS				





Your Touchstone Energy Cooperative

		V.Ramsey VAC, B.Johns	son, R.Payne G	.Tivitt, S.	.Embert	on, B.Hu	int G.Calhoi	un			
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability		
		1	160	24.7	0.350	4.75	9.76	0.59	150N W/O GAS		
		2	160	29.8	0.350	4.83	9.54	0.13	138N W/O GAS		
		3	OUTAGE								
		FGD Nox	0.33								
		FGD Removal %	98.5								
		3A MILL AMPS									
		3B MILL AMPS	-								
		COND. STOR. TNK	23/24								
		Instr. Air Dew Point	-69.2								
		Sootblowing	-								
		#1 S/B Out of Service	4L								
		#2 S/B Out of Service	NONE	-							
		#3 S/B Out of Service HASNTAS	NONE NO THREATS								
		HASNIAS	NO INCEAIS								
	7:00PM	HAVE STM. COMING OF	F OF #3 HTR. ON	#2 GOING	THROU	JGH STM	COILS ON	#3			
		ABSORBER CHLORIDES									
	8:00PM	BACKWASHING #3 CON	DENSER EAST S	IDE.							
	8:00PM	#18 CONV BINDICATOR	NOT WORKING E	LECT. CH	HANGIN	G OUT.					
		IDEPT HAS 3A,C,D FEEL									
		ASG ELEVATOR REPAIR		AVE #3 E	LEVATO	R DOOR	REPAIRED	BACK IN S	ERVICE.		
		DEWATERING ON B BEL									
		ASBESTOS REMOVAL O									
3/22/2013		#3A&B BOILER FEED PU				ст. то с	HANGE OIL	IN MTRS.			
		#3 PRICIPS ARE REDTA									
		BOBBY OSBORNE CALL				NEXT 2	DAYS, A&T F	ILLED OUT			
	5.30AIVI	#3 BOOSTER FAN LUBE	OIL AD HYDRAU	LIC OIL H	TRS NO	T WORK		6094436			
								6094436			
	7:00	"B" SHIFT (JOHNSON) HE	RE "D" SHIFT (STE	RLING) LE	AVING.		ING. W.O.#		RE		
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE	RE "D" SHIFT (STE LD, M. CHRISTIA	ERLING) LE	AVING.	 R. CARI	MAN, J. KE		ERE		
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MO	ERLING) LE AN, J GOO DORMAN-	AVING. DDMAN, SIMULA	R. CARI	MAN, J. KE	ENNEDY HE	ERE		
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MO Load	RLING) LE N, J GOO OORMAN- Opacity	EAVING. DDMAN, SIMULA Nox	R. CARI	MAN, J. KE AINING	NNEDY HE	Capability	Bypass Stk.	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S Unit 1	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MC Load 160	ERLING) LE NN, J GOO DORMAN- Opacity 36.0	EAVING. DDMAN, SIMULA Nox 0.36	R. CARI	MAN, J. KE AINING CBD PH 9.71	Silica 0.059	Capability 155 N w/o Gas	CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S Unit 1 2	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MC Load 160 156	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S Unit 1	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MC Load 160	ERLING) LE NN, J GOO DORMAN- Opacity 36.0	EAVING. DDMAN, SIMULA Nox 0.36	R. CARI	MAN, J. KE AINING CBD PH 9.71	Silica 0.059	Capability 155 N w/o Gas	CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S Unit 1 2	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MC Load 160 156	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S Unit 1 2 3	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MO Load 160 156 OUTAGE	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal %	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MO Load 160 156 OUTAGE 0.34 97.8%	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps	RE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MO Load 160 156 OUTAGE 0.34 97.8% OFF	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	RE "D" SHIFT (STELD, M. CHRISTIA SDO) N. MC Load 160 156 OUTAGE 0.34 97.8% OFF	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	RE "D" SHIFT (STELD, M. CHRISTIA SDO) N. MC Load 160 156 OUTAGE 0.34 97.8% OFF OFF 22 / 23	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
		"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	RE "D" SHIFT (STELD, M. CHRISTIA SDO) N. MC Load 160 156 OUTAGE 0.34 97.8% OFF	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	Load 160 156 OUTAGE 0.34 97.8% OFF 22 / 23 -68.9	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service	ERE "D" SHIFT (STE LD, M. CHRISTIA SDO) N. MC Load 160 156 OUTAGE 0.34 97.8% OFF OFF 22 / 23 -68.9	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service	ERE "D" SHIFT (STE LD, M. CHRISTIA SDO)	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 1 S/B Out of Service 2 S/B Out of Service	RE "D" SHIFT (STE LD, M. CHRISTIA SDO)	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service	ERE "D" SHIFT (STE LD, M. CHRISTIA SDO)	ERLING) LE NN, J GOO DORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 1 S/B Out of Service 2 S/B Out of Service	RE "D" SHIFT (STELD, M. CHRISTIA SDO)	ERLING) LE N, J GOO OORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	MAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	
	7:00	"B" SHIFT (JOHNSON) HE S. HOWARD, A. MAYFIE D. TAUL(F/I), L/ SMITH(S  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 35/B Out of Service DHSNTAS	RE "D" SHIFT (STE LD, M. CHRISTIA SDO)	ERLING) LE IN, J GOO OORMAN- Opacity 36.0 39.0	Nox 0.36 0.36	R. CARI TOR TR SO2 4.93 4.88	WAN, J. KE AINING CBD PH 9.71 9.61	Silica 0.059 0.125	Capability 155 N w/o Gas 138 N w/o Gas	CLOSED CLOSED	

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Your Touchstone Energy\* Cooperative

				-							
	6:15	TAGGING OUT 3 B COAL	FEEDER FOR M	AINT TO	CHANGE	OUT BE	LT				
	7:15	MAINT RELEASED 4L SO	OTBLOWER ON	I C-1PL	JLLING 1	TAGS TO	RESTORE S	AME			
	9:00	STAGING EH FLUID TO C									
	10:15				LECTRI	CALISO	LATION VER	RIFICATION	ELECTRICANS I	OOKING AT IT	
	NOTE	ELECTRICIANS ADJUSTE							ELLOTT GOTT TO	200Kii (O AT TI	
		VACUUM DEHYDRATOR									
	NOTE										
	13:45						DUMP ON				
	10.40	HAVE A HEAT EXCHANG					I FOIVIF ON C	<i>,</i> -3			
	14:00	TAGGING OUT STEAM SE					OF SECTIO	NOFINE	MANUTE I OL AND ON IT	-	
	15:03										
	15:05							OVERTIME	LISTOKHE V	VILL BE IN	
	15:09										
	15:12										
	15:21	G. CALHOUN CALLED BA	ACKTOLD HI	M R. JONE	S WAS	COMING	3 INOK				
	19:00	"C"SHIFT (Dooley) H0EF	*								
		K.Grantland, P Gatton, L.S	Shearn, M. Young	, D. Mills,	J. Miller,	R. Payn	e, M.Lee, S.F	Kurz, Here			
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	160	27.5	0.32	4.86	9.70	0.068	150 N w/o Gas	CLOSED	
		2	152	34.0	0.35	4.88	9.70	0.136	138 N w/o Gas	CLOSED	
		3	OUTAGE						N w/o Gas	OPEN	
		FGD Nox	0.31								
		FGD Removal %	98.3%								
		3A Mill Amps									
		3B Mill Amps									
		COND. STOR. TNK	22/23							-	
		Instr. Air Dew Point	-68.5							-	
		Sootblowing									
		#1 S/B Out of Service	4L	+							
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		HASNTAS	NO THREATS							_	
		HASNIAS	NO INKEATS	-						+	
	40.00	CTARTING CO AIR LIEATE	DIMAGU								
	18:22			T							
	18:40		E RUNNING BU	IT WILL NO	OT TURN	THE AIR	R HEATER B	ASKET TAG	GING OUT		
		#3 ASP ON									
	19:56										
	20:18				STEAM	COIL B	ACK UP TO	#3 - LEFT A	MESSAGE THAT I	RELEASED HI	SNAME
	20:32										
	21:00	INLAND STARTING TO CL	EAN THE PENT	HOUSE W	ITH THE	IR TRUC	K ONLY BEC	CAUSE LOV	V WATER PSI		
	21:30	INLAND USING OUR FLY	ASH SYSTEM TO	CLEAN T	HE PEN	IT HOUS	E				
	21:50	C3 W/B STILL HAS SOME	E SLAG IN THE \	WEST SID	E-WE	REMOVE	D A SOOT E	BLOWER LA	NCE TIP ABOUT 3'	LONG AND AL	SO REMOVED A
		TUBE STRAP - WE ALSO									
	22:00	C3 W/B HAS A HOLE IN T TUBE LEAKS	THE DISCHARGE	E LINE NE	XT TO T	HE EAST	SIDE DOG	HOUSE - W	/ILL TAG AFTER W	E INSPECT TH	E BOILER FOR
	22:25	C3 W/B TAGGED									
	22:30	C3 BOILER SET FOR HYD	ORO AND PULL	VACUUM (	ON THE	REHEAT	ER				
3/23/2013	0:11	C3 BOILER MAIN STEAM MR# 6094498	Security in the second services	INTERESTINATION OF THE PARTY OF			Marin Marin San San San San San San San San San Sa	ALL THE W	AY CLOSED - NEE	TO CHECK T	HE STROKE ON
	1:00	G PILE, B JEAN AND N J	OHNSON GOING	HOME						NAMES OF THE OWNERS OF THE OWNER, WHEN THE OWN	



Your Touchstone Energy" Cooperative

1:30		CHECK								
4.40	REMOVED S/B LANCE F						OUT THE	BEST WE COULD		
1:40	C1 HOTWELL CHECK O	/ER LOST 3" IN	30 MINUTE	S WITH	I COILS	IN AT 15#				
1:41	FLUSHING C3 WET BOT	TOM WET SEAL								
1:53	<b>RUNNING C2 HOT WELL</b>	CHECK								
2:12	C3 BOILER FULL AND RI		RO							
2:23	C2 HOT WELL CHECK O			OHEH	V ΔΤ 50#					
4:00	C3 BOILER MAIN STEAM						n .			
4:15	C2 B HEAT EXCHANGER									
4:57	MIKE LEE IS TAKING A F	PERSONAL DAY	TONIGHT	3/23/20	13 7P-12	MN AND 3/24	4/2013 12 N	IN-7AM		
5:22	HAVE HEAD COUNT HY									
5:25	3B BFP ON									
5:35	3B BFP OFF									
5:36	3A AND 3B COND VAC F	LIMPS ON								
0.00	CATALLE OF COMP AND I	OIVII O OIV								
7:00	"B" SHIFT (JOHNSON) HE	RE "D" SHIET (ST	EDIING) I	EAVING						
7.00		Control of the Contro								
	S. HOWARD, A. MAYFIE							RE		
	D. TAUL(F/I), G. CALHO					R TRAINING	*****			
	G. TIVITT AND R. JONES	S(SDO) FOR OL	JTAGE CO	VERAG	E					
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
	1	160	27.0	0.35	4.83	9.68	0.066	155 N w/o Gas	CLOSED	
	2	128	26.0	0.38	4.75	9.57	0.125	138 N w/o Gas	CLOSED	
	3	OUTAGE	20.0	0.30	4.75					
	J	COTAGE						OUTAGE	OPEN	
		2000								
	FGD Nox	0.34								
	FGD Removal %	98.3%								
	3A Mill Amps	OFF								
	3B Mill Amps	OFF								
	COND. STOR. TNK	19 / 20								
	Instr. Air Dew Point	-68.4								
	Sootblowing									
	#1 S/B Out of Service	NONE								
	#2 S/B Out of Service									
		NONE	-		-					
	#3 S/B Out of Service	NONE								
	DHSNTAS	NO THREATS								
7:45	C-3 OFF GEARTAGGI				E.COR			3 /7 DEG		
NOTE 8:00 8:30 9:00 9:45 11:05 12:00 13:45 14:23 14:25 14:27	#3 ISOLATION OF WATE CLOSED AND TAGGED # INLAND VACUUM TRUCK TRANSFERING C-3 LUBE #3 LUBE OIL HAS BEEN HANGING TAGS AND PR SHUT DOWN B SIDE AIF #3 LUBE OIL TANK IS CL CALLED D. LINER TO CC CALLED W. MILLS TO CC CALLED R.J PAYNE TO CSCHEDULED G. TIVITT T	R TO THE BOILE R TO THE BOILE R ECONOMIZER IN PENTHOUSE IN PENTHOUSE REALING CONF HEATER WASH EANNOTIFIE ME IN TOMORR OME IN TOMORR OME IN TOMOR	ER PERMIT RINLET IS( E RIGGING E OIL STO TO C-2 DI INED SPAHTAGGI ED MAINT. COWLEF ROWHE MORROW	OLATION TO VAI RAGE T RTY ON CE PER NG OUT T MESS FT MESS E IS ALFOK	N VALVE CUUM AS ANK TANK MIT TO ( F FOR MA SAGE SAGE READY S	SH IN #3 WERUNNING 1 CLEAN #3 LU AINT TO REP	ST DRUM E THROUGH S JBE OIL TAI TAIR AIR DE	ENCLOSURE  SIDE LOOP ON 2 TO  NK  RIVEELECTRIC I	CLEAN IT UP DRIVE IS TURNII AN	NG TOO FA
NOTE 8:00 8:30 9:00 9:45 11:05 11:15 12:00 13:45 14:23 14:25 14:27 14:28 15:45	#3 ISOLATION OF WATE CLOSED AND TAGGED # INLAND VACUUM TRUCK TRANSFERING C-3 LUBE 3 LUBE OIL HAS BEEN HANGING TAGS AND PR SHUT DOWN B SIDE AIF #3 LUBE OIL TANK IS CL CALLED D. LINER TO CC CALLED W. MILLS TO CC CALLED W. MILLS TO CSCHEDULED G. TIVITT T SHUT DOWN B SIDE AIF	R TO THE BOILE R TO THE BOILE R ECONOMIZER IN PENTHOUSE IN PENTHOUSE FRANSFERRED EPARING CONF HEATER WASH EANNOTIFIE ME IN TOMORR OME IN TOMORR O COME IN TOM HEATER WASH	ER PERMIT RINLET ISC ERIGGING E OIL STO TO C-2 DI INED SPA- HTAGGI ED MAINT. COWLEF ROWLEF ROWHEMORROW HTAGGI	OLATIO TO VAI RAGE T RTY OIL CE PER ING OUT  FT MESS FT MESS FT MESS FT MESS IS ALF .OK NG OUT	N VALVE CUUM AS ANK TANK TANK TANK TO (I) FOR MA SAGE SAGE READY S	SH IN #3 WERUNNING 1 CLEAN #3 LU AINT TO REP	ST DRUM E THROUGH S JBE OIL TAI TAIR AIR DE	ENCLOSURE  SIDE LOOP ON 2 TO  NK  RIVEELECTRIC I	CLEAN IT UP DRIVE IS TURNII AN	NG TOO FA
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NOTE 8:00 8:30 9:00 9:45 11:05 11:15 12:00 13:45 14:23 14:25 14:27 14:28 15:45 17:40	#3 ISOLATION OF WATE CLOSED AND TAGGED # INLAND VACUUM TRUCH TRANSFERING C-3 LUBE #3 LUBE OIL HAS BEEN HANGING TAGS AND PR SHUT DOWN B SIDE AIR #3 LUBE OIL TANK IS CLOALLED D. LINER TO CCALLED W. MILLS TO CCALLED RJ PAYNE TO CCALLED G. TIVITT TSHUT DOWN B SIDE AIR #3 EH UNIT IS DRAINED.  "C"SHIFT (Dooley) HERI K.Grantland, P Gatton, L.S.	R TO THE BOILE R TO THE BOILE SI ECONOMIZEE IN PENTHOUSE COIL TO #2 LUB TRANSFERRED EPARING CONF HEATER WASH EANNOTIFIE OME IN TOMORE OME IN TOMORE OME IN TOMORE OCOME IN TOMORE HEATER WASHAUXILIARIES E "B" SHIFT (Ju Shearn, M.Young	ER PERMIT  RINLET IS RINLET IS RINLET IS RINLET IS RINLED IN RINLED SPAH  LTAGGI  ED MAINT.  OWLEI  ROWLEI  ROW	OLATION TO VAI RAGE TO VAI RAG	N VALVE CUUM AS ANK TANK	SH IN #3 WERUNNING TO CLEAN #3 LL AINT TO REP CCHEDULED AINT TO REP LEP	ST DRUM E THROUGH S THROUGH S THROUGH S THROUGH S THROUGH TAIR AIR DF THROUGH	ENCLOSURE  SIDE LOOP ON 2 TO NK  RIVEELECTRIC I	CLEAN IT UP  DRIVE IS TURNII  AN  DRIVE IS TURNII  Bypass Stk.	NG TOO FA
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		Sootblowing									
		#1 S/B Out of Service	12R								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		HASNTAS	NO THREATS								
		M/M RELEASED 3B AIR	HEATER AIR DRI	VE							
		3A EH PUMP ON									
		3B AIR HEATER WASHIN									
		CLEANED 3A AND 3B MI		Y FOR M	M TO C	LOSE UF	DOORS				
	22:30										
		#3 EH SYSTEM AT 3/4 LE	EVEL ON THE SI	GHT WITH	"A" EH	PUMP O	N				
	22:50	#3 LUBE OIL TANK DRAI	NED								
	23:00	INLAND VACUUMED OU									
	23:12	TITAN HAS COMPLETED	#3 W/B WET SE	EAL REPA	IRS - IN	LAND W	ASHING THE	WET SEA	L AND VACUUMING	OUT THE WE	T BOTTOM PIT
24/2013	0:44	INLAND HAS #3 WETBO	TTOM WET SEAL	CLEAN -	CLEAN	ING ARC	UND THE BU	JSTED LINE	ON THE EAST SID	E DISCHARGE	LINE FOR MM T
		REPAIR									
	1:00	NICK JOHNSON GOING H	HOME								
	1:00	INLAND LETTING 4 GUYS		I HAVE 4	GLIYS	HERE TH	RUTHE RES	T OF THE N	MIGHT		
	1:15	C3 SET FOR HYDRO - CA					NO THE NEC	I OI IIIL I	WOITI		
	1:16	3B BFP SUCTION FLOW					D# 6004541				
	2:00	DROPPING LOAD ON C1				THOL IVI	W 0034341				
	4:40	RAN C1 AND C2 OIL TRI									
	5:10	DROPPING LOAD ON C2		S							
	0.10	DIADITING LOAD ON CZ	IO ILGI VALVE	.0							
	7:00	"R" SHIET (IOUNISON) HE	DE "D" CHIET /CT	EDI INC)	AVIING						
	7:00	"B" SHIFT (JOHNSON) HE					EDVIIESE				
		S. HOWARD, A. MAYFIE									
		M. CHRISTIAN(FI) D. TAI			BERTO	1,(SDO).	N. MO	ORMAN-SI	MULATOR TRAININ	G	
		G. TIVITT (SDO) FOR OU	TAGE COVERA	GE							
			l								
		Unit	Load	Opacity			CBD PH	Silica	Capability	Bypass Stk.	
		1	160	25.0	0.38	4.83	9.70	0.066	155 N w/o Gas	CLOSED	
		2	115	18.0	0.39	4.72	9.83	0.133	138 N w/o Gas	CLOSED	
		3	OUTAGE						OUTAGE	OPEN	
		FGD Nox	0.34								
		FGD Removal %	98.4%								
		3A Mill Amps	OFF								
		3B Mill Amps	OFF							-	
		COND. STOR. TNK	22 / 23								
		Instr. Air Dew Point	-69.0								
		Sootblowing									
		#1 S/B Out of Service	12R								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
		C-3 ECC(OFF GEAR	)1ST VLV IN 3	031ST	VLV OL	Л 301	1ST STAGE	SH 275	••••		
		CONTINUE TO RUN B LS									
	6:44	CHECKING TUBE METAL			AND C	-2					
	7:15	INLAND SETTING UP TO					OT END BE	ARING			
	8:00	TAGGING S/B STEAM ON							-R		
	8:20	PULLING TAGS ON #3 W								VITH INI AND	
	9:45	MAINT RELEASED #1 S/8							LO I/OLLAN V		
	10:45	INLAND SIGNS ON #3 W				JIONE S	7 WVIL				
		R. PAYNE CALLED INT				TT.					
	13:00	MAINT RELEASED #3 CII					AGS TO CH	APGE CON	DENSED		
	13:45									C	
	14:00										
	14.00	REQUESTED I-DEPT TO	LOOK AT 3 A CIT	RCULATIN	G WAIL	R PUMP	DISCHARG	E VALVE L	IMIT SWITCHES	DO NOT HAVI	E A CLOSED LIGH
		ON 3A									
	14:30	K. MAYFIELD LOOKING	AT #3 CONDENS	SER EAST	SIDE IN	LET VAL	VECAN	NOT GET IT	TO CLOSE		
	15:00	#3 WET BOTTOM IS CLE									
	15:30	INLAND HAS HOSES ETC	OUT OF THE W	AY AT WE	ET BOTT	OM AND	AIR HEATE	RSWILL	RETURN IN THE M	ORNING TO FI	NISH DEMOB
	NOTE	AUXILIARIES HAVE SET									
	15:40	3 A AND 3 B AIR HEATER									
	NOTE	SCHEDULED S. KURZ A					FOR OUTA	GE ASSIST	ANCETHEY WII	L NEED TO F	BE NOTIFIED
	16:25	ELECTRICIAN REPORTS OR BROKEN KEYMAI	#3 EAST CONDE	ENSER IN	ET VAL	VE AUM	A DRIVE IS				
	16:30	AUXILIARY HAS A HOSE						011 0001 5	DO MILL HOTE	ED TO DE LIO	OKED HE AND
	10.50	VALVED IN WHEN THE C					O #9 LOBE (	OIL COOLE	NoVVILL JUST NE	ED IO RE HO	OKED UP AND





Your Touchstone Energy® Cooperative

	19:00	"C"SHIFT (Dooley) HER	E "B" SHIFT (Je	ohnson) L	EAVING	;					
		K.Grantland, P Gatton, L.	Shearn, M.Young	, D. Mills,	J. Miller,	R. Payr	ne P/D, M.Lee	e, S.Kurz, I	Here		
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	160	25.7	0.36	4.94	9.70	0.081	150 N w/o Gas	CLOSED	
		2	138	31.5	0.36	4.95	9.80	0.140	138 N w/o Gas	CLOSED	
		3	OUTAGE						N w/o Gas	OPEN	-
		FGD Nox	0.33			-					
		FGD Removal %	97.4%								
		3A Mill Amps									
		3B Mill Amps									
		COND. STOR. TNK	22/23								
		Instr. Air Dew Point	-68.6								
		Sootblowing									
		#1 S/B Out of Service	NONE								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		HASNTAS	NO THREATS								
	17:48	TAGGING 3B BFP FOR M	VM TO REPAIR I	FAK ON S	SUCTION	J FL OW	ORIFICE			+	
	21:15	3B COND PUMP ON - FIL			0001101	LOVV	ORIFICE				
	21:55	C3 BOILER FULL AND R									
	22:36	CHECKING C1 BACK-UP									
	22:41	CHECKING C2 BACK-UP									
	23:00	TOM DAVIS AND JOE DI									
3/252013	1:00	START C3 W/B BABFAR									
	1:28	BACKWASHING C1 CON									
	5:14	KEN GRANTLAND TAKIN		3/27/2013	3 7A TO	7P - NO	COVERAGE	NEEDED			
	6:15	SHUTTING OFF C3 BABE		. JIZIIZUI	1110	,, ,,,,,	JUVLIVIGE	. 422020		-	
	7:00AM	"D" SHIFT (STERLING)		and the same of th							
		V.Ramsey , B.Johnson,						12			
		Unit	Load	Opacity		SO2	CBD PH	Silica	Capability		
		1	160	27.6	0.370		9.59	0.73	150N W/O GAS		
		2	160	43.2	0.360	4.50	9.80	0.13	138N W/O GAS		
		3 FGD Nox	OUTAGE								
			0.33 98	-		-					
		FGD Removal % 3A MILL AMPS	90				-			-	
		3B MILL AMPS									
		COND. STOR. TNK	23/24						-		
		Instr. Air Dew Point	-70.2			-	-		1		
		Sootblowing	-70.2				-			+	
		#1 S/B Out of Service	NONE				-			+	
		#2 S/B Out of Service	NONE	-			-			1	
		#3 S/B Out of Service	NONE	-			-			1	
		HASNTAS	NO THREATS								
											40 - 1000
		HAVE HEAD COUNT. HY							OR CCI TESTING.		
		MARTY HITE WITH BIG F									
		CHUCK IBOSH WITH UN			ON SITE	TO SAM	NPLE OIL IN	TRANSFOR	RMERS.		
		TESTED PLANT EMERGE		STEM.							
		ABSORBER CHLORIDES									
		#3 EAST CONDENSER II						UMA KEY	WAY.		
		#3 DRUM VENTS ARE OF									
		#3A COAL PILE SUMP P			R P.GRI	MES.					
		HAVE #3 WETBOTTOM S		٧.							
		HAVE SEAL ON #3 WET									
		#3 WETBOTTOM IS BAC									
	2:00PM	#3 FD FANS ON RUNNIN									
		#2 CONDENICED CHADO	ED EAST COME	ENISER OF	ITI FT I	SIFAKI	NG WHERE	OUTLINE O	GOES THROUGH BAS	EMENT WALL.	
	4:00PM		LD. LAST COIND	LINGLIN	012211	CLLT	THO WITHLINE				
	4:00PM 4:00PM	#3 FD FANS OFF									
	4:00PM 4:00PM 5:00PM										





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	7:00AM	"A" SHIFT (SHAVER) HE	RE "D" SHIFT	STERLIN	GILEA	VING									
		L.Pile,D.Haynes Vac,D.L					an All Here	F Gray S	SIMILI ATOR TRAININ	IG I Shearn coveri	ina				
		D.Mills,S.Kurz extra	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,2.	000000	anna rai rioro	Oray c	MOLATOR TRAININ	OL.Onearn Covers	iig,				
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability						
		1	160	18.4	0.34	4.66	9.60	0.067	150 N w/o Gas						
		2	155	27.4	0.36	4.54	9.70	0.126	138 N w/o Gas						
		3	OFF												
		FGD Nox	0.34												
		FGD Removal %	97.4												
		3A Mill Amps	OFF												
		3B Mill Amps	OFF												
		COND. STOR. TNK	22/23												
		Instr. Air Dew Point	69.9												
		Sootblowing													
		#1 S/B Out of Service	NONE												
		#2 S/B Out of Service	NONE												
		#3 S/B Out of Service	NONE				1 -								
		HASNTAS	NO THREATS												
		FD FANS ON TITAN CHECKING DOORS FOR AIR LEAKS													
		PICKING UP THE REMAIN		THAT NE	ED TO	BE PICK	ED UP FOR	START UP							
		HEADCOUNT COMPLETED													
		FIRE IN C3 BOILERE-M													
		CANT GET B2 IGNITER ON C3ASK MARK TO GIVE US A HAND													
		TITAN GOING TOPSIDE A					S AGAIN SING	CE WE HA	VE FIRES ESTABLIS	HED					
			LL DOORS LOOK GOODTITAN GOING HOME AT 10:00PM												
		M C3 BOOSTER FAN ONBYPASS DAMPER CLOSEDPRECIPS IN SERVICEWE ARE GOING THROUGH FGDHOTLINE NOTIFIED													
		A RAY IS DONE WITH ALL OF HIS TESTING HE IS GOING TO THE HOUSE													
		M RESET C3 TURBINE AT THE FRONT STANDARD													
3/26/2013		TRACE OF RAIN IN THE F	RAIN GAUGE												
		HOLD# 94 RELEASED													
		HOLD #94 HAS BEEN PICKED UP AND IS READY FOR SERVICE													
	2:00AM	ECCENTRICITY JUMPED FROM 3.0 WENT TO 15 BROUGHT ALARM IN AND CAME BACK DOWNASK MARK TO LOOK AT IT FOR US ? NOT ROLLING YETNOT SURE?													
	2:15AM	#9 AH HOPPER ON C1 HOPPER GATE IS STUCK CLOSED WILL NOT OPENWO# 6094703 ISSUED													
	2:19AM	C3 EAST SIDE CONDENSOR OUTLET LINE HAS HOLE IN IT WHERE IT GOES THROUGH THE SOUTH WALL OUTAGE WO# 6094705 ISSUED													
	2:25AM	MARK TIGHTENED 2 SEPARATE CONNECTIONS IN BOX FOR THE ECCENTRICITY PROBE IT SEEMS TO HAVE TAKEN CARE OF THE ISSUE SO FAR													
	2:37AM	ROLLING C3 TURBINEI	HEADED TO 600	RPMC	ONTRO	L VALV	E ONLY WE	NT 82% O	PEN MARK LOOKING	3 AT IT FOR USTO	OLD LARRY				
3/26/2013	2:50AM		TO OPEN #1 CO	NTROL V	ALVE C	N UP TO	100% OPEN	I WOULD I	NOT OPEN ALL THE V	WAY ON ITS OWN					
		HAD TO TAKE PRY BAR TO OPEN #1 CONTROL VALVE ON UP TO 100% OPEN WOULD NOT OPEN ALL THE WAY ON ITS OWN JOE,PATRICK,AND NICK HEREMARK,KEVIN,AND JOSH GOING HOME													
		C3 TIED ON LINENOTIFIED ACESE-MAIL SENTHOTLINE NOTIFIED													
	3.207 1141	TO THE OIL ENTERNION	AOLOL	THE OLI			O III ILD								





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	Coleman 3 - C3-13-01 & C3-13-02	Production Cost					
Date & Time Off Line	3/20/13 23:00 & 3/21/13 4:20	MW		\$/MW			
Date & Time On Line	3/21/13 4:07 & 3/26/13 3:29	67	\$	30.10			
Outage Duration	5 hr. 7 min. & 119 hr. 9 min.	122	\$	27.08			
Outage Code	UO1	155	\$	26.72			
Outage Reason	Unit tripped off line due to low EH pressure. Unit had run 210 consecutive days, many maintenance items were repaired.						

Date	DA LN	IP Average	RT	LMP Average	DART P&L	Lost Opportunity
3/20/13 (HE 24)	\$	33.24	\$	27.16	\$ (77)	\$ -
3/21/13 (HE 1-24)	\$	39.58	\$	47.60	\$ (77,661)	\$ -
3/22/13 (HE 1-24)	\$	40.71	\$	32.29	\$ -	\$ (52,021)
3/23/13 (HE 1-24)	\$	33.34	\$	35.65	\$ -	\$ (24,627)
3/24/13 (HE 1-24)	\$	29.49	\$	31.63	\$ -	\$ (10,302)
3/25/13 (HE 1-24)	\$	33.35	\$	33.77	\$ -	\$ (24,664)
3/26/13 (HE 1-24)	\$	37.13	\$	30.61	\$ 3,847	\$ (22,284)
Total					\$ (73,890)	\$ (133,898)

Start Up Fu	el Cost		Total Forced	Total Forced Outage Cost				
S/U Fuel Consumed		1,190	DART P&L	\$	(73,890)			
S/U Fuel Price	\$	4.83	Lost Opportunity	\$	(133,898)			
S/U Fuel Cost	\$	(5,751)	S/U Fuel Cost	\$	(5,751)			
			Total	\$	(213,540)			

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: Bob Berry

From: Daryl Chinn

Date: 23-Apr-2013

Plant: Coleman Unit: 1 GADS Class: UO2

#### Duration

Trip Time: 17-Apr-2013 22:15 Tie Time: 18-Apr-2013 04:51

Time Offline: 6:36

#### Outage Description

Coleman unit 1 was removed from service on Wednesday, 17-Apr-2013 at 22:15 and returned to service on Thursday, 18-Apr-2013 04:51for duration of 6:36 against an initial target of 12 hrs. This was an unplanned event, and as such is classified as a Class I (UO2) forced outage. The unit was removed from service in a controlled manner due to the failure of a furnace refractory box containing an inspection port near 10L sootblower, left side of the boiler approximate elevation 178'-4".

#### **Root Cause**

The refractory inside the seal box failed allowing furnace heat burn a hole in the seal box allowing gas to escape. This refractory is inspected and usually repaired from the interior of the furnace, this unit has not had a scheduled outage in 5 yrs. and thus the opportunity to inspect and repair such deficiencies did not exist.

#### Failure History

No outages have occurred on this unit that were attributable to inspection port failure in the last three years.



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#### **Corrective Action**

The remains of the face of the refractory box were removed, the remaining refractory was removed, new refractory was installed and a new face was fabricated and installed.

#### **SOE Print Out**

N/A



### **Operators Event Log**

4/17/2013	8:15:PM	AUX REPORTS FIRE COMING OUT OF WEST SIDE OF #1 BOILER BY 10L SOOTBLOWER.	
	10:15PM	#1 OFFLINE TO REPAIR HOLE WHERE OLD INSPECTION PORT WAS.	
	10:30PM	#1 GAS VALVE IS REDTAGGED BOILER IS BOTTLED UP	
	10:50PM	#1 GAS VALVE IS BLANKED	
	11:00PM	HAVE 4 BARRELS OF FLYASH COLLECTED OFF OF UNIT#3	
	11:10PM	#1 TURBINE ON GEAR	
4/18/2013	12:00AM	1/4" OF RAIN IN GUAGE	
	1:50AM	CALLED JOHN PFIEFFER HE WILL BE IN EARLY.	
	2:00AM	TITAN HAS REPAIRS MADE HAVE A GAS FIRE IN UNIT #1	
	3:00AM	PULLING VAC. ON UNIT #1	
	4:00AM	ROLLING #1 TURBINE CALLED LAB	
	4:51AM	TIED #1 ONLINE CALLED HOTLINE	







### **Lost Sales Opportunity Report**

Unit		Coleman 1	- C1-1	3-07			Product	ion Co	et	
Date & Time Off Line		4/17/13					MW		\$/MW	
Date & Time On Line			3 4:51				51	\$	31.86	
Outage Duration			6 min.				117 \$			
Outage Code			02				150	\$	27.95 27.46	
Outage Reason		removed from ble in inspect sootb								
Date	DA LI	MP Average	RT LN	/IP Average	D	ART P&L	Lost Opportunity			
4/17/13 (HE 21-24)	\$	33.41	\$	31.77	\$	(1,693)	\$ -			
4/18/13 (HE 1-7)	\$	30.78	\$	30.03	\$	(1,711)	\$ -			
Total					\$	(3,404)	\$ -			
Start Up Fu	el Cost						Total Forced	Outag	e Cost	
S/U Fuel Consumed		328					DART P&L	\$	(3,404	
S/U Fuel Price	\$	4.83					Lost Opportunity	\$	-	
S/U Fuel Cost	\$	(1,584)					S/U Fuel Cost	\$	(1,584	
							Total	\$	(4,987	





To:

**Bob Berry** 

From: Daryl Chinn

**Date:** 16-Apr-2013

Plant: Coleman

Unit: 2

GADS Class: UO3

### Duration

Trip Time: 10-Apr-2013 01:05

Tie Time: 12-Apr-2013 21:28

Total Time Offline: 68:23

#### **Outage Description**

Coleman Unit 2 was removed from service in a controlled manner on Wednesday, 10-Apr-2013 at 01:05 and returned to service on Friday, 12-Apr-2013 at 21:28 for duration of 68:23 minutes against an initial target of 72:00. This was an unplanned event, and as such is classified as a Class I (UO3) forced outage. The unit was removed from service in a controlled manner due to a suspected tube leak in the convection pass. The tube leak was discovered in the superheat convection pass between the two economizer sections, approximate elevation 174' involving one HRA partition wall tube and 6 primary superheater tubes.

### **Root Cause**

The root cause was long term sootblower erosion abrading the HRA wall tube, thinning the tube wall to the point of failure, exacerbated by the geometry of the support boxes for the economizer tubes. Escaping steam from the HRA tube abraded the primary tubes, thinning the tube wall to the point of failure. UT examination revealed that this failure mechanism exists across the entire width of the convection pass as well as the sootblower lane at elevation 185'. Several HRA tubes were pad welded and shielded at the 175' location but available outage time did not permit completion in this area nor the 185' location.





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### **Forced Outage Report**

### **Failure History**

No failures of this nature have been recorded for C-2 in the last three years.

6-Sep-2012 C-1 Primary Superheater Tube Leak

Soot Blower Erosion

71:12

### **Corrective Action**

UT examination, pad weld deficient tubes and apply tube shields.

#### **SOE Print Out**

N/A

### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance**

6088702 Weld repaired leak on west side equalizing line at wetbottom.

6087971 Weld repaired housing on "A" FD Fan. Added stiffeners.

6095544 Welded patch on transition chute of "D" mill.

6093335 Disassembled and inspected "A" BFP discharge check valve. Found valve body had internal erosion to the point that it was leaking through below the stellite seat. Valve will be replaced as capital project.

6095607 Removed door frame on west de-slag door and replaced broken stud. Added refract to east and west door openings.

6088415 Repaired oil leak on OB end of input shaft of "D" mill. Changed oil in gearbox.

6089462 Replaced broken bolts in "A" and "B" APH expansion joints just above APHs on hot side, east side on each.

6092968 Replaced 2' section of line and flange on "A" BFP balance drum leak off.

6094735 Welded patch on #5 coal pipe near lower burner deck.



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### **Forced Outage Report**

6088923 Replaced coupling seal kit on "B" APH air drive. Discovered over running clutch bearings had excessive clearance. Replaced clutch.

6088004 Replaced intermediate header drain root valve.

6088416 Replaced section of cooling water copper line on "D" mill.

6095818 Inspected all four mills. Re-shimmed tensioners. Changed oil in rollers. Replaced classifier vanes in "B" mill. Checked stroke and set classifiers.

6095821 Replaced all ball joints on "A" FD Fan inlet dampers. Stroked dampers. Lubricated actuating rings and shaft bearings.

6095810 Replaced R/S governor valve actuator.

6087692 Lubricated R/S R/H stop valve actuator guide bushing.

6095811 Weld repaired SS halo on Booster Fan.

6095800 Installed six Dutchmen on primary S/H tubes and one HRA partition wall tube at elevation 175'. Took UT readings across boiler. Weld repaired several HRA tubes and one S/H tube. Installed several tube shields.

#### **Electrical and Instrument Maintenance**

6095779- Cleaned all igniter and main flame scanners. Performed dark furnace adjustment on the same.

6091916- Performed drum level trip checks.

6092113- Performed calibration on A, B, C, and D stock coal feeders.

6095784- Blew back secondary air flow transmitters taps and sensing lines.

6095785- Cleaned furnace pressure taps and sensing lines.

6095781- Stroked all PA fan dampers, FD fan dampers, SH & RH dampers. Stroked Feedwater regulator and Feedwater Start-up regulator.

6095782- Stroked air registers and OFA dampers; Recorded measurements on air registers. Added oil to drive units as needed.



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6095786- Blew back mill taps and sensing lines and repaired leaks as needed.

6092071- Replaced upper spray regulator positioner with new Siemens positioner, programmed, set block valve proximity switch, stroked and verified proper operation.

6093964- Replaced "A" BFP bearing vibration pick-up and extension cable.

6087880- Calibrated A, B, C, and D PA Fan Discharge pressure, A, B, C, & D Mill Seal Air Diff pressure, Cooling Water pressure, and Ash Sluice Water pressure transmitters.

6095780- Misc. Instrumentation outage tasks: Removed igniter rods, cleaned, tested, and reinstalled. Repaired conduit going to "C" mill out T/C. Assisted IT with turbine over speed test.

6095778- Stroked and calibrated turbine valves.

6095787- Pulled and cleaned stall probe on #2 booster fan.

6095788- Booster fan misc. outage tasks; Rodded out taps and blew back the taps, sensing lines and halo's.

6095775- Performed internal inspection on precipitators, "A" side inlet and center electrodes had donuts on them, removed as needed; Wiped down HV bushings in penthouse; Air tested T/R's and all looked good.

6095898- A, B, C & D PA Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6079775- Replaced B mill jog switch JR relay.

6088922- Unwired "A" Air Heater drive motor so M/M could replace gearbox, rewired when job was completed.

6087965- Enlarged slots on "A" and "B" 4160 volt cubical doors for breaker racking assemblies.

6095989- Inspected CT's terminations and terminal box, all look good, filled out check sheet.



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### Operators Event Log

4/10/2013	1:05AM	UNIT #2 OFFLINE CLOS	SED BUNKER GA	TES CLE	ANED O	UT MILLS	S AND RIF	N PIPES C	ALLED HOTLINE			
		#2 GAS VALVE IS REDT				O I WILL	O / NAD DEE!	. I II LO C	LLLD HOTLINE.			
		#2 GAS VALVE IS BLAN										
		#2 TURBINE ON GEAR	LD									
		#2 BOILER ENTRY PERM	MIT IS READY AN	ID MILLS	VDE DEL	TACCE	n					
		2A BOILER FEED PUMP			AIL ILL	JIAGGE	J.			-		
		HAVE HOLD #129 ON #2								-		
		#2 AIR HTRS ARE OFF A			CCED							
		MPW ON SITE	AND 2A AIR THIS	IS KEDIA	GGLD.							
		#2 ECON. INLET IS RED	TAGGED									
	5:48	C-2 PRECIPS ARE TAGO		CIANG AM	/ADE					-		
	5:48	2 B AIR HEATER IS TAG		DIANG AV	/AI\L			-		-		
	0.40	2 D AIR FILATER TO TAG	OLD	+								
	7:00	"B" SHIFT (JOHNSON) HE	RE "D" SHIFT (ST	FRLING) I	FAVING							
	7.00	S HOWARD A MAYEIR	ID M CHRISTI	AN IGO	DMAN	D CADI	MAN D TA	II I KEN	INEDV HEDE	-		
		S. HOWARD, A. MAYFIELD, M. CHRISTIAN, J GOODMAN, R. CARMAN, D. TAUL, J. KENNEDY HERE N. MOORMAN-SIMULATOR TRAINING										
		W. MILLS AND R. JONES HERE FOR OUTAGE COVERAGE										
		VV. IIIIEEO AND IV. OONE	O TIERE TOR O	UIAGE C	DVLNAG	L			-	-		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass St		
		1	160	31.0	0.31	4.86	9.87	0.130	150 N w/o Gas	CLOSED		
		2	OFF LINE				OFF LINE			OPEN		
		3	158	24.0	0.31	4.81	9.71	0.177	155 N w/o Gas	CLOSE		
			100	24.0	0.51	4.01	3.71	0.177	155 N W/O Gas	CLUSEL		
		FGD Nox	0.29									
		FGD Removal %	97.9%									
		3A Mill Amps	90									
		3B Mill Amps	94									
		COND. STOR. TNK	22 / 23									
		Instr. Air Dew Point	-68.2									
		Sootblowing										
		1 S/B Out of Service	NONE									
		2 S/B Out of Service	4R (R/T)									
		3 S/B Out of Service	The second secon									
		3 3/B Out of Service	NONE							-		
		DHSNTAS	NO THREATS									
		C-2 ECC 2.51ST STA				ST STAGE	E R 712					
	5:54	CHECKING TUBE METAL										
	6:20	2 A FD FAN OFF2 B										
	NOTE	C-3 HAD 4 DUCT OPACI	TY OUTSTOO	CLOUDY	FOR ME	THOD 9.	PAPERW	ORK SUBM	TTED AND HOTLINE	NOTIFIED.		
	6:45	S. HOWARD CALLED	RUNNING LATE	OVERS	SLEPT							
	6:50	TAGGING AND DRAINING	2 B BOILER FE	ED PUMP	FOR MA	I OT TAIL	REPLACE 2	A BFP WA	RM-UP VALVES			
	7:00	B SHIFT HERE TO MONT	HLY SAFETY ME	ETING	.D SHIF	STAYIN	IG TO COVE	ER				
	7:15	MPW DESLAGGING IN T	HE BIG ROOM O	N C-2								
	7:17	S. HOWARD ARRIVES	A & T FORM SUI	BMITTED.								
	7:30	C-2 FLYASH SYSTEM IS	RED TAGGED	LEAK AT	HYDRO	VACTOR	SPRAYING	WATER	MAINT AWARE			
	7:45	B SHIFT OUT OF MONTH										
	8:10	STAGGING TO ADD 2 BA	RRELS OF MILL	BALLS TO	3 A MIL	L						
	8:20	VERIFIED THAT C-2 MAI	N STEAM ISOLA	TION VAL	VE IS CL	OSED F	OR I-DEPT	TO CALIBR	ATE C-2 TURBINE VA	ALVES C		





	NOTE	THE FOLLOWING C-2 STATION DRAINS2 VALVE AND PUMP BEL OPEN	A BOILER FEED	PUMP BE	FORE	AND 2 E	BOILER FE	ED PUMP	DRAIN AFTER DISC	HARGE				
	8:50	MPW FINISHED IN THE	BIG ROOMBR	EAKING D	OWN T	O SHOO	T FURNACE	FROM DE-	SLAG DOORS					
	9:25	C2 FD FAN OFFMPV							02.000000000000000000000000000000000000					
	9:35	REMOVING C-2 AIR HEA	TER HOPPER BA					R HEATER	DOORSNO SCAI	FFOLDING TO				
	10:40	DRAINING C-2 OUT OF	THE DRUM AND F	OR 5 MIN	UTES M	ORE	OPENED PI	RIMARY IN	ET DRAIN ALSO					
	12:10	TAGGING 2 A FD FAN F												
	NOTE	ABSORBER CHLORIDES ARE 6900 PER J. BROWN												
	13:20	#2 ISOLATION OF WATE				IPI ETE	NOTIFIE	D MAINT						
	13:30	AIR HEATER HOPPER D						D 100 (1141						
			OCHO / BOVE II	LIBIA	· · ADA	INE OF E								
	19:00	"C"SHIFT (Dooley) HER	E "B" SHIFT (Jo	hnson) L	EAVING									
		K.Grantland, P Gatton Va	c, L.Shearn, M.Yo	oung, D. M	ills S/L,	J. Miller,	R. Payne, M	Lee, S.Ku	rz, Here					
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.				
		1	160	29.1	0.32	4.92	9.90	0.138	150 N w/o Gas	CLOSED				
		2	Tube Leak						N w/o Gas	OPEN				
		3	165	33.8	0.37	4.92	9.60	0.171	155 N w/o Gas	CLOSED				
		FGD Nox	0.32											
		FGD Removal %	97.0%											
		3A Mill Amps	92											
		3B Mill Amps	92											
		COND. STOR. TNK	22/23											
		Instr. Air Dew Point Sootblowing	-65.9											
		#1 S/B Out of Service	NONE							-				
		#2 S/B Out of Service	4R											
		#3 S/B Out of Service	NONE											
		HASNTAS	NO THREATS											
		10.10 1117.0	THE THIRD THE											
	21:23	C2 WET BOTTOM TAGG	ED											
	23:00	A BLACK AND D STALLI	NG GOING HOME											
	23:30	BACKWASHING C1 CON	IDENSER											
4/11/2013	1:30	TAGGING C2 EH PUMP		ON TURB	INF VAI	VF	1							
	2:25	2B AIR HEATER AIR DRI		311 70110	٧/١١									
	2:45	CEMS COMPUTER EXCE		T WORKI	NG RIG	HT MR #	6095860			-				
	4:30	P KELLAMS HERE	- INVENTE	, TOIN		14115 #	5555000							
	7:00	"B" SHIFT (JOHNSON) HE	RE "C" SHIFT (DO	OLFY) LFA	VING									
		S. HOWARD, A. MAYFIE					MAN D TAI	II I KEN	NEDY HEDE					
		N. MOORMAN-SIMULAT	OR TRAINING	ut, 0 000	DIVININ,	N. CAR	IVAN, D. TAC	L, J. NEN	NEDT HERE					
			OIL HOURING											



 	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stl
	1	160	41.0	0.33	4.71	9.87	0.130	150 N w/o Gas	CLOSED
	2	OFF LINE	OFF LINE	OFF LINE	FF LINI	OFF LINE	OFF LINE	0	OPEN
	3	165	36.0	0.37	4.78	9.63	0.184	155 N w/o Gas	CLOSED
-	FGD Nox	0.32	-						
	FGD Removal %	97.9%							
	3A Mill Amps	91	-						-
	3B Mill Amps	93							
	COND. STOR. TNK								-
		22 / 23							
	Instr. Air Dew Point	-68.2							
	Sootblowing	NONE					-		
	#1 S/B Out of Service	NONE							
	#2 S/B Out of Service	4R (R/T)	-						
	#3 S/B Out of Service	NONE							
	DHSNTAS	NO THREATS	-						-
	C-2 ECC 4.31ST STA	GE 5921ST S	TAGE L 59	61S	T STAG	E R 571			
5:48	CHECKING TUBE METAL	TEMPERATURE	S ON C-1	AND C-	3				
6:00	SUBMITTED W.O.# 6095 AND ALARM STAYS IN		STER FAN	N SEAL A	IR PRES	SSURE TAP	BOTH FAI	S ON WITH CLEA	N FILTERS
6:45	H2 SKID PRESSURE IS	1100 PSIG	E-MAILED	CARYA	TIMITE	D H3			1
7:02	C-3 MAIN TRANSFORME						FANS TRIPE	ED OUT BESE	ΓΔΝΟ
	RUNNING NOW	TO THE STATE OF TH	OX OTILOT	(11101	00110 #	5 BAIN OF	ANO IMILI	LD OOTRLSL	AND
7:05	BANKING SOME CONDE								
7:38	STOPPED ADDING WAT								
9:00	MPW IS SETTING AIR HE	EATER HEADS A	ND ALSO	RIGGING	TO SHO	OOT WET B	OTTOM SEA	L AND INTERNALS	
10:30	C-2 SEAL OIL HEATER O	ONSEAL OIL T	EMP IS 88	DEGRE	ES				
10:45	MPW BLASTING ON #2 V	NET BOTTOM SE	AL						
11:07	D. MILLS CALLED IN SIC	K FOR TONIGHT	ГA & Т F	ORM SU	BMITTE	DPLANS	TO RETURN	TO WORK MONDA	ΑΥ
11:20	#3 MAIN TRANSFORMER								
11:45	MPW HAS TOP AIR HEA								
12:30	P. GRIMES REPORTS AE	SORBER CHLO	RIDES AT	6200					
13:19	SETTING C-2 TO HYDRO								
14:00	M. CHRISTIAN AND D. T	AUL WILL BE IN	TOMORE	ROW AT	07:00 F	OR OUTAG	E ASSISTAN	CE	
14:05	#2 BOILER IS SET TO HY								
14:49	MAINT RELEASING ISOL	ATION OF WATE	R TO THE	BOILER	PERMIT	Г			
15:20	HEAD COUNT COMPLET	E FOR C-2 HYDE	RO						
15:30	MPW HAS AIR HEATER I	HEADS SET	RELEASE	D CLEA	RANCE	AND PULLIN	IG TAGS ON	AIR DRIVES	
16:34	2 A BOILER FEED PUMP								
17:05	1800# ON C-2 BOILER	FEED PUMP OF	FSTA	RTED VA	CUUM F	PUMPS			
17:10	2 A CONDENSER VACUL						VALVE SHO	WS OPENVALV	/ING OUT
	MANUAL SUCTION VALV								
19:00	"C"SHIFT (Dooley) HER	E "B" SHIFT (Jo	ohnson) L	EAVING					
	K.Grantland, P Gatton Vac	c, L.Shearn, M.Yo	oung, D. M	ills S/L, J	. Miller,	R. Payne, N	Lee, S.Kurz	, Here	
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk
	1	160	45.7	0.35	4.79	9.80	0.123	150 N w/o Gas	CLOSED
	2	Tube Leak						N w/o Gas	OPEN
	3	165	48.8	0.36	4.70	9.60	0.165	155 N w/o Gas	CLOSED
	FGD Nox	0.33							
	FGD Removal %	97.1%							
	3A Mill Amps	90							
	3B Mill Amps	93							
	COND. STOR. TNK	21/22							
	Instr. Air Dew Point	-70.5							





		Sootblowing													
		#1 S/B Out of Service	NONE												
		#2 S/B Out of Service	4R												
		#3 S/B Out of Service	NONE												
		HASNTAS	NO THREATS												
	19:00	CONT TO WASH C2 AIR	HEATERS												
	21:00	C2 W/B WET SEAL CLE	AN												
	22:15	DRAINING C2 NORTH W	ALL BELOW THE	TUBE LE	AK										
	22:24	SHUTTING 2A AIR HEAT	ER DOWN FOR M	IPW TO U	JNTANGL	E A ROI	PE - TAGGIN	IG 2A AH A	AIR DRIVE						
	22:50	3B AIR HEATER AIR DRI	VE LOCK UP - ME	R # 6095	930										
	22:51	ADDING WATER TO C2	HOT WELL												
	23:14	RELEASED 2A AIR HEAT	ER AIR DRIVE -	WASHIN	GAHAG	AIN									
	23:30	J WEDDING AND W EAS	ST GOING HOME												
	23:33	1A HEAT EXCHANGER N	IEEDS CLEANING	MR# 60	95983										
4/12/2013	0:00	D STALLING AND A BLA	CK GOING HOME												
	0:21														
	0:22	PULLED OUT 2' OF WAT													
	1:00	CLEANING INTAKES													
	2:15	TITAN RELEASED C2 SL	OW BOILER FILL												
	2:30	2A COND PUMP ON FILL													
	2:33	STOPPED FILLING C2 B		A PROF	BLEM W	HERE TH	HEY ARE WE	LDING							
	7:00AM	"D" SHIFT (STERLING)	HERE "C" SHIFT	(DOOLE	Y) LEAV	ING									
		"D" SHIFT (STERLING) HERE "C" SHIFT (DOOLEY) LEAVING  V.Ramsey , B.Johnson, R.Payne G.Tivitt, S.Emberton , B.Hunt, G.Calhoun ,													
		Unit	Load	Opacity	7	SO2	CBD PH	Silica	Capability						
		1	160	29.9		4.79	9.96	0.14	150NW/OGAS						
		2	OUTAGE						753						
		3	165	38.1	0.350	4.73	9.63	0.16	155N W/O GAS						
		FGD Nox	0.3				0.00		100111110						
		FGD Removal %	92.7				<u> </u>								
		3A MILL AMPS	89												
		3B MILL AMPS	93												
		COND. STOR. TNK	22/24		1				1						
		Instr. Air Dew Point	-74.1												
		Sootblowing													
		#1 S/B Out of Service	NONE												
		#2 S/B Out of Service	NONE												
		#3 S/B Out of Service	NONE												
		HASNTAS	NO THREATS												
			1												
	7:00AM	HAVE UNIT#2 ECON. DO	OR OFF AND DR	AINED W	ATER O	UT OF E	CON HOPPE	RS							
	7:30AM	1A HEAT EXCHANGER H	AS BEEN CLEAN	IED.											
		RALPH JONES CALLED			&T FILLE	D OUT									
		CALLED RICK PAYNE LE													
		CALLED MIKE LEE LEFT													
		CALLED STEVE KURZ LE													
		CALLED DARRICK TAUL													
		CALLED MELVIN YOUNG			HEAD CO	OUNT FO	R HYDRO								
		CALLED JEFF MILLER L				3									
		CALLED JASON GOODN		GE #2 A	AIR HTR	WASH	S COMPLET	E.							



0.304	M HYDROING #2 BOILER								
	M #2 AIR HTRS. ARE REDT			L HEAD	S.				
	M HYDRO IS DRY DRAININ		/EL.						
	M SETTING #2 BOILER TO								
11:00A	M MPW HAS HEADS OUT	OF AIR HTRS. AN	D IS WOF	RKING C	N DEMO	B			
NOTE	SUBMITTED OUTAGE WAND DISCHARGE VALVE	ORK ORDERS ON E(6096013)ALL	N 2A BOIL LEAKING	ER FEE THROU	D PUMP GHA[	SUCTION VA	ALVE(6096) TAGE TAB	009) CHECK VALVE BELOW	(6096011)
11:15	C-2 AIR HEATERS ON AI	R DRIVE TO DRI	P DRY						
	M #2 WETBOTTOM IS BAC				ON THE	WETROTTO	M		
	M HAVE GONE BACK THRO					WEIDOITO	IVI.		
	M CALLED LYNDON SHEAR			1 WILCO	NOLO.				
	M CALLED KEN GRANTLAN								
	M CALLED ALAN MAYFIEL								-
	M CALLED SCOTT HOWAR		Ī						
	M #2 AIR HTR HEADER HA		ОПТСО	NTACTE	D MAIN	T TO PUT BA	CK TOGE	THER	
	M #2 BOILER HAS BEEN S		00100	111/1012		1. 101 01 0/	TOTA TOOL	ITILIV.	
	M ABSORBER CHLORIDES		CALLED	IN SICK	FOR M	ONDAY DAY	SHIFT AR	T FILLED OUT	
	M GETTING HEAD COUNT						01 111 1. 710	TILLED OOT	
	M STEVE KURZ CALLED H				_,,,,_,,	DEI / III (10.			
	M GAS FIRE IN UNIT #2 BO								
	M CLOSED DRUM VENTS		IO I EII I E						1
	M "A"SHIFT (SHAVER) HE	RE "D" SHIFT (	STERLING	) I FAV	ING				
	L. PILE, D. HAYNES, D. I TRAININGS.KURZ CO		, L.SMITH	, R.JON	IES SL,	AND D.SEB	ASTIONA	LL HEREFRED S	SIMULATOR
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	
	1	160	Opacity 27.8	Nox 0.31	SO2 4.77	CBD PH 9.80	Silica 0.144	150 N w/o Gas	CLOSE
	1 2	160 OFF	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1	160	-					150 N w/o Gas	CLOSE
	1 2	160 OFF	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3	160 OFF 165	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox	160 OFF 165	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal %	160 OFF 165 0.30 97.7%	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal % 3A Mill Amps	160 OFF 165 0.30 97.7% 90.6	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	160 OFF 165 0.30 97.7% 90.6 93.7	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	0.30 97.7% 90.6 93.7 21/23	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	0.30 97.7% 90.6 93.7 21/23	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.30 97.7% 90.6 93.7 21/23 -60.3	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	0.30 97.7% 90.6 93.7 21/23 -60.3	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service	160 OFF 165 0.30 97.7% 90.6 93.7 21/23 -60.3	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
7:17Pl	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service	160 OFF 165 0.30 97.7% 90.6 93.7 21/23 -60.3 12R NONE NONE	27.8	0.31	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service HASNTAS	160 OFF 165  0.30 97.7% 90.6 93.7 21/23 -60.3  12R NONE NONE NO THREATS	27.8 11.6	0.31 0.32	4.77	9.80	0.144	150 N w/o Gas 138 N w/o Gas	CLOSE
7:24PI	1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service HASNTAS	160 OFF 165  0.30 97.7% 90.6 93.7 21/23 -60.3  12R NONE NONE NO THREATS	27.8 11.6 NOTIFIE N C2 GEN	0.31 0.32 D ERATOR	4.77 4.86	9.80 9.60	0.144	150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	Bypass St CLOSEL CLOSEL CLOSEL
7:24PI 8:10PI	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service HASNTAS  C2 GOING THROUGH THI REQUESTED RELEASE (M) C2 GENERATOR DISCON	160 OFF 165  0.30 97.7% 90.6 93.7 21/23 -60.3  12R NONE NONE NO THREATS  E FGDHOTLINE DN HOLD #129 ONECT IS IN SER	27.8 11.6 11.6 NOTIFIE N C2 GEN VICE AND	0.31 0.32 D ERATOR	4.77 4.86	9.80 9.60	0.144	150 N w/o Gas 138 N w/o Gas 155 N w/o Gas	CLOSEI





### Your Touchstone Energy Cooperative

### **Boiler Tube Leak Record**

Plant: Coleman Unit: 2
Type of Leak: (Check One)
Pin Hole Thick Lip Failure Crack Thin Lip FailureX
Tube Wall Thinning X 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





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## **Forced Outage Report**

Type of Repair: (Check One)

Dutchman X (Length of Dutchman ~12", Primary superheater 6ea.)  Pad Weld X HRA tube 1 ea.
Plug Tube Short Circuit Other
Description of Repair:
Pipe Size OD 2.250" Wall Thickness 0.220" Primary SH Dutchmen
Tube Material SA 178 C replaced with SA210 A1
Welding Rod Used
Welded By:Titan

Exact Location of Leak: Elevation 175'-0", partition wall HRA, SH side,





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### **Pictures**



















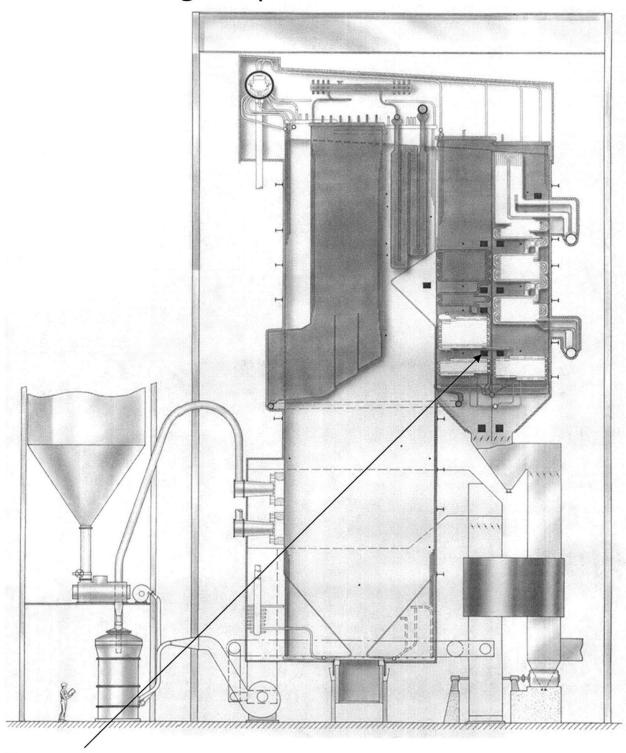








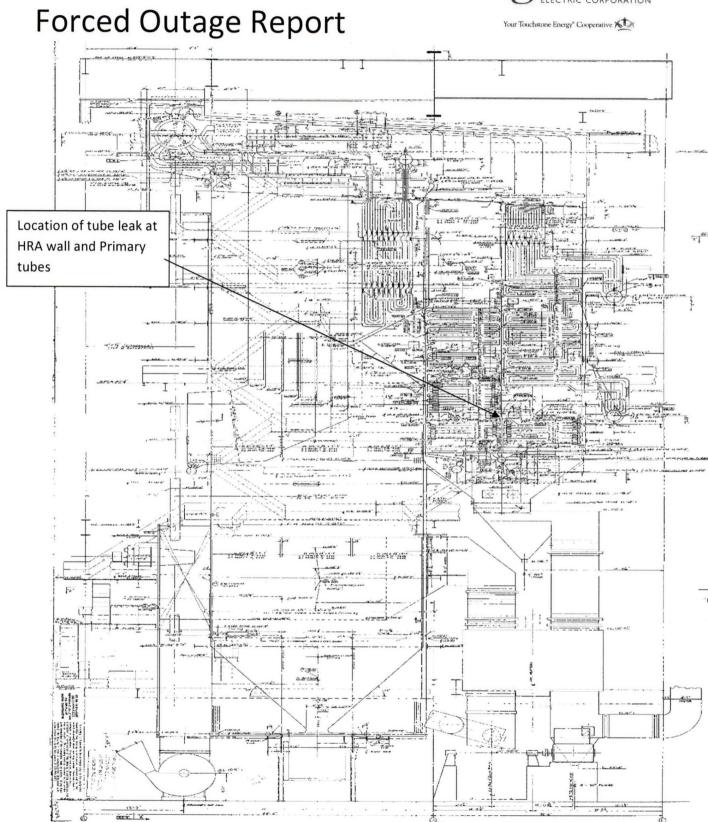




Tube Leaks Here













### **Lost Sales Opportunity Report**

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

Unit	Coleman 2 - C2-13-02	Production Cost				
Date & Time Off Line	4/10/13 1:05	MW		\$/MW		
Date & Time On Line	4/12/13 21:28	62	\$	30.33		
Outage Duration	68 hr. 23 min.	106	\$	27.73		
Outage Code	UO3	139	\$	26.91		
Outage Reason	Repair tube leaks in superheat section and heat recovery area.					

Date	DA LMP	Average	RT L	MP Average	ART P&L	Op	Lost portunity
4/10/13 (HE 2-24)	\$	33.58	\$	48.85	\$ (69,065)	\$	-
4/11/13 (HE 1-24)	\$	35.92	\$	39.10	\$ -	\$	(29,807)
4/12/13 (HE 1-24)	\$	31.83	\$	30.22	\$ (2,309)	\$	(14,297)
4/13/13 (HE 1-8)	\$	29.34	\$	28.84	\$ (662)	\$	(51)
Total					\$ (72,035)	\$	(44,155)

Start Up Fu	el Cost		Total Forced	Total Forced Outage Cost			
S/U Fuel Consumed		633	DART P&L	\$	(72,035)		
S/U Fuel Price	\$	4.70	Lost Opportunity	\$	(44,155)		
S/U Fuel Cost	\$	(2,975)	S/U Fuel Cost	\$	(2,975)		
			Total	\$	(119,166)		

### 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: Daryl Chinn

**Date:** 13-May-2013

Plant: Coleman

Unit: 1

GADS Class: UO2

#### **Duration**

Trip Time: 7-May-2013 13:01

Tie Time: 9-May-2013 23:31

Time Offline: 58:30

#### Outage Description

Coleman unit 1 was removed from service on Tuesday, 7-May-2013 at 13:01 and returned to service on Thursday, 9-May-2013 at 23:31 for duration of 58:30 against an initial target of 60 hrs. This was an unplanned event, and as such is classified as a Class I (UO2) forced outage. The unit was removed from service in a controlled manner due to a suspected leak in the upper (hot) reheater section. The leak occurred on the north side of the hot reheater, opposite the HRA screen, in the fourth element from the west wall causing damage to the 3rd and 5th element. 5 Dutchmen were installed 2, 2 and 1 from west to east.

### **Root Cause**

The initial leak originated from a cracked lug between the outer loop and the second loop in the 3 element from the west wall. The leak abraded adjacent tubes in the 2<sup>nd</sup> and 4the elements requiring 5 dutchmen as well as one pad weld.

### **Failure History**

11-Nov-2011

53:37

The second loop tube from the face of the hot end reheater failed in a catastrophic manner due to wall loss from coal ash corrosion.





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## Forced Outage Report

2-Jan-2013	76:44	The 5 <sup>th</sup> tube in the third assembly from the east wall in the high temperature reheater had experienced external tube erosion caused by 7R soot blower.
18-Jan-2013	60:59	The second loop tube from the face of the 3 <sup>rd</sup> element from the west wall of the high temperature reheater section failed due to wall loss from coal ash corrosion.
22-Jan-2013	53:44	The first loop tube from the face of the 28 <sup>th</sup> element from the east wall of the hot end reheater failed due to wall loss from coal ash corrosion.

### **Corrective Action**

This section of the reheater is scheduled to be replaced during the spring outage of 2013 which has now been rescheduled for the fall of 2013.

### **SOE Print Out**

N/A



### Other Work Completed While Unit Was Offline

#### **Mechanical Maintenance**

Unit was taken offline to repair tube leak in R/H section at elevation 208'.

- 6095301 Weld repaired coal leaks on C Mill transition chute and dome.
- 6095494 Removed old transmitter valve and capped line under turbine.
- 6097682 Replaced poppet and checked lance nozzles on B steam cleaning device.
- 6095244 Repacked coupling on #8 coal pipe just above burner.
- 6092193 Changed oil and inspected gearing on B APH gearbox.
- 6093350 Replaced scrapers on 2.5R sootblower.
- 6095250 Welded plate on seal skirt at SW corner of wetbottom.
- 6075514 Weld repaired numerous gas leaks on inlet ducts on both APHs.
- 6081503 Installed four additional 4" valves on inlet duct to APHs for MATS testing.
- 6091035 Replaced scrapers on 2R sootblower.
- 6097680 Replaced complete dust valve assembly on #3 economizer hopper.
- 6095507 Replaced inlet valve on high pressure steam coil trap.
- 6096567 Replaced isolation valve on north main steam lead drain.
- 6096454 Lubricated discharge damper bearings and stroked dampers on both FD Fans.
- 6097808 Changed oil in "A" APH gearbox. Inspected internal gearing and bearings. Inspected and replaced coupling grids on both "A" and "B" electric drives. Lubricated air drive couplings on both APHs.
- 6097861 T & W valve rebuilt SW drum safety. Thermal disc and disc holder were replaced.



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## Forced Outage Report

0001

6097807 Cut out and replaced five R/H tubes at elevation 208' near the west wall. Weld repaired one tube that measured below minimal allowable thickness.

#### **Electrical & Instrument Maintenance**

6097798- Cleaned all igniter and main flame scanners and blew out igniter scanner tubes on # 1 & #3.

6097343- Performed drum level trip checks.

6097657- Performed calibration on A, B, C, and D stock feeders.

6097797- Stroked air registers and ROFA dampers, took measurements on the air registers, added oil to #4 air register drive and M.L. ROFA damper drive.

6097799- Cleaned furnace pressure taps and sensing lines.

6097801- Blew back secondary air flow transmitters taps and sensing lines.

6097796- Stroked all PA fan dampers, FD fan dampers, SH & RH dampers and Feedwater regulator.

6083682- Blew back #3 and #5 burner air flows taps and check for leaks.

6097221- Replaced bulbs in drum gauge glass, repaired attachment clip and cleaned.

6097795- Stroked and calibrated turbine valves, adjusted LVDT on right reheat stop valve.

6060465- Stroked and repaired turbine drain regulators, replaced diaphragm on DV #1and replaced solenoid on DV #3.

6097873- Removed and cleaned booster fan stall probe and blew back sensing lines.

6097872- Booster fan misc. tasks: blew back the sensing lines for the seal air switch. Rodded out the transmitter taps and blew back taps, halo's and sensing lines.

6097857- Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Cleaned HV bushings inside and outside. Power up T/R's and electrical air testing looks good.



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6097136- Wired 1B burner seal air fan motor and check for proper rotation. Had to bring EEMSCO on site to balance the fan. Unwired "A" burner seal air fan motor so it could be sent out for repair. The fan was badly damaged similar to "B".

6097869- Repaired breaker linkage assembly on 1B mill seal air fan MCC bucket.

6097680- Replaced solenoid on #5 economizer hopper actuator.

6091536- Stroked and set torque switches on #1 heater by-pass, inlet and outlet valve.

6097870- Replaced cable going to DCS for generator "A" phase voltage indication. replaced cable from generator voltage bitronics meter in control room to DCS cabinet.

6097859- Wired Titan's 4 pack welders, unwired when Titan was completed.





#### Your Touchstone Energy Cooperative

### **Operators Event Log**

5/7/2013	11:40AM	1:40AM SETTING UP TO DO HOTWELL CHECK ON C1										
	12:19AM	M TAKING C1 OFF DUE TO TUBE LEAKJASON HAS CALLED INLAND TO BE ONSITE BY 5:00PM										
	1:32PM	C1 STATUS E-MAIL SENT NOTING FURTHER WILL BE SENT ONCE WE SEE WHAT WE ARE DEALING WITH										
	2:00PM	ALL STANDARD OUTAGE PERMITS HAVE BEEN MADE UP AND ARE READY TO BE HUNG WHEN WE CAN										
	NOTE	SCHEDULED SCOTT HOWARD FOR FRIDAY DAYSHIFT AND PAT GATTON FOR SATURDAY DAYSHIFT THEY WILL NEED TO BE NOTIFIED										
	3:25PM	BLAKE HUNT CALLED REQUEST PDTOLD HIM COULD NOT GRANT UNLESS COVERAGE WAS FOUNDDUE TO OUTAGE AND PEOPLE ALREADY OFF										
	3:32PM	M CALLED STEVE KURZLEFT MESSAGE										
		M CALLED STEVE RORZLEFT MESSAGE										
		036PM CALLED JEFF MILLERLEFT MESSAGE										
		M CALLED MELVIN YOUNGLEFT MESSAGE										
		4:02PM CALLED BLAKE BACK TOLD HIM IF SOMEONE CALLED ME I WOULD LET HIM KNOWOTHERWISE HE NEEDED TO BE HERE										
	4:25PM	4:25PM BRENDA CALLED AND ASK IF WE COULD FIND COVERAGE SO SHE COULD TAKE OFFTOLD HER I WOULD TRY AND LET HER KNOW										
	4:29PM	CALLED PAT GATTON	LEFT A MESSAC	3E								
	4:32PM	CALLED LYNDON SHEARNLEFT A MESSAGE										
	5:14PM	CALLED PAT AGAINLEFT MESSAGE										
	5:17PM	CALLED LYNDON AGAIN SPOKE WITH HIS WIFE AND SHE IS TRYING TO CONTACT LYNDON TO CALL ME										
	5:24PM	LYNDON CALLED AND SAID HE WOULD BE IN										
	5:25PM	CALLED BRENDA AND TOLD HER SHE COULD HAVE OFF										
	5:40PM	PAT GATTON CALLED BACK TOLD HER LYNDON WAS COMING IN										
	7:00PM	"D" SHIFT (STERLING) HERE "A" SHIFT (SHAVER) LEAVING										
		V.Ramsey S/L, B.Johnson, VAC. R.Payne, G.Tivitt, S.Emberton, B.Hunt,, G.Calhoun FL, M.LEE HERE, K.GRAN L.SHEARN HERE										
		Unit	Load	Opacity	Nox	SO2	<b>CBD PH</b>	Silica	Capability			
		1	OUTAGE									
		2	155	29.6	0.370	4.87	9.82	0.14	138NW/OGAS			
		3	165	29.0	0.360	4.64	9.78	0.20	155N W/O GAS			
		FGD Nox	0.34									
		FGD Removal %	97.7									
		3A MILL AMPS	95									
		3B MILL AMPS	92									
		00 mm== / mm 0										
		COND. STOR. TNK	23/24									
			23/24 -65.2									
		COND. STOR. TNK										
		COND. STOR. TNK Instr. Air Dew Point										
		COND. STOR. TNK Instr. Air Dew Point Sootblowing	-65.2									
		COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service	-65.2 NONE									





	7:00PM	BOILER DOORS OPEN										
			DEDMIT IS DEAD	V								
		I ISOLATION OF WATER PERMIT IS READY.  ROFA FANS & 1C MILL ISO. PERMITS ARE READY										
		M BLAKE HUNT LEAVING SICK A&T FILLED OUT M CALLED STEVE KURZ LEFT MESSAGE										
		CALLED STEVE KORZ L		-								
				-								
		CALLED JEFF MILLER L		_								
		CALLED MELVIN YOUNG			DTO							
		#1 DESI AC RECINE	3 GEN. DISCONN	IECT AND	P15.		-					
		#1 DESLAG BEGINS	T MACHED OF	TAND DDI		00 405	055					
		DRUM ENCLOSURES AF		AND DRU	JM HEA	DS ARE	OFF.					
E1012042		ABSORBER CHLORIDES		INO DOIN	U TO DE	01 40 0	0000					
5/8/2013		DONE WITH DESLAG IN										
		STARTED DESLAG OF F					-ORMED TIT	AN.				
		MPW HAS TOP REHEAT		N BE I WE	EN TUB	ES.						
		#1 FLYASH REDTAGGED										
		BOBBY OSBORNE CALL										
	5:50	MPW HAS EAST SIDE (					EAST TO W	EST				
	7:00	"B" SHIFT (JOHNSON) HE										
		S. HOWARD , A. MAYFII	ELD, M. CHRIST	IAN, N. N	OORM	AN, JG	OODMAN, J	. KENNED	, HERE			
		R. CARMAN, (JURY DUT	Y) D. TAUL, (PD	)D. SEE	BASTIAN	(SDO)						
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stl		
		1	OFF	OFF	OFF	OFF	OFF	OFF	0 N w/o Gas	OPEN		
		2	133	24.0	0.41	4.77	9.89	0.148	138 N w/o Gas	CLOSED		
		3	154	29.0	0.34	4.57	9.83	0.247	155 N w/o Gas	CLOSED		
		FGD Nox	0.35									
		FGD Removal %	97.0%									
		3A Mill Amps	96									
		3B Mill Amps	90									
				-						-		
		COND. STOR. TNK	22 / 23 -66.0									
		Instr. Air Dew Point		-								
		Coathlowing	-	-						-		
		Sootblowing 1 S/B Out of Service	NONE							-		
			NONE									
		2 S/B Out of Service	NONE	-								
	#	3 S/B Out of Service	NONE									
		DHSNTAS	NO THREATS									
		C 4 E C C 2 2 407 57 4	OF TEMP 500	407.07	oe . ==	T 0.4-	407.0745-	DIGUE AS				
		C-1 ECC. 3.01ST STA					1ST STAGE	KIGHT 651				
	6.00	CONTINUE TO RUN B DE										
	6:03 NOTE	CHECKING TUBE METAL										
	NOTE	RJ PAYNE WILL BE IN 1										
	6:30	PULLED TAGS ON SLUI								TIFIED LAB		
	6:50	SWAPPED TO A ABSOR			ED SET	POINTF	ROM 5.75 TO	5.70PE	R. P. GRIMES			
	7:15	#5 ECONOMIZER HOPPE										
	7:20	ISSUED CUTTING AND V OUT VALVE	VELDING CLEAR	ANCE FO	R C-1 N	EZZ. AR	EA AT TURB	INE LEAD D	PRAINS FOR MAINT	TO CHANGE		
	7:30		COLATION VALV	E FOR ! F	CDT T	CTDC	/F C 4 TUD!	DINE VALVE	-0			
		CLOSED MAIN STEAM IS								C)/C)		
	7:30	AIR HEATER DOORS FO	K WASH AKE OF	EN ON C-	IALS	OUPEN	IED UP CAR	RON INTEC	HON PORTS TO PR	EVENI		







7:40	BANKING 4 FEET OF WA	ATER FROM CON	DENSATE	TANKS	IN C-1	HOTWELL PI	RIOR TO HY	/DRO				
7:45	REQUESTED I-DEPT TA								)K			
8:15									JK			
NOTE	THE STATE OF THE PROPERTY OF T											
8:50	TO THE STATE OF THE SEPTEMBER OF THE STATE O											
9:15												
10:00	#1 WET BOTTOM CLEAN		T FOR INS	SPECTIO	ON AND	CLEANING						
10:28	C-1 WET BOTTOM IS RE		T T OI ( III (	J. 20110	31171110	OLL/ IIIIIO						
11:30	STARTED C-1 AIR HEAT											
11:35			LLED OUT	T SHO	DUID ON	JI Y BE ABOI	IT AN HOLI	R OR SO CLEANING	ON THE			
766	C-1 WET BOTTOM JETS HAVE BEEN DRILLED OUTSHOULD ONLY BE ABOUT AN HOUR OR SO CLEANING ON THE INSIDE											
11:45	C-1 WET BOTTOM SEAL	PLATES ARE OF	F SFAI	NOT TO	OO BAD							
NOTE	HAVE THE OUTER 3 UPF						CLOSED					
12:00	MPW WORKING ON C-1					-111-11 - 7111	OLOOLD					
12:30	ABSORBER CHLORIDES			3								
15:00	C-1 WET SEAL IS CLEA				ND CHA	SING TAGS I	VITH MP\V					
17:00	C-1 WET BOTTOM INTER				ID OIV	01110 17100 1	VIIIII VV					
17:05	1 A CONDENSATE PUMP			R FILL	PEN	FILLING C.	1 BOILER					
17:15	SETTING C-1 BOILER TO						1 DOILLIN.					
17:29	MAINT REPORTS TUBE I						ISOLATION	OF WATER TO BO	II FR AND			
11.20	SETTING UP TO PUT OF							IOI WAILK TO BO	ILLIN AND			
	02711110 01 1010101	710012211122			DOILL	1110 02110	11110110		T			
19:00	"C"SHIFT (Dooley) HER	F "B" SHIFT ( Ic	hnson) I	FAVING								
10.00	K.Grantland, P Gatton, L.:					Payne MI	oo S Kurz	here	-			
	re. Oraniaria, i Cattori, E.	oricarri, ivi. rodrig,	D. IVIIIIS D	ays, o.	IVIIIICI, I	a rayino, ivi. L	cc, 0.1\u12,	TICIC				
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk			
	1	OUTAGE	opuon	1101	002	000111	Omou	N w/o Gas	OPEN			
	2	155	27.4	0.37	4.85	9.80	0.141	138 N w/o Gas	CLOSED			
	3	164	32.4	0.36	4.58	9.60	0.212	155 N w/o Gas	CLOSED			
	· · · · · · · · · · · · · · · · · · ·		02.1	0.00		0.00	0.212	100 11 11/0 003	OLOGED			
	FGD Nox	0.34										
	FGD Removal %	97.9%										
	3A Mill Amps	95										
	3B Mill Amps	91										
	COND. STOR. TNK	21/23	1									
	Instr. Air Dew Point	-64.0										
	Sootblowing	04.0										
	#1 S/B Out of Service	NONE	-									
	#2 S/B Out of Service	NONE										
	#3 S/B Out of Service	NONE										
		1	-									
	HASNTAS	NO THREATS										
	HASNTAS	NO THREATS										
18:16												
18:16 18:50	1A BFP ON FOR C1 HYD	PRO	UM PUMP	ON PU	LING V	ACUUM ON T	HE REHEA	Т				
18:50	1A BFP ON FOR C1 HYD 1A BFP OFF 1800# DRUI	PRO M PSI - C1 VACU					HE REHEA	T				
18:50 19:49	1A BFP ON FOR C1 HYD 1A BFP OFF 1800# DRUI 2B MILL SEAL AIR DIFF	PRO M PSI - C1 VACU NEEDS TO BE BI	LOW BAC	K - MR#	609788	6	HE REHEA	Т				
18:50 19:49 19:53	1A BFP ON FOR C1 HYD 1A BFP OFF 1800# DRUI 2B MILL SEAL AIR DIFF C1 COND VACUUM PUM	RO M PSI - C1 VACU NEEDS TO BE BI PS OFF - HAVE 2	LOW BAC 2 SMALL L	K - <b>MR#</b> EAKS I	609788 N THE R	6 EHEAT	HE REHEA	Т				
18:50 19:49	1A BFP ON FOR C1 HYD 1A BFP OFF 1800# DRUI 2B MILL SEAL AIR DIFF	RO M PSI - C1 VACU NEEDS TO BE BI PS OFF - HAVE 2 EVEL AND SETTI	LOW BAC 2 SMALL L ING C1 BC	K - <b>MR#</b> EAKS I	609788 N THE R	6 EHEAT	HE REHEA	Т				







	22:35	C1 AIR HEATER LOOKS WASH HEADS	GOOD - SHUTTII	NG DOWN	AND TA	AGGING	AIR HEATER	AIR DRIVE	FOR MPW TO REM	OVE THE		
	22:50	C1 BOILER MAIN STEAM STOP VALVE OPEN - RACKED OUT										
	23:13	C3 INVERTOR ROOM AC	DRAIN PLUGGE	D MR# 60	97887							
	23:30	C1 WET BOTTOM WET										
5/9/2013	0:15	CLEANING INTAKES										
	1:00	T DAVIS AND J DENNY	GOING HOME									
	1:15	BACK WASHING ALL 3										
	1:30	MPW LEAVING GOING H										
	3:30	C1 BOILER SET FOR FIF										
	7:00	7:00 "B" SHIFT (JOHNSON) HERE "C" SHIFT (DOOLEY)LEAVING										
		S. HOWARD , A. MAYFII					OODMAN R	CARMAN	D TALL I KENNE	DY HERE		
		RJ PAYNE(SDO)OUT				, 00	oobiibat, it	. 0741111141	D. TAOL, C. REINE	DI, HERE		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk		
		1	OFF	OFF	OFF	OFF	OFF	OFF	0 N w/o Gas	OPEN		
		2	142	29.0	0.36	4.81	9.84	0.140	138 N w/o Gas	CLOSED		
		3	154	25.0	0.33	4.57	9.69	0.140	155 N w/o Gas	CLOSED		
		3	154	25.0	0.33	4.57	9.09	0.206	155 N W/O Gas	CLUSED		
		FGD Nox	0.33									
		FGD Removal %	97.0%									
		3A Mill Amps	95									
		3B Mill Amps	90									
		COND. STOR. TNK	22 / 23									
		Instr. Air Dew Point	-67.5									
		Sootblowing										
		#1 S/B Out of Service	NONE									
		#2 S/B Out of Service	NONE									
		#3 S/B Out of Service	NONE									
		DHSNTAS	NO THREATS									
		C-1 ECC. 3.01ST STAGE TEMP 4731ST STAGE LEFT 5031ST STAGE RIGHT 508										
		CONTINUE TO RUN A LS				. 505	IOI OIAGE	140111 300	<b>,</b>			
	6:00	REQUESTED MAINT BRE				VE ON C	-1 AIR HEAT	ER HEADE	R TO WASH OUT			
	6:35	H2 SKID PRESSURE 160						LIVILADE				
	7:35	SHUT DOWN A LS MILL	. O.OE WAI									
	7:50	Permit pulled on 1B coal f	feeder									
	10:20	PULLING VACUUM ON C		JBE LEAK	REPAIR	2S						
	10:40	STARTED UP B DEWATI										
		#1 AIR HEATER SWEEP		WASHED	OUT	TITAN	PUTTING IT F	BACK TOGE	ETHER			
	NOTE											
	12:30	P. GRIMES REPORTS A										
	12:45	TAGGED OUT SLUICE W				AT THE	REQUEST OF	PATRICK	GRIMES			
	13:20	J. GOODMAN AND J. KE										
	14:00	PULLING TAGS ON PERI										
	15:00	MAINT BALANCING 1 B I										
	16:15	TITAN PULLING GAS LIN										







NOTE	COMPLETED WEEKLY E	SINDICATOR CHE	CKP	APERW	ORK SU	BMITTED			
16:50	1 A CONDENSATE PUM	UMP ON TO FILL C-1 TO FIRING LEVEL							
19:00	"C"SHIFT (Dooley) HER								
	K.Grantland, P Gatton, L.S	Shearn, M. Young,	D. Mills D	Days , J.	Miller, R	Payne, M.L.	ee, S.Kurz,	here	
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.
	1	start-up						N w/o Gas	OPEN
	2	148	21.3	0.35	4.82	9.80	0.141	138 N w/o Gas	CLOSED
	3	158	24.5	0.33	4.54	9.60	0.178	155 N w/o Gas	CLOSED
	500 W								
	FGD Nox	0.33							
	FGD Removal %	97.9%	-						-
	3A Mill Amps	95							
	3B Mill Amps	93							
	COND. STOR. TNK	22/23							
	Instr. Air Dew Point	-65.3							
	Sootblowing								
	#1 S/B Out of Service	NONE							
	#2 S/B Out of Service	NONE							
	#3 S/B Out of Service	NONE							
	HASNTAS	NO THREATS							
17:50	4D ED EAN DICCUADOE	VALVE MULL NO	TOOME	0051	VD 01150	NAMO			
	1B FD FAN DISCHARGE								
17:55	C1 DRUM LEVEL TRANS OF SERVICE TILL WE G				ARS TO H	AVE BOILE	DRY - TA	KING DRUM LEVEL	TRIPS OUT
18:00	C1 WEST DESLAG DOO	R LEAKING TAKING FANS BACK OFF							
18:17	1A AND 1B FD FANS ON	TO CHECK WES	ST DESLA	G DOOF	7				
18:21	I/D PULLING FUSES ON	C1 EAST DRUM	LEVER TF	RANSMI	TTERS HE	EAT TRACE			
18:38	GAS FIRE IN C1 BOILER	- CALLED HOT L	INE						
19:18	C1 BOOSTER FAN ON								
20:09	RELEASED HOLD # 109	AND PLACED 03	03 GENE	RATOR	DISCONN	ECT IN SER	VICE		
22:00	TITAN LEAVING								
23:00	TOM DAVIS AND JOE DE	ENNY GOING HO	ME						
22:53	ROLLED C1 TURBINE EC	CC 3							
23:31	TIED C1 ON LINE - CALL	ED HOT LINE							



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### **Boiler Tube Leak Record**

### Initial failure at hot reheat

Plant: Coleman Unit: 1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure CrackX Thin Lip Failure
Tube Wall Thinning X Other
Orientation of Rupture: (Check One)
Longitudinal 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





**Exact Location of Leak: Be Specific** 

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Type of Repair: (Check One)
Dutchman X (Length of Dutchman ~ 3', 5ea)
Pad Weld X
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Tube Size OD <u>2.250"</u> Wall Thickness <u>0.150"</u> Tube Material <u>SA213 T22</u>
Welding Rod Used 8018 B3L
Welded By:Titan

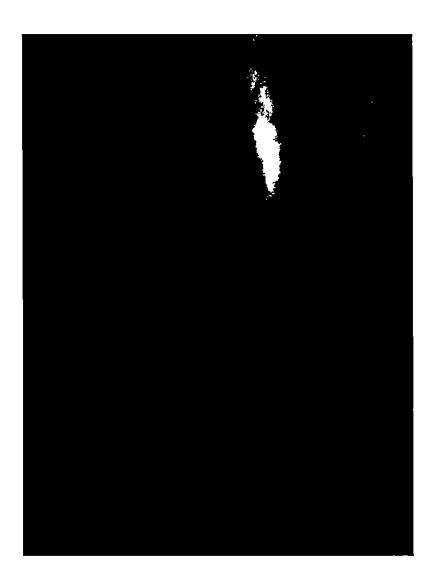
North side of the hot reheater, opposite the HRA screen, in the fourth element from the west wall causing damage to the 3rd and 5<sup>th</sup> element. 5 Dutchmen were installed 2, 2 and 1 from west to east. Elevation 209'-0"





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### <u>Pictures</u>



















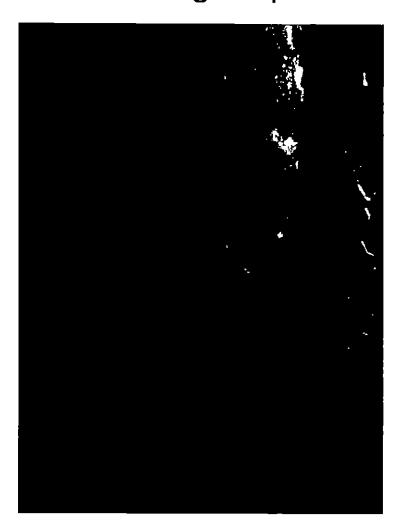






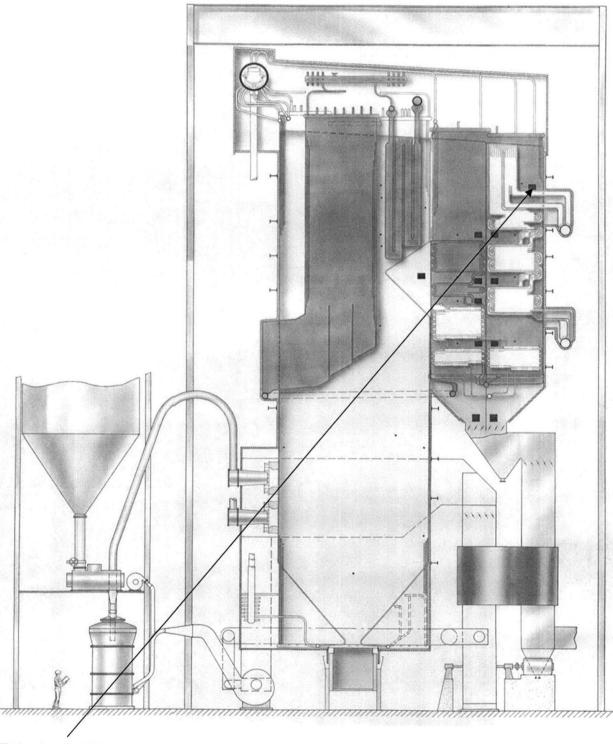










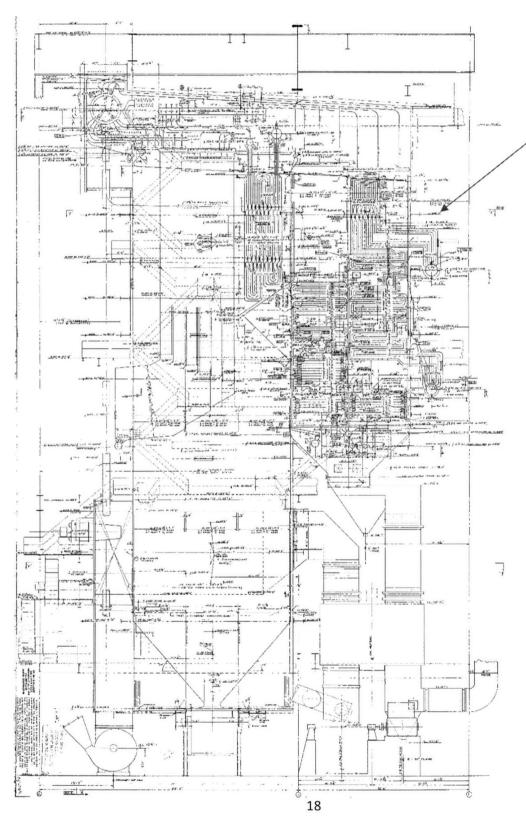


Tube Leaks Here









Location of hot reheats tube leak & HRA repair, west side





### **Lost Sales Opportunity Report**

# FORCED OUTAGE COST ANALYSIS

Unit	C	oleman 1	- C1-	13-08			Producti	ion Co	ost
Date & Time Off Line		5/7/13	13:0	1	,		MW		\$/MW
Date & Time On Line		5/9/13	23:3	1			84	\$	29.24
Outage Duration		58 hr.	30 mi	n.			128	\$	27.50
Outage Code		U	<b>)</b> 2				150	\$	27.29
Outage Reason	Repair	r reheat se	ection	tube leaks.					
Date	DA LMP	Average	RT L	.MP Average	DART P&L	Op	Lost		
5/7/13 (HE 13-24)	\$	39.97	\$	32.15	\$ (7,687)	\$	-		
5/8/13 (HE 1-24)	\$	37.09	\$	38.52	\$ (39,598)	\$	-		
5/9/13 (HE 1-24)	\$	34.82	\$	32.70	\$ (67)	\$	(26,919)		
5/10/13 (HE 1-8)	\$	28.63	\$	23.00	\$ (2,653)	\$	(175)		
Total					\$ (50,005)	\$	(27,094)	-	
Start Up Fu	el Cost						Total Forced	Outag	ge Cost
S/U Fuel Consumed		561					ART P&L	\$	(50,005
S/U Fuel Price	\$	4.83				Lost	Opportunity	\$	(27,094
S/U Fuel Cost	\$	(2,712)				S/l	J Fuel Cost	\$	(2,712
							Total	\$	(79,810
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: Bart Boles

Date: 12-Jun-2013

Plant: Wilson

Unit: 1

GADS Class: UO2 / MO

Duration

Trip Time: 18-May-2013 02:43

Tie Time: 20-May-2013 19:36

Total Time Offline: 64:53

UO2 26:17 MO 38:36

#### **Outage Description**

Wilson Station was removed from service on Saturday, 18-May-2013 at 02:43 due to tube leaks on the east waterwall at the 8th floor elevation, and the HRA side wall at the 12<sup>th</sup> floor elevation. Titan Contracting performed base metal repairs on all four (4) tube leaks. Two (2) of the tube leaks on the east wall were located three feet north of the IR-32 wall blower between elevations 500'- 507". These leaks were on adjacent tubes and were in existing window welds. The other tube leak on the east wall was on a bent tube around IR-30 sootblower at elevation 500', and was due to a pinhole in the tube. The tube leak in the HRA west side wall was located 4'-6" south of the IK-27 wall blower, at elevation 552'. The HRA side wall leak was due to a pinhole. The three (3) east waterwall tubes being repaired were 3" O.D. x 0.368" MW, SA-210-C rifled tube material. The HRA side wall tube being repaired was 1.75" O.D. x 0.187" M.W. SA-178C material. After the leaks were repaired the outage class was changed from "Forced" to "Maintenance" to complete precipitator repairs. Additional work completed during this outage is listed in the sections below.

#### **Root Cause**

It appears that two (2) of the east waterwall tubes failed in a window weld repaired previously. The other failure in the east waterwall was a pinhole in a radius tube around IR-30 sootblower. The tube leak in the HRA side wall was due a pinhole in the tube.

None of the tube failures resulted in dutchmen being installed; the base metal was able to be repaired in all instances. There have been numerous tube leaks in the 8<sup>th</sup> flooreast wall area over the past few years. The east waterwall tube leak was in the area that was supposed to have a 6' x 20' waterwall panel installed during the spring 2013 outage (that was cancelled).



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#### **Failure History**

The last waterwall tube leak was on January 26, 2013 on the east and west waterwalls at the 8<sup>th</sup> and 9<sup>th</sup> floor elevations. The cause of these tube leaks were wall blower erosion and a pin hole in the circumferential weld.

#### **Corrective Action**

The recommendation is to install six (6) new waterwall panels during the fall 2013 Wilson Station Outage.

#### Other Work Completed While Unit Was Offline

#### **ELECTRICAL**

- #1 ID Fan lube oil air cool fan #1 the switch on breaker is bad. (Repaired)
- #2 ID Fan air cooler fan motor #1 will not switch to auto. (Repaired)
- #2 PA Fan #1 lube oil pump in standby and #2 lube oil pump running, getting false alarm that standby pump is running. (Repaired)
- · Wired up #2 CWP discharge valve and set limits.
- Opened ESP doors, repaired frame work, cleaned barrel bushings, performed inspection, and closed ESP doors.
- Cleaned CLR's on ESP.
- Repaired 480V AKR breaker out in scrubber area.

#### INSTRUMENTATION

- Repaired reheat damper feedback circuit.
- Installed new limitorque on #2 mill rating damper.
- Stroked #1 and #2 ID fan inlet damper along with some minor adjustments.
- Replaced solenoid on turbine intercept valve and stroked turbine valves.
- Blew back all mill, secondary air flow, and furnace pressure taps.
- Cleaned opacity monitors and other CEMS general outage maintenance.
- General outage maintenance on SCR.
- Installed instrumentation back on 3D burner.



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### Forced Outage Report

### **MECHANICAL**

- Removed FGD outlet duct drains for cleaning of the outlet duct
- Repacked HMV-170 isolation valve
- Installed Refractory on the inside of the nose arch waterwall tubes
- Repaired scrubber outlet duct manways
- Repaired leak in east superheat spray vent on vent side
- Repaired 2D east main flame scanner tube
- Replaced 203JA and 203J ME wash pump suction valves
- Replaced limitorque actuator on #2 CWP discharge valve
- 3D Burner replaced inner barrel, outer barrel, oil gun assembly
- Rebuilt main sootblower safety relief valve
- Replaced 2 -90's and piping on #6- #7 heater vent
- Installed vent line and air mover valve for penthouse
- Removed fly ash spools for primary AH wash
- Removed Ammonia spools
- Repaired membrane on north waterwall
- Repacked FCV 1350 under turbine
- Repaired ME wash discharge piping
- Repaired ductwork on top of scrubber inlet duct
- Replaced root valve and isolation valve on east side primary superheat inlet vent
- Installed sootblower box on IR-30 after tube leak
- Inspected sootblower lanes in finishing superheat tubes
- Left Reheat Intercept valve cleaned actuator orifice and replaced O-ring
- Replaced root valve and isolation valve on east platen header atmospheric vent
- Replaced #1 PA fan hydraulic relief valve and #1/#2 FD fan hydraulic relief valve
- Inspected 2<sup>nd</sup> stage west superheat spray valve ordering parts
- Replaced CBD needle valve and isolation valve
- Replaced the drum site glass water side isolation valve, drain line isolation valve, and installed a vent on the drain line
- Replaced packing in 1350 auxiliary steam valve and inlet / outlet valves
- Repaired three (3) waterwall tube leaks on east side 8<sup>th</sup> floor
- Repaired tube leak on HRA side wall at 12<sup>th</sup> floor elevation





#### Your Touchstone Energy Cooperative

### Operators Event Log

Operator		209
DATE	TIME	DESCRIPTION
5/17/2013	9:52pm	Began hotwell check
	10:30pm	Hotwell Check complete Lost 1.56'
5/18/2013	12:00am	External & Internal tube leak detected
	1:10am	Ran I/M callout list. Notified Campbell
	1:13am	Out of ADS shutting down
	2:43am	Offline due to tube leak
	7:15 AM	Ran Call Out List for Ops / got no answers
	7:30 AM	Ran Call Out List for Ops / got no answers / C Poore called back / coming in
	8:00 AM	Peercy in / Feeney out
		McCarty, Roby, Wilson, Worley, McElwain, Winders, in
		Unit Off Line
	12:11 PM	Generator Hold #220
	4:00 PM	Z Winders out / 4Hrs.Vac./ A/T Submitted
	8:00pm	Feeney in/Peercy out
		McIntyre, Hall, Piper, Drake, Barrett in
		Safety Briefing
		Unit Off Line
		Water Run
		Took out trash
		Additional tube leak on 8th floor
		Left RH intercept valve will not open. Not solenoid problem. Notified M/M
		Hotwell full to tube bundles
		Weekly Testing
		Circulating water sys out of service
		Pressurized #2 bank SCR steam coils
5/19/2013	8:00 AM	Peercy, Crowe, Owens in / Feeney, Mattingly out
		McCarty, Roby, Wilson, Worley, McElwain, Winders, Poore, in
		Unit Off Line
	10:30 AM	Ran Call Out List for Ops / got no answers
	3:00 PM	SCR - #2 AH I/S - #1 isolated & drains open
	4:00 PM	WO# 6098899 1V-840 Con. Vac. Break / leaks / needs to be replaced
		6098900 1V-322 Con. Vac. Break / leaks / needs to be replaced
		6098901 1V-302 Con. Vac. Break / leaks / needs to be replaced
	7:00 PM	Dry Boiler
	8:00pm	Feeney in/Peercy out
		McIntyre, Caldwell, J. Stewart, Hall, Piper in
		Safety Briefing
		WO# 6098906 #2 CCW heat exchanger service water piping leaking
		Set Turbine building to fire
		Set boiler to fire except Aux steam block valve & HMV-170 still closed
		Set PAH hoppers back to normal
		Swapped to #1 CCW heat exchanger



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Unit Status Update

5/20/2013 12:00am

> 7:00PM Cooper Owens Peercy in Mattingly Feeney out

> > MW KPPH SO2 NOX . OPAC REMOV CO2 4 MILLS 4 MODULES 16 CIRC PUMPS

MVARS SLURRY FEED TANKS CO Sludge tanks VOLTAGE BED LEVEL 96"

8:00PM Roby ,Stewart ,Baker,Poore,Stovall ,Jones,Calhoun McElwain,Winders

Safety briefing

Unit off line tube leak

11:41AM Ign oil pumps on

11:48AM ID and FD fans on

12:15PM Fire in Boiler

3:16PM PA Fans On

3:24PM Sealing turbine

4:56PM Rolling Turbine

5:28PM Air flow through 1 and 2 mill

12:15pm Oil fire established

Crowe, Feeney, Mattingly in, Peercy, Cooper, Owens out 7:00pm

7:11pm #2 Mill in service

7:12pm Precips in service 7:36pm Unit tied on line





#### Your Touchstone Energy' Cooperative

### **Boiler Tube Leak Record**

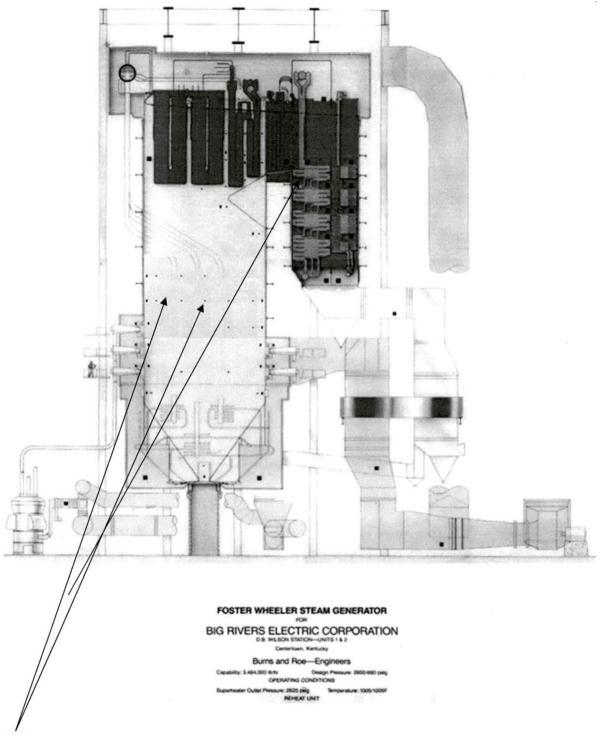
Plant:\	<u> Wilson</u>	Unit:	_1
Type of Leak: (Check One)			
Pin Hole X Thick Lip Fa	ilure	Thin Lip Failure	
Tube Wall Thinning waterwall tubes failed as a refailed in previously repaired	esult of pinholes;		
Orientation of Rupture: (Ch	eck One)		
Longitudinal Circ	cumferential	X	
Probable Cause: (Check One	)		
Stress Overheat	_ Erosion	Internal Corrosior	1
External Corrosion Wel	d Failure X	(Shop Field_	)
Internal Obstruction to Flow			
Other: Two of the fou	r welds were a re	sult of pinholes	



Type of Repair: (Check One)
Dutchman: Pad Weld:Yes
Plug Tube Short Circuit Other:
Description of Repair (East Wall):
Tube Size OD: 3" Wall Thickness: 0.368" M.W.
Tube Material: SA-210C Rifled
Welding Rod Used
Welded By: _Jared Burden, Daniel Burden: Titan Contracting
Description of Repair (HRA Side Wall):
Tube Size OD: 1.75" Wall Thickness: 0.187" M.W.
Tube Material: <u>SA-178C</u>
Welding Rod Used
Welded By: _Jared Burden, Daniel Burden: Titan Contracting
Exact Location of Leak: Be Specific
East Wall: Two (2) of the tubes were three feet north of IR-32 wall blower, elevations 500' and 506', 8 <sup>th</sup> floor elevation.
East Wall: Bent tube around IR-30 wall blower, elevation 500', elevation 8 <sup>th</sup> floor.
<u>HRA Side Wall,</u> Tube was located 4 $\frac{1}{2}$ ' south of IK-27 wall blower at elevation 552' on the 12 <sup>th</sup> floor.







<u>Tube Leaks Here</u> – <u>East Wall</u>, (Near Side) two (2) tubes were three feet north of IR-32 wall blower, the other tube was next to IR-30 wall blower, The HRA Side wall tube was 4 1/2' south of IK-27 wall blower.





Lost Sales Opportunity Report

#### Your Touchstone Energy Cooperative

### **FORCED & MAINT. OUTAGE COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Wilson - W1-13-02	Produc	ction Co	st
5/18/13 2:43 & 5/19/13 5:00	MW		\$/MW
5/19/13 5:00 & 5/20/13 19:36	300	\$	23.47
26 hr. 17 min. & 38 hrs, 36 min.	360	\$	22.87
UO2 & MO	420	\$	22.52
Repair water wall tube leaks. Changed to maintenance outage after leaks were repaired to complete precipitator repairs.			
	5/18/13 2:43 & 5/19/13 5:00 5/19/13 5:00 & 5/20/13 19:36 26 hr. 17 min. & 38 hrs, 36 min. UO2 & MO  Repair water wall tube leaks. Changed to maintenance outage after leaks were repaired to complete	5/18/13 2:43 & 5/19/13 5:00  5/19/13 5:00 & 5/20/13 19:36  26 hr. 17 min. & 38 hrs, 36 min.  UO2 & MO  Repair water wall tube leaks. Changed to maintenance outage after leaks were repaired to complete	5/18/13 2:43 & 5/19/13 5:00  5/19/13 5:00 & 5/20/13 19:36  26 hr. 17 min. & 38 hrs, 36 min.  UO2 & MO  Repair water wall tube leaks. Changed to maintenance outage after leaks were repaired to complete

Date	DA LN	IP Average	RT	LMP Average	DART P&L	_	Lost Opportunity
5/18/13 (HE 1-24)	\$	32.58	\$	32.02	\$ (91,647)	\$	(1,183)
5/19/13 (HE 1-24)	\$	33.25	\$	43.65	\$ -	\$	(107,365)
5/20/13 (HE 1-24)	\$	43.37	\$	43.91	\$ 6,603	\$	(208,617)
5/21/13 (HE 1-10)	\$	33.78	\$	29.28	\$ (3,847)	\$	(1,445)
Total					\$ (88,891)	\$	(318,610)

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		36,006	DART P&L	\$	(88,891)
S/U Fuel Price	\$	3.39	Lost Opportunity	\$	(318,610)
S/U Fuel Cost	\$	(121,924)	S/U Fuel Cost	\$	(121,924)
			Total	\$	(529,424)

#### 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: Daryl Chinn

Date: 19-Jun-2013

Plant: Coleman Unit: 1 GADS Class: UO3/MO

### Duration

Trip Time: 7-Jun-2013 22:39 Tie Time: 17-Jun-2013 01:16

MO Hrs. Begin: 12-Jun-2013 08:00 End: 17-Jun-2013 01:16

MO Hrs.113:16 UO3 Hrs. Offline: 104:21 Total Time Offline: 217:37

### **Outage Description**

Coleman Unit 1 was removed from service on Friday, 7-Jun- 2013 at 22:39 and returned to service on Monday, 17-Jun-2013 at 01:16 for duration of 217:37 against an initial target of 216:00. This was initially an unplanned event, and as such is classified as a Class I (UO3) forced outage. Due to market conditions, the unit remained off line in MO status for an additional 113:16 to allow for additional outage repairs. The unit was removed from service in a controlled manner due to severe slagging in the lower furnace and the inability to remove ash from the wet-bottom hoppers. During the subsequent hydrostatic test, three leaks were discovered in the HRA roof tubes and two leaks in the hot reheat section. This outage allowed for the long overdue ash removal from the penthouse and drum vestibule, and the time to address extreme gas leaks in the penthouse as well as the reheat outlet header casing. The extension also allowed for a needed external wash-down of the unit. It should be noted that approximately 3 hours after shut down, the back and bottom of the reheat outlet header box fell off the boiler due to fly ash build-up. After the unit was sufficiently cooled it was discovered that molten slag had collected on the lower furnace slopes and in the wet bottom hoppers to the extent that explosive removal was required.





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#### **Root Cause**

Although the blended combination of Armstrong, Highland and Steamport coals indicates a borderline slagging index, the unusual location of molten slag only in the lower furnace suggests that the deleterious constituents of the mineral ash were much worse than the analysis indicates. It should be noted that there was no evidence of slag in the upper section of the furnace nor in the superheater section, the slag became molten from just above the burner zone running down and into the wet bottom prior to solidification. Reviewing boiler settings prior to this event, as well as burner inspections during the outage, indicates that combustion did not play a significant part in the root cause of this slag event. In all likelihood, due to the rapid formation of the slag, inferior un-washed coal was the cause.

### Failure History

There is no know instance, in recent history, where slag formed in only the lower section of the furnace, it usually will form in the upper sections, falling and lodging in the throat above the wetbottom, causing bridging and eventually an outage.

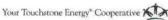
#### **Corrective Action**

Acquisition of additional mineral ash analysis as well as quantitative analysis when blending different coals.

2

### **SOE Print Out**

NA





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### Forced Outage Report

### Other Work Completed While Unit Was Offline

### C1, Completed Outage Tasks 6-7-13

C1 was taken off to remove slag bridge across the knees in wetbottom.

- 6098039 Repacked #1 turbine drain valve.
- 6099522 Replaced oil cooler on B mill.
- 6100311 Replaced lower left broken shaft, roller and bearing on west side slide gate at W/B. Replaced broken bolts on front cover of doghouse.
- 6100630 Replaced SW lancing port on east side W/B.
- 6100632 Replaced inspection port on D-row east side.
- 6099528 Weld repaired coal leak on the transition chute below the feeder on B mill.
- 6100635 Replaced lancing port on west end of W/B.
- 6100705 Removed old insulation and lagging that had fallen from hot R/H header. Replaced framework and installed new insulation and lagging.
- 6098509 Weld repaired coal leak on the transition chute below feeder on C mill.
- 6093350 Replaced scrappers on 1R sootblower.
- 6093349 Replaced scrapers on 11R sootblower.
- 6097555 Replaced scrapers on 3R sootblower.
- 6096323 Repacked steam coil isolation valve at the drum and valve before regulating station.
- 6097525 Replaced coupling on fly ash line for precip. hoppers
- 6091931 Replaced steam coil safety valve.
- 6100718 Replaced leaking seal water lines on slag grinders.



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6100722 Removed solidified slag from east slag grinder by cutting access doors in front and back of grinder. Welded doors back in place.

6092633 Replaced rubber seal rings on #1 and #4 coal valves.

5977605 Weld repaired gas leak on top of precipitator.

6096454 Freed up discharge dampers on B FD Fan. Replaced 4 bearings.

6100785 Removed splice cable and installed new one in B coal feeder belt.

6100788 Weld repaired numerous gas leaks in penthouse. Weld repaired four HRA side wall tubes on east side that were worn due to gas leaks.

6100033 Replaced top cover on holding bin. Installed new metal around side of bin near the top. Installed four new 90 degree elbows in pyrite discharge lines at top of holding bin.

6100762 Disassembled #1 heater bypass valve for inspection. Machined plug slightly and lapped seat. Blue checked and reassembled.

6100957 Replaced sections of SW and NW fire water headers where line passes through 1<sup>st</sup> floor near 1A mill.

6100973 Replaced seal skirt angle iron attachment on east end of W/B. Weld repaired three other small leaks in seal skirt.

6100975 Replaced glass inspection ports on east and west doghouses.

6100415 and 6100761 Removed A and B slag grinder motor and gearbox assemblies. Fabricated and installed new support structures for both grinders. Replaced vertical support beams for W/B hoppers. Reinstalled and aligned motor and gearbox assembly. Changed oil in both gearboxes.

6051362 Installed new start up regulator at feedwater station.

6101384 Replaced attemperating spray root valve.

6080956 Rigged sky climber and welded thermocouples to #7 and #8 burners.

6101089 Weld repaired several gas leaks around APHs and gas outlet ducts.



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6101086 Checked oil in Booster fan hub. Inspected hydraulic system for leaks. Removed SS tubing pressure tap halos around booster fan duct and installed two SS pipe nipples on top side of duct before and after the fan.

6101386 Replaced drum vent root valves on east and west ends of drum. Freed up and lubricated isolation valves on each end.

6101544 Disconnected linkage and freed up R/H, S/H dampers. Checked stroke.

6101496 Replaced grating in B mill pyrite hopper.

6101493 Replaced both rupture discs at W/B doghouses.

6101636 Replaced B side APH air drive motor.

6100721 Weld repaired gas leak on B ROFA fan inlet duct just above slide gate.

6100971 Weld repaired three tube leaks in penthouse on pendant hanger clips and one leak at elevation 185' 6" on HRA partition wall hanger lug, which were all discovered on boiler hydro.

6100789 Repacked two valves in west drum enclosure and one in east drum enclosure. Opened and closed heat exchangers for AES to clean tubes internally.

6090463 Changed oil in FD Fan bearings, PA Fan bearings, APH gearboxes and both boiler feed pumps. Greased couplings on PA Fans.

6101494 Replaced key on C feeder cleanout drive coupling. Weld repaired internal coupling to shaft on D feeder cleanout.

6100000 Removed OB motor bearing for inspection on A Boiler Feed Pump. Replaced bearing and oil rings.

6100930 Replaced air actuators on #1 and #2 economizer hopper dust valves. Replaced Y lateral on #2 and solenoid valves on #2 and #3 hoppers. Stroked all five valves for proper operation.



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### Electrical & Instrument Maintenance, C1, Completed Outage Tasks

6100747- Cleaned all igniter and main flame scanners and performed dark furnace adjustment on each.

6100764- Performed drum level trip checks.

6100763- Performed calibration on A, B, C, and D stock feeders.

6100750- Cleaned furnace pressure taps and sensing lines.

6100752- Blew back secondary air flow transmitters taps and sensing lines.

6100751- Stroked all PA fan dampers, FD fan dampers, SH & RH dampers and Feedwater regulator.

6100749- Stroked air registers and ROFA dampers and took measurements on the air registers.

6100753- Blew back mill taps and sensing lines.

6098062- Repaired bad wiring on "A" AH Gas leaving T/C.

6084648- Rebuilt UR ROFA damper REXA drive unit.

6098051- Replaced bad wiring on "A" O2 probe to analyzer.

6089258- Installed new tubing tray and tubing from "B" & "C" mill taps to switches and transmitters.

6098045- Stroked and verified proper operation on "B" FD fan discharge damper. M/M replaced four bad bearings.

6089577- Installed new level transmitter and drain valve positioner on #2 LP heater. Wired up, programmed, stroked and verified proper operation. Converted heater level controls from pneumatic to DCS control.

6089559- Installed new level transmitter and drain valve positioner on #3 LP heater. Wired up, programmed, stroked and verified proper operation. Converted heater level controls from pneumatic to DCS control.

6057091- Installed new Beck drives on "D" Hot, Cold and Rating dampers. Stroked and verified proper operation.



6080956- Replaced #7 burner top metal T/C.

6077886- Replaced #8 burner bottom nozzle T/C.

6032838- Replaced #8 SH boiler tube metal T/C.

6051362- Installed instrumentation on feedwater start-up regulator. Installed termination unit and module in DCS cabinet. Wired up new drive unit, control box, and DCS. Programmed, stroke and verified proper operation.

6090322- Calibrated Feedwater flow, BFP discharge pressure, First Stage pressure, Impulse Chamber pressure, IP Exhaust pressure, Throttle pressure, and Economizer Inlet pressure transmitters.

6100755- Stroked, calibrated, and set turbine valves.

6101070- Replaced and calibrated Auto stop Trip pressure switch (63-AST-1). Calibrated DC EBOP Auto start pressure, DC EBOP Redundant Auto start pressure, AC Bearing Oil Pump Auto start pressure, Turning Gear Interlock pressure, Auto stop Trip/Relatch pressure (63-AST-2), Auto stop Trip Header pressure, (63-AST-3), Auto stop Trip/Reset (AST-4, AST-5, and AST-6) pressure switches.

6100748- Misc. Instrumentation Outage Tasks: Removed, clean, and tested igniter rods and reinstalled at the end of the outage. Replaced # 3 igniter rod and spark plug. Remove camera and light box housing for boiler wash down and reinstalled after wash down was completed. Verified no problems with BMS equipment after wash down. Replaced turbine trip block diaphragms, cleaned trip block, and replaced brass pivot rod.

6100758- Removed and cleaned booster fan stall probe and blew back sensing lines.

6100757- Booster Fan Misc. Outage Tasks: Installed valves and ran new tubing from new taps that M/M installed to replace the halo's to the transmitters.

6100754- Performed precipitator internal inspection, found a few donuts on electrodes and cleaned as needed. Titan patched the 1½" hole in the penthouse floor. #17 hopper had a lot a ash in it, notify operation department. Cleaned HV bushings inside and outside. Power up T/R's and electrical air testing looks good.



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6100000- M/M changed outboard motor bearing; also they replaced both slinger rings. Cleaned oil and dirt off the end bells. After M/M was completed added new oil to proper level

6091536- #1 heater bypass valve, inlet, outlet valve would pull high amps when torqueing out, valve has mechanical problems. Contractor repair valve and electrical department set torque switches for the proper value. Stroked valve and it work properly.

6100941- A & B FD Fan Motors: Cleaned inboard and outboard end bells, drained oil, cleaned site glasses, flushed bearing cavities and put in new oil.

6100938- A, B, C & D Mill Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6100939- A, B, C & D PA Fan Motors: Cleaned inboard and outboard end bells, drained oil and flushed bearing cavities and put in new oil.

6091117- Performed EBOP test and all results look good, fill out data sheets accordingly.

6100818- Wired Titan's 4 pack welders, unwired when Titan was completed. Wired heat stress machine for feedwater start-up regulator installation project, unwired when job was completed. Covered electrical equipment for boiler wash down.





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### **Operators Event Log**

6/7/2013	11-30DM	C1 OFFLINE									
0/1/2010		JEFF MILLER VOLUNTER	RED FOR OT HE	- WILL BE I	N AS EYTDA	EOD TOMOR	POW				
		NO RAIN IN THE RAIN G		VVILL DE I	N AS EXTRA	FOR TOWOR	KROW				
5/8/2013		INLAND HEADED HOME		AT 7.00 AM	COD DECLAC						
1012010		BOOBY AND ROCKY HE									
								WEST OID			
	NOIE	LAGGING FELL FROM RETHE GROUND	EHEAT SECTION	NORTH SIL	E SIH FLOO	R DOWNH	AVE EAST/	WEST SID	E CAUTIONED TAPE	D OFF FROM 41	/2
		HOTWELL CHECKS ARE		OST 1.5" ON	C2LOST.	25" ON C3					
		HOLD #272 ISSUED ON									
		FANS OFF STARTED OP									
	4:30AM	DOORS OPENSLAGGE									
		SIDE OF BRIDGETO H	ELP GET COOLE	D DOWN	PENTHOUSE	DOORS ARE	E OPEN AS	WELL 1 All	R MOVER IN AND 1	AIR MOVER OUT	1
	5:00AM	EAST GRINDER ON C1 IS	STAGGED								
	7:00AM	"D" SHIFT (STERLING)	HERE "A" SHIFT	(SHAVER)	<b>LEAVING</b>						
		V.Ramsey S/L, B.Johnse	on, R.Payne, G.7	Tivitt, S.Eml	perton, B.H.	int,, G.Calho	un VAC , J.	MILLER, S	KURZ HERE		
		Unit	Load	Opacity	Nox	SO2		Silica	Capability	BYPASS ST.	
		1	OUTAGE								
		2	160	28.4	0.400	4.69	9.48	0.12	138NW/OGAS	CLOSED	
		3	80	10.0	0.350	4.53	9.52	0.58	155N W/O GAS	CLOSED	
		FGD Nox	0.31								
		FGD Removal %	98.9								
			93	-	-	-		-			
		3A Mill Amps	1								
		3B Mill Amps	93								
		COND. STOR. TNK	23/24	-							
		Instr. Air Dew Point	-57								
		Sootblowing									
	#	1 S/B Out of Service	4L								
	#	2 S/B Out of Service	NONE								
	#	3 S/B Out of Service	NONE								
		DHSNTAS	NO THREAT								
	7:00AM	1B MILL REDTAGGED TO	REPAIR COAL	LEAKS							
		3B MILL ON									
		INLAND ON SITE FOR DE	SLAG								
		BACKWASHING #1 CON									
		EXPRO WILL BE HERE A									
		ABSORBER CHLORIDES									
		UNIT #3 ON BYPASS STA		TESTING G	SETTING COA	AND FLYA	SH SAMPLE	S OFF OF	LINIT #2		
		DONNA HAYNES CALLE						0 011 01	01411 #2.		
		CALLED ALLEN MAYFIE			IONDAT. AG	I I ILLED OO					
		CALLED SCOTT HOWAR		OL.							
		ALAN MAYFIELD CALLE		K EOR DON	INA SLINDAY	NIGHT					
		EXPRO ON SITE SETTIN		ar i or bor	IN SUNDAI	NIOITI.					
		1A FD FAN ON	O Or								
		CLEANED ARP SCREEN	S								
		"A"SHIFT (Shaver) HER		erling\   EA	VING						
	7.001 191	L. PILE, D. HAYNES SL,				IONES AN	D D SEBAS	TION ALL	HEDE K Grantland	Lovering	
		L. I ILL, D. MATNES SL,	O. LINELIN, VV. IVII	LLO ,r.Gray	, L.SIVIII I II, F	ONES, AN	D.JEDAS	TION,ALL	nekek.Grantiano	Lovering	
		Unit	Load	Opacito	Nov	SO2	CBD PH	Cilian	Capability	Dunges Ctl	
		1	OFF	Opacity	Nox	302	CBD PH	Silica	Capability	Bypass Stk.	
		2	156	74.0	0.40	4 54	0.00	0.440	150 N w/o Gas	CLOSED	
		3		74.9	0.42	4.51	9.60	0.148	138 N w/o Gas	CLOSED	
		3	147	16.9	0.35	4.76	9.60	0.066	155 N w/o Gas	CLOSED	
		ron									
		FGD Nox	0.41								
		FGD Removal %	98.3								
		3A Mill Amps	92.7%								
		3B Mill Amps	90.1%								
		COND. STOR. TNK	22/23								
		Instr. Air Dew Point	-55.7								
		Sootblowing	50.7								
	#	1 S/B Out of Service	4L								
		2 S/B Out of Service	NONE		-	-					
	#	3 S/B Out of Service DHSNTAS	NONE								
			NO THREATS								





	7:00PM	EXPRO BLASTING ON C	1 WETBOTTOM	.PULLING W	EST SIDE	A LITTLE AT	A TIME AND	OFTEN S	WE DON'T OVERLO	DAD GRINDER
	7:45PM	MIKE GALBRAITH SAYS TESTING IS CANCELED	THEY WILL BE	TESTING TI	L 10:00PM,	BUT WILL	NOT TEST T	OMORRO	VNOTIFIED ACES	THAT TOMOR
	7:52PM	B DEWATERING EQUIPM	MENT ON							
		MATS TESTING COMPLE		YTAKING	C3 BACK T	HROUGH TH	IE FGD	1		
		EXPRO BREAKING FOR								
		DARREN PICKING TAGS					under.			
5/9/2013		NOTHING IN THE RAIN G			1					
	12:15AM	B DEWATERING EQUIPM	MENT OFF							
	3:30AM	36 CHARGES SHOT AT 1	HIS POINT MAKE	NG VERY LI	TILE HEAD	WAY				
	5:00AM	PAT GATTON OFF TIL EN	ND OF MONTH AS	T FILLED O	UT					
	7:00AM	"D" SHIFT (STERLING)	HERE "A" SHIFT	(SHAVER)	LEAVING					
		V.Ramsey S/L, B.Johns				lunt G.Call	houn, J.MILL	ER HERE		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	BYPASS ST
		1	OUTAGE						,,	
		2	120	17.1	0.400	4.72	9.61	0.13	138NW/OGAS	CLOSED
		3	136	17.5	0.350	4.53	9.66	0.65	155N W/O GAS	CLOSED
		FGD Nox	0.31							
		FGD Removal %	97.4							
		3A Mill Amps	90							
		3B Mill Amps	90							
		COND. STOR. TNK	20/22							
		Instr. Air Dew Point	-57							
		Sootblowing	-57							
		1 S/B Out of Service	4L							
		2 S/B Out of Service								
		3 S/B Out of Service	NONE							
	*	DHSNTAS	NO THREAT							
		DH3NTAS	NO INKEAT				-			
	7:00AM	EXPRO CONTINUING BL	ASTING IN #1 W/	ETROTTOM	<del> </del>	-	-	-	-	-
		ADDED 2 BARRELS OF			RE OUT OF	2" BALLS				
		ADDED 2 BARRELS OF			OOI OF	- DALLO.				
		INLAND VAC. CLEANING						1		
		1A FD FAN ON FOR EXP			RED OUT	+	+	1		1
		ABSORBER CHLORIDES								
		ADDED 4 BARRELS OF		ESTONE MIL	Ĺ					
		RONNIE PAYNE AND GL				FOR OUTA	GE SUPPOR	r.		
		COAL BOARD WILL NOT								
		ELECTRICIANS HAS E M								
		CALLED THROUGH CALL					MESSAGES			
		KINSEL SWIHART REQU						RK.		
		"A"SHIFT (Shaver) HER						1		
		L. PILE, D. HAYNES SL,	AND DESCRIPTION OF THE PARTY OF			R.JONES, A	ND D.SEBAS	STION, ALL	HEREAllen coveri	ing
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.
		1	OFF							
		2	157	27.8	0.42	4.76	9.70	0.133	138 N w/o Gas	CLOSED
		3	166	31.4	0.37	4.73	9.60	0.073	155 N w/o Gas	CLOSED



			•	•							
		FGD Nox	0.38								
		FGD Removal %	96.3								
		3A Mill Amps	91.1%								
		3B Mill Amps	90.8%								
		COND. STOR. TNK	21/23								
		Instr. Air Dew Point	-76.8								
		Sootblowing									
	#	1 S/B Out of Service									
	#	2 S/B Out of Service	6L								
	#	3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
		C1 WEST SIDE WETBO			CHING TO E	EAST SIDE T	TO START D	ESLAGGIN	3		
		B LS MILL AND ASSOCI									
	11:50PM	BAD COAL LEAK ON WE				NG MILL OF	F PER ACE	S REQUEST	ANYWAY WILL HA	VE TITAN FIX	LEAK
		WHILE IT IS OFFWO#									
	12:00AM	C2 WETBOTTOM DISCH	IARGE LINE HAS	EITHER COM	E APART O	R DEVELOP	ED A LARG	E HOLE UN	DER THE HOLDING	BIN SHACK AS	SHIS
		COMING BACK INTO TH	E WETBOTTOM P	IT WHEN YO	U PULLH	AD DARREN	SHUT DOW	N WILL PU	LL 2 MORE TITAN G	UYS TO START	T REP
		ON THIS WO# 6100811									
0/2013	12:00AM	4/10ths OF AN INCH IN T	HE RAIN GAUGE								
		CALLED WAYNE ASK H		ND HELP OU	Л						
		3B MILL RELEASED BAG									
		2B,3B MILLS BACK ON F									
		C2 WETBOTTOM RELEA				GS					
	7:00	"C"SHIFT (DOOLEY) HE								L.,	
		K.Grantland, P Gatton S	S/L, N Moorman,	M.Young, D.	Mills (Days	) , J. Miller, I	R. Payne, N	Lee, S.Ku	z, Ron Payne, Glen	Calhoun here	
		Unit	Load	Openitor	May	200	CPD DU	e III	Canabille	Dumana Ott	
		Unit 1	OUTAGE	Opacity	Nox	SO2	CBD PH	Silica	Capability N w/o Gas	Bypass Stk. OPEN	
		2	154	38.1	0.46	4.86	0.70	0.440			-
		3	146	29.7	0.46	4.86	9.70 9.70	0.119 0.072	138 N w/o Gas	CLOSED	
		3	146	29.1	0.36	4.01	9.70	0.072	155 N w/o Gas	CLOSED	
		FGD Nox	0.38					-			
		FGD Removal %	96.4%								
		3A Mill Amps	93								
		3B Mill Amps	93								
		COND. STOR. TNK	21/23								
		Instr. Air Dew Point	-77.4								
		Sootblowing									
	#	1 S/B Out of Service	6L								
		2 S/B Out of Service	NONE								
		3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
		5110 111710	IIO IIIIEAIO					-			
	9:00	GREASING C1 AND C2 A	AIR HEATER BEA	RINGS AND	C3 MILL BEA	ARINGS - H2	TRUCK PS	1040#			
	10:00	MIKE LEE REQUESTED							ED S EMBERTON BO	TH DAYS - NE	EFD TO
		NOTIFY SEAN									
	14:00	C1 W/B CLEAN - INLAND	STARTING TO V	VASH C1 BO	II ER INTER	ΝΔΙΙΥ		T.			
	15:00	C1 W/B SEAL PLATES (					METAL DO	MN ON 2 E	EDEDS EOD DI INIVI	ED COAL DEM	0\/\
	15:30	NEED TO HAVE C1 FULL						VVIV OIN 2 FE	EDENS FOR BUNK	IN COAL REIVI	OVAL
	16:10	SETTING C1 UP FOR HY		KIIIDKOAI	OAWIN III	L MOI TAILED		-			
	16:50	NEED TO HAVE C2 REA		AT 7:00AM (	DO NOT BY	PASS ANYT	HING UNTIL	THEY ASK	FOR IT)		
	17:29	C1 BOILER SET FOR HY									
		"B" SHIFT (SHAVER) HER		LEY)LEAVING	JOHNSOI	N ON VAC.					
		S. HOWARD, A. MAYFIE	and the second second second second				UL J KEN	NEDY HEE	E N MOORMAN	EMP CHANGE	E TO
		C SHIFT		,	, 07					_ III CIIAIGI	0
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	OFF					O.IIOU	- Papility	_,p=30 Otk.	
		2	160	26.4	0.44	4.75	9.70	0.112	138 N w/o Gas	OPEN	
		3	135	19.2	0.41	4.30	9.60	0.052	155 N w/o Gas	OPEN	
										7.	
		FGD Nox	0.42								
		FGD Removal %	98.8%								
		3A Mill Amps	93.7								
		3B Mill Amps	92.6								
		COND. STOR. TNK	22 / 24								
		Instr. Air Dew Point	-79.2								
			-73.2								
		Soothlowing									
		Sootblowing 1 S/B Out of Service	NONE								
		1 S/B Out of Service	NONE								
	#		NONE NONE NONE								





		"C"SHIFT (DOOLEY) F K.Grantland, P Gatton  Unit  1 2		the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is section in the second section in the second section is section in the second section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in	Nox 0.50	), J. Miller, SO2	R. Payne, M.I CBD PH 9.80	Silica	Capability N w/o Gas 138 N w/o Gas	Bypass Stk. OPEN CLOSED	
	5:36AM	"C"SHIFT (DOOLEY) F K.Grantland, P Gatton Unit	S/L, N Moorman, Load	M.Young, D.				· ·	Capability		
	5:36AM	"C"SHIFT (DOOLEY) F K.Grantland, P Gatton	S/L, N Moorman,	M.Young, D.				· ·		Rynass Stk	
	5:36AM	"C"SHIFT (DOOLEY) H		the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is section in the second section in the second section is section in the second section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in	. Mills (Days	), J. Miller, I	R. Payne, M.I	Lee, S.Kurz	z, here		
	5:36AM	"C"SHIFT (DOOLEY) H		the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is section in the second section in the second section is section in the second section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in the section is section in the section in the section in the section is section in the section in the section is section in the section in	W. 444			C V			
	5:36AM			SHAVER) LE	EAVING						
		TATOM CAROCOLA LOCKIED	ON B BASEMENT			CKING					
		TITAN IS SATISFIED W					TEM UNDER	THE DRUM	AND PULL VAC TE	RUCK OUT	
		OUR SYSTEM BACK U									
		OUR FLYASH SYSTEM		AC BREAK C	ORRECTING	IT NOW					
		INLAND OPERATIONS					ARLYSTAR	TED HIM A	T WETBOTTOM		
		BO ROPER CALLED MI					the second second second				
		#3 ECON HOPPER GAT									
		3A STEAM CLEANING									
		#5 RCV ON C3 WILL N									
		C1 BOILER IS FULL AN									
		WENT TO WAREHOUS			SUPER 3000						
	12:02AM	FILLING C1 BOILER TH	ROUGH SLOW BO	ILER FILL							
6/11/2013	12:00AM	2/10THS OF AN INCH C	F RAIN IN THE RA	AIN GAUGE							
	11:53PM	2B,3B MILLS COMING	OFF PER ACES RE	EQUEST							
	11:46PM	JASON WILL OPEN UP	PER AND LOWER	AH DOORS	FOR AH WA	SH					
		COULD IN THERE TO									
	NOTE	FOUND THE ISSUE T									
		JOHN & I CHECKING O SYSTEM NOT WORKIN THINGS KNOCKED OU	G AS WELL AS US T BY THE AM	SUALCARL	. ILE WORKI	NG ON POS	SIBLY GETTI	NG ANOTH	ER VAC TRUCK AS	WELL SO WE	CAN GE
		BO ROPER CAME DOV APPEARS INLAND HAS IT CORRECTED	BAG FILTER ISS	UES OR NEE	D TO DUMP	THEIR TRU	CK LOW VAC	ON THEIR	LINECONTACTE	D JIM LUALLEN	TO GET
		TALKED WITH JESSE TO DO THEIR WORK S	O I CAN GET INLA	ND TO THE \	WETBOTTON	/ AREA					
	11:00PM	I&E AND MM ARE GOIN	NG HOME								
		UP FOR THEM ARRON HAS #1 HEATE									
		INLAND DONE WITH D INLAND HAVING ISSUE					-	FLYASH SC	) WE CAN KEEP W	ATER PSI AND	VACUU
		TITAN HAVING ISSUES						EM			
		ARRON FINISHED REV							ED PATRICK JONES	S PRIOR AND	
	0-0EDM	COULD GET THEM CO	RRECTED								<i>'</i> ''
	7:20PM	TALKED WITH JIM LUA DONE TONIGHT. ALSO									
		C3 BYPASS DAMPER									
		T&W FINISHED WITH				VIRING LIM	ITORQUE				
		C2 OUT OF WRINKLE									
	7:00PM	MATS TESTING COMPL CANCELED FOR TUES	DAY		CK UNTIL W	EDNESDAY	OUT OF CA	ARBON TO	INJECTACES NO	TIFIED TESTING	3



		FGD Nox	0.41								
		FGD Removal %	96.3%								
		3A Mill Amps	94								
		3B Mill Amps	93								
		COND. STOR. TNK	22/23								
		Instr. Air Dew Point	-80.1								
		Sootblowing									
	- 1	#1 S/B Out of Service	6L								
	1	#2 S/B Out of Service	NONE								
	1	#3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
	6:28	1A BFP ON FOR C1 HYD	RO								
	6:48	1A BFP OFF 1800# - STA	RTING C1 VACU	UM PUMPS							
	7:20	TAGGING C1 WATER TO	BOILER								
	8:00	TAGGING C1 AIR HEATE	RS TO INSTALL V	WASH HEAD	S						
	8:15	C1 SW FIRE WATER HE	ADER HAS A BAI	D LEAK WHE	RE IT COM	ES THRU TH	E FLOOR - T	AGGING S	W AND NW FIRE W	ATER HEADER	3
		ISOLATION VALVES									
	12:00	STARTED C1 AIR HEATE	R WASH								
	13:45	TAKING C1 CONDENSER	WEST SIDE OU	T OF SERVICE	CE AND TAC	GGING					
	14:00	DRAINING THE INTERME	DIATE SECTION	ON C1 BOILE	ER						
	16:57	UNDER C1 DRUM IS CLE				MOVING TO	COAL BUNK	ERS			
	17:20	RELEASED 1B MILL ISO							REMOVING COAL FE	ROM BRUNKER	3
		CALLED K MAYFIELD TO									
	17:26	CALLED B HAGAN TO RE							AGE ON PHONE - N	OTIFIED M FR	IZZELL -
	7:00PM	"B" SHIFT (Sterling) HERE		EY)LEAVING.	JOHNSO!	N ON VAC.	ALII I KENI	IEDV LIED	E N MOODMAN	TEMP OUT NO	
	7:00PM	"B" SHIFT (Sterling) HERE S. HOWARD, A. MAYFIE C SHIFT		EY)LEAVING.	JOHNSO!	N ON VAC.	AUL, J. KENI	NEDY, HER	EN. MOORMAN 1	TEMP CHANGI	Е ТО
	7:00PM	S. HOWARD, A. MAYFIE		EY)LEAVING.	JOHNSO!	N ON VAC.	AUL, J. KENI	NEDY, HER	EN. MOORMAN 1	TEMP CHANGI	E TO
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT	LD, M. CHRISTI	EY)LEAVING. AN, J GOOD	Johnson Man, R. C	N ON VAC. ARMAN,D.T					Е ТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit	LD, M. CHRISTIA	EY)LEAVING. AN, J GOOD	Johnson Man, R. C	N ON VAC. ARMAN,D.T					Е ТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit 1	LO, M. CHRISTI Load OFF	EY)LEAVING. AN, J GOOD Opacity	JOHNSON OMAN, R. CA Nox	N ON VAC. ARMAN,D.T. SO2	CBD PH	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit 1 2	Load OFF 160	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit 1 2	Load OFF 160	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit 1 2 3	Load OFF 160 165 0.38 96.1%	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT Unit 1 2 3 FGD Nox	Load OFF 160 165	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal %	Load OFF 160 165 0.38 96.1%	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps	Load OFF 160 165 0.38 96.1% 94	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	Load OFF 160 165 0.38 96.1% 94	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	Load OFF 160 165 0.38 96.1% 94 94 23 / 24	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
		S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	Load OFF 160 165 0.38 96.1% 94 94 23 / 24	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
		S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ETO
	4	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service	Load OFF 160 165 0.38 96.1% 94 23 / 24 -78.7 NONE	EY)LEAVING. AN, J GOOD  Opacity  36.1	JOHNSON MAN, R. CA Nox 0.40	N ON VAC. ARMAN,D.T. SO2 4.79	CBD PH 9.65	Silica	Capability	Bypass Stk.	ETO
	# #	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service	Load OFF 160 165 0.38 96.1% 94 23 / 24 -78.7 NONE NONE	EY)LEAVING. AN, J GOOD Opacity 36.1 34.5	JOHNSON MAN, R. C./ Nox 0.40 0.39	SO2 4.79 4.82	CBD PH 9.65	Silica	Capability	Bypass Stk.	ETO
	# # # # # # 7:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE	EY)LEAVING. AN, J GOOD Opacity 36.1 34.5	JOHNSON MAN, R. C./ Nox 0.40 0.39	SO2 4.79 4.82	CBD PH 9.65	Silica	Capability	Bypass Stk.	ЕТО
	# # # # # # # # # # # # # # # # # # #	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service #3 S/B Out of Service	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE AL BUNKER AIF	Opacity 36.1 34.5	Nox  0.40 0.39	SO2 4.79 4.82	9.65 9.67	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM 8:00PM 10:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit  1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service LOAD OF CARBON JUST	Load OFF 160 165 0.38 96.1% 94 23 / 24 -78.7 NONE NONE NONE NONE ALBUNKER AIF 5000 ARRIVED ON SI	Opacity  36.1 34.5  R HTR WASH	Nox  0.40 0.39  CONTINUE	SO2 4.79 4.82	9.65 9.67	Silica	Capability	Bypass Stk.	ЕТО
	7:00PM 8:00PM 10:00PM	S. HOWARD, A. MAYFIE C SHIFT  Unit  1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service LOAD OF CARBON JUST WEST SIDE #1 CONDEN	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE AL BUNKER AIF 5000 ARRIVED ON SI'SER WATER BOX	Opacity  36.1 34.5  R HTR WASH TE UNLOADII X HAS BEEN	Nox  0.40 0.39  CONTINUE	SO2 4.79 4.82	9.65 9.67	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 10:00PM 12:00AM	S. HOWARD, A. MAYFIE C SHIFT  Unit  1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service LOAD OF CARBON JUST WEST SIDE #1 CONDEN INLAND BEGINS VAC. CO	Load OFF 160 165 0.38 96.1% 94 23 / 24 -78.7 NONE NONE NONE AL BUNKER AIF 5000 ARRIVED ON SI SER WATER BOX DAL OUT OF 1A B	Opacity  36.1 34.5  R HTR WASH TE UNLOADII X HAS BEEN BUNKER.	NOX  0.40 0.39  CONTINUE NG IN OIL S CLEANED	SO2 4.79 4.82 S. STORAGE BUOUT.	9.65 9.67	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 12:00AM 12:30AM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service LOAD OF CARBON JUST WEST SIDE #1 CONDEN INLAND BEGINS VAC. CO	Load OFF 160 165 0.38 96.1% 94 23 / 24 -78.7 NONE NONE NONE NONE AL BUNKER AIF 5000 ARRIVED ON SI'SER WATER BOX DAL OUT OF 1A E	Opacity  36.1 34.5  R HTR WASH  TE UNLOADII X HAS BEEN BUNKER. GGING AIR D	NOX  0.40 0.39  CONTINUE  NG IN OIL S  CLEANED	SO2 4.79 4.82 S. STORAGE BUOUT.	9.65 9.67	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 10:00PM 12:30AM 2:00AM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £8 S/B Out of Service £9	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE AL BUNKER AIF 5000 ARRIVED ON SI'SSER WATER BOX DAL OUT OF 1A E WASH REDTAK RUM VENTS AND	Opacity  36.1 34.5  R HTR WASH  TE UNLOADIII X HAS BEEN BUNKER. GGING AIR D PENDANT I	NOX  0.40 0.39  CONTINUE  NG IN OIL S CLEANED  RIVES TO F  READY FOR	SO2 4.79 4.82 S. STORAGE BUOUT. REMOVE W.R HYDRO.	UILDING.	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 10:00PM 12:00AM 2:00AM 2:30AM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE NONE AL BUNKER AIF 5000 ARRIVED ON SI'S DAL OUT OF 1A B WASH REDTAK RUM VENTS AND FOF AIR HTRS. H	Opacity  36.1 34.5  R HTR WASH  TE UNLOADII X HAS BEEN BUNKER GOING AIR D PENDANT I	NOX  0.40 0.39  CONTINUE  NG IN OIL S CLEANED  RIVES TO F READY FOR	SO2 4.79 4.82 S. STORAGE BUOUT. REMOVE W.R HYDRO.	UILDING.	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 10:00PM 12:00AM 2:30AM 2:30AM 4:20AM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 S/B Out of Service #2 S/B Out of Service #3 S/B Out of Service #1	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE NONE OOAL OUT OF 1A EA RUM VENTS AND TO FAIR HTRS. HED TAKING PERS	Opacity  36.1 34.5  R HTR WASH TE UNLOADII X HAS BEEN BUNKER. GGING AIR D D PENDAIT I	NOX  0.40 0.39  CONTINUE  NG IN OIL S CLEANED  RIVES TO F READY FOR	SO2 4.79 4.82 S. STORAGE BUOUT. REMOVE W.R HYDRO.	9.65 9.67 JILDING.	Silica	Capability	Bypass Stk.	ETO
6/12/2013	7:00PM 8:00PM 10:00PM 10:00PM 12:30AM 2:00AM 2:30AM 4:20AM 4:45AM	S. HOWARD, A. MAYFIE C SHIFT  Unit 1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7 S/B Out of Service £8 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £9 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £1 S/B Out of Service £2 S/B Out of Service £3 S/B Out of Service £3 S/B Out of Service £4 S/B Out of Service £4 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £5 S/B Out of Service £6 S/B Out of Service £7	Load OFF 160 165 0.38 96.1% 94 94 23 / 24 -78.7 NONE NONE NONE NONE OOAL OUT OF 1A EA RUM VENTS AND TO FAIR HTRS. HED TAKING PERS	Opacity  36.1 34.5  R HTR WASH TE UNLOADII X HAS BEEN BUNKER. GGING AIR D D PENDAIT I	NOX  0.40 0.39  CONTINUE  NG IN OIL S CLEANED  RIVES TO F READY FOR	SO2 4.79 4.82 S. STORAGE BUOUT. REMOVE W.R HYDRO.	9.65 9.67 JILDING.	Silica	Capability	Bypass Stk.	ETO





	7:00AM	"A"SHIFT (Shaver) HEF	RE "D" SHIFT (Ste	erling) LEA	VING	T					
		L. PILE VAC, D. HAYNE				ITH R IONE	S AND DS	FRASTION	I ALL HERE ALLEN	LIEDE UIM AN	ın
		DONNA SWAPPED SHI	FT	,		,	10, AILD D.O	LDAO NON	,ALL HENEALLEN	HERE HIVI AN	10
			· ·								
		Unit	Load	Onacity	Nev	600	CDD DU	0111	0		
				Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	OFF				-				
		2	155	37.1	0.42	4.81	9.70	0.098	138 N w/o Gas	CLOSED	
		3	141	27.2	0.37	4.62	9.50	0.052	155 N w/o Gas	CLOSED	
		FGD Nox	0.38								
		FGD Removal %	96.3								
		3A Mill Amps	93.6%								
		3B Mill Amps	94.1%								
		COND. STOR. TNK	21/22								
		Instr. Air Dew Point	-78.9								
		Sootblowing	70.0								
		1 S/B Out of Service	NONE				-				
		2 S/B Out of Service									
			NONE								
		3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
		A SHIFT IN MONTHLY S									
		C SHIFT GOING HOME A									
		HAD TO DROP TO 150M									
	NOTE	INST DEPT DOING LINE	R CALIBRATION C	ON C3 BYP	ASS EQUIPM	MENT DO NO	T CLOSE BY	PASS UNT	IL ERIC WILLIS NOT	IFYS US HE IS	
		COMPLETE									
	12:30PM	LAB REPORTS CHLORIC	DES@5100								
		INLAND HAS C1 DRUM		MPI FTF A	S WELL AS	C1 WETROT	TOM INSIDE	THEY A	RE PULLING THERE	OUDMENT CO	NAOS
		UPSTAIRS AND FROM T									OIVI
		OF STAIRS AND FROM I	HE WEIBOTTOW	JOBONC	E COMPLE	E INET VVII	L SEND 4 G	U13 HOIVIE	CONTINUING WITH	BUNKER JUB	
	4:05PM	MM RELEASING #3 RAV	V WATER PUMP	IF IT LOOK	S GOOD W	E WILL RUN	IT AND TAK	E #1 OFF A	AND START DRAINING	G OTHER SIDE	OF
		CONDENSOR									
	4:10PM	MATS TESTING COMPLI	ETE NOTIFIED A	CES TAK	ING C2 OUT	OF WRINKI	E MODE S	TARTING C	3 BACK THROUGH T	HE EGD	
	NOTE	THERE WILL BE NO M				OI WITGING	L WODL	174(11140)	DAOK ITIKOOOTT	TILTOD	
		"D" SHIFT (STERLING)					+	-			
	7.00FW					- D.U	0.0-11		N COMMENTS AND I	000000000000000000000000000000000000000	
		V.Ramsey S/L, B.Johns									EKE
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	BYPASS ST.	
		1	OUTAGE		-	-	-				
		2	155	33.6	0.400	4.84	9.61	0.13	138NW/OGAS	CLOSED	
		3						0.50	AEENI MILO CAC		
		3	165	35.8	0.380	4.73	9.42	0.52	155N W/O GAS	CLOSED	
		3	160	35.8	0.380	4.73	9.42	0.52	155N W/O GAS	CLOSED	_
		FGD Nox	0.31	35.8	0.380	4.73	9.42	0.52	166N W/O GAS	CLOSED	
				36.8	0.380	4.73	9.42	0.62	100N W/O GAS	CLOSED	
		FGD Nox	0.31	35.8	0.380	4.73	9.42	0.52	100N W/O GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps	0.31 95.5	35.8	0.380	4.73	9.42	0.52	100N W/O GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	0.31 95.5 93 94	36.8	0.380	4.73	9.42	0.62	155N W/O GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	0.31 95.6 93 94 22/23	36.8	0.380	4.73	9.42	0.62	166N W/O GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	0.31 95.5 93 94	36.8	0.380	4.73	9.42	0.62	100N W/U GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.31 95.5 93 94 22/23 -72.7	36.8	0.380	4.73	9.42	0.62	TOON W/U GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.31 96.5 93 94 22/23 -72.7	36.8	0.380	4.73	9.42	0.62	IOON W/U GAS	CLOSED	
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.31 95.5 93 94 22/23 -72.7	36.8	0.380	4.73	9.42	0.62	IOON W/U GAS	CLOSED	
	#	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.31 96.5 93 94 22/23 -72.7	36.8	0.380	4.73	9.42	0.62	IOON W/U GAS	CLOSED	
	#	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service	0.31 95.5 93 94 22/23 -72.7 NONE	36.8	0.380	4.73	9.42	0.62	IOON W/U GAS	CLOSED	
	#	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service 22 S/B Out of Service	0.31 95.5 93 94 22/23 -72.7 NONE NONE	36.8	0.380	4.73	9.42	0.62	IOON W/U GAS	CLOSED	
	#	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 13 S/B Out of Service DHSNTAS	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT					0.62	IOON W/U GAS	CLOSED	
	9:30PM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service DHSNTAS	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT	S BACK O	N AND FIRE	WATER HO		0.52	IOON W/U GAS	CLOSED	
	9:30PM 9:30PM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/8 Out of Service 25/8 Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER (	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO	S BACK O	N AND FIRE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2042	9:30PM 9:30PM 9:30PM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 25 S/B Out of Service DHSNTAS  1A HEAT EXCHANGER I ABSORBER CHLORIDES	0.31 96.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO	S BACK O	N AND FIRE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER ( ABSORBER CHLORIDES 2B & 3B MILLS OFF PEF	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM.	S BACK O	N AND FIRE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15 S/B Out of Service 25 S/B Out of Service DHSNTAS  1A HEAT EXCHANGER I ABSORBER CHLORIDES 28 & 3B MILLS OFF PEF COAL HANDLING CLEAI	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 8 4700 R APM. NING INTAKES	S BACK O	N AND FIRE TO REMOVE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15 S/B Out of Service 25 S/B Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER I ABSORBER CHLORIDES 2B & 3B MILLS OFF PEF COAL HANDLING CLEA!	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN	S BACK O	N AND FIRE TO REMOVE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 2:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER I ABSORBER CHLORIDES 2B & 3B MILLS OFF PER COAL HANDLING CLEAI #11 CONDENSER REDTA BACKWASHING #2.8 #3	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN	S BACK O	N AND FIRE TO REMOVE	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 2:00AM 4:30AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER ABSORBER CHLORIDES 2B & 3B MILLS OFF PER COAL HANDLING CLEAN #11 CONDENSER REDTA #11 CONDENSER REDTA #12 CONDENSER REDTA #13 CONDENSER REDTA #14 CONDENSER REDTA #15 CONDENSER REDTA #16 CONDENSER REDTA #17 CONDENSER REDTA #17 CONDENSER REDTA #18 AS WALLS ON #18 AS #18 AS #18 AS MILLS ON #18 AS #18 #18 AS WILLS ON #18 AS #18 AS MILLS ON #18 AND #18 AS #18 AS MILLS ON #18 AMILLS	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS.	S BACK OI OR MAINT. NED FOR A	N AND FIRE TO REMOVE ES.	WATER HO		0.52	IOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 2:00AM 4:30AM 4:45AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/8 Out of Service 25/8 Out of Service DHSNTAS 1A HEAT EXCHANGER ( ABSORBER CHLORIDES: 28 & 3B MILLS OFF PEF COAL HANDLING CLEA! #1 CONDENSER REDTA BACKWASHING #28 #3 2B & 3B MILLS ON DWAYNE LINER CALLE	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL	S BACK OF OR MAINT. NED FOR A	N AND FIRE TO REMOVE	WATER HOO	OKED UP.	0.52	TOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER I ABSORBER CHLORIDES 2B & 3B MILLS OFF PEF COAL HANDLING CLEAL #1 CONDENSER REDTA BACKWASHING #2& #3 2B & 3B MILLS ON DWAYNE LINER CALLE #1 BOOSTER FAN REDT	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL TAGGED FOR INSE	S BACK OF OR MAINT.  NED FOR A	N AND FIRE TO REMOVE ES.	WATER HOO	OKED UP.	0.52	TOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/8 Out of Service 25/8 Out of Service DHSNTAS 1A HEAT EXCHANGER ( ABSORBER CHLORIDES: 28 & 3B MILLS OFF PEF COAL HANDLING CLEA! #1 CONDENSER REDTA BACKWASHING #28 #3 2B & 3B MILLS ON DWAYNE LINER CALLE	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL TAGGED FOR INSE	S BACK OF OR MAINT.  NED FOR A	N AND FIRE TO REMOVE ES.	WATER HOO	OKED UP.	0.52	TOON W/U GAS	CLOSED	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service DHSNTAS 1A HEAT EXCHANGER ( 1B HEAT EXCHANGER I ABSORBER CHLORIDES 2B & 3B MILLS OFF PEF COAL HANDLING CLEAL #1 CONDENSER REDTA BACKWASHING #2& #3 2B & 3B MILLS ON DWAYNE LINER CALLE #1 BOOSTER FAN REDT	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NOHE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FILL TAGGED FOR INSER	S BACK OI OR MAINT. NED FOR A LLED OUT. PECTION [ Perling] LEA	N AND FIRE TO REMOVE ES. DOOR OPEN VING	WATER HOVER	OKED UP.				LEN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 13/B Out of Service 13/B Out of Service 14/B Out of Service 15/B Out of Service 16/B Out of Service 17/B Out of Service 18/B Out of Service 18/B HEAT EXCHANGER (ABSORBER CHLORIDES) 18/B AS B MILLS OFF PEF COAL HANDLING CLEAI 11/B CONDENSER REDTA 12/B AS 3B MILLS ON 15/B  0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL TAGGED FOR INSE E "D" SHIFT (Ste S PD, D. LINER SL	S BACK OF OF MAINT.  NED FOR A  LLED OUT.  PECTION [  Priling) LEA  "W. MILL:	N AND FIRE TO REMOVE ES. DOOR OPEN VING S.,F.GRAY,	WATER HOO E HEADS. AIR MOVER	OKED UP.	D.SEBAS	TION,ALL HERESG	COTT AND ALL	LEN	
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 25 S/B Out of Service 13 S/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER I 15 HEAT EXCHANGER I 16 HEAT EXCHANGER I 17 HEAT EXCHANGER I 18 HEAT EXCHANGER I 18 HEAT EXCHANGER I 19 HEAT EXCHANGER I 19 HEAT EXCHANGER I 10 HEAT EXCHANGER I 10 HEAT EXCHANGER I 11 HEAT EXCHANGER I 11 HEAT EXCHANGER I 12 HEAT EXCHANGER I 12 HEAT EXCHANGER I 13 HEAT EXCHANGER I 14 HEAT EXCHANGER I 15 HEAT EXCHANGER I 16 HEAT EXCHANGER I 16 HEAT EXCHANGER I 17 HEAT EXCHANGER I 18 HEAT EXCHANGER I 1	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NOHE NO THREAT CLEAN HAS HEAD S REDTAGGED FO 6 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FILL TAGGED FOR INSE RE "D" SHIFT (Ste S PD,D. LINER SL	S BACK OI OR MAINT. NED FOR A LLED OUT. PECTION [ Perling] LEA	N AND FIRE TO REMOVE ES. DOOR OPEN VING S.,F.GRAY,	WATER HOVER	OKED UP.				_EN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 25/B Out of Service DHSNTAS 1A HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B ABSORBER CHLORI DES 2B & 3B MILLS OFF PEF COAL HANDLING CLEA! 11 CONDENSER REDTA 2B & 3B MILLS ON DWAYNE LINER CALLE 11 BOOSTER FAN REDT 1A"SHIFT (Shaver) HER L. PILE VAC, D. HAYNE COVERING Unit 1	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FOR S 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FILE TAGGED FOR INSF KE "D" SHIFT (Ste S PD,D. LINER SL Load OFF	S BACK OF OR MAINT.  NED FOR A  LEED OUT.  PECTION I.E  Priling) LEA  , W. MILL:	N AND FIRE TO REMOVE ES. DOOR OPEN VING S, F.GRAY,	WATER HOO E HEADS. AIR MOVER L.SMITH, R.S	OKED UP.	D.SEBAS Silica	TION,ALL HERESo	COTT AND ALL Bypass Stk.	LEN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER (1) 15 HEAT EXCHANGER (1) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 12 HEAT EXCHANGER (2) 13 HEAT EXCHANGER (2) 14 HEAT EXCHANGER (2) 15 HEAT EXCHANGER (2) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2)	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S 4700 R APM. NING INTAKES (GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL AGGED FOR INSP IE "D" SHIFT (Ste S PD,D. LINER SL  Load OFF 165	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	LEN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 25/B Out of Service DHSNTAS 1A HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B HEAT EXCHANGER (1 1B ABSORBER CHLORI DES 2B & 3B MILLS OFF PEF COAL HANDLING CLEA! 11 CONDENSER REDTA 2B & 3B MILLS ON DWAYNE LINER CALLE 11 BOOSTER FAN REDT 1A"SHIFT (Shaver) HER L. PILE VAC, D. HAYNE COVERING Unit 1	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FOR S 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FILE TAGGED FOR INSF KE "D" SHIFT (Ste S PD,D. LINER SL Load OFF	S BACK OF OR MAINT.  NED FOR A  LEED OUT.  PECTION I.E  Priling) LEA  , W. MILL:	N AND FIRE TO REMOVE ES. DOOR OPEN VING S, F.GRAY,	WATER HOO E HEADS. AIR MOVER L.SMITH, R.S	OKED UP.	D.SEBAS Silica	TION,ALL HERESo	COTT AND ALL Bypass Stk.	EN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER (1) 15 HEAT EXCHANGER (1) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 12 HEAT EXCHANGER (2) 13 HEAT EXCHANGER (2) 14 HEAT EXCHANGER (2) 15 HEAT EXCHANGER (2) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2)	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S 4700 R APM. NING INTAKES (GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL AGGED FOR INSP IE "D" SHIFT (Ste S PD,D. LINER SL  Load OFF 165	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	_EN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER (1) 15 HEAT EXCHANGER (1) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 10 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 11 HEAT EXCHANGER (2) 12 HEAT EXCHANGER (2) 13 HEAT EXCHANGER (2) 14 HEAT EXCHANGER (2) 15 HEAT EXCHANGER (2) 16 HEAT EXCHANGER (2) 17 HEAT EXCHANGER (2) 18 HEAT EXCHANGER (2) 19 HEAT EXCHANGER (2)	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S 4700 R APM. NING INTAKES (GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL AGGED FOR INSP IE "D" SHIFT (Ste S PD,D. LINER SL  Load OFF 165	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	_EN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 25 S/B Out of Service 25 S/B Out of Service 25 S/B Out of Service 26 S/B Out of Service 27 S/B Out of Service 27 S/B Out of Service 28 S B Out of Service 28 S B Out of Service 29 S/B Out of Service 29 S/B Out of Service 20 S/B Out of Service 20 S/B Out of Service 20 S/B Out of Service 20 S/B Out of Service 21 S/B Out of Service 22 S B MILLS OFF PEF 24 COAL HANDLING CLEAI 25 S B MILLS ON 26 S B MILLS ON 27 S B B MILLS ON 28 S B MILLS ON 29 S B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 21 S B B MILLS ON 22 S B B MILLS ON 24 S B B MILLS ON 25 S B B MILLS ON 26 S B B MILLS ON 27 S B B B MILLS ON 28 S B MILLS ON 29 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 20 S B B MILLS ON 21 S B B MILLS ON 22 S B B MILLS ON 23 S B MILLS ON 24 S B B MILLS ON 25 S B B MILLS ON 26 S B B MILLS ON 26 S B B MILLS ON 27 S B B MILLS ON 28 S B MILLS ON 29 S B B MILLS ON 20 S B B MILLS ON	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FO S 4700 R APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FILL TAGGED FOR INSE RE "D" SHIFT (Ste S PD,D. LINER SL Load OFF 165 163	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	.EN
3/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service 13/B Out of Service 13/B Out of Service 13/B Out of Service 14/B HEAT EXCHANGER (1/B HEAT EXCHANGER) 15/B HEAT EXCHANGER (1/B HEAT EXCHANGER) 16/B HEAT EXCHANGER (1/B HEAT EXCHANGER) 17/B HEAT EXCHANGER (1/B HEAT EXCHANGER) 18/B ABSORBER CHLORIDES 28/B 3/B MILLS OFF PEF COAL HANDLING CLEAI 11/B CONDENSER REDTA 28/B 3/B MILLS ON DWAYNE LINER CALLE 11/B BOOSTER FAN REDT 14/B HIFT (Shaver) HER 12/B 1/B L. PILE VAC, D. HAYNE COVERING  Unit 1 2 3 FGD Nox FGD Removal %	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NO THREAT CLEAN HAS HEAD S REDTAGGED FOR 6 APM. NING INTAKES GGED AND DRAIN CONDENSERS. D IN SICK A&T FIL TAGGED FOR INSE TE "D" SHIFT (Std S PD,D. LINER SL Load OFF 155 163 0.35 96.3	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	EN
13/2013	9:30PM 9:30PM 9:30PM 12:10AM 12:45AM 2:00AM 4:30AM 4:45AM 5:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Scotblowing 12 S/B Out of Service 12 S/B Out of Service 13 S/B Out of Service 13 S/B Out of Service 14 HEAT EXCHANGER (18 HEAT EXCHANGER REDTA ABSORBER CHLORIDES 18 B AB MILLS OFF PEF COAL HANDLING CLEAN 11 CONDENSER REDTA REDTA 12 CONDENSER REDTA REDTA 13 SB MILLS ON DWAYNE LINER CALLE 14 BOOSTER FAN REDTA 15 "SHIFT (Shaver) HER 16 L. PILE VAC, D. HAYNE COVERING  Unit 1 2 3 FGD Nox	0.31 95.5 93 94 22/23 -72.7 NONE NONE NONE NONE NONE NOTHREAT CLEAN HAS HEAD S REDTAGGED FOR 6 4700 R APM. NING INTAKES AGGED AND DRAIN CONDENSERS. D IN SICK A&T FILE TO'' SHIFT (Ste S PD, D. LINER SL Load OFF 155 163 0.35	S BACK OF OR MAINT.  NED FOR A  LLED OUT. PECTION [ Prling) LEA  TO WAR MILL:  Opacity  32.1	N AND FIRE TO REMOVE ES. DOOR OPEN VING S ,F.GRAY, Nox 0.39	WATER HOOE HEADS.  AIR MOVERSMITH, R SO2 4.82	OKED UP.  JONES, AND  CBD PH  9.60	D.SEBAS Silica 0.098	TION,ALL HERESO Capability 138 N w/o Gas	COTT AND ALL  Bypass Stk.  CLOSED	EN



		COND. STOR. TNK	22/24								
		Instr. Air Dew Point	-59.6								
		Sootblowing						1			-
	#	1 S/B Out of Service	NONE								
		2 S/B Out of Service	NONE								
	#	3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
	7:00AM	MADE ALL CONTRACTOR	RS AND OUR CUT	YS AWARE	OF THOMPS	SON FOAM	CLEANING C	N C1 ATL E	LOOP DOWN	-	
	7:32AM	TALKED WITH DAN ABO	UT PI DCS COM	MUNICATIO	N FAILURE (	ON SERVER	20/COM21	N C14IHF	LOOK DOWN	1	
		#5 ECON HOPPER ON C						IOT ALLOWI	NG HOPPER GATE	TO FULLY CLO	SE W
	7:59AM	C3 ECON LINE HAS HOL	E IN IT IN ELBOV	N JUST OUT	TSIDE SV SH	ACKWO	# 6101190 IS	SUED			
	9:55AM	CHICAGO HOSE FITTING	BUSTED ON FIF	RE HOSE ST	TAND PIPE N	W CORNER	R OF TRANS	FER HOUSE	BY #8 CONVEYOR.	WO# 6101199	9 ISSL
	10:05AM	MM PREPAIRING TO OPE	EN DOORS ON M	ILLSASK	<b>BOBBY TO H</b>	HAVE THEN	PUT THE BI	ADDERS IN	ON THE NORTH EN	DNOTIFIED	SOLO
	10:40AM	HAD TO PULL INLAND O	FF 1A AND 1B M	ILL JOB DU	E TO FOAM	SHOWER	HAVING MM	PUT BLADE	DERS IN C AND D M	LL WILL MOVE	E INLA
	-	THERE									
	NOTE	FEEDER CHUTES HAVE	BEEN CLEANED	OUT ON A	AND B MILL.	MILLS AR	E FULLNE	ED BLADDE	ERS PUT IN WHEN V	VE CAN	
		INLAND BACK UP AND R	KUNNING ON 1C	AND 1D MIL	LS EMPTYIN	IG BUNKER	SBLADDE	RS ARE IN (	ON NORTH SIDE		
		CHLORIDES@ 5100 HAD LES PULL #17 HOP	PER HE DINIER	IT TAUCE	AND VEDICI	ED IT EMPT	~				
		E-MAILED CARY @ UNIT					1				
		WE WILL BE DOING A F					JNIT LOADE	D BY 7:00AN	A TEST START 8-00	AM SAMPLE	
		BOTTLES AND BAGS ON							1201 31/10.00		
	2:35PM	DWAYNE LINER CALLED			SCHEDU	ED TO RET	I IRN ON 6/2	1			
		ASK BRUCE TO SLOW F							FROM 1000RPM DC	WN TO 100RP	М
		FOAM CLEANERS ARE D							THOM TOOGTA IN BO	111110 10014	
	7:00PM	"D" SHIFT (STERLING) I									
		V.Ramsey S/L, B.Johnso							N.K.GRANTLAND. J	GOODMAN H	ERE
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	BYPASS ST.	
		1	OUTAGE								
		2	155	23.4	0.400	4.96	9.82	0.11	138NW/OGAS	CLOSED	
		3	165	27.7	0.370	4.75	9.60	0.58	155N W/O GAS	CLOSED	
		FGD Nox	0.4								
		FGD Removal %	96.7								
		3A Mill Amps	93								
		3B Mill Amps	94								
		COND. STOR. TNK	23/24								
		Instr. Air Dew Point	-69.3								
		Sootblowing									
		1 S/B Out of Service	NONE								
		2 S/B Out of Service	NONE								
	#	3 S/B Out of Service	NONE								
		DHSNTAS	NO THREAT								
	9:00PM	ABSORBER CHLORIDES	5000								
		2B MILL OFF									
		3B MILL OFF									
013		3B MILL REDTAGGED FO			Visit to the second second						
		TITAN HAS 3B MILL COA	L LEAK REPAIRE	D MILL BA	CK IN READ	Y FOR SEF	RVICE,				
		3B MILL ON									
		2 B MILL ON "B" SHIFT (JOHNSON) HEI	RE "D" CHIET (CT	DI ING\ EA	ING						
	7.00	S. HOWARD, A. MAYFIE				ARMAN D	TAIH I V	ENNEDY L	EDE		
		O. HOWARD, A. WATEL	LD, IN. UNKIOTI	-it, J GOC	DIVIAN, R. C	ANIVAN, D	IAUL, J. K	LANEUT, H	ENE	1	
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	OUTAGE	OUTAGE		OUTAGE			0 N w/o Gas	OPEN	
		2	157	41.0	0.44	4.85	9.81	0.098	138 N w/o Gas	CLOSED	
		3	163	29.0	0.38	4.79	9.30	0.058	155 N w/o Gas	CLOSED	
		FGD Nox	0.38								
		FGD Removal %	95.2%								
		3A Mill Amps	94								
		3B Mill Amps COND. STOR. TNK	95								
		Instr. Air Dew Point	22 / 23 -75.5								
		Sootblowing	-73.3								
	#	1 S/B Out of Service	NONE								
		2 S/B Out of Service	NONE								
		3 S/B Out of Service	NONE								



		C-1 ECC 3 40T 0T	AGE 104 407	TACE L A	107.0-	AOE DOIS						
	E-E0	C-1 ECC31ST ST										
	5:50 7:00	CHECKING TUBE META										
	7:45	B SHIFT HERE TO MONTH					ER					
	8:00	C-3 HEAT RATE TEST B		IINGD SI	IFT DEPART	5						
	10:10			CH 24 ILIN								
	10:30					CCACE						
	10:31	CALLED B. HUNT TO COME IN TONIGHT FOR R. PAYNELEFT MESSAGE  CALLED G. CALHOUN TO COME IN TONIGHT FOR R. PAYNELEFT MESSAGE										
	10:32						(GE					
	10:34	CALLED L. SMITH TO COME IN FOR R. PAYNELEFT MESSAGE  CALLED R. JONES TO COME IN FOR R. PAYNELEFT MESSAGE										
	10:35											
	10:40	CALLED D. SEBASTIAN TO COME IN FOR R. PAYNELEFT MESSAGE G. CALHOUN CALLED BACKHE WILL BE IN TONIGHT FOR R. PAYNE										
	10:52	R. JONES CALLED BACK HE WILL WORK SUNDAY NIGHT FOR R. PAYNE										
	12:30	P. GRIMES REPORTED ABSORBER CHLORIDES AT 5100										
		WHEN WE USE A BOIL				R FEED PI	AP DUE TO	OUTBOAR	DEADING DEDI A	CMENT DED	244	
		MILLS					DOL 10	COTBOAK	DEARING REPEA	CWENTER	CA1	
	40.00	LELIEN DI ETTINO O LIV										
	13:30			L PLATES C	N AND CLOS	SING INSPE	CTION PORT	S				
	14:40	STARTED UP B DEWAT										
		P. GRIMES HAS LAB CO										
	16:00	1A & 1B AIR HEATERS 1						EST				
	16:15	100% OPEN ON 1A AND										
	16:55	C-1 AIR TEST COMPLET	EFANS OFF	DRAINING	WEI BOTT	OM SEAL FO	H MAINT TO	REPAIR LE	EAK ON SOUTH EAS	ST CORNER SE	:AL	
	17:00	DRAIN PULLED INLAND OFF OF ONE ON C-1 COAL FEEDERS TO VACUUM UP ASH AT BAD GAS LEAK ABOVE A AIR HEATER AND ALSO TO VACUUM ASH OFF OF UPPER GUIDE BEARING COVERS FOR TITAN TO PULL COVERS AND INSPECT BEARINGS TONIGHT										
	47.15						AND INSPE	CT BEARIN	GS TONIGHT			
	17:18	1 A CIRCULATING WATE										
	17:26	S. EMBERTON CALLED				MITTED						
	19:00	"C"SHIFT (DOOLEY) HE										
		K.Grantland, P Gatton	S/L, N Moorman,	M.Young, D	. Mills (Days)	), J. Miller, F	R. Payne S/L	, M.Lee VA	C, S.Kurz, G Calho	un, here		
						22.20						
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.		
		1	OUTAGE						N w/o Gas	OPEN		
		2	156	32.1	0.49	4.95	9.70	0.106	138 N w/o Gas	CLOSED		
		3	165	27.8	0.38	4.99	9.60	0.058	155 N w/o Gas	CLOSED		
		FGD Nox	0.41									
		FGD Removal %	98.9%									
		3A Mill Amps	94									
		3B Mill Amps	94									
		COND. STOR. TNK	22/23									
		Instr. Air Dew Point	-74.3									
		Sootblowing										
		#1 S/B Out of Service	NONE									
		#2 S/B Out of Service	NONE									
		#3 S/B Out of Service	NONE									
		DHSNTAS	NO THREATS									
	10.05	CALLED BLUNETTO CO	ME IN LEFT ME	00 A OF TO 0								
		CALLED B HUNT TO COL CALLED L SMITH TO CO										
		CALLED & SMITH TO CO										
	18:39											
	18:40	WM RELEASED 1B HEA		I WILSOMG	LIOUALL							
	21:45			S I IDDED DE	ARING TO S	EE IE IT IS C	I EAN ENO	ICH EOD LI	M - OK - STILL CLE	ANING ON 1B	ΔЫ	
	22:00	1B AIR HEATER UPPER			CIVINO IO SI	LL II II I3 (	LEMIA EIAOC	JOH FUR HI	W - OK - STILL CLE	WHING ON IR	ΑП	
	22:30	APM CALLED REMOVIN			FRVICE							
	22:53	2B MILL OFF	O LO / WILD OU WILL	LO I NOW OF	LIVIOL							
	22:56	3B MILL OFF										
	23:00	G PILE, D STALLINGS A	ND A BLACK GOL	NG HOME						-		
	23:20	1B MILL COAL BUNKER			ONE OF THE	OTHER BU	NKERS					
6/15/2013	1:00	STEVE GOT THE TUBE S				- 011 1211 100						
	2:00	RUNNING C2 HOT WELL		- "O LOON	. OI I LIK							
	2:30	C2 HOTWELL CHECK O		1/2 HOUR								
	2:45	RUNNING C3 HOTWELL										
	3:15											
	5:00	M OBRYAN AND J HERN										
	7:00	"B" SHIFT (JOHNSON) HE		OLEY)LEAVI	۱G							
		S. HOWARD, A. MAYFIE				ARMAN. D.	TAUL, J. KF	NNEDY. HE	RE			
		G. TIVITT HERE (SDO2)					, 0. 112					
		,										
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.		
		1	OUTAGE	OUTAGE	OUTAGE	OUTAGE	OUTAGE	OUTAGE	0 N w/o Gas	OPEN		
		2	75 75	12.0 9.0	0.46 0.39	4.88 4.94	9.61 9.16	0.090 0.052	138 N w/o Gas	CLOSED		



	FGD Nox	0.39								
	FGD Removal %	98.5%								
	3A Mill Amps	92								
	3B Mill Amps	OFF								
	COND. STOR. TNK	22 / 23								
	Instr. Air Dew Point	-76.3								
	Sootblowing									
	#1 S/B Out of Service	NONE								
	#2 S/B Out of Service	NONE								
	#3 S/B Out of Service	NONE				1				r
	DHSNTAS	NO THREATS								
	21.0									
	C-1 ECC31ST STA	GE 1701ST S	STAGE L 182	1ST ST	AGE R 183					
	CONTINUE TO RUN B DE				NOL IN 100					
6:15	CHECKING TUBE METAL				OUTAGE					
6:45	ACES CALLED REQUES						<			
7:30	INLAND BEGINS C-1 EXT									
NOTE					1C AND 1D	BUNKERS				
9:30	ONE OF INLANDS VACU							IRS AND THEN WIL	L BE GOING T	0
	HMPLSTILL RUNNING	A TRUCK AND CI	REW FOR A	C AND D FE	EEDERS					
NOTE							ROUER	SUSPECT CAUSE	D RY WASHIN	IG
11012	DEPT AWAREMAY BE								D DI WASIIII	Ю.
NOTE			SINDAI WOR	WINO DEI O	INE ITIET A	L ABLL 101	VUILL INCL	- II (O		
NOTE				014 011 0 41	ID D DI BUI	- DO 110111				
13:00	1 A BUNKER IS EMPTY							0515		
	AUXILIARY HAS CLEANE						ALING PRE	SENT		
14:30	MAINT RELEASED C-1 E									
15:30										
		OIL ED EEED DUIL	ADC ON C 4	CHARCER	CCCD\A/AT	TO CVCTEM	DONING C	OCED		
NOTE 16:30									ALLED W	2
16:30	#1 WET BOTTOM IS SET								FAILEDW.C	Э.
16:30	#1 WET BOTTOM IS SET SUBMITTED	UP AND READY	FOR SERVIC	ENOTE					FAILEDW.C	Э.
16:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT	UP AND READY	FOR SERVIC	ENOTE					FAILEDW.C	Э.
16:30 NOTE 17:30	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO	UP AND READY NOT TURNING PA FIRE	FOR SERVIC	ENOTE					FAILEDW.C	Э.
16:30 NOTE 17:30 17:30	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND	UP AND READY  NOT TURNING PA  FIRE  1 B MILL	FOR SERVIC	G					FAILEDW.C	Э.
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II	UP AND READY  NOT TURNING PA FIRE  1 B MILL  N TOMORROW FO	FOR SERVICE AST COUPLIN OR C-1 STAR	G					FAILEDW.C	O.
16:30 NOTE 17:30 17:30	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE	UP AND READY  NOT TURNING PA FIRE  1 B MILL  N TOMORROW FO RE "B" SHIFT (	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L	IG T-UP EAVING	BOTH RUP	TURE DISCS	ON C-1 W	ET BOTTOM HAVE F		O.
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II	UP AND READY  NOT TURNING PA FIRE  1 B MILL  N TOMORROW FO RE "B" SHIFT (	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L	IG T-UP EAVING	BOTH RUP	TURE DISCS	ON C-1 W	ET BOTTOM HAVE F		<b>D.</b>
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED 1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton S	UP AND READY NOT TURNING PA FIRE 1 B MILL N TOMORROW FO RE "B" SHIFT ( I/L, N Moorman,	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D.	G T-UP EAVING Mills (Days	BOTH RUP	TURE DISCS	ON C-1 W	ET BOTTOM HAVE F	rton, here	
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND IS TIVITT SCHEDULED IN "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton SUnit	UP AND READY  NOT TURNING PA FIRE 1 B MILL N TOMORROW FO RE "B" SHIFT (  //L, N Moorman,  Load	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L	IG T-UP EAVING	BOTH RUP	TURE DISCS	ON C-1 W	ET BOTTOM HAVE F  C, S.Kurz, S Ember  Capability	rton, here Bypass Stk.	
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton S Unit	UP AND READY NOT TURNING PARTIES OF THE SHIP SHIP SHIP ( Load OUTAGE	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D. Opacity	IT-UP EAVING Mills (Days	BOTH RUP ), J. Miller, I SO2	R. Payne S/L	ON C-1 W	C, S.Kurz, S Ember	rton, here Bypass Stk. OPEN	
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton S Unit	UP AND READY NOT TURNING PARTIES THE TIRE 1 B MILL N TOMORROW FO RE "B" SHIFT ( I/L, N Moorman, Load OUTAGE 156	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D. Opacity 42.5	IT-UP EAVING Mills (Days Nox 0.51	), J. Miller, I SO2 4.94	R. Payne S/L CBD PH 9.60	M.Lee VA Silica 0.098	C, S.Kurz, S Ember Capability N w/o Gas 138 N w/o Gas	rton, here  Bypass Stk.  OPEN  CLOSED	
16:30 NOTE 17:30 17:30 NOTE	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton S Unit	UP AND READY NOT TURNING PARTIES OF THE SHIP SHIP SHIP ( Load OUTAGE	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D. Opacity	IT-UP EAVING Mills (Days	BOTH RUP ), J. Miller, I SO2	R. Payne S/L	ON C-1 W	C, S.Kurz, S Ember	rton, here Bypass Stk. OPEN	
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16:30 NOTE 17:30 17:30 NOTE 19:00	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton SUnit 1 2 3 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	UP AND READY NOT TURNING PARTIES 1 B MILL N TOMORROW FO RE "B" SHIFT (/L, N Moorman, Load OUTAGE 156 165 0.42 95.9% 92 94 22/23 -73.9	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D. Opacity 42.5	IT-UP EAVING Mills (Days Nox 0.51	), J. Miller, I SO2 4.94	R. Payne S/L CBD PH 9.60	, M.Lee VA Silica 0.098	C, S.Kurz, S Ember Capability N w/o Gas 138 N w/o Gas	rton, here  Bypass Stk.  OPEN  CLOSED	
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16:30 NOTE 17:30 17:30 NOTE 19:00	#1 WET BOTTOM IS SET SUBMITTED  1C FEEDER CLEANOUT SETTING C-1 BOILER TO WASHING OUT 1 A AND G. TIVITT SCHEDULED II "C"SHIFT (DOOLEY) HE K.Grantland, P Gatton S  Unit  1 2 3  FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing #1 5/B Out of Service	UP AND READY NOT TURNING PARTIES OF THE CONTROL OF	FOR SERVICE AST COUPLIN OR C-1 STAR JOHNSON) L M.Young, D. Opacity 42.5	IT-UP EAVING Mills (Days Nox 0.51	), J. Miller, I SO2 4.94	R. Payne S/L CBD PH 9.60	, M.Lee VA Silica 0.098	C, S.Kurz, S Ember Capability N w/o Gas 138 N w/o Gas	rton, here  Bypass Stk.  OPEN  CLOSED	





	18:35	ISSUED CONFINED SPACE PERMITS FOR 1A AND 1B MILLS TO WASHOUT										
	19:00	JEFF MILLER REQUEST	ED VACATION OF	N 6/20/2013	1P-7P NEED	TO SCHED	ULE D LINE	RIFHEISB	ACK FROM SICK L	EAVE		
	19:30	TAGGING C1 AH FOR TI	TAN TO CHANGE	OIL								
	20:30	1A AND 1B MILLS WASH AS POSSIBLE. NEED TO					NEEDS REI	PLACING ME	R# 6101496 - CLEA	N OUT MILL AS	GOOD	
	20:45	INLAND MOVING TO C R	ROW									
	20:50		WATCH TITAN STROKE C1 RH AND SH DAMPERS - SH SIDE NORTH DAMPER BLADE NOT MOVING - RH SIDE SOUTH BLADE MOVING VERY LITTLETITAN CHECKING TO SW WHATS WRONG									
	21:38	D LINER IS OFF THRU TO CHANGE										
	22:28	APM CALLED TAKING 28										
	22:46	1C MILL FEEDER DRIVE CONE. INLAND MOVING						NG APPEAR	S TO BE BAD - CO	AL DOWN IN T	HE	
	23:05	2B MILL OFF										
	23:24	APM CALLED TAKING 3	B MILL OFF									
	23:30	COMPLETED #2 TURBIN	COMPLETED #2 TURBINE SPINDLE READINGS, #2 EMER LUBE OIL PUMP TEST									
	23:51	3B MILL OFF										
6/16/2013	0:58	INLAND DOWN ON C1 F	D PAD WASH TO	THE ROAD	DRAIN - RE	QUESTED T	HEY CLEAN	AROUND C	MILL BAY AREA			
	1:09	C1 BOILER SET FOR FIF	RE									
	3:25	RAN C2 TURBINE VALVE	TEST - ALL OK									
	7:00	"B" SHIFT (JOHNSON) HERE "C" SHIFT (DOOLEY)LEAVING										
		S. HOWARD, A. MAYFIELD, M. CHRISTIAN, J. GOODMAN, R. CARMAN, D. TAUL, J. KENNEDY, HERE G. TIVITT(SDO1)FOR C-1 START-UP										
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.		
		1	OUTAGE	OUTAGE	OUTAGE			OUTAGE	0 N w/o Gas	OPEN		
		2	75	11.0	0.47	4.70	9.61	0.091	138 N w/o Gas	CLOSED		
		3	75	8.0	0.41	4.77	8.92	0.052	155 N w/o Gas	CLOSED		
		FGD Nox	0.41									
		FGD Removal %	98.4%									
		3A Mill Amps	90									
		3B Mill Amps	OFF									
		COND. STOR. TNK	22 / 23									
		Instr. Air Dew Point	-76.3									
		Sootblowing										
		#1 S/B Out of Service	NONE									
		#2 S/B Out of Service	NONE									
		#3 S/B Out of Service	NONE				-			-		
		DHSNTAS	NO THREATS									
		BIIO-IVIAO	NO TIMEATS									
		C-1 ECC31ST STA										
	6:05	CHECKING TUBE METAL										
	6:50	ACES CALLED REQUES										
	7:30	C-1 ECONOMIZER HOPE						GAIN				
	7:45	CLEANING OFF 1 C FEE	DER FOR MAINT	TO REPAIR	CLEANOUT	CONVEYOR						





8:00	ADDED 2 BARRELS OF E SENT	BALLS TO 3A MIL	LAMPS W	/ERE 89-90	PRIORR	UNNING 93-9	4 NOW(	CHECKED OUT OF I	WAREHOUSE E-M		
9:00	1 C FEEDER BELT IS CL	EANTAGGING	OUT CLEAN	NOUT CONV	EYOR FOR	MAINT TO RE	PAIR				
NOTE							., , ., ., ., ., ., .,				
9:50	BOILER ENTRY PERMIT					K					
10:20	GAS LINE BLANK HAS B				. 022 02 11						
	GETTING HEADCOUNT T										
10:50											
NOTE	AUXILIARY TRIED TO RU							LOOK AT IT			
	1A AND 1B AIR HEATERS ON1A BURNER SEAL AIR FAN ON1A & 1B FD FANS ONCHECKING BOILER DOORS										
	GAS FIRE IN C-1 BOILERACES AWARENOTIFIED HOTLINEE-MAIL SENT										
12:00	1C FEEDER CLEANOUT	IS WORKING OK	NOW								
12:15	1 D FEEDER CLEANOUT	HAS BROKEN LO	OSE INTER	VAL OF THE	FEEDER	MAINT SET	TING UP TO	REPAIR			
13:50	1 D FEEDER CLEANOUT	REPAIRED AND	WORKING N	OW							
	WASHING OUT 1 D MILL										
NOTE	ALL FOUR MILLS ON C-1	HAVE BEEN WA	SHED OUT A	AND START	ED TO ENSU	IRE THEY W	OULD RUN				
	I-DEPT PERFORMING HO										
16:00	TITAN DAY SHIFT DEPAI	RTSALL MILLS H	AVE BEEN	CLOSED UP							
NOTE	SUBMITTED W.O. # 6101	560 ON C-2 FLY	ASHHOLE	IN SV SHA	CK WHERE	LINE COME	S IN JUST	BELOW VACUUM B	REAKER		
	UTILITIES HAVE TEMP P										
16:36	C-1 BYPASS HOT CAL IN	COMPLETE	STARTING UP	C-1 BOOS	TER FAN						
NOTE	C-1 PRECIPS HAVE BEE	N IN SERVICE S	INCE THE 13	THDID N	OT CALL HO	OTLINE AS S	UCH				
16:45	UTILITES HAVE PULLED	THROUGH C-1 F	LYASH AND	ALL HOPPE	RS ARE PUL	LING NOW.					
17:25	PULLING VACUUM ON C	1HEATER DE	RAINS CLOSE	ED							
17:10	C1 BYPASS DAMPER CL	OSED HOTLINE	NOTIFIED								
19:00	"C"SHIFT (DOOLEY) HE	RE "B" SHIFT (	JOHNSON) L	EAVING							
	K.Grantland, P Gatton S/L, N Moorman, M.Young, D. Mills, J. Miller, R. Payne S/L, M.Lee, S.Kurz, R Jones, here										
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.		
	1	START-UP						N w/o Gas	CLOSED		
	2	157	36.6	0.49	4.94	9.60	0.098	138 N w/o Gas	CLOSED		
	3	164	3939.0	0.41	4.89	9.40	0.058	155 N w/o Gas	CLOSED		
	FGD Nox	0.40									
	FGD Removal %	94.7%									
	3A Mill Amps	94									
	3B Mill Amps	93									
	COND. STOR. TNK	22/23									
	Instr. Air Dew Point	-74.5									
		-/4.5									
	Sootblowing	NONE									
	#1 S/B Out of Service	NONE									
	#2 S/B Out of Service	NONE									
	#3 S/B Out of Service	NONE									
	DHSNTAS	NO THREATS									





Your Touchstone Energy Cooperative	Your	Touchstone	Energy <sup>a</sup>	Cooperative	xto
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	18:55	ROLLED C1 TURBINE
	19:15	C1 TURBINE AT 2450 RPM AND 230° RH - WAITING FOR 500° TO START 3 HOUR SOAK
	19:45	C1 RH TEMP AT 316°
	19:59	RELEASED H-272 ON C1 0303 GENERATOR DISCONNECT AND PLACES IN SERVICE
	20:30	D MILLS GOING HOME
	20:25	NOTIFIED ACES THAT WE WILL NOT TIE ON AT 11:30 PM - WILL BE AROUND 1:00 AM TO 1:30 AM
	22:00	STARTING 3 HOUR SOAK ON C1
	22:30	APM CALLED TAKING 2B AND 3B MILLS OFF
	22:45	2B AND 3B MILLS OFF
	23:08	CLEANED UP AROUND C1 MILL BAY AREA
6/17/2013	0:05	CLEANING INTAKES
	1:00	3 HOUR SOAK COMPLETED ROLLING TURBINE TO 3300
	1:16	C1 TIED ON LINE - CALLED HOT LINE - PRECIP ALREADY IN





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### **Boiler Tube Leak Record**

### Failures at Hot Reheat & HRA

Plant: Coleman Unit:1
Type of Leak: (Check One)
Pin Hole Thick Lip Failure CrackX Thin Lip Failure
Tube Wall Thinning Other
Orientation of Rupture: (Check One)
Longitudinal Circumferential
Probable Cause: (Check One)
Stress X Overheat Erosion Internal Corrosion
External Corrosion X Weld Failure (Shop Field)
Internal Obstruction to Flow Sootblower Erosion
Other Coal ash corrosion



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## **Forced Outage Report**

Type of Repair: (Check One)

Dutchman (Length of Dutchman )
Pad Weld X
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Reheat Tube Size OD 2.250" Wall Thickness 0.150"
Tube Material SA213 T22 Welding Rod Used 8018 B3L
HRA Tube Size OD 1.75" Wall Thickness 0.165" Tube Material SA 210 A1
Welding Rod Used
Welded By:Titan

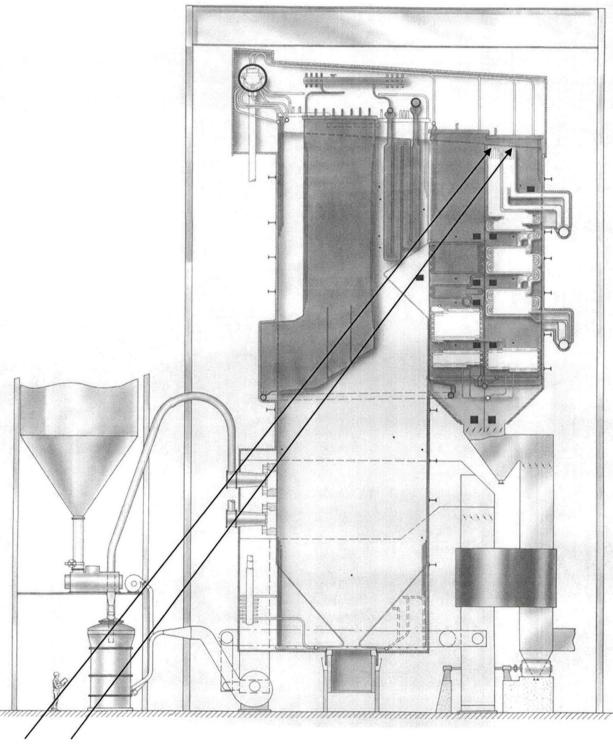
**Exact Location of Leak: Be Specific** 

Two locations, 4<sup>th</sup> from the west and 22<sup>nd</sup> from west, the support lug weld for the outer loop of the reheat cracked which propagated into the reheat tube causing a leak then eroded the adjacent HRA tube.

HRA roof just below inlet header, a casing weld crack which propagated into the roof tube causing a pin-hole leak.





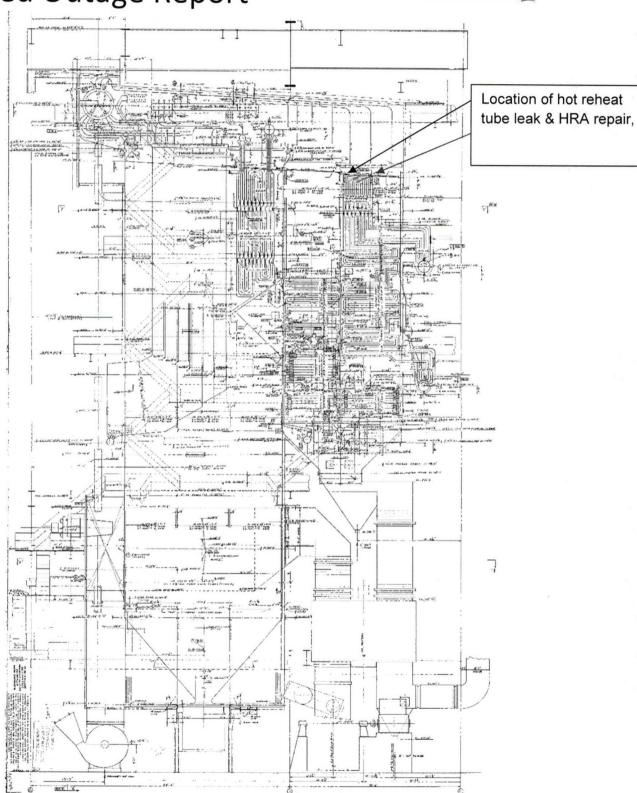


Tube Leaks Here















### **Lost Sales Opportunity Report**

FORCED OUTAGE COST ANALYSIS	
MISO DART Revenue and LOST OPPORTUNITY	

Unit	Coleman 1 - C1-13-09	Production Cost				
Date & Time Off Line	6/7/13 23:39 & 6/12/13 8:00	MW		S/MW		
Date & Time On Line	6/12/13 8:00 & 6/17/13 1:16	84	\$	28.54		
Outage Duration	104 hr. 21 min. & 113 hr. 16 min.	117	\$	27.10		
Outage Code	UO3 & MO	150	\$	26.62		
Outage Reason	Unit was taken offline to deslag wet bottom and boiler. At 8:00 AM on 6/12, unit placed in MO to repair gas leaks (penthouse).					

Date	DA LN	IP Average	RT LI	MP Average	D	ART P&L	Oı	Lost oportunity
6/7/13 (HE 24)	\$	23.99	\$	25.76	\$	196	\$	-
6/8/13 (HE 1-24)	\$	27.81	\$	25.26	\$	2,386	\$	-
6/9/13 (HE 1-24)	\$	25.12	\$	18.46	\$	-	\$	
6/10/13 (HE 1-24)	\$	32.34	\$	30.11	\$	-	\$	(21,187)
6/11/13 (HE 1-24)	\$	36.45	\$	80.98	\$	-	\$	(36,176)
6/12/13 (HE 1-24)	\$	60.62	\$	38.92	\$	-	\$	(122,513)
6/13/13 (HE 1-24)	\$	32.17	\$	35.51	\$		\$	(20,640)
6/14/13 (HE 1-24)	\$	29.89	\$	29.67	\$	-	\$	(13,062)
6/15/13 (HE 1-24)	\$	28.00	\$	31.77	\$	-	\$	(6,582)
6/16/13 (HE 1-24)	\$	28.78	\$	28.77	\$	-	\$	(9,800)
6/17/13 (HE 1-12)	\$	29.44	\$	46.87	\$	9,593	\$	(2,178)
Total		2 19 19			\$	12,174	\$	(232,139)

Start Up Fuel Cost			Total Forced	Total Forced Outage Cos		
S/U Fuel Consumed		1,578	DART P&L	\$	12,174	
S/U Fuel Price	\$	5.67	Lost Opportunity	\$	(232,139)	
S/U Fuel Cost	\$	(8,949)	S/U Fuel Cost	\$	(8,949)	
			Total	\$	(228,914)	

	ES

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: Daryl Chinn

Date: 3-Jul-2013

Plant: Coleman

Unit: 1

GADS Class: UO3

**Duration** 

Trip Time: 20-Jun-2013 10:18

Tie Time: 22-Jun-2013 08:41

Time Offline: 46:23

#### Outage Description

Coleman Unit 1 was removed from service on Thursday, 20-Jun-2013 at 10:18 and returned to service on Saturday, 22Jun-2013 08:41 for duration of 46:23 against an initial target of 48:00. This was an unplanned event, and as such is classified as a Class I (UO3) forced outage. The unit was removed from service in a controlled manner due to a suspected tube leak in the high temperature reheater section.

#### **Root Cause**

The second loop tube from the rear in the 5th element from the west wall of the high temperature reheater failed due to wall loss caused by coal ash corrosion. In addition, the second and third tubes in the 4th and 6th elements were eroded due to the leak in the 5<sup>th</sup> element, constituting installation of six Dutchmen. Weld repairs were also made to cracks in the hard ties on the two leading tubes, and the hard ties on the new Dutchmen were replaced.



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### **Failure History**

7-May-2013	HT Reheater Tube Leak	58:30
22-Jan-2013	HT Reheater Tube Leak	53:44
18-Jan-2013	HT Reheater Tube Leak	60:59
2-Jan-2013	HT Reheater Tube Leak	76:44
11-Nov-2011	HT Reheater Tube Leak	53:37

### **Corrective Action**

This section of the reheater is scheduled to be replaced during the fall outage of 2013.

#### **SOE Print Out**

N/A





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### Forced Outage Report

#### Other Work Completed While Unit Was Offline

#### C1, Completed Outage Tasks 6-20-13

C1 was taken offline to repair tube leak in R/H section of boiler at elevation 208' on the west side of boiler.

6101660 Replaced scraper seal box gasket on 8L sootblower.

6101968 Realigned electric drive coupling on A APH.

6101835 Replaced boiler inspection port on west side. D row.

6101933 Replaced boiler inspection port on 5<sup>th</sup> floor, south side, west port, Replaced door gasket and cleaned aspirating air passages on east port at same elevation.

6101961 Changed oil in A and B mill gearboxes.

6102038 Weld repaired several gas leaks on A and B APH expansion joints.

6102037 Replaced six 30" Dutchman in R/H section at elevation 208'. Leaks were in the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> banks form the west side of boiler. Weld repaired one tube that had thinned. Weld repaired cracks in hard ties on two leading tubes. Replaced hard ties on new Dutchman.





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#### Electrical & Instrument Maintenance, C1, Completed Outage Tasks

6101952- Cleaned all igniter and main flame scanners and performed dark furnace adjustment on each.

6101954- Stroked, calibrated, and set turbine valves.

6101070- Calibrated turbine Auto stop Trip Pressure, Low Vacuum, Bearing Oil Low Pressure, and Thrust Bearing Pressure switches.

6101705- Turbine Low Bearing Oil active alarm was staying in, calibrated switch and verified proper operation, alarm did clear.

6101594- Replaced DCS termination unit for #5 heater level indication. Replaced Condensate Flow transmitter and calibrated it.

6101953- Misc. Instrument outage tasks: Remove scanners and pulled igniter rods due to de-slagging of the boiler with high pressure water, re-installed after de-slagging was complete.



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### **Operators Event Log**

6/20/2013	9:05	RUNNING C1 HOTWELL	CHECK																			
	9:35	C1 HOT WELL OVER 6.1																				
	9:45	TAKING C1 OFF LINE DU																				
		C1 OFF LINE - CALLED I			·					+												
	10:38	C1 - #6 HEATER EXTRAC		VALVE VE	RY HARD TO	OPEN AND	CLOSE - MI	2# 6101950														
	10:44	D LINER CALLED IN SIC D TAUL FOR SATURDAY	K AND WILL BE						TO WORK FRIDAY	- NEED TO SCH	EDU											
	12:00	HAVE HOLD # 291 ON G	ENERATOR DISC	ONNECT #0	303																	
	13:16	ABSORBER CHLORIDES	AT 6600																			
	NOTE	EVERYBODY NEEDS TO	LOOK AT THE	SCHEDULE	TO SEE ALL	THE CHAN	IGES															
	16:00	ISSUED BOILER CONFIN	ED SPACE PER	MIT ON C1																		
	17:00	NEED TO HAVE C1 BOIL	ER FULL AND RE	ADY TO HY	DRO AT 6 AM	M TOMORRO	W MORNING	3														
	40.00	Hell court (court cost) up	DE HOH COURT (DO		<u> </u>																	
	19:00	"B" SHIFT (JOHNSON) HE																				
		S. HOWARD, A. MAYFIE M. CHRISTIAN (VAC)G			MAN, D. TAL	JL, J. KENN	EUY, HERE															
		Unit	Load	Opacity	Nox	SO2	CBD PH	Cillan	Capability	D												
		1	OUTAGE	OUTAGE		OUTAGE		Silica	The second secon	Bypass Stk.												
		2	158	30.0	0.43	4.86	9.56	0.113	0 N w/o Gas	OPEN												
		3	165	24.0	0.43				138 N w/o Gas	CLOSED												
			100	24.0	0.39	4.91	9.88	0.059	155 N w/o Gas	CLOSED												
		FGD Nox	0.38					-														
		FGD Removal %	98.1%																			
		3A Mill Amps	91																			
		3B Mill Amps	94																			
		COND. STOR. TNK	22 / 23																			
		Instr. Air Dew Point	-52.8																			
		Sootblowing																				
		#1 S/B Out of Service	8L & 10R																			
		#2 S/B Out of Service	NONE																			
	1	#3 S/B Out of Service	NONE																			
		DHSNTAS	NO THREATS																			
		5110 111710																				
		C-1 ECC31ST STAG	E 6921ST STA	GE LEFT 72	11ST S	TAGE RIGH	T 726															
		CONTINUE TO RUN B LS																				
	17:50	CHECKING TUBE METAL				-1 OUTAGE																
	18:45	INLAND IS DONE IN THE	BIG ROOMO	PENING DE	SLAG DOOR	S TO CHECK	K FURNACE.															
	19:00																					
	19:30	INLAND TEARING DOWN	NOT MUCH IN	THE FURN	ACE																	
	19:45	PULLING C-1 WET BOTT	OM				-															
	19:55		C-1 CONTROL RO	OM ELEVA	TON TO E/I	SHOP AND F	RONT OFFIC	CE HVAC UN	NITS LEAKINGVA	LVED OUT AND	,											
	20:00		AND DELICATED							5 WELL WATER LINE ON C-1 CONTROL ROOM ELEVATION TO E/I SHOP AND FRONT OFFICE HVAC UNITS LEAKINGVALVED OUT AND TAGGED												
	20:30	C-1 WET BOTTOM CLEA	NUTILITIES C	HECKING C	-1 ECONOMI	ZER HOPPE	RS	VETVA	VING OUT REFRA	CT COOLING												
		C-1 WET BOTTOM CLEA	NUTILITIES C EADER SPRAYIN	HECKING C	-1 ECONOMI DSS BOILER	ZER HOPPE	RS	VETVA	LVING OUT REFRA	CT COOLING												
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2/21/2013	20:30 20:50 21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00	C-1 WET BOTTOM CLEA WEST END REFRACT HI WATERSUBMITTED V INSTALLED A CLAMP ON UNITSSUBMITTED W C-1 ECONOMIZER HOPP TALKED TO COAL HAND C-2 BOILER HAS HOLE / CALLED ACESSTART REQUESTED J. LADNIER C-2 OFF LINEHOTLINE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS W C-2 TURBINE ON GEAR. NO RAIN IN THE RAIN G ACES CALLED REQUES	NUTILITIES C ADER SPRAYIN V.O. # 6102025 F N WELL WATER I O. # 6102030 FC ERS ARE CLEAN LINGWILL CLE AROUND A4 SOO ING OFF WITH C. R STAY OVER UN NOTIFIEDB LIS HAVE A4 SC ALVE AND WALK AUGE ON THE TU TING WE REMOV	HECKING C G OUT ACRO OR REPAIRS. LINE TO HVA R REPAIRS. LINE TO HVA R REPAIRS. LINE TO HVA R REPAIRS. LINE TO HVA LINE TAKIN TIL WE HAV LOCKING FAN OTBLOWER ING TAGS V RBINE DEC	-1 ECONOMI DSS BOILER S S S S WHEN LOA SOX G COAL OFF PE AN ESTIM S DOWN TO C ON C-2 UNW WITH TITAN T K FROM SER*	ZER HOPPE AND GETTI ULLED TAG AD ALLOWS FEEDERS. ATE ON C-2 ACCES LE. WIRED AND O BLANK C	RS NG KNEES V S AND K. MA S AK DEPART 2 GAS LINE	AYFIELD RE	STARTED AFFECT													
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5/21/2013	20:30 20:50 21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:30 0:35 0:55 1:30 1:30	C-1 WET BOTTOM CLEAN WEST END REFRACT HI WATER SUBMITTED WINSTALLED A CLAMP ON UNITS SUBMITTED WINSTALLED A CLAMP ON UNITS SUBMITTED WINSTALLED A CLAMP ON C-1 ECONOMIZER HOPP TALKED TO COAL HAND C-2 BOILER HAS HOLE A CALLED ACES START REQUESTED J. LADNIER K. MAYFIED AND E. WILL SIGNING ON C-2 GAS WINSTALL SUBMITS ON C-2 TURBING ON C-2 GAS WINSTALL SUBMITS ON C-2 FEANS OFF FOR A CALLED REQUES C-2 FD FANS OFF FOR A SUBMITS ON C-2 GAS LII SA MILL NOT PACKING LEAST OF THE SUBMITS OF TO THE SUBMITS OF THE SUBMITS	NUTILITIES C CADER SPRAYIN V.O. # 6102025 F N WELL WATER I O. # 6102030 FO ERS ARE CLEAN LINGWILL CLE AROUND A4 SOO NG OFF WITH C R R STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO ALVE AND WALK TING WE REMOV A-4 SOOTBLOW L-4 SOOTBLOW CALVE AND SOOTBLOW CALVE AND CALLED TO CALLED T	HECKING C G OUT ACRG OR REPAIRS LINE TO HVA R REPAIRS LINE TO HVA R REPAIRS LINE TO HVA R REPAIRS LINE TO HVA R REPAIRS LINE TO HVA REPAIRS LINE TAKIN TIL WE HAV CKING FAN OTBLOWER ING TAGS V RBINE DEC TE ONE MILL R BOX REPAI O ACESL	-1 ECONOMI DSS BOILER S AC UNITSP S WHEN LO, IOX G COAL OFF TE AN ESTIM S DOWN TO TO ON C-2 UNIVITH TITAN T K FROM SER AIRS NG SYSTEM OADING 3B	ZER HOPPE AND GETTI  ULLED TAG  AD ALLOWS  FEEDERS. ATE ON C-2- ACCES LE. WIRED AND O BLANK C  FOR TITAN MILL BACK  VIA SLOW E	RS NG KNEES V S AND K MV S AK DEPART 2 GAS LINE 3TAKING TO MAKE RI UP AND GOI	AYFIELD RE  3B MILL OF EPAIRS ON NG TO 135M	STARTED AFFECT	ED HVAC	LST											
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//21/2013	20:30 20:50 21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:30 0:35 0:55 1:30 1:30	C-1 WET BOTTOM CLEAN WEST END REFRACT HI WATER SUBMITTED WINSTALLED A CLAMP ON UNITS SUBMITTED WINSTALLED A CLAMP ON UNITS SUBMITTED WINSTALLED A CLAMP ON C-1 ECONOMIZER HOPP TALKED TO COAL HAND C-2 BOILER HAS HOLE A CALLED ACES START REQUESTED J. LADNIER K. MAYFIED AND E. WILL SIGNING ON C-2 GAS WINSTALL SUBMITS ON C-2 TURBING ON C-2 GAS WINSTALL SUBMITS ON C-2 FEANS OFF FOR A CALLED REQUES C-2 FD FANS OFF FOR A SUBMITS ON C-2 GAS LII SA MILL NOT PACKING LEAST OF THE SUBMITS OF TO THE SUBMITS OF THE SUBMITS	NUTILITIES C EADER SPRAYIN V.O. # 6102025 F N WELL WATER I O. # 6102030 FO ERS ARE CLEAN LINGWILL CLE AROUND A4 SOO NG OFF WITH C R S TAY OVER UN NOTIFIEDBA LIS HAVE A4 SO ALUE AND WALK AUGE ON THE TU THE TU THE BLANK AND S OADCALLED TYDRO D ONADDING M BALLS TO 3A M IING INTAKES	HECKING C G OUT ACRG OUT ACRG OUT ACRG REPAIRS LINE TO HWA R REPAIRS LINE EAN INTAKE TBLOWER E -2TAKIN TIL WE HAN OTBLOWER ING TAGS W RBINE DEC TE ONE MILL R BOX REP GOOTBLOWI D ACESL  WATER TO ( LLAMPS	-1 ECONOMI DSS BOILER S AC UNITSP S WHEN LO, DOX G COAL OFF YE AN ESTIM S DOWN TO C ON C-2 UNIV VITH TITAN T K NG SYSTEM OADING 3B  C-1 BOILER 93-94 NOW.	ZER HOPPE AND GETTI  ULLED TAG  AD ALLOWS FEEDERS. ATE ON C-2 ACCES LE. WIRED AND O BLANK C  VICE ON C FOR TITAN MILL BACK  VIA SLOW E	RS NG KNEES V S AND K. MV S AK DEPART 2 GAS LINE 3 TAKING TO MAKE RI UP AND GOI	AYFIELD RE  3B MILL OF  EPAIRS ON NG TO 135M	F C-2 MWS TO STABILIZE	E AND ADD BALL	LST											



Your Touchstone Energy Cooperative

NOTE	SUBMITTED W.O. # 610	2027 ON A PRIMA	RY GYPSUM	HYDROCLO	ONE FEED I	PUMP BELTS	NEED AD	IUSTED		
	SUBMITTED W.O. # 610 SUBMITTED W.O. # 610 STEPS					ST SIDE CO	RNER OF A	ROW JUST BEFOR	RE YOU GO DOW	N
		ED EOD MAINT AS	DEOLIECTE	TO CUEC	Z ALLICANA	- NOT				
	1 A AIR HEATER TAGGE									
5:30	S. KURZ CALLED IN TO	SAY THAT M. LEE	WAS COM	NG IN FOR I	HIM TODAY					
5:41	TITAN RELEASED #2 GA	AS LINE BLANK	HOLDING	SOOTBLOW	ING PERMI	T AND GAS V	ALVE FOR	DAYSHIFT TO PUL	L BLANK	
5:50	HEADCOUNT COMPLET	E TO FIRE C-2	STARTING B	OILER FEE	D PUMP TO	RAISE TO FI	RING LEVE	LB BURNER SE	AL AIR FAN ON	
6:10	C-2 FD FANS SEAL AIR	FANS ON								
7:00AM	"A"SHIFT (Shaver) HER L. PILE, D. HAYNES SL, COVERING				H VAC, R.J	ONES, AND I	D.SEBASTI	ON,ALL HERENI	CK AND MIKE	
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Dunaga Cth	
	1	OFF	Opacity	IVOX	302	CBD FR	Silica	Capability	Bypass Stk.	
	2	OFF								
	3	163	41.4	0.34	5.01	9.80	0.058	155 N w/o Gas	CLOSED	
	FGD Nox	0.36								
	FGD Removal %	95.9								
	3A Mill Amps	93.1%				1				
	3B Mill Amps	92.3%								
	COND. STOR. TNK	21/22								
	Instr. Air Dew Point	-69.8								
	Sootblowing									
	\$1 S/B Out of Service	8L10R								
	2 S/B Out of Service	NONE								
	3 S/B Out of Service	NONE								
	DHSNTAS	NO THREATS								
7·14AM	FIRE IN C2 BOILER									
	ISSUES WITH #6,#8 SC	ANNERS ON C2	TALK TO BRI	ICE AND C	ALLED MAR	K ORRYAN T	O GO AND	INVESTAGATE FOR	RIIS	
	C2 START UP GOING TH		THE TO BIT	JOE 7111D 0	TELED IV	UK OBIKITAT I	0 00 740	IIIVEOIMONIETOI	100	
	HYDRO ON C1									
	BFP OFF ON C1 HYDRO	)								
9:50AM	HOLDING AT 600 RPM C	ON C2 LH INTERCE	PT IS STUC	K CLOSED I	RAY AND B	RUCE LOOKI	NG INTO			
	#6 AND #8 IGNITER FLA									
	SOLENOID AND DUMP					TERCEPT VA	LVE ROLL	ING ON UP NOW		
	WO# 6102049 ISSUED ( WO# 6102054 ISSUED (					Y DECK OFF.	.TALKED T	O MITCH ABOUT H	E WILL GET SOM	EO
	ONIT								,	
	#7 IGNITER SCANNER V									
	C2 TIED ONE-MAIL SI		IEDHOTLI	NE HAS BE	EN NOTIFIE	D OF ALL EV	ENTS			
	LAB REPORTS CHLORIC		WA ED OF	DENING W	WILL LIAND	F 4411/ 0 4 F	T/10011E	THAT ADIOE DUE	INO KENO ABOE	
	MIKE JONES WILL BE								ING KENS ABSE	NCI
	3 PORT FROM BOTTOM						FOR HIM		-	
	WE ARE SET FOR VAC				01102001	OOOLD				
	RAISING C2 TO FULL PS				BEEN NOTI	FIED				
	JIM MILLER REQUESTE BACK						N AND IF V	VE NEED COVERA	GE AND CALL HI	М
4.50014	CALLED JEFF PAYNE H	E SE TO								
			COVED							





Your Touchstone Energy Cooperative

	7:00PM	"D" SHIFT (STERLING)	HERE "A" SHIFT	(SHAVER)	LEAVING					
		V.Ramsey S/L, B.Johns				unt,, G.Calh	oun, L.SHEA	RN		
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	BYPASS ST.
		1	OUTAGE							
		2	155	22.1	0.380	4.91	9.86	0.41	138NW/OGAS	CLOSED
		3	165	26.5	0.370	4.95	9.78	0.52	155N W/O GAS	CLOSED
						1		-10-		010000
		FGD Nox	0.35							
		FGD Removal %	96							
		3A Mill Amps	94							
		3B Mill Amps	94							
		COND. STOR. TNK	23/24							
		Instr. Air Dew Point	-65.9							
		Sootblowing								
		1 S/B Out of Service	NONE							
		2 S/B Out of Service	NONE							
		3 S/B Out of Service	NONE							
		DHSNTAS	NO THREAT		-		-			
	8-00DM	DATDICK KELLEMO MIL	I DE INI AT 2:00	M FOR ST	ADTI ID OLIO	DODT	-			-
		PATRICK KELLEMS WILL ABSORBER CHLORIDES		AN FURSI	AKTUP SUP	FURI.	-			-
		PULLING VAC. ON UNIT			-	-			1	-
6/22/2013		NO LEAKS ON UNIT #1 F		N CLOSING	DOORS.					
		2B & 3B MILLS OFF								
		#1 BOILER HAS BEEN S	ET FOR FIRE							
		#1 ECON HOPPERS ARE								
		#1 FD FANS ON WALKI		N CHECKIN	IG DOORS.					
		HEAD COUNT COMPLET								
		GAS FIRE IN UNIT #1 B		PERSONAL PROPERTY.						
		CLOSING #1 DRUM VEN				E PUMP.				-
		LOST 1/2" ON UNIT #2 H		COILS VAL	VED OUT.					
		COT PELEASE ON HOLE		DISC AND	DTC DACK	NI ANID 0202	DCD IN DC	OTE		
		GOT RELEASE ON HOLD 3B MILL ON	291 0303 GEN I	JISC. AND	F 13 BACK I	IN AIND USUZ	FUB IN KEN	OIE.		
		2B MILL ON								
	5.25. 41									
	7:00AM	"A"SHIFT (Shaver) HER L. PILE, D. HAYNES SL, HEREJOHN, DARRICK	D. LINER SL, W.	MILLS ,F.G		TH PD, R.JC	ONES VAC, A	ND D.SEB	ASTION,ALL	
		JASON GOODMAN HER	E FOR START U	P						
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.
		1	OFF							
		2	124	13.5	0.37	4.88	9.70	0.274	138 N w/o Gas	CLOSED
		3	135	15.0	0.34	4.98	9.60	0.073	155 N w/o Gas	CLOSED
		,		10.0	0.01					
				10.0	0.01					
		FGD Nox	0.34	10.0	0.00					
		FGD Nox FGD Removal %	0.34 96.8	10.0						
		FGD Nox FGD Removal % 3A Mill Amps	0.34 96.8 94.4%	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	0.34 96.8 94.4% 95.1%	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK	0.34 96.8 94.4% 95.1% 22/23	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps	0.34 96.8 94.4% 95.1%	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	0.34 96.8 94.4% 95.1% 22/23	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.34 96.8 94.4% 95.1% 22/23 -61.5	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point	0.34 96.8 94.4% 95.1% 22/23	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 21 S/B Out of Service 22 S/B Out of Service	0.34 96.8 94.4% 95.1% 22/23 -61.5 NONE	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	0.34 96.8 94.4% 95.1% 22/23 -61.5	10.0						
		FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service 12 S/B Out of Service	0.34 96.8 94.4% 95.1% 22/23 -61.5 NONE NONE	15.0						
	6:50AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service 12 S/B Out of Service DHSNTAS #1 BOOSTER FAN ON	0.34 96.8 94.4% 95.1% 22/23 -61.5 NONE NONE NONE NO THREATS							
	6:50AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 11 S/B Out of Service 22 S/B Out of Service B3 S/B Out of Service DHSNTAS	0.34 96.8 94.4% 95.1% 22/23 -61.5 NONE NONE NONE NO THREATS							
	6:50AM 6:55AM 7:00AM	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 12 S/B Out of Service 12 S/B Out of Service DHSNTAS #1 BOOSTER FAN ON C1 BYPASS CLOSED SI THOMPSON ONSITE FOR	0.34 96.8 94.4% 95.1% 22/23 -61.5  NONE NONE NONE NONE NO THREATS	HROUGH TI	HE FGD PANS AT TH	HE FGDCC	SI HEAR SET	TING EQUI	PMENT IN THE BOOS	TER FAN AREA
	6:50AM 6:55AM 7:00AM NOTE	FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 15/B Out of Service 25/B Out of Service DHSNTAS #1 BOOSTER FAN ON C1 BYPASS CLOSED ST	0.34 96.8 94.4% 95.1% 22/23 -61.5  NONE NONE NONE NONE NO THREATS	HROUGH TI	HE FGD PANS AT TH	HE FGDCC	CI HEAR SET	TNG EQUI	PMENT IN THE BOOS	TER FAN AREA



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### **Forced Outage Report**

### **Boiler Tube Leak Record**

### Initial failure at hot reheat

Plant: Coleman Unit: 1
ype of Leak: (Check One)
in Hole Thick Lip Failure Crack Thin Lip Failure
ube Wall Thinning X Other
Prientation of Rupture: (Check One)
ongitudinal X Circumferential
robable Cause: (Check One)
tress Overheat Erosion Internal Corrosion
xternal Corrosion X Weld Failure (Shop Field)
nternal Obstruction to Flow Sootblower Erosion
Other Coal ash corrosion





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### **Forced Outage Report**

Type of Repair: (Check One)

**Exact Location of Leak: Be Specific** 

Dutchman X (6 ea. Length of Dutchman ~ 30",)
Pad Weld
Plug Tube Short Circuit Other
Description of Repair or reheat tubes:
Tube Size OD <u>2.250"</u> Wall Thickness <u>0.150"</u> Tube Material <u>SA213 T22</u>
Welding Rod Used 8018 B3L
Welded By:Titan

The second loop tube from the rear in the 5th element from the west wall of the high temperature reheater. Approximate Elevation 208'-9"



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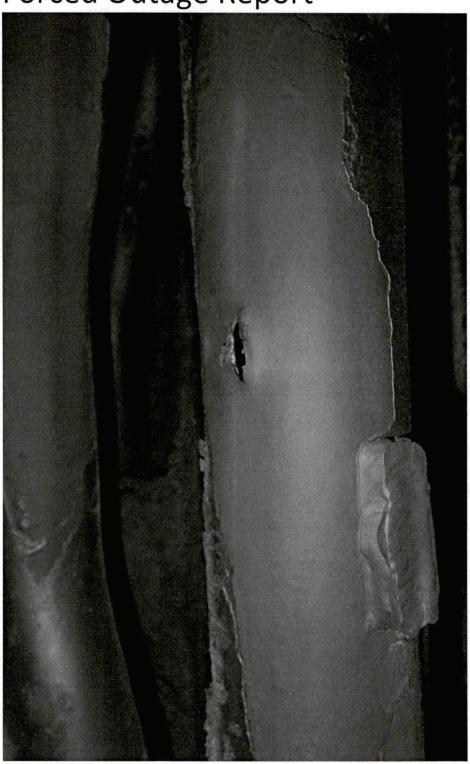
### **Pictures**





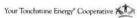


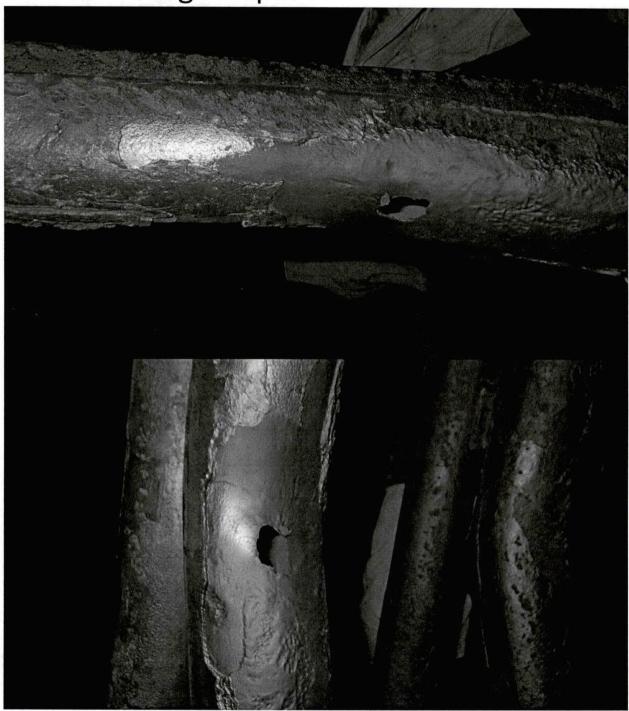








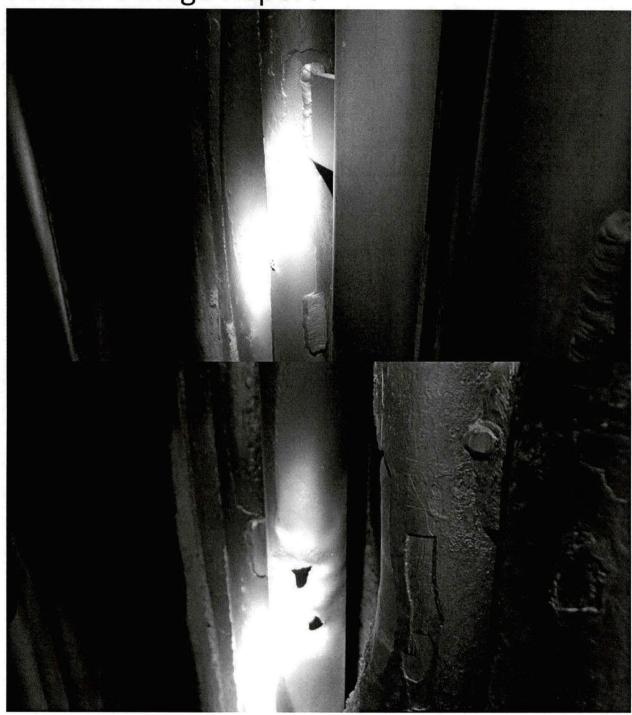








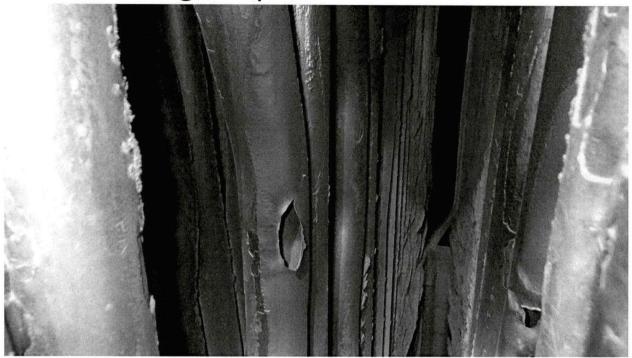








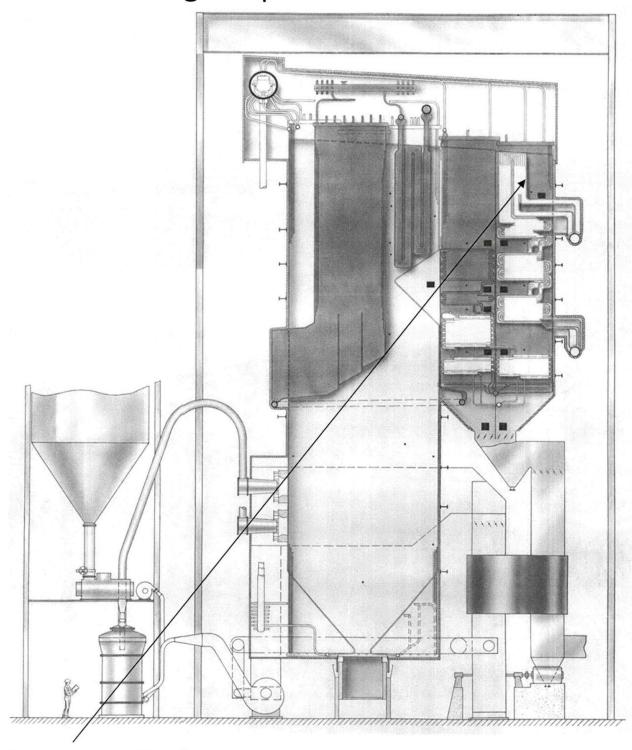










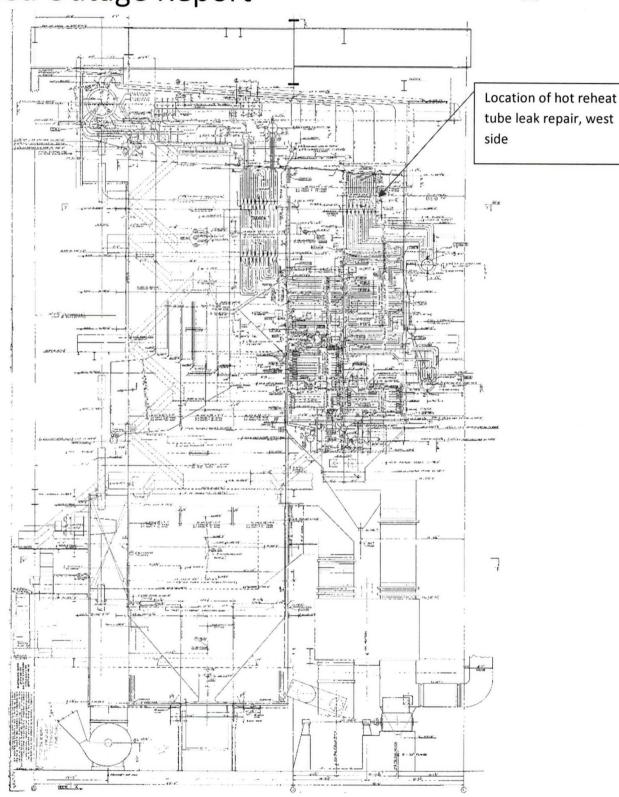


Tube Leak Here: Fifth (5<sup>th</sup>) element from the west wall (far side)















### **Lost Sales Opportunity Report**

	MISO	DART R	eve	enue and	LO	ST OPPOR	RTU	NITY		
Jnit		Coleman 1	- C1	-13-10				Product	ion Co	st
Date & Time Off Line		6/20/13	3 10:	18				MW		\$/MW
Date & Time On Line	6/22/13 8:41							84	\$	28.54
Outage Duration	46 hr. 23 min.							117	\$	27.10
Outage Code	UO3							150	\$	26.62
Outage Reason	Rep	epair reheat section tube leaks								
Date	DA LI	/IP Average	RT	LMP Average		DART P&L	O	Lost pportunity		
6/20/13 (HE 10-24)	\$	45.52	\$	37.64	\$	(24,970)	\$	-		
6/21/13 (HE 1-24)	\$	40.21	\$	27.02	\$	-	\$	(49,040)		
6/22/13 (HE 1-18)	\$	35.33	\$	27.48	\$	3,982	\$	(9,534)		
Total	-				\$	(20,988)	\$	(58,574)		
Start Up Fu	el Cost							Total Forced	Outag	je Cost
S/U Fuel Consumed		854						OART P&L	\$	(20,988
S/U Fuel Price	\$	5.67					Los	t Opportunity	\$	(58,574
S/U Fuel Cost	\$	(4,847)				1.1	S/	U Fuel Cost	\$	(4,847
								Total	\$	(84,408)
NOTES:										





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To: Bob Berry

From: Mitch Hamilton

Date: 19-Aug-2013

Plant: Coleman Unit: 2 GADS Class: UO2

#### **Duration**

Trip Time: 20-Jun-2013 22:41 Tie Time: 21-Jun-2013 11:42

Total Time Offline: 13:01

#### **Outage Description**

Coleman unit 2 was removed from service in a controlled manner on Thursday, 20-Jun-2013 at 22:41 and returned to service on Friday, 21-Jun-2013 at 11:42 for duration of 13:01. This was an unplanned event, and as such is classified as a Class I (U02) forced outage. The unit was removed from service due to failure of A4 soot blower penetration refractory seal box.

#### **Root Cause**

The soot blower refractory seal box failure was most likely caused by loss of seal air supply to blower and refractory failure.

### Failure History

N/A

#### **Corrective Action**

Removed A4 blower from the boiler, installed new refractory, and rebuilt seal box.



# Forced Outage Report SOE Print Out

N/A



#### Other Work Completed While Unit Was Offline

C2 Completed Outage Tasks, 5-19-13

#### **Mechanical Maintenance**

6102023 – A4 soot blower box has hole. Removed blower, installed new refractory, and rebuilt box

6101751 - Hot spot in Boiler wall on C-2 just above the East Deslag door at about 12:00 – Crack in door frame weld repaired

#### **Electrical and Instrument Maintenance**

N/A



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### Operators Event Log

6/20/2013											
O, LO, LO 10	9:05	RUNNING C1 HOTWELL	CHECK								
	9:35	C1 HOT WELL OVER 6.1									
	9:45	TAKING C1 OFF LINE DU									
	10:18	C1 OFF LINE - CALLED H			1						
	10:38	C1 - #6 HEATER EXTRAC									
	10:44	D LINER CALLED IN SICH	AND WILL BE	OFF TILL AF	ROUND 10/14	/2013 I HAV	E SCHEDUL	ED S KURZ	TO WORK FRIDAY	- NEED TO SCH	EDULE D TAUL
	40.00	FOR SATURDAY AND SU									
	12:00	HAVE HOLD # 291 ON GE		ONNECT #0	303						
	13:16 NOTE	ABSORBER CHLORIDES	THE CHARLES CHARLES OF THE PROPERTY OF THE PARTY.		TO OFF 41	THE 01111					
	16:00	EVERYBODY NEEDS TO			TO SEE AL	I HE CHAN	IGES			-	
	17:00	ISSUED BOILER CONFIN			DPO ATE A	A TOMORRO	NAV NAODAIIAK				
	17.00	NEED TOTALE OF BOIL	IN FOLL AIND IN	ADI IONI	DROATOA	VITOWORKC	VV WORMING	3			
	19:00	"B" SHIFT (JOHNSON) HEI	E "C" SHIFT (DO	OLFY)LFAVI	NG					-	
		S. HOWARD, A. MAYFIE				II J KENN	EDV HERE			1	
		M. CHRISTIAN (VAC)G				DL, O. REIGI	LD I, HERE	T.		-	
		1									
		Unit	Load	Opacity	Nox	802	CBD PH	Silica	Capability	Bypass Stk.	
		1	OUTAGE	OUTAGE	OUTAGE	OUTAGE	OUTAGE	OUTAGE	0 N w/o Gas	OPEN	
		2	158	30.0	0.43	4.86	9.56	0.113	138 N w/o Gas	CLOSED	
		3	165	24.0	0.39	4.91	9.88	0.059	155 N w/o Gas	CLOSED	
		FGD Nox	0.38								
		FGD Removal %	98.1%								
		3A Mill Amps	91								
		3B Mill Amps	94								
		COND. STOR. TNK	22 / 23								
		Instr. Air Dew Point	-52.8								
		2									
		Sootblowing									
		#1 S/B Out of Service	8L & 10R								
		#2 S/B Out of Service	NONE								
		#3 S/B Out of Service	NONE								
		DHSNTAS	NO THREATS								
		C-1 ECC31ST STAG				TAGE RIGH	T 726				
	17.50	CONTINUE TO RUN B LS CHECKING TUBE METAL				4 01 54 05					
		INLAND IS DONE IN THE									
	19:00									+	
		INLAND TEARING DOWN									
		PULLING C-1 WET BOTT			1					1	
		WELL WATER LINE ON O		OM ELEVA	TION TO E/I	SHOP AND F	RONT OFFI	CE HVAC U	NITS LEAKING VA	LVED OUT AND	
		TAGGED									
	20:00	EAST SIDE SUPERHEAT	AND REHEAT PA	ASS DAMPE	D DOODE A						
	20:30				R DOORS A	RE OPEN OF	N C-1		DACT UEADED COL		OSS BOILER AND
		C-1 WET BOTTOM CLEA						T END REF	RACT HEADER SPE	AYING OUT ACE	
			NUTILITIES C	HECKING C	-1 ECONOM	ZER HOPPE	RSWES			AYING OUT ACE	OGG BOILEIT / III
	20:50	C-1 WET BOTTOM CLEAR GETTING KNEES WET	NUTILITIES C	HECKING C REFRACT C	-1 ECONOMI COOLING WA	ZER HOPPE TERSUB	RSWES	0. # 6102025	FOR REPAIRS		
	20:50	C-1 WET BOTTOM CLEA	NUTILITIES C VALVING OUT WELL WATER I	HECKING C REFRACT C	-1 ECONOMI COOLING WA	ZER HOPPE TERSUB	RSWES	0. # 6102025	FOR REPAIRS		
		C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON	NUTILITIES C VALVING OUT WELL WATER I PAIRS	HECKING C REFRACT C LINE TO HVA	-1 ECONOMI COOLING WA	ZER HOPPE TERSUB	RSWES	0. # 6102025	FOR REPAIRS		
	21:00	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF	NUTILITIES C VALVING OUT WELL WATER I PAIRS ERS ARE CLEAN	HECKING C REFRACT C LINE TO HVA	-1 ECONOMI COOLING WA AC UNITSF	ZER HOPPE TERSUB PULLED TAG	RSWES MITTED W.C S AND K. M	0. # 6102025	FOR REPAIRS		
	21:00	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REI C-1 ECONOMIZER HOPP TALKED TO COAL HAND C-2 BOILER HAS HOLE A	NUTILITIES C VALVING OUT WELL WATER I PAIRS ERS ARE CLEAN LINGWILL CLE ROUND A4 SOO	HECKING C REFRACT C LINE TO HVA I EAN INTAKE TBLOWER E	-1 ECONOMICOOLING WAAC UNITSF	ZER HOPPE TERSUB PULLED TAG AD ALLOWS	RSWES MITTED W.C S AND K. M	0. # 6102025	FOR REPAIRS		
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	21:00 NOTE 21:55 22:00 22:35 22:41	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACES STARTI REQUESTED J. LADNIEF C-2 OFF LINEHOTLINE	NUTILITIES CVALVING OUT WELL WATER I 'ARIS ERS ARE CLEAN .INGWILL CLE ROUND A4 SOO NG OFF WITH C STAY OVER UN NOTIFIEDBA	HECKING C REFRACT C LINE TO HVA L EAN INTAKE TBLOWER E 2TAKIN TIL WE HAV CKING FAN	-1 ECONOMICOOLING WAAC UNITSF	ZER HOPPE TERSUB PULLED TAG AD ALLOWS FEEDERS. TE FEEDERS. TE ON C-2	RSWES MITTED W.C S AND K. M	O. # 6102025 AYFIELD RE	FOR REPAIRS		
	21:00 NOTE 21:55 22:00 22:35 22:41 23:30	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REI C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACESSTARTI REQUESTED J. LADNIEE C-2 OFF LINE HOTLINE K. MAYFIED AND E. WIL	NUTILITIES CVALVING OUT WELL WATER I PAIRS ERS ARE CLEAN LINGWILL CLE ROUND A4 SOO NG OFF WITH C STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO	HECKING C REFRACT C LINE TO HVA  L EAN INTAKE TBLOWER E 2TAKIN TILL WE HAV ICKING FAN OTBLOWER	-1 ECONOMICOOLING WAAC UNITSF  S WHEN LO BOOK G COAL OFF //E AN ESTIM IS DOWN TO R ON C-2 UNIT	ZER HOPPE ITERSUB ULLED TAG  AD ALLOWS FEEDERS. IATE ON C-2 ACCES LE WIRED AND	RSWES MITTED W.C S AND K. M S	D. # 6102025 AYFIELD RE	FOR REPAIRS		
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6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REI C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE # CALLED ACESSTARTI REQUESTED J. LADNIER C-2 OFF LINEHOTLINE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS WA C-2 TURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUEST	NUTILITIES C  IVALVING OUT  WELL WATER I  PAIRS  ERS ARE CLEAN  INGWILL CLE  ROUND A4 SOO  NG OFF WITH C.  STAY OVER UN  NOTIFIEDBA  LIS HAVE A4 SO  LVE AND WALK   UGE ON THE TU  ING WE REMOV	HECKING C REFRACT C LINE TO HVA L EAN INTAKE TBLOWER E -2TAKIN TIL WE HAV CKING FAN OTBLOWER ING TAGS W RBINE DEC	-1 ECONOMI COOLING WAAC UNITSF S WHEN LO GOOWN TO R ON C-2 UNIVITH TITAN 1 K	ZER HOPPE TERSUB FULLED TAG AD ALLOWS FEEDERS. IATE ON C-2 ACCES LE. WIRED AND O BLANK C-	RSWES MITTED W. G. S AND K. W S  AK DEPART 2 GAS LINE	D. # 6102026 AYFIELD RE	5 FOR REPAIRS		
6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05	C-1 WET BOTTOM CLEAR GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF. C-1 ECONOMIZER HOPP TALKED TO COAL HANDI COAL	N UTILITIES CVALVING OUT WELL WATER I PAIRS ERS ARE CLEAN LING WILL CLE ROUND A4 SOO' NG OFF WITH C. STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO LIS HAVE AND WALK UGE ON THE TU ING WE REMOV 4 SOOTBLOWE	HECKING C REFRACT C LINE TO HVA  L EAN INTAKE TITL WE HAV. CKING FAN OTBLOWER ING TAGS W RBINE DEC. RE ONE MILL R BOX REPA	-1 ECONOMICOLING WAAC UNITSFAC UNITS	ZER HOPPE LTERSUB PULLED TAG  AD ALLOWS FEEDERS. LATE ON C-2 ACCES LE WIRED AND O BLANK C- VICE ON C-3	RSWES MITTED W.C. S AND K. M   AK DEPART 2 GAS LINE 3TAKING	O. # 6102025 AYFIELD RE	5 FOR REPAIRS STARTED AFFECT		
6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACESSTARTI REQUESTED J. LADNIEE C-2 OFF LINE HOTLINE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS VA C-2 TURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUES: C-2 FD FANS OFF FOR A SIGNING ON C-2 GAS LIN	N UTILITIES C VALVING OUT WELL WATER I PAIRS ERS ARE CLEAN LING WILL CLEAN ROUND A4 SOO NG OFF WITH C. STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO LVE AND WALK UGE ON THE TU ING WE REMOV 4 SOOTBLOWE IE BLANK AND S	HECKING C REFRACT C LINE TO HVA I EAN INTAKE TBLOWER E 2 TAKIN TIL WE HAV. CKING FAN OTBLOWER ING TAGS W RBINE DEC TE ONE MILL R BOX REP,	-1 ECONOMIC COLLING WAAC UNITSF AC UNITSF S WHEN LO. 30X IG COAL OFF //E AN ESTIM IS DOWN TO R ON C-2 UNITH TITAN TO K FROM SER AIRS NG SYSTEM	ZER HOPPE ITERSUB PULLED TAG  AD ALLOWS FEEDERS. IATE ON C-2 ACCES LE WIRED AND O BLANK C.  VICE ON C-3 FOR TITAN	RSWES MITTED W.C. S AND K. M. S AK DEPART 2 GAS LINE 3TAKING	D. # 6102025 AYFIELD RE	5 FOR REPAIRS STARTED AFFECT	ED HVAC UNITS	SUBMITTED
6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:30 0:35	C-1 WET BOTTOM CLEA GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACESSTARTI REQUESTED J. LADNIEE C-2 OFF LINE HOTLINE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS VA C-2 TURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUES C-2 FOR FOR A SIGNING ON C-2 GAS LIN	NUTILITIES C VALVING OUT  WELL WATER I  AIRS  ERS ARE CLEAN  INGWILL CLE  ROUND A4 SOO  NG OFF WITH C  STAY OVER UN  NOTIFIEDBA  LIS HAVE A4 SO  LVE AND WALK   UGE ON THE TU  ING WE REMOV  44 SOOTBLOWE  EB BLANK AND S  DADCALLEI	HECKING C REFRACT C LINE TO HVA I EAN INTAKE TBLOWER E 2 TAKIN TIL WE HAV. CKING FAN OTBLOWER ING TAGS W RBINE DEC TE ONE MILL R BOX REP,	-1 ECONOMIC COLLING WAAC UNITSF AC UNITSF S WHEN LO. 30X IG COAL OFF //E AN ESTIM IS DOWN TO R ON C-2 UNITH TITAN TO K FROM SER AIRS NG SYSTEM	ZER HOPPE ITERSUB PULLED TAG  AD ALLOWS FEEDERS. IATE ON C-2 ACCES LE WIRED AND O BLANK C.  VICE ON C-3 FOR TITAN	RSWES MITTED W.C. S AND K. M. S AK DEPART 2 GAS LINE 3TAKING	D. # 6102025 AYFIELD RE	5 FOR REPAIRS STARTED AFFECT	ED HVAC UNITS	SUBMITTED
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6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:35 0:55 1:30 1:58	C-1 WET BOTTOM CLEAGETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REICC-1 ECONOMIZER HOPP TALKED TO COAL HANDIO C-2 BOILER HAS HOLE A CALLED ACES STARTI REQUESTED J. LADNIER K. MAYFIED AND E. WILL SIGNING ON C-2 GAS VACES CALLED REQUESTED AND RAIN IN THE RAIN GACES CALLED REQUESTED STORY OF FOR A SIGNING ON C-2 GAS LIND AMILL NOT PACKING L. C-1 BOILER IS SET TO H. J. LADNIER DEPARTS 1 B CONDENSATE PUMP ADDED 3 BARRELS OF E	N UTILITIES C VALVING OUT PAIRS ERS ARE CLEAN LING WILL CLE ROUND A4 SOO NG OFF WITH C. STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO LVE AND WALK UGE ON THE TU ING WE REMOV 4 SOOTBLOWE IE BLANK AND S OAD CALLEI YDRO ADDING \ ALLS TO 3A MII ALLS TO 3A MII	HECKING C REFRACT C LINE TO HV/  L L L L L L L	-1 ECONOMICOCLING WAAC UNITSF S WHEN LO. 30X 3G COAL OFF /E AN ESTIM IS DOWN TO. R ON C-2 UNITH TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TITAN TI	ZER HOPPE LTERSUB PULLED TAG  AD ALLOWS FEEDERS. LATE ON C-2 ACCES LE ACCES LE VICE ON C-5 FOR TITAN MILL BACK  VIA SLOW E	RSWES MITTED W.C. S AND K. M. S AK DEPART 2 GAS LINE 3TAKING TO MAKE RI UP AND GOI	O. # 6102026 AYFIELD RE 3B MILL OF EPAIRS ON ING TO 135M	F C-2 MV'S TO STABILIZE	ED HVAC UNITS	SUBMITTED
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6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:30 0:35 0:58 3:00 1:30 1:58 3:03	C-1 WET BOTTOM CLEAR GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REI C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACES STARTI REQUESTED J. LADNIER C-2 OFF LINEHOTLINE K. MAYFIED AND E. WILL SIGNING ON C-2 GAS LW C-2 TURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUES C-2 FD FANS OFF FOR A SIGNING ON C-2 GAS LIW C-1 BOILER IS SET TO H J. LADNIER DEPARTS 1 B CONDENSATE PUMP ADDED 3 BARRELS OF E COAL HANDLING CLEAN C-1 BOILER OUT THE DR	N UTILITIES C  VALVING OUT  WELL WATER I  PAIRS	HECKING C REFRACT C LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO HV/ LINE TO L LLAMPS SS FOR 10 N	-1 ECONOMICOLING WAAC UNITSFACUNITSFACUNITSFACUNITSFACUNITSOFF.  GEOAL OFF. GEOAL OF	ZER HOPPE ITERSUB PULLED TAG  AD ALLOWS  FEEDERS ATE ON C-2 ACCES LE. WIRED AND O BLANK C. VICE ON C-3 FOR TITAN MILL BACK VIA SLOW E  LOSED SLO	RSWES MITTED W. C. S AND K. M. S  AK DEPART 2 GAS LINE 3TAKING TO MAKE RI UP AND GOI SOILER FILL.	3B MILL OF EPAIRS ON ING TO 135M	F C-2 WAS TO STABILIZE	ED HVAC UNITS	SUBMITTED
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6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 0:00 0:00 0:05 0:30 0:55 1:30 1:30 1:58 3:00 3:25 4:00	C-1 WET BOTTOM CLEAR GETTING KNEES WET INSTALLED A CLAMP ON W.O. # 6102030 FOR REF C-1 ECONOMIZER HOPP TALKED TO COAL HANDI C-2 BOILER HAS HOLE A CALLED ACES STARTI REQUESTED J. LADNIEF C-2 OFF LINEHOTLINE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS UM C-2 TURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUESTED C-2 FD FANS OFF FOR A SIGNING ON C-2 GAS LIM J. LADNIER DEPARTS 1 B CONDENSATE PUMP ADDED 3 BARRELS OF E COAL HANDLING CLEAN C-1 BOILER OUT THE DR AUXILIARY REPORTS 3 G SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102	N UTILITIES CVALVING OUT WELL WATER I WELL WATER I PAIRS ERS ARE CLEAN LING WILL CLE ROUND A4 SOO NG OFF WITH C. STAY OVER UN NOTIFIEDBA LIS HAVE A4 SO LIVE AND WALK UGE ON THE TU LING WE REMOV 4 SOOTBLOWE LIE BLANK AND S OAD CALLED YORO ON ADDING I ALLS TO 3A MII NG INTAKES IFEEDER CLEAN 127 ON A PRIMA 128 ON B LS MIL 129 ON A SPIRAT	HECKING C REFRACT C LINE TO HVA LINE TO HVA LINE TO HVA LINE TO HVA LINE TO HVA LINE TO LOW LOW LOW LOW LOW LOW LOW LOW LOW LOW	-1 ECONOMICOLING WAAC UNITSFACUNITSFACUNITSFACUNITSFACUNITSFACUNITSFACUNITYFAC	ZER HOPPE ITERSUB IVULED TAG  AD ALLOWS  AD ALLOWS  FEEDERS. IVICE ON C  VICE ON C  OFR TITAN  MILL BACK  VIA SLOW E  CLOSED SLC  RESET AND  ONE FEED F.  OFF ON WE	RSWES MITTED W. C. S AND K. M. S  AK DEPART 2 GAS LINE  JOHN AND GOI  BOILER FILL  DW BOILER STILL NOT F  UMP BELTS  ST SIDE CO	3B MILL OF EPAIRS ON ING TO 135MTITAN AV FILL 1 B RUNNING	F C-2 WAS TO STABILIZE  WARE  CONDENSATE PUN W. O. # 1234567891  USTED	AND ADD BALL	S TO 3A MILL
6/21/2013	21:00 NOTE 21:55 22:00 22:35 22:41 23:30 23:15 23:35 0:00 0:00 0:05 0:30 0:35 1:30 1:30 1:58 3:00 3:25 4:00 NOTE	C-1 WET BOTTOM CLEAR GETTING KNEES WET  INSTALLED A CLAMP ON W.O. # 6102030 FOR REF. C-1 ECONOMIZER HOPP TALKED TO COAL HANDO C-2 BOILER HAS HOLE A CALLED ACES STARTI REQUESTED J. LADNIEE K. MAYFIED AND E. WIL SIGNING ON C-2 GAS VA ACES CALLED REQUEST C-2 FURBINE ON GEAR NO RAIN IN THE RAIN GA ACES CALLED REQUEST C-2 FO FANS OFF FOR A SIGNING ON C-2 GAS LIN 3A MILL NOT PACKING L C-1 BOILER IS SET TO H J. LADNIER DEPARTS 1 B CONDENSATE PUMP ADDED 3 BARRELS OF E COAL HANDLING CLEAN C-1 BOILER OUT THE DR AUXILLARY REPORTS 3 G SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102 SUBMITTED W.O. # 6102	N VTILITIES CVALVING OUT WELL WATER I PAIRS ERS ARE CLEAN INGWILL CLE ROUND A4 SOO' NG OFF WITH C. STAY OVER UN NOTIFIED BA LIS HAVE A4 SO LVE AND WALK UGE ON THE TU ING WE REMOV 4 SOOTBLOWE IE BLANK AND S DADCALLET YDRO ONADDING I ALLS TO 3A MI NG INTAKES UM GAUGE GLA D27 ON A PRIMA D28 ON B LS MIL D29 ON ASPIRAT D FOR MAINT AS	HECKING C REFRACT C LINE TO HV/ L L L L L L L L L L L L L L L L L L L	-1 ECONOMICOLING WAAC UNITSFACURITSFAC	ZER HOPPE ITERSUB PULLED TAG  AD ALLOWS FEEDERS IATE ON C-2 VICE ON C-3 FOR TITAN MILL BACK VIA SLOW E LOSED SLC RESET AND DNE FEED F OFF ON WE C ALLIGNME	RSWES MITTED W. C. S AND K. M. S AK DEPART 2 GAS LINE 3TAKING TO MAKE RI UP AND GOI BOILER FILL. DOW BOILER STILL NOT FOUMP BELTS ST SIDE CO.	3B MILL OF EPAIRS ON ING TO 135MTITAN AV FILL 1 B RUNNING	F C-2 WAS TO STABILIZE  WARE  CONDENSATE PUN W. O. # 1234567891  USTED	AND ADD BALL	S TO 3A MILL
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3





Your Touchstone Energy\* Cooperative

		L. PILE, D. HAYNES SL,	D. LINER SL, W.	MILLS , F. C	RAY, L.SIVII	in vac, K.	ONES, AND	D.SEBAST	ION, ALL HERENI	CK AND MIKE	COVERING
		Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
		1	OFF								
		2	OFF	44.4	0.04						
		3	163	41.4	0.34	5.01	9.80	0.058	155 N w/o Gas	CLOSED	
		FGD Nox	0.36								
		FGD Removal %	95.9								
		3A Mill Amps	93.1%								
		3B Mill Amps	92.3%								-
		COND. STOR. TNK	21/22								
		Instr. Air Dew Point	-69.8								
		msu. All Dew Folit	-03.0								
		Sootblowing									
	#	1 S/B Out of Service	8L10R								
		2 S/B Out of Service	NONE								
		S S/B Out of Service	NONE			-					
	**										
		DHSNTAS	NO THREATS								
7.4	14084	EIDE IN CO DOU ED					-				
		FIRE IN C2 BOILER	NINEDO ON OC	TALK TO T	DUCE AND	DALLED MA	ODENA.	TO 00	IN COTA COME		
		ISSUES WITH #6,#8 SCA		IALK TO B	RUCE AND	ALLED MAR	KK OBRYAN	IO GO AND	INVESTAGATE FOR	US	
		C2 START UP GOING THI	NOUGH FGD				-				
		HYDRO ON C1	-								
		BFP OFF ON C1 HYDRO	N CO I U INTERO	DTICOT	CK 01 0055	DAY AND S	DUCE LOCK	NO INTO			
		HOLDING AT 600 RPM OF							- D		
		#6 AND #8 IGNITER FLAM									
		SOLENOID AND DUMP V					I EKCEPT V	ALVE ROLL	ING ON UP NOW		-
		WO# 6102049 ISSUED O					V DEC:: 0==	TALLER	TO MITOUR ASSOCIATION		0145015
		WO# 6102054 ISSUED O					T DECK OFF	IALKED	MITCH ABOUT HE	WILL GET S	DMEONE ON
		#7 IGNITER SCANNER W					D OF ***	/ENTE			
		C2 TIED ON E-MAIL SE LAB REPORTS CHLORID		LIEDHOT	LINE HAS BI	EEN NOTIFIE	D OF ALL E	VENIS			
		KEN REIGER WILL BE								ING KENS AB	SENCE
		MIKE JONES WILL BE C						G FOR HIM			
		3 PORT FROM BOTTOM (				/0#6102061					
		WE ARE SET FOR VAC					IOOOLD				
		DATONIO OC TO FULL DO									
		RAISING C2 TO FULL PS	I AND FULL LOAD	D PER LAB	ACES HAS	BEEN NOT	IFIED	ALI AND IT	AIE NEED OO EE	OF AND OAT	LUMA DA OLG
4:4	40PM	JIM MILLER REQUESTED	O VACATIONW	D PER LAB	ACES HAS	BEEN NOT	IFIED	ON AND IF V	VE NEED COVERA	GE AND CALL	HIM BACK
4:4 4:5	40PM 50PM	JIM MILLER REQUESTED CALLED JEFF PAYNE HE	SI AND FULL LOAD D VACATION WI E WILL BE IN TO	D PER LAB ILL CHECK COVER	ACES HAS WITH MH TO	BEEN NOT	IFIED	ON AND IF V	WE NEED COVERA	GE AND CALL	HIM BACK
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4:4 4:5 4:5	40PM 50PM 52PM 00PM	JIM MILLER REQUESTED CALLED JEFF PAYNE HI CALLED JIM BACK AND "D" SHIFT (STERLING) I V.Ramsey S/L, B. Johnso Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing L S/B Out of Service	SI AND FULL LOAID VACATION WI E WILL BE IN TO TOLD HIM HE CO HERE "A" SHIFT on R. Payne, G.Ti Load OUTAGE 155 165 0.35 96 94 94 94 23/24 -65.9 NONE	D PER LAB ILL CHECK COVER DULD HAVE (SHAVER) vitt, S.Emb Opacity 22.1	OFF LEAVING erton , B.Hu Nox	S BEEN NOT D SEE WHA'	OUN, L.SHEA	RN Silica 0.41	Capability 138NW/OGAS	BYPASS ST.	
4:4 4:5 4:5	40PM 50PM 52PM 00PM	JIM MILLER REQUESTED CALLED JEFF PAYNE HI CALLED JIM BACK AND "D" SHIFT (STERLING) I V. Ramsey S/L, B. Johnso Unit 1 2 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing	SI AND FULL LOAI D VACATION WI D VACATION WI E WILL BE IN TO TOLD HIM HE CO HERE "A" SHIFT on R.Payne, G.Ti Load OUTAGE 155 165 0.35 96 94 94 23/24 -65.9	D PER LAB ILL CHECK COVER DULD HAVE (SHAVER) vitt, S.Emb Opacity 22.1	OFF LEAVING erton , B.Hu Nox	S BEEN NOT D SEE WHA'	OUN, L.SHEA	RN Silica 0.41	Capability 138NW/OGAS	BYPASS ST.	
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8:00 9:00 11:4:5 7:20	#####  COPM  #####  COPM	JIM MILLER REQUESTED CALLED JEFF PAYNE HI CALLED JIM BACK AND "D" SHIFT (STERLING) IV. Ramsey S/L, B. Johnso Unit 1 2 3 3 FGD Nox FGD Removal % 3A Mill Amps 3B Mill Amps 3B Mill Amps COND. STOR. TNK Instr. Air Dew Point Sootblowing 1 S/B Out of Service 2 S/B Out of Service 2 S/B Out of Service DHSNTAS PATRICK KELLEMS WILL ABSORBER CHLORIDES PULLING VAC. ON UNIT #1 RO LEAKS ON UNIT #1 RO LEAKS ON UNIT #1 RO LEAKS ON UNIT #1 RO LEAKS ON UNIT #1 BOLER HAS BEEN SI#1 BCOLER HAS BEEN SI#1 BCON HOPPERS ARE	BI AND FULL LOAI D VACATION WI D VACATION WI D VACATION WI E WILL BE IN TO TOLD HIM HE CO HERE "A" SHIFT ON R. Payne, G. TI Load OUTAGE 155 165 0.35 96 94 94 94 23/24 -65.9 NONE NONE NONE NONE NONE NONE NONE NON	D PER LAB ILL CHECK COVER COVE	ARTUP SUP	S BEEN NOT O SEE WHA'	OUN, L.SHEA	RN Silica 0.41	Capability 138NW/OGAS	BYPASS ST.	
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Your Touchstone Energy\* Cooperative

7:00AM	"A"SHIFT (Shaver) HER									
	L. PILE, D. HAYNES SL, COVERING, JASON GO	D. LINER SL, W. ODMAN HERE FO	MILLS ,F.GR OR START U	RAY, L.SMIT P	H PD, R.JC	NES VAC, A	ND D.SEBA	ASTION, ALL HERE.	JOHN,DARRICK,ALL	E
			_							
	Unit	Load	Opacity	Nox	SO2	CBD PH	Silica	Capability	Bypass Stk.	
	1	OFF								
	2	124	13.5	0.37	4.88	9.70	0.274	138 N w/o Gas	CLOSED	
	3	135	15.0	0.34	4.98	9.60	0.073	155 N w/o Gas	CLOSED	
	FGD Nox	0.34								
	FGD Removal %	96.8								
	3A Mill Amps	94.4%								
	3B Mill Amps	95.1%								
	COND. STOR. TNK	22/23								
	Instr. Air Dew Point	-61.5								
	Sootblowing									
#	\$1 S/B Out of Service	NONE								
#	2 S/B Out of Service	NONE								
#	3 S/B Out of Service	NONE								
	DHSNTAS	NO THREATS								
6:50AM	#1 BOOSTER FAN ON									
6:55AM	C1 BYPASS CLOSED ST	TART UP GOING T	HROUGH THE	E FGD						
7:00AM	THOMPSON ONSITE FOR	R WASH DOWN O	F ROLLER P	ANS AT THE	FGDCC	HEAR SETT	ING EQUIP	MENT IN THE BOOS	STER FAN AREA	
NOTE	C2 DRUM GAUGE GLAS	S VALVED OUT FO	OR MM TO C	HANGE POF	RTS OUT					
8:00AM	ROLLING C1 TURBINE									
8:41AM	C1 TIED ON LINEACE	S NOTIFIED E-M	AIL SENT	HOTLINE NO	TIFIED OF	EVENTS				





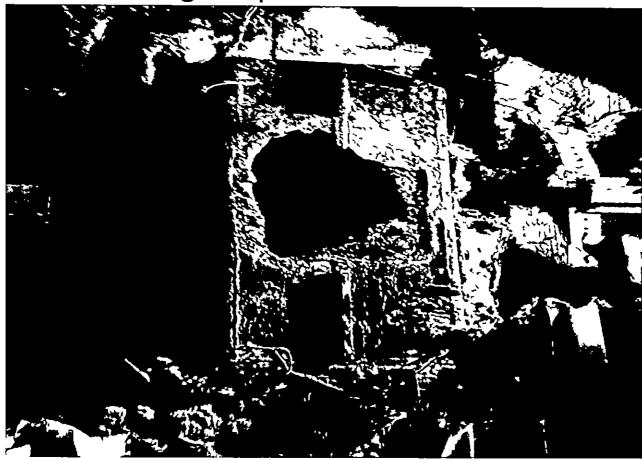








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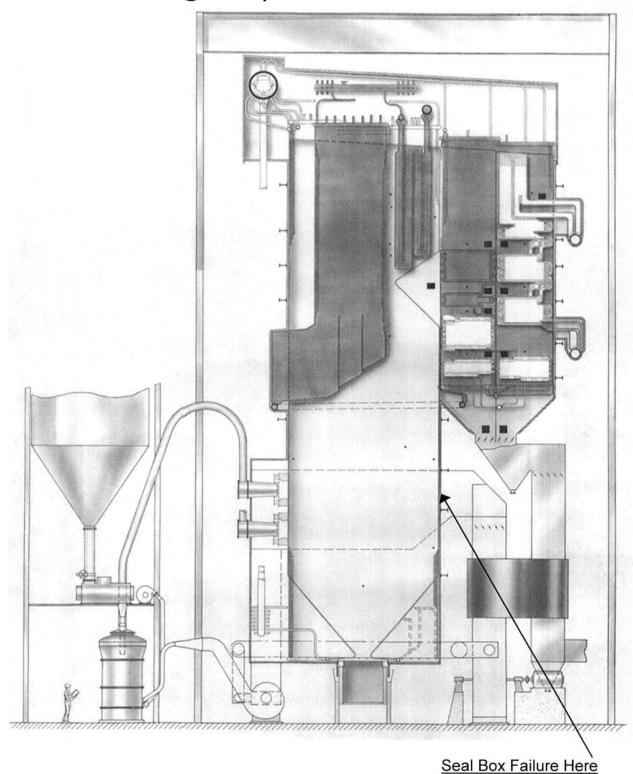
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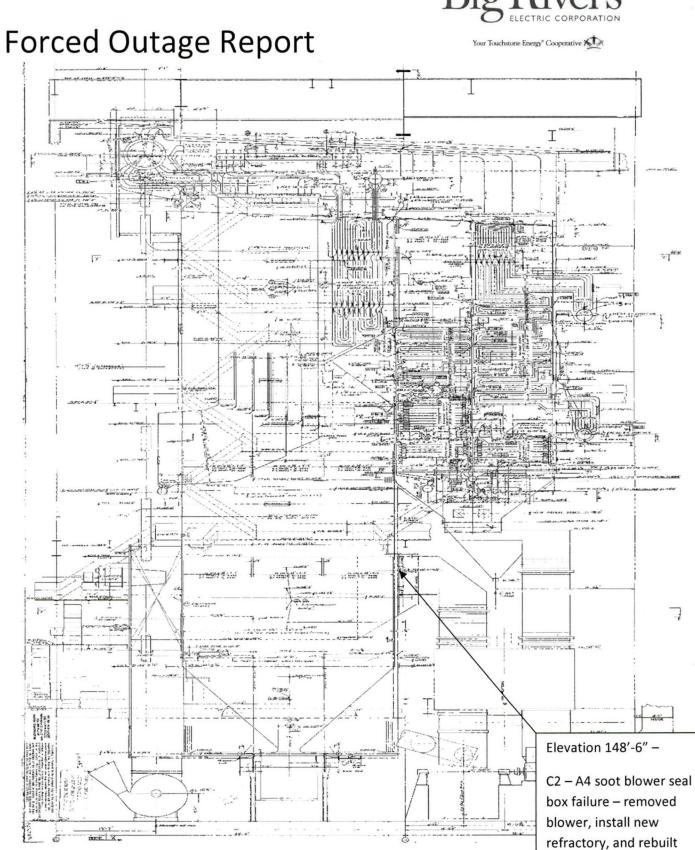






box

Your Touchstone Energy" Cooperative



10



Your Touchstone Energy® Cooperative

### **Forced Outage Report**

# Estimated Outage Cost

### Outage Repairs:

Labor

\$1,950

Material

\$0

Total

\$1,950

### Other repairs:

Labor

\$750

Material

\$0

Total

\$750

Grand Total \$2,700



Your Touchstone Energy\* Cooperative

Lost Sales Opportunity Report

	MISO	DARTR	even	ue and l	LOS	ST OPPOR	TUNITY		
Unit		Coleman 2	- C2-13	3-04			Product	ion Co	st
Date & Time Off Line		6/20/13	3 22:41				MW		\$/MW
Date & Time On Line		6/21/13	3 11:42				62	\$	29.68
Outage Duration		13 hr.	1 min.				106	\$	27.12
Outage Code		U	02				139	\$	26.32
Outage Reason	Repa	Repair gas leak (hole) around sootblower box.							
Date	DA LN	/IP Average	RT LM	P Average	-	DART P&L	Lost Opportunity		
6/20/13 (HE 23-24)	\$	28.67	\$	23.67	\$	608	\$ -		
6/21/13 (HE 1-24)	\$	39.88	\$	27.72	\$	(426)	\$ -		
Total					\$	183	\$ -		
Start Up Fu	el Cost						Total Forced	Outag	e Cost
S/U Fuel Consumed		514					DART P&L	\$	183
S/U Fuel Price	\$	5.67					Lost Opportunity	\$	-
S/U Fuel Cost	\$	(2,915)					S/U Fuel Cost	\$	(2,915
							Total	\$	(2,733
NOTES: All negative values are mo	nev out o	of nocket							





To:

**Bob Berry** 

From: Chuck Tucker

Date: 21-Jun-2013

Plant: Green

Unit: 1

GADS Class: UO2

#### Duration

Trip Time: 1-Jun-2013 09:40

Tie Time: 4-Jun-2013 04:04

Time Offline: 66:24

#### **Outage Description**

Green Unit 1 was removed from service on Saturday, 1-Jun-2013 at 09:40 due to failure of the 1A Air Heater drive gearbox. During routine boiler hydro, a knee tube leak was found and repaired while offline.

Fires were established in the boiler on Monday, 3-Jun-2013 at 21:40.

Tripped boiler to repair 1C BFP suction strainer on Monday, 3-Jun-2013 at 21:49

Fires re-established in boiler on Tuesday, 4-Jun-2013 at 01:14.

The unit was tied online on Tuesday, 4-Jun-2013 at 04:04.

### **Root Cause**

The Unit 1 "A" Air Heater gearbox input shaft to the first drive gear failed, locking up the gearbox which led to tripping the electric drive motor on overload. Maintenance replaced the gearbox as well as the electric drive motor. See Fig.1 below.

A hydro-test was performed on the Boiler while unit was down. A weeper tube leak was found in a water wall tube in NE knee section and was repaired.

See tube leak information and report below.



Your Touchstone Energy Cooperative

### Forced Outage Report

#### **Failure History**

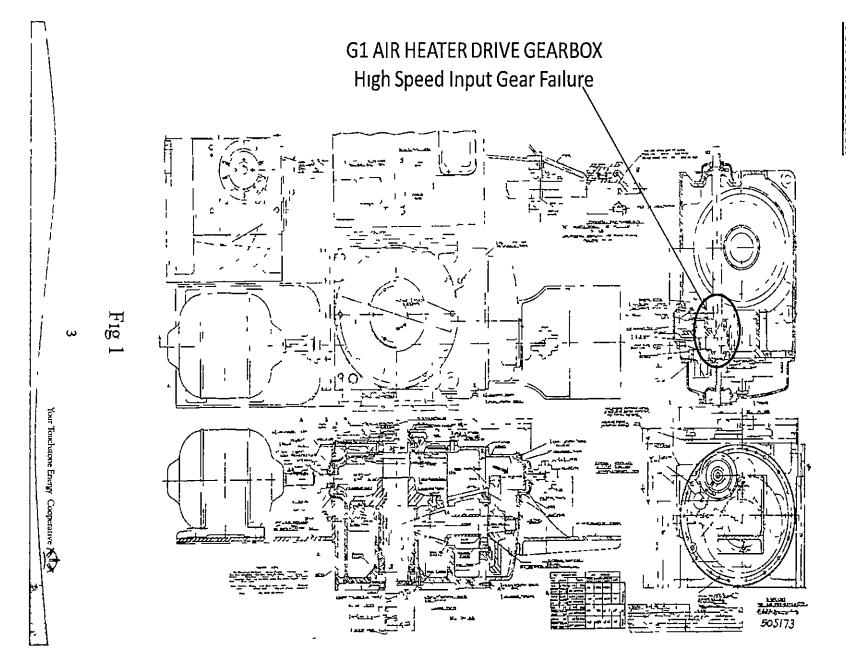
There are no recorded failures of Air Heater gearboxes in the period from 2007 to present for Green Unit 1

There were six (6) water wall tube leaks recorded in the period from 2007 to present for Green Unit 1. Those outages occurred on the following dates for the durations shown:

Feb-2007	17:50	Water wall tube leak
Jun-2007	66:37	Water wall tube leak
Dec-2008	18:47	Water wall tube leak
May-2010	19:05	Water wall tube leak
Nov-2012	65:13	Water wall tube leak
Mar-2013	47:53	Water wall – knee tube leak











### Green Boiler Tube Leak Record

Unit 1

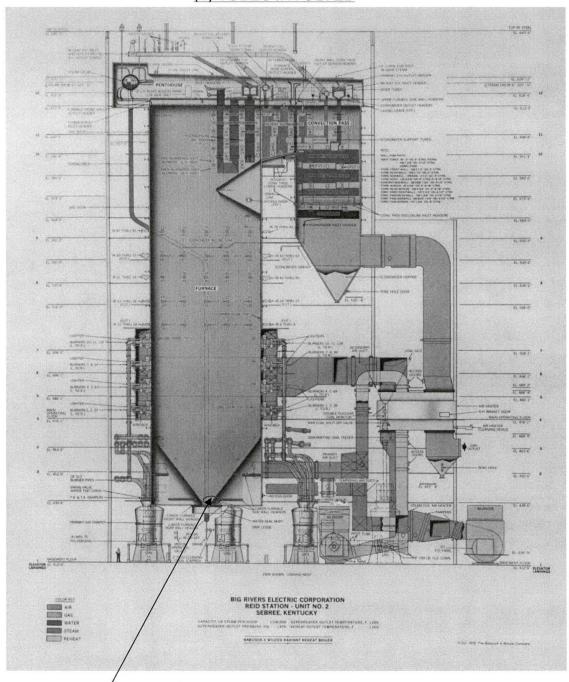
Date and Time Unit Off: 6-1-2013 9:40am Date and Time Unit On: 6-4-2013 4:04am
Type of Leak: (Check One)  Pin Hole Thick Lip Failure CrackX Thin Lip Failure Tube Wall Thinning Other
Orientation of Rupture: (Check One)  Longitudinal X Circumferential
Probable Cause: (Check One)  Stress X_ Overheat Erosion Internal Corrosion  External Corrosion Weld Failure (Shop Field)  Internal Obstruction to Flow Sootblower Erosion  Other
Type of Repair: (Check One)  Dutchman (Length of Dutchman) Pad WeldX  Plug Tube Short Circuit Other
Description of Repair: Tube Size OD2.5" Wall Thickness203"_Tube MaterialSA210A1
Welding procedure <u>GSP3-3L</u> Welded By: Titan
Exact Location of Leak: Be Specific
North East Knee tube 1st tube from wall, base metal repairs Elevation 439'6"





#### Your Touchstone Energy' Coopensive

# GREEN STATION UNIT 1 2013 (1) TUBES INVOLVED



North East Knee tube 1<sup>st</sup> tube from wall - base metal repairs Elevation 439'6".



Your Touchstone Energy Cooperative

**SOE Print Out** 

N/A

#### Other Work Completed While Unit Was Offline

#### **Electrical**

#### A Side Precip

Date: 6/1/2013

Location	Description of Problem	Repaired
1E	Replaced missing pins/washers	Yes
1W	Replaced missing pins/washers and angle iron	Yes
2W	Replaced missing pins/washers, Replaced missing angle iron	Yes

#### **B Side Precip**

Date: 6/1/2013

Location	Description of Problem	Repaired
5W	Replaced broken support bushings	Yes
6W	Removed 2 electrodes	Yes

Replaced drive motor on 1A Air Heater

#### Mechanical

Washed 1A & 1B Air Heaters Replaced 1A Air Heater gearbox Hydro Boiler Tube leak repair Inspected Boiler Inspected Condenser Checked inner & outer air registers and spin vanes





#### Your Truchstone Energy Cooperative

### **Forced Outage Report**

#### Instrument

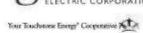
Blow back furnace, air heater diff., taps Cleaned PA flow tap Cleaned scanners / igniter packages Stroked ID, FD & PA Fan dampers Replaced gauges on EHC unit

#### IT

Added parallel bus alarms for 4160V switchgear Main & Tie breakers in DCS Changed out batteries in FGD Loop communications card



**Operators Event Log** 





LOG BOOK

DATE 4/1/13

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

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
1200	
61	SOZ 328 NOX 201 Apre 7.1
	502 328 NOX 201 spec 7.1
62	Cap 242 losed 221
	(ap 24)2 lord 221 802 222 NOX .175 ypec 4.7
slakus	51 3 24/25 52 3 25/25 P 2 83%
sculbers	
400	18 35.8 0 610 28 35.4 0 64
IU	In Service, A side, A+C Dawns, # 2-25T Tanks 18" " 2-36%
	Tanks 18" + 2-36%
705	IA AH GEN box out turny. IA 15.105
	Dropping load / gent turning. IA 15.10 500
	2A 6" 10"
	28 6ª 405
	HI 5M 455
	110 000

of all therman	SUP'R
1ST C.	110
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F155.12 R 1/93









LOG BOOK

	/		
DATE	6-1	-13	

	REID
W	GREEN
PN	COLEMAN

**WILSON** 

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

84-	Pa THIS FORM TO BE COMPLETED IN INK
TIME	REMARKS
80	Barrow - Seer - Turner - Bachman - Denton - Strickland Makan - Thomas Townsend - Lover (Un) - Hologond - Parker
	G1 Shutting down unt
90	G-2 Load 242 Cap242 3Mills on Coff So 2.253 Nox. 197 Opicity 7:600 ADS Cratiol in Survice 3 precipis out of Service
3	
920	G-1 of line + Pregio ant of Suria + Fuel ail out of
1200	Underflows 1A) 40+ 0 6'11" DA) off 0 6'11" 1D) 33.3 5 6'10" AB) off 0 6'11"
400	Mahafford 14 40+ 0 6 11" 0A) 333 0 6'11"  18 33.0 0 6'10" 0R) 34.4 0 6'11"
Note BV:	(Inheffour 1A 40+ 0 6 11" 8A) 333 0 6 11"  18 33.0 0 6'10" 0R) 34.4 0 6'11"  Diaining G-1 Wet Seaf  #1) 9/2 "2) 14/3 #3) 20/11 *4) 22/12 Digital 14'1"
430	
	00

OPER	SUP'R
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2ND	Livens 8x-8p
3RD	7
	SIGNED









LOG BOOK

DATE 6/1/13

O REID O GREEN O COLEMAN □ WILSON

ਰ (	SHIFT SUPERVISOR
Œ	<b>CONTROL OPERATOR</b>
٥	<b>AUXILIARY OPERATOR</b>
a	UTILITY OPERATOR

**a** SCRUBBER SHIFT SUPERVISOR O SCRUBBER OPERATOR

□ SCRUBBER AUXILIARY OPERATOR

**O SOLID WASTE OPERATOR** 

**a SCRUBBER UTILITY OPERATOR** 

THIS FORM TO BE COMPLETED IN INK

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LOG BOOK

DATE 6/2/13

- Q 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
1210	
61	akje
C2	Cap 242 10x of 178 502.175 NUX. 209 YEC 7.1
skkus	61 3 22/23 52 0 24/23 8 3 80%
Sculpbe	1A 40+ 0 4" 2A DEF 0 7
44	18 OFF 0 610 2835. 0 611
キハ	In serve, A side, A+C Dong, \$1-147 Taks 24' \$2-36 %
430	1 A AH Dive is complete and storting AH wash on A side
750	Starting G-1 B Side our heater Whole
10 30	Charling G-1 Condenser tules + Piping
17'0	Checking mines & Outle Die Regesters & Spin Vairo
120	air heater wash Complete + Changed Valving to IW. Bad
51 -	24402 worked ANOPER June Colar SUPA June uporhyda for Subaled Colar SUPA June
GZ	3RD SIGNED F156.12





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LOG BOOK

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10	GREEN
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SHIFT SUPERVISOR
CONTROL OPERATOR
AUXILIARY OPERATOR

D UTILITY OPERATOR

O UTILLET OPERATOR

□ SCRUBBER SHIFT SUPERVISOR

**D SCRUBBER OPERATOR** 

O SCRUBBER AUXILIARY OPERATOR

□ SOLID WASTE OPERATOR

D SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

- TP (E	REMARKS
	Eyach fils levels #1 37' #2)48
-	U
	Elyash Lib (Kesdings #1) =2)
<del>-</del> -	
	Bostonia fort 15 15 West 10 5
	Boghaine Fred 15 15
	West 1.0 5
125	Filling G-1 Borbe
్లాల	B Beaven Colled Back Will Lee in at 600
12.5	Unfullano 1A 401 0 6'11" 20 30 4 0 6'11"
	78 35 4 5 2 16 20/33 C 0 6 1
3 30	Draining G-1 Borler of the Turning of Vacuum Perges
400	18) 32 6 0 6'11" 20) 27 2 0 6'10"
	18) 32 6 \$ 6'11" 26) 3 2 9 8 6'10"
<del></del>	171 #1 (1/2 #1) - / #1/2 / 5
	Shi ") 9/2 "2/17/4 3/24/11 =4/21/12 Degital 13'8"
<u> </u>	
L	1

OPER	SUPR
1ST	
2ND	Swens 8A-Po
3RD	
	SIGNED

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LOG BOOK

DATE 6/2/13

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

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
Ser	Donthan, Bolds, Boven, Lawrence, Whit lolge, Hoover, Alex Trais, Temple, Shalten, Tapp.
3.10'5	#1-46 E-\$ U- #2-34 E-1.0 W-1.0 5- 5- 05-0
804243	18 35,4 0 7 28 33. 0 6"
842	5-1 Released for Hydro
100	6-1 B BFP in corvice - Shady Driver at

OPER	SUP
1ST	Cont
2ND	
3RD	
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LOG BOOK

DATE 6-3-13

- O'GREEN
- □ COLEMAN
- Q WILSON

TIME

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

THIS FORM TO BE COMPLETED IN INK

REMARKS

1200	
61	atage
62	Cap 242 106-6 230 502,426 NOB. 196 year 75
slukers	610 24/25 62 2 24/24 P3 80%
sendbas	1V <sup>†</sup> 2B 1B
Œ.	In samile, B side, C Drus, #1 -14T Tanks - 22' #2-18%
100	5-1 Hydro - Fund weeper in waterwall
115	Draining value walls
5-15	Boiler Released for Hydro
530	J. Poiles celled for use MITIN Frenhal.
The state of	yed due to A' AH an druce over run datch BA
1 fm	19 due to 6'BFP suction Strange Supra
lowing	aport /repairs nod 3RD SIGNED
-2 - 24	F18









**LOG BOOK** 

DATE 4/3/13

Ð	BEID
12	GREEN
o	COLEMAN
۵	WILSON

SHIFT SUPERVISOR CONTROL OPERATOR

D AUXILIARY OPERATOR

O UTILITY OPERATOR

D\_\_\_\_\_

□ SCRUBBER SHIFT SUPERVISOR

□ SCRUBBER OPERATOR

□ SCRUBBER AUXILIARY OPERATOR

O SOLID WASTE OPERATOR

O SCRUBBER UTILITY OPERATOR

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
<u> </u>	G. Philips Reported High dissolved Oz in G-Z Boiler chemistry.
	chemistry.
	1A NF 0 2 2A 29 r D 6
	1A NF 0 7 2A 29 r 0 6"
715	IA Air Heater Low Amp glaven in. Air Heater
	Maintenance Will for our drive i electric
<u> </u>	Maintenance! Will tay on drive & electric
<b></b> _	drive.
750	
7 =	Gilbrilerdry. Pulling equipment out of
<del></del>	Dailer, 3
<b></b>	
	<del></del>

OPER	]	SUPA
18T		300-
2ND		
3RD		
	SIGI	NED

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LOG BOOK

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

	8A-8P THIS FORM TO BE COMPLETED IN INK Monday
TIME	REMARKS
8AM	Hust, Seer, Hayes, Reed, Northington, Butler, J. Barron, Hanes Combs, Cook, R. Parker, Hobgood
8-1	Setting up unit equipment and valving
6-2	Load-242 Cap-242 2C Mill on standon 502-34 NDx-20 Chagary-570 A.D.S. in service Precips but 4
Slakers	Green   - Out. 25'/25' Green 2 - Zon. 24'/24' (#35ilo) Frep Bldg Zon. 85% (#45ilo)
I.U.	Remains in service w/B Conveyor system, A+C Drums ash from # 2 silo@20toh, #2 snisot system@3670, 17 in sludge tanks.
8:00A	Setting G-Lup to five. Maintenance working on IA Air Heater magnetic coupling.
9,00A	Underflows 1A-Off T-0 7'0" ZA-31.7(on) T-0 7'0" 1B-Off T-0 7'0" ZB-342(on) T-0 7'0"
	OPER SUP'R

OPER	SUP'R
1ST	West 8A-81
2ND	
3RD	
	SIGNED

F155.12 R 1/93









LOG BOOK

- a REID GREEN
- **Q 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 10:00A WBH - 1.0 Silo WBH-1,0 10:33A 2.51P Drive on 12:5512 Under Hows 1A - Off 2 45P 4:00P 2A-32.0(on) T-0 6'10' 334 (on) reports Maintenance has found problem Air Heater. The air drive over-run clutch and was causing a drag on the electric

OPER	,	SUP'R
1ST	We	st 84.88
SND		
3RD		
	SIGNED	

F155.12









LOG BOOK

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

TIME	REMARKS Monday
	drive. Maintenance will replace over-non chutch.
7 P	Mochers, Bowen, Belds, attracyer, Lowrence, Hopkons, Pakeer, Berry Bell, Rigden, Surel, Duvall
P13	IA AH in service after agains
940	Five on 6-1 Boiler
918	Pulled Fires to shut daw Feed pup/ to report

OPER		SUP'R
1ST	West	-
2ND		
3RD		
	SIGNED	









LOG BOOK

DATE 6/4/13

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

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS							
1200								
THE RESERVE OF THE PERSON NAMED IN	startup							
62	(e, 242 load 178 502,206 NOX 113 april 6.9							
shkers	61 0 25/25 62 2 23/24 82 87%							
scrubbes	1A DEF 0 6" 20 32.5 0 410 1B OFF 0 611 2B 32.3 0 6"							
⊒V.	To Sura, B sub, ALL Dury, #1-12T Taks - 17' #1-36%							
5:10'5	41-36' E-1.5 U-1.0 #2-31' E-1.0 W-1.0 5-0 6-0 5-0 6-0							
14	Fires in 6-1 Boiler again.							
404	GI Tied solowe							
y 30	stated X-over lak I Hour							

G1 Ariona 014, tuda 040	JY, OBERD A. D.	Ulong	SUP'R
@ 1315 (NO SILICA DENATE)	ist	2	cel
SA-1 SS-1 402 -4.07 SH-19	932ND		
61-249	3RD		
		SIGNED	
G2-241			F155.1 R 1/9





You Trucket on Group! Congression 1



**LOG BOOK** 

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

#### THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
250	IA OVE a 4" ZA AF D 4"
	18 OFF 0 6" ZB OFF 0 4"
8-14	Dun Thor, Reed Ger Northington, Butler, T Barren Honor, Comps, Cock, & Parker, Tapp
<b> </b> -	Honor, Combs. Cock, A Parker, Tapp
	1 100 100
<del>  ()- /</del>	Lord 192 AD+C M:11s pre. pr
<del></del>	Con 192 A D+C Mills prespo Con 74 Nox 20 appenity & o
62	Lood 241 A.D+DMIL Presper youT
	Son . 37 Nox . 18 cparty 5.1
	,
Slocker	G1-100 245 + 251 5/125/01 G2 200 21.4 + 244 F7510 Preplan 873" F45/0
	G2 200 21.4 + 244 F7 11.
	Prep 10 1 87 3 245 10
510	60 1 1 1 1 1 1 1 1
[	189 1 /ca 1600 Dium
920	Fly Ash 5 los 21- 29 =2-48
<del></del>	Ply Ash 5/01 21-79 2-48
	EZO EIT
	EZO EIS WIS WIS

OPER	SUPR
IST	Check
2ND	D200
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	SIGNED

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LOG BOOK

DATE 6-4-13

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

THIS FORM TO BE COMPLETED IN INK

TIME	REMARKS
9:30A	1A 40+ 0 611 2A 319 0 610"
	10 40+ 0 611 28 308 0 611.
	STack Drains OK
11:57	Solica . 61 Good for 1800 Drum
1:15	silica is Good for full gressure
1:19	GI Dack in ADS
60:1	1A 20.4 of 6:11 2A 229 of 69"
Line	6-4 7-7 14-9 16-10 10.12
6:20	To 257' again - changed position of Air mover
	De styt here - A Styl knowing
	The state of the s

OPER	SUP'R
1ST	15202
2ND	
3RD .	Livens So-Dan
3RD	SIGNED Sp. E

F155.12 R 1/93





### **Estimated Outage Costs**

Labor & Materials \$51,427.55

### Your Teachstone Energy\* Cooperative

#### Lost Sales Opportunity Report

# FORCED OUTAGE COST ANALYSIS MISO DART Revenue and LOST OPPORTUNITY

Unit Green 1 - G1-13-04 **Production Cost** Date & Time Off Line 6/1/13 9:40 MW \$/MW Date & Time On Line 6/4/13 4:04 91 \$ 28.76 **Outage Duration** 66 hr. 24 min. 163 \$ 25.67 Outage Code UO2 235 24.72

Outage Reason

Removed from service due to air heater gear box issues

Date	DA LN	IP Average	RT LI	MP Average	ı	DART P&L	Op	Lost portunity
6/1/13 (HE 8-24)	\$	29.32	\$	28.40	\$	(15,221)	\$	
6/2/13 (HE 1-24)	\$	27.71	\$	21.90	\$	-	\$	(17,294)
6/3/13 (HE 1-24)	\$	30.78	\$	29.66	\$	(26,926)	\$	(5,031)
6/4/13 (HE 1-14)	\$	24.80	\$	25.59	\$	4,453	\$	-
Total					\$	(37,693)	\$	(22,325)

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		12,371	DART P&L	\$	(37,693)
S/U Fuel Price	\$	3.19	Lost Opportunity	\$	(22,325)
S/U Fuel Cost \$ (39,445)	(39,445)	S/U Fuel Cost	\$	(39,445)	
			Total	\$	(99,463)

#### 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: Billy Boarman

Date: 6-Jun-2013

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

Duration

Trip Time: 2-Jun-2013 16:01 Tie Time: 5-Jun-13 14:01

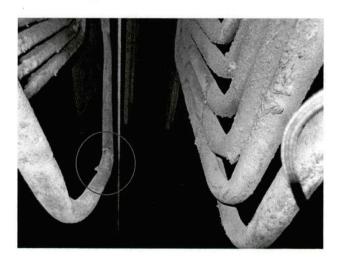
Time Offline: 70:00

#### **Outage Description**

HMP&L Station Two Unit 1 was removed from service on Sunday, 2-Jun-2013 at 16:01 due to a suspected tube leak in the Radiant Superheat Area of the boiler.

#### **Root Cause**

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



### **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





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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

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

24-Feb-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

#### **Corrective Action**

The outer loop on the 5<sup>th</sup> element from the west wall was replaced along with the addition of a 3' dutchman on each side leg.

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 2-Jun-2013 16:00:53:479

Event Time	State	Tag Name	Tag Description
2-Jun-2013 16:01:21:254	TRIP	H125DRMTP	BLR DRUM LEVEL TRIP
2-Jun-2013 16:01:19:823	HIGH	H122HOTWELLHI	COND HOTWELL LEVEL HIGH
2-Jun-2013 16:01:15:847	OK	H150OCB162CSTP	OCB 0162 GEN H1 CS TRIP
2-Jun-2013 16:01:15:642	TRIP	H150OCB162CSTP	OCB 0162 GEN H1 CS TRIP
2-Jun-2013 16:01:14:746	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
2-Jun-2013 16:01:13:440	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
2-Jun-2013 16:01:12:938	OK	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
2-Jun-2013 16:01:12:738	TRIP	H150OCB166CSTP	OCB 0166 GEN H1 CS TRIP
2-Jun-2013 16:01:07:138	LOW	H125DRMLVLLOW	BLR DRUM LEVEL LOW
2-Jun-2013 16:01:02:029	OPEN	H150OCB166ST	OCB 0166 GEN H1 STATUS
2-Jun-2013 16:01:01:983	OK	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
2-Jun-2013 16:01:01:979	OPEN	H150FLDBKRST	GEN H1 FIELD BKR STATUS
2-Jun-2013 16:01:01:908	OK	H150OCB166GETP	OCB 0166 GEN H1 TRIP
2-Jun-2013 16:01:01:905	OK	H150OCB162GETP	OCB 0162 GEN H1 TRIP
2-Jun-2013 16:01:01:903	TRIP	H150FLDBKRTP	GEN H1 FIELD BKR TRIP
2-Jun-2013 16:01:01:900	LKOUT	H150GENLO86G2	GEN DIFFERENTIAL LO (86G2)



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rour reticitores	- mices	Cooperative	14.31

The state of the s	1		
2-Jun-2013 16:01:01:898	OK	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
2-Jun-2013 16:01:01:880	TRIP	H150OCB162GETP	OCB 0162 GEN H1 TRIP
2-Jun-2013 16:01:01:880	TRIP	H150OCB166GETP	OCB 0166 GEN H1 TRIP
2-Jun-2013 16:01:01:877	TRBLE	H150REVPWR67G2	GEN H1 REVERSE PWR (67G2)
2-Jun-2013 16:00:58:224	OK	H133LMISTP	LAST MILL IN SERVICE TRIP
2-Jun-2013 16:00:54:911	OK	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
2-Jun-2013 16:00:54:859	LOW	H122HTR2LVLLO	LP HTR 2-2 LEVEL LOW
2-Jun-2013 16:00:54:283	TRIP	H140STPVLVTP	TURB STOP VLV CLSD TRIP
2-Jun-2013 16:00:54:231	TRIP	H133LMISTP	LAST MILL IN SERVICE TRIP
2-Jun-2013 16:00:53:479	TRIP	H133EMERBLRTP	EMERGENCY BLR TRIP
2-Jun-2013 16:00:53:036	LOW	H143HYDOILPRLO	TURB HYD OIL PRESS LOW
2-Jun-2013 16:00:52:995	OK	H143HYDOILPRLO	TURB HYD OIL PRESS LOW

#### Other Work Completed While Unit Was Offline

- Clean Seal Trough
- H-1 AUX. TRANSFORMER-CLEAN AND CHECK FANS
- H-1 480V TRANSFORMERS-CLEAN AND CHECK
- H-1 COOLING TOWER DC FUSES-CHECK FUSES
- Re-packed economizer drain valves
- Repaired bottom ash hopper equalizing valves
- Repaired gas leaks SCR sonic horn
- Replaced east drum gauge glass drain valve
- Repaired gas leak on SCR door
- · Repaired gas leak on Air Heater expansion joint
- 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
- Repaired coal leak on A1 blast gate
- Repaired wet bottom pit sucker valves
- Replaced #2 economizer hopper ball valve
- Cleaned seal air fan filters
- From the initial boiler hydro a pin hole leak was discovered on the 5<sup>th</sup> Rad. SH Inlet element from the east wall at elevation 536' on the north side 2<sup>nd</sup> loop from the inner (hair pin) loop. Upon inspection of this area and UT indications it was discovered that the 2<sup>nd</sup> element inner (hair pin) loop north side, 4<sup>th</sup> element 2<sup>nd</sup> loop from the inner (hair pin) loop north side, and the 6<sup>th</sup> element 4<sup>th</sup> loop from the inner (hair pin) loop north side displayed soot blower erosion. Repairs



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include: 5<sup>th</sup> element welded a 5'- 6" dutchman in, with swage; 2<sup>nd</sup> element welded a 46" dutchman in, 4<sup>th</sup> element welded a 5' dutchman in and the 6<sup>th</sup> element welded a 5'- 6" dutchman in, with swage, all on the north side of the elements.

 Repaired an external tube leak below the #27 observation port at elevation 482' on the NE corner of the boiler, repaired via BMR and installed a hard tie on the tube beside it.



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### Operators Event Log

6/2/2013	8:00AM	SAFETY B	RIEFING												
-, -,	NOTE		TWORKING	ON H1 RH	MID THER	MOCOLIPI	E READING	HI CHECK	DIOCAL O	70 DEG				-	
	NOTE		ILL BALLS T						DLOCAL	70 DEG					
	NOTE		G UP COAL			L- HZ-D IVIII	L I DANNE	-							
		OPL REVI		D1 HZ-D IVII	LL						-			-	
	2 0000000000000000000000000000000000000			CTIVITY AL	A DA 4 INI / I	AD MOTIFIE									
			IC CONDU					*****	01/11/0						
			AL FEEDER			ER MISSING	o/ INST & N	MAINT CHE	CKING						
			ELL MAKE												
	NOTE		DS LIKE SH			.5 & 47 SOC	OTBLOWER	S/ J.FRANC	IS NOTIFIE	D					
			OF ADS FOR												
			TIFIED H1 C												
	3;09PM	CALLED E	XPRO ETA	11PM-12M	N-JASON										
	3;20PM	H1 FUEL C	DIL IN BOILE	ER											
	3;25PM	H1 SCR ST	OP SIGNAL	AMMON	IIA OUT										
	3;51PM	H1 PRECIE	PS OUT												
	4;01PM	H1 OFF LI	NE& SCRUE	BBERS OUT	/EMAIL										
	4;30PM	B.WILLET	T&T. WOO	DS & a.you	ing GOING	HOME									
	4;45PM	H1 FANS	IN PENTHO	USE											
			NLAND FOR		OUSE CREV	V 8PM & S	CRUBBERS	& ECONS 7	7AM 6/3/20	013					
			& J.WADL						J, 5, 20						
						J	-, -, 2023								
6/2/2013	8:00PM	CONN. CI	ARK, BREE	DEN. HIGG	INS. CUTSE	AW. RI AN	KS & YOUN	IG				B SHIFT P	AYNE		
-, -, -023	2.007 111	35,711, 61	, DITEL		, 50131	, , , , DEAN						S STATE F	THE		
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FIC	BACK PRE	SSURF	
		R1	24HR	55		STNDBY		NIT. ON B		TIETTIO TTE	0001	711111111111111111111111111111111111111	Drien inc	R-1 CTL	-
		11,2		- 55	10	3111001		IIII. OII D	OILLIN					PWTL	
		H1	145	165	OUTAGE	TUBE LEAK								WIL	
			440	4.55		5 0.37	40.0	0.054							
		H2	142	165		0.37	10.8	0.051	14.6	93.1	9.48	206	2.7	HMPL	
		-			W.FUEL										
		C.T.		62	STANDBY										
											GAUGE GL	ASSES		DRYING A	GENT
		ALARMS:									OK			H-1 20%	
		R1												H-2 20%	
		H1	STEAM SE	EAL HI/LO	BURNER N	ANGT. EH	PRESSURE	LO/PUMP	START REQ						
		H2													
		SOOTBLO	WERS TAG	GED											
		R1- 16,19	,28,29,30,3	1						SILO			BOOTHE S	SYSTEM	
		H1 20/5,	6,7,8,9,10,	11,31,32,39	)					15FT			OUT		
		H2 1,2,4,	5,7,9,10,11	,15,18,19,2	0,21,22,23	24,38,39,4	0,42								
		FUEL OIL	T C.H.	HMPL	NORTH	SOUTH									
			8' 5 1/4"												
5/2/2013	8:00PM	SAFETY BE	RIEFING												
	8:30PM	OPEN AN	D TAG 0169	H1 DISCO	NNECT										
	9:35PM	LARRY OV	VEN FROM	INLAND HE	ERE. LATE D	UE TO FLA	T TIRES ON	TRAILER							
	10:20PM	MAINTVE	RIFIED ON	E LEAK IN S	UPERHEAT	S 5TH PAN	EL. ONE LE	AK.							
	10:35PM	SECOND E	BFP TAGGE	D. MAINTS	IGNING O	N AND WIL	L START OF	WATER W	ALL TUBE						
		EXPRO HE													
				ACUUMING	G H1 PENTI	HOUSE. HA	D TROUBL	E WITH PIP	ING PER LA	RRY OWE	N. EXPRESS	ED TO HIM	TWO		
			TO LONG T							5					
							10								
	11:40PM	H1 EH UN	II DRAINFI	JANDDOG	OPEN FO	JK CLEANIN	V ( ¬								



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			ARNING FO		-											
					I TOD DUD	NIED DECK	CVCL WC	DED INITED	EEDEC MUT	11 EADDO E	0111044541		0011111000			
										H EXPRO E	QUIPMEN	. IIIAN W	ORKING OF	N COAL LEA	KS	
			AINT CHECK			ULLING WE	IBOTTON	IAND IAGO	ING							
	5:45AM	DROPPED	DRYING AC	3EN1 10 13	0%											
/3/2013	8.004M	FELTY CE	CIL,BLAIR,E	MRRV HIII	VARD				_			A CHIET T	TOW	-		
/ 3/ 2013	0.00AW	DUVALL, B		IVIDITI , HILL	IAND							A SHIFT T	. IOW			
		DOVALL, E	LAIN		-	-		-								
		UNIT	LOAD	LINUTCAR	NET CAP.	502	CO2	NOV	ODACITY	REMOVAL	DUCT	AAAA 516	DACK DDE	CCLIDE		
		R1	24HR			302	CO2	NOX	OPACITY	REMOVAL	וצטע	AMM. FLC	BACK PRE			
		VI	-	55										17'6"		
		114	STBY	NIT ON BO										27'		
		H1	0		153	0	0	0	0	0	0	0	0			
		un	OFF TUBE		422	0.405	40.5	0.050	40.0							
		H2	141	145	132	0.405	10.5	0.062	18.2	93	8.81	190	2.6	15.1'		
		СТ	0													
		C.T.	0	58	58											
		ALADAAC									GAUGE GL	ASSES		DRYING AG	SENT	
		ALARMS:									OK			15%		
		R1	CTCALLO	A1 111 / C	DUDNES		00010 5	1515								
		H1			BURNER M											
		H2	LOBE OIL F	URIFER TR	OUBLE, EH	RES LEVEL	HI, GEN H	DROGEN A	BNORMAL							
			WERS TAGO													
			6,7,16,17,18		,29,30,31											
			8,9,10,11,2													
		H2 1,2,4,	5,7,9,10,11,	15,18,19,2	0,21,22,23,	24,38,39,40	0,42				SILO			BOOTHE SY	STE	
											15.9'			BSO		
		FUEL OIL		HMPL		SOUTH										
		LEVELS	8' 4 1/2"	11'2 3/8"	7'8 3/4"	8 1/4"										
	8:00AM	1 SAFETY BRIEFING														
	8:00AM	H-2 LIMITED TO 132 NET WET FUEL														
	8:00AM	WET SEAL DRAINED TO REMOVE CORNERS H-1														
	8:00AM	INLAND WORKING ON ECONS H-1 SETTING UP FOR H-1 SCRUBBERS														
	8:00AM	GLOBAL CLEANING UP COAL IN H-2 BASEMENT														
	8:15AM	H-1 GEN TAGGED COMPLETE ISOLATION EXCEPT GROUND STRAPS TRANS WILL DO THER OWN GROUNDING														
	8:20AM	CALLED WAREHOUSE TO GET 2 BARRELS EHC FLUID FOR H-1 SPONGED OUT UNIT														
	9:30AM	PRECIPS C	PEN AND	CLEANED												
	NOTE	SEAL AIR I	FANS AND	PA FANS C	OVERED TO	CLEAN W	ET SEAL									
	9:50AM	6-B CONV	BACK IN													
	9:55AM	H-1 EH UN	IIT TAGGED	FOR COM	PLETE FILTE	R										
	10:00AM	CALLED A	CES H-2 WII	LL BE AT 13	2 NET TILL	1600 HOUR	S WILL EV	ALUATE CO	AL AT THA	T TIME CHE	CKING HO	URLY				
	10:00AM	H-1 COAL	FEEDERS TA	AGGED FOR	CALAND	OPENED										
	10:06AM	CORNERS	OFF H-1 W	ET SEAL FO	R CLEANIN	IG										
	NOTE	NEW ROD	DING VALV	E ON H-1	#2 ECON HO	OPPER										
	11:00AM	NEW ME	WASH VALV	E FOR H-1	INSTALLED	)										
			DRYING A	-												
	2:00PM	SETTING	1-1 BOILER	FOR HYDRO	O AND VAC	CHECK										
			R SET FOR I			-										
	3:20PM		R CLEAN MO			AL										
			ACES THAT				TLL 1800 H	OURS								
			LAND OFF						FR							
			IIT FULL AN					CLIIVID								
			AD COUNT				LVVIILILI									
			OOR AND B													
	J.JJ. IVI	I HECIT CL	OU WIND D	HON PLATE	2 OIA IAOII	I ILD CLEC										



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				9											
	8:00AM	SAFETY B													
	8:00AM	CLEANING	G OIL GUNS	ON H-1											
	8:10AM	PRESSURE	ED UP EH UI	NIT ON H-1	TO LATCH	TURBINE									
	NOTE	ADDING O	DIL TO H-1 E	HUNIT											
	9:00AM	SETTING H	H-1 BOILER	UP FOR HY	DRO										
	10:15AM	H-1 BOILE	R SET FOR I	HYDRO											
	NOTE	H-2 #38 S0	OOTBLOWE	R BACK IN											
	10:30AM	H-2 VOLTA	AGE REG BU	JMP TEST C	OMPLETE -	PASSED									
	11:30AM	CALLED A	HOGAN L/I	М ТО ОРТ	OUT OF OT										
	11:32AM	CALLED J.	WADLINGT	ON TO OP	T HIM OUT	OF OT WI	LL NOT BE I	N							
	11:45AM	B DUVALL	COMINGI	N 6-5-13 8A	A-8P CONTA	ACTED D O	NAN WOR	KING 7A-7	6-5-13						
			J HIGGINS												
			CALLED BA			OME TON	GHT					-			
	NOTE		OAL FEEDER					AFT WO# 6	100300	-					
	NOTE		OOT BLOW!					,	7100300						
	4:15PM		AD COUNT I			FIFCT									
	4:30PM		DISPATCH	The state of the second			IN H-1 OCE	ı's		1					
	NOTE		NIT RUNNIN						DI IMP TUD	RINE NOT	ATCHED				-
	6:05PM		PAYNE TO						- ONE TOR	DINENUIL	ATCHED				
	7:21PM		LET PRECIP				JIL CHRIS C	KED							-
	7.211 141	112-A 001	LLIFILLIF	TRIFFED	ACK IIV @	7.23F IVI	-								
4/2012	0.00014	MODDIC	DENTON D	EVALOUES.	DAWED 011			_							
4/2013	8:00PM	MORKIS, I	DENTON, R	EYNOLDS,	BAKER, GA	TTON,EDV	VARDS, TAT	Ł				D SHIFT AS	SKINS		
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE	
		R1	24HR	55	48										
			STBY	NIT ON BO	DILER										
		H1	0	165	153	0	0	0	0	0	0	0	0		
			OFF TUBE	LEAK											
		H2	143	145	132	0.45	10.5	0.05	17	91	10.02	198	2.6		
		C.T.	0	58	58						GAUGE GL	ASSES		DRYING AG	FNT
		ALARMS:									ОК			10%	
		R1												2070	
		H1	STEAM SE	AL HI/LO	BURNER M	ANG. FD P	RSS LO CT	LEVEL							
		H2			OUBLE, EH				BNORMA	L					
			WERS TAGO												
			6,7,16,17,18		,29,30,31										
			8,9,10,11,20												
		H2 1,2,4,	5,7,9,10,11,	,15,18,19,2	0,21,22,23,	24,38,39,4	0,42				SILO			BOOTHE SY	STEM
											1' ABOVE	1		OUT	
	8:00PM	SAFETY BE	RIEFING												
	NOTE		TO SAMPL												





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15AM DTE 42AM 66AM 66AM 00AM DTE DTE 05AM 43AM	C. PAYNE OPL TRAIN H-1 BFP O H-1 HYDRI MAINT CH H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H-	OFF SICK T NING N FOR HYC D HOLDING ECKING H- OLLER - GO JNKER GAT C COUNT - I ANS ON FC 1 - FLAMEI 1 BOILER -	ODAY ORO S FOR 10 M 1 BOILER HING TO SET E 3rd FLOC MAINT GOI OR AIR TEST NOTIFIED  DEN, HIGGI UNIT CAP 55	INUTES AT TO FIRE DR - HAND NG TO STA H/L NS, CUTSH	1440 PSI WHEEL TUI RT CLOSIN	RNS GATE DE GENERAL BOIL	DOESN'T O ER DOORS		ISSUED.					
0TE 642AM 66AM 60AM 00TE 0TE 05AM 63AM	OPL TRAIN H-1 BFP O H-1 HYDRI MAINT CH H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F, FIRE IN H- FIRE IN H- FIRE IN H- R1 UNIT R1 H1	NING N FOR HYE D HOLDING ECKING H- OILER - GO JUNKER GAT O COUNT - I ANS ON FC 1 - FLAMET 1 BOILER - ARK, BREEL ERE	ORO 5 FOR 10 M 1 BOILER VING TO SET ES 3rd FLOC MAINT GOI OR AIR TEST O OUT NOTIFIED I DEN, HIGGI UNIT CAP 55	TTO FIRE DR - HAND NG TO STA H/L NS, CUTSH	WHEEL TUI	IG H-1 BOIL	ER DOORS		ISSUED.					
42AM 6AM 6AM 0AM 0TE 0TE 05AM 43AM	H-1 BFP O H-1 HYDRI MAINT CH H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	N FOR HYE  O HOLDING  ECKING H-  OILER - GO  JNKER GAT  COUNT - I  ANS ON FC  1 FLAMED  1 BOILER -  ARK, BREEL  ERE	G FOR 10 M 1 BOILER ING TO SET TE 3rd FLOC MAINT GOI OR AIR TEST NOTIFIED  DEN, HIGGI  UNIT CAP 55	TTO FIRE DR - HAND NG TO STA H/L NS, CUTSH	WHEEL TUI	IG H-1 BOIL	ER DOORS		ISSUED.					
66AM 66AM 00AM 0TE 0TE 05AM 63AM	H-1 HYDRI MAINT CH H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	D HOLDING ECKING H- OILER - GO UNKER GAT COUNT - I ANS ON FC 1 - FLAMEI 1 BOILER - ARK, BREEI ERE	G FOR 10 M 1 BOILER ING TO SET TE 3rd FLOC MAINT GOI OR AIR TEST NOTIFIED  DEN, HIGGI  UNIT CAP 55	TTO FIRE DR - HAND NG TO STA H/L NS, CUTSH	WHEEL TUI	IG H-1 BOIL	ER DOORS		ISSUED.					
66AM OAM OTE OTE OSAM OSAM OSAM	MAINT CH H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	DECKING H- OILER - GO UNKER GAT O COUNT - I ANS ON FO 1 - FLAMEI 1 BOILER - ARK, BREEI ERE	-1 BOILER VING TO SET TE 3rd FLOC MAINT GOI OR AIR TEST O OUT NOTIFIED DEN, HIGGI UNIT CAP 55	TTO FIRE DR - HAND NG TO STA H/L NS, CUTSH	WHEEL TUI	IG H-1 BOIL	ER DOORS		ISSUED.					
OAM OTE OTE OSAM SAM	H-1 DRY B H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	OILER - GO JNKER GAT D COUNT - I ANS ON FO 1 - FLAMED 1 BOILER - ARK, BREED ERE	TE 3rd FLOO MAINT GOI OR AIR TEST O OUT NOTIFIED I DEN, HIGGI UNIT CAP	DR - HAND NG TO STA H/L NS, CUTSH NET CAP.	AW, BLAN	IG H-1 BOIL	ER DOORS		ISSUED.					
OTE OTE OSAM OSAM OSAM	H-1 A-1 BI GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1	UNKER GAT COUNT - I ANS ON FO 1 - FLAMED 1 BOILER - ARK, BREED ERE	TE 3rd FLOC MAINT GOI OR AIR TEST O OUT NOTIFIED I DEN, HIGGI UNIT CAP	DR - HAND NG TO STA H/L NS, CUTSH NET CAP.	AW, BLAN	IG H-1 BOIL	ER DOORS		ISSUED.					
DTE DSAM BSAM BSAM	GOT HEAD H-1 F.D. F. FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1	OCOUNT - ANS ON FO 1 - FLAMED 1 BOILER - ARK, BREED ERE	MAINT GOI DR AIR TEST DOUT NOTIFIED I DEN, HIGGI UNIT CAP	H/L NS, CUTSH	AW, BLAN	IG H-1 BOIL	ER DOORS		133020.					
3AM 4AM	H-1 F.D. F, FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	ANS ON FO 1 - FLAMEI 1 BOILER - ARK, BREEI ERE LOAD	DR AIR TEST DOUT NOTIFIED I DEN, HIGGI UNIT CAP	NS, CUTSH	AW, BLAN									
3AM 4AM	FIRE IN H- FIRE IN H- CONN, CL DUVALL H UNIT R1	1 - FLAMEI 1 BOILER - ARK, BREEI ERE LOAD	DOUT NOTIFIED I DEN, HIGGI UNIT CAP 55	H/L NS, CUTSH NET CAP.		KS, YOUNG	& ONAN							
4AM	FIRE IN H- CONN, CL DUVALL H UNIT R1 H1	1 BOILER - ARK, BREE ERE LOAD	DEN, HIGGI UNIT CAP	NS, CUTSH		KS, YOUNG	& ONAN							
	CONN, CL DUVALL H UNIT R1 H1	ARK, BREE ERE LOAD	DEN, HIGGI UNIT CAP 55	NS, CUTSH		KS, YOUNG	& ONAN							
MAM .	DUVALL H UNIT R1 H1	LOAD	UNIT CAP	NET CAP.		KS, YOUNG	& ONAN						-	
	DUVALL H UNIT R1 H1	LOAD	UNIT CAP	NET CAP.				i			B SHIFT PI	ENDLEY	1	
	R1 H1		55		SO2									
	R1 H1		55		SO2									
	Н1	24HR		40		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE	
				48	STNDBY		NIT. ON B	OILER					R-1 CTL	
													PWTL	
	H2		165	FIRING UN	IIT									
	H2													
		165	165	147	0.328	11.3	0.062	21.7	93.8	10.31		3	HMPL	
	C.T.		62	STANDBY										
										GAUGE GL	ASSES		DRYING A	GENT
	ALARMS:									OK			H-1 20%	
	R1												H-2 20%	
	H1	STEAM SE	AL HI/LO	BURNER M	ANGT. EH	PRESSURE	LO/PUMP	START REQ						
	H2													
									SILO			BOOTHE S	SYSTEM	
									15FT			OUT		
	H2 1,2,4,													
	LEVELS	7 6 1/2"	10. 1 1/2	7 8 3/4"	8 1/4"									
0444	CAFETY DE													
				-										
		ACK IN A	TED 2 1411	W. CT.C. 17										
		ACK IN - AI	FIER 3 MII	NOTES - II										
			D GLASSCC	TO CHECK	- SAID II I	TAU SOIVIE	1330E3 - C	ALLEU I. IA	TLUK					
			DISCONNE	CT										
TE					GUNS - INS	T DEPT WO	RKINGON	THEM						
TE									ONIVOT	INST CHEC	KING			
					0 0/0 OFEN	. AUX. UP	, COND K	JU LOUSE (	ON LVDI	HIST CHEC	KIIVO			
					SIDE - LOW	ERING VOI	TAGE TO P	EACH 'O' V	ARS - 17 3					
									17.3					
													1	
			ING H-1 TU	JRBINE										
					170 RPM -	TURBINET	RIPPED - E	.H. PUMP	AUTO STAR	TED - PRES	SURE DROP	PED		
					- NOTIFIE	D H/L								
2PM	PUT H-1 'A	MILLON												-
1PM	H-1 'A' MII	LTRIPPED	- COAL VA	LVE WENT	CLOSED - F	UEL OIL PR	RESSURE DE	ROPPED TO	40LBS - CC	ULD NOT	IND A PRO	BLEM		
0PM	TRANSFER	RED AUX C	ON H-1 - 'A'	SIDE TIE BI	REAKER W	OULD NOT	OPEN - CA	LLED J. ARM	NOLD - HE I	COMING	BACK IN			
1PM	H-1 SILICA	.449 - GO	DD FOR 150	O LBS										
5PM	H-1 'A' SID	E TIE BREA	KER OPEN											
4PM	H-1 SCRUE	BER IN SER	RVICE NOT	FIED H/L										
3РМ	H-1 'A' MII	LON												
3PM	OIL OUT O	F H-1 BOIL	ER											
4PM	H-1 SILICA	.702 - GO	DD FOR 150	O LBS DRUI	М									
5PM	WARMING	H-1 SCR												
3 3 3 3 3 3 3 3 4 3 5 5	DAM  YAM  GAM  TE  TE  LOAM  JOAM  J	SOOTBLOW R1- 16,19, H1 20 / 5, H2 1,2,4, FUEL OIL T LEVELS  DAM SAFETY BR H-2 OUT O RAISED H- TRIPPED A TRIPPED A TRIPPED A H-1 VENTS GAM CLOSED H- TE H-1 'B' STC LOAM H-1 PRI. & DOAM H-2 GENER SOAM H-2 GENER SOAM H-2 GENER SOAM H-2 GENER SOAM H-1 GENER SOAM H-1 GENER SOAM H-1 'A' MIL DPM H-1 GENER PM H-1 'A' MIL DPM H-1 SILICA SPM H-1 'A' MIL DPM H-1 SCRUE SPM H-1 'A' MIL DPM H-1 SCRUE SPM H-1 SILICA SPM WARMING	SOOTBLOWERS TAGE R1- 16,19,28,29,30,3 H1 20 / 5,6,7,8,9,10, H2 1,2,4,5,7,9,10,11  FUEL OILT C.H. LEVELS 7' 6 1/2"  DAM SAFETY BRIEFING H-2 OUT OF ADS - RA RAISED H-2 GENERA' TRIPPED AGAIN - HA  TAM H-1 VENTS CLOSED  TE HAVING TROUBLE W H-1 'B' STOP VALVE C  LOAM H-2 GENERATOR TES  SOAM H-2 GENERATOR TES  SOAM H-2 GENERATOR TES  SOAM H-2 GENERATOR TES  SOAM H-2 BACK IN ADS  SIPM PULLING VAC & SEAI  ROME H-1 TURBING -  LPM ROLLING H-1 TURBING -  LPM ROLLING H-1 TURBING -  LPM H-1 'A' MILL TRIPPED  DPM TRANSFERRED AUX C  LPM H-1 'A' MILL TRIPPED  DPM TRANSFERRED AUX C  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' SIDE TIE BREA  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 'A' MILL ON  LPM H-1 SILICA .702 - GOO  LPM WARMING H-1 SCR	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20/5,6,7,89,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,2  FUEL OIL T C.H. HMPL  LEVELS 7' 6 1/2" 10' 1 1/2"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOA  RAISED H-2 GENERATOR VOLTA  TRIPPED AGAIN - HAD GLASSCO  THE HAVING TROUBLE WITH H-1 A4  TE H-1 'B' STOP VALVE ON TURBIN  LOAM H-1 PRI. & SEC. INLET DRAINS C  DOAM H-2 GENERATOR TEST COMPLET  SOAM H-2 BACK IN ADS  TE GOT 2 LOADS OF AMMONIA  TH-2 BACK IN ADS  THE HAVING H-1 TURBINE - ROLLED OI  LIPM PULLING VAC & SEALING H-1 TU  LIPM PULLING VAC & SEALING H-1 TU  LIPM PUT H-1 'A' MILL TRIPPED - COAL VA  TRANSFERRED AUX ON H-1 - 'A'  LIPM H-1 SILICA .449 - GOOD FOR 15C  LIPM H-1 'A' MILL TRIPPED - COAL VA  TRANSFERRED AUX ON H-1 - 'A'  LIPM H-1 SILICA .449 - GOOD FOR 15C  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL ON  LIPM H-1 SILICA .702 - GOOD FOR 15C  LIPM OIL OUT OF H-1 BOILER  LIPM H-1 SILICA .702 - GOOD FOR 15C  LIPM WARMING H-1 SCR	SOOTBLOWERS TAGGED R1- 16,19,28,29,30,31 H1 20/5,6,7,8,9,10,11,31,32,39 H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,23, FUEL OILT C.H. HMPL NORTH LEVELS 7'61/2" 10'11/2" 7'83/4"  DAM SAFETY BRIEFING H-2 OUT OF ADS - RAISING LOAD TO 165 F. RAISED H-2 GENERATOR VOLTAGE TO 18.5 TRIPPED AGAIN - HAD GLASSCO TO CHECK DAM CLOSED IN H-1 0169 DISCONNECT THE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL OF THE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL OF THE H-1 'B' STOP VALVE ON TURBINE SHOWIN H-1 PRI. & SEC. INLET DRAINS CLOSED DOAM H-2 GENERATOR TEST COMPLETE - RAISED SIAM H-2 GENERATOR TEST COMPLETE - RAISED SIAM H-2 GENERATOR TEST COMPLETE - RAISED SIAM H-2 BACK IN ADS SIAPM PULLING VAC & SEALING H-1 TURBINE TO THE GOT 2 LOADS OF AMMONIA H-1 FILIC ALS SEALING H-1 TURBINE TO THE GOT 2 LOADS OF AMMONIA H-1 GENERATOR TIED ONLINE - PRECIPS IN THE GOT 1 TURBINE TO 3600 RPM HM H-1 GENERATOR TIED ONLINE - PRECIPS IN THE GOT 1 TURBINE TO 3600 RPM HM H-1 'A' MILL TRIPPED - COAL VALVE WENT TRANSFERRED AUX ON H-1 - 'A' SIDE TIE BI THE HAVE TO THE TO	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20/5,6,7,8,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,23,24,38,39,4  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 7'61/2" 10'11/2" 7'83/4" 81/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENER. RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT I  AMM H-1 VENTS CLOSED  CLOSED IN H-1 0169 DISCONNECT  TE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INS THE H-1'B' STOP VALVE ON TURBINE SHOWING 6% OPEN  LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOW  H-1 PRI. & SEC. INLET DRAINS CLOSED  SOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOW  LISAM H-2 GENERATOR TEST COMPLETE - RAISED VOLTAGE  SOAM RAISED H-2 CAPABILITY TO 153 NET  TE GOT 2 LOADS OF AMMONIA  H-2 BACK IN ADS  SIPM PULLING VAC & SEALING H-1 TURBINE  RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM-  REPM H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIE  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - I  LIPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - I  LIPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - I  LIPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - I  LIPM H-1 'A' SIDE TIE BREAKER OPEN  LIPM H-1 'A' SIDE TIE BREAKER OPEN  LIPM H-1 'A' SIDE TIE BREAKER OPEN  LIPM H-1 'A' SIDE TIE BREAKER OPEN  LIPM H-1 'A' MILL ON  LIPM H-1 'A' MIL	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20/5,6,7,8,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,23,24,38,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH  LEVELS 7'61/2" 10'11/2" 7'83/4" 81/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST  RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC A  TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME  AM H-1 VENTS CLOSED  CLOSED IN H-1 0169 DISCONNECT  TE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INST DEPT WC  TE H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP  LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOL  LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOL  LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOL  LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOL  LOAM H-2 BACK IN ADS  LOAD H-2 BACK IN ADS  LOAD H-1 VINING VAC & SEALING H-1 TURBINE  RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TO  LOAD H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIED H/L  LOAD H-1 'A' MILL ON  LOAD H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PR  LOAD H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PR  LOAD H-1 'A' SIDE TIE BREAKER OPEN  LOAD H-1 'A' SIDE TIE BREAKER OPEN  LOAD H-1 'A' SIDE TIE BREAKER OPEN  LOAD H-1 'A' MILL ON  LOAD H-1 'A' MILL	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20,75,6,7,8,9,10,11,15,18,19,20,21,22,23,24,38,39,40,42  FUEL OIL T C.H. HMPL NORTH SOUTH LEVELS 7' 6 1/2" 10' 1 1/2" 7' 8 3/4" 8 1/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - C.  AM H-1 VENTS CLOSED  CLOSED IN H-1 0169 DISCONNECT THE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INST DEPT WORKING ON H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP FOUND RE LOAM H-1 PRI. & SEC. INLET DRAINS CLOSED  DAM H-2 GENERATOR TEST - COMPLETE ON HI SIDE - LOWERING VOLTAGE TO RE LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO RE LOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO RE LOAM H-2 BACK IN ADS  LOAM H-1 URBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E LOAM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E LOAM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E LOAM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E LOAM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E LOAM H-1 SILICA - 449 - GOOD FOR 1500 LBS LPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DI LOAM H-1 'A' SIDE TIE BREAKER OPEN LOAM H-1 'A' MILL ON LOAM H-1 'A' MILL ON LOAM OIL OUT OF H-1 BOILER LOAM H-1 SILICA - 702 - GOOD FOR 1500 LBS DRUM LOAM WARMING H-1 SCR	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20/5,6,7,8,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,23,24,38,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 7'61/2" 10'11/2" 7'83/4" 81/4"  DAM SAFETY BRIEFING H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TOWERS TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - CALLED T. TA  AM H-1 VENTS CLOSED  CAM CLOSED IN H-1 D169 DISCONNECT THE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INST DEPT WORKING ON THEM H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP FOUND ROD LOOSE ( LOAM H-1 PRI. & SEC. INLET DRAINS CLOSED  DAM H-2 GENERATOR TEST - COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-2 GENERATOR TEST COMPLETE ON HIS SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-2 GENERATOR TEST COMPLETE ON HIS SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-1 GENERATOR TEST COMPLETE ON HIS SIDE - LOWERING VOLTAGE TO REACH 'O' VALUE ON THE COMPLETE - RAISED VOLTAGE TO 17.7  BOAM H-1 TURBINE TO 3600 RPM  PUT H-1 'A' MILL ON ON H-1 - 'A' SIDE TIE BREAKER WOULD NOT OPEN - CALLED J. ARI  H-1 'A' SIDE TIE BREAKER OPEN  H-1 SILICA .449 - GOOD FOR 1500 LBS  BOAM H-1 'A' MILL ON  H-1 'A' MILL ON  H-1 'A' SIDE TIE BREAKER OPEN  H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  WARMING H-1 SCR	R1- 16,19,28,29,30,31  R1- 16,19,28,29,30,31  H1 20/5,67,8,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,23,24,38,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 7' 61/2" 10' 11/2" 7' 8 3/4" 8 1/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TOWERS TRIPPED - C TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - CALLED T. TAYLOR H-1 VENTS CLOSED  ACLOSED IN H-1 0169 DISCONNECT  TE HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INST DEPT WORKING ON THEM H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP FOUND ROD LOOSE ON LVDT HOAM H-1 PRI. & SEC. INLET DRAINS CLOSED  JOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  HOAM RAISED H-2 CAPABILITY TO 153 NET TE GOT 2 LOADS OF AMMONIA HSAM H-2 BACK IN ADS  HSPM PULLING VAC & SEALING H-1 TURBINE HPM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E.H. PUMP AUTO STAR' ROLLING H-1 TURBINE TO 3600 RPM HPM H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIED H/L HPM H-1 'A' MILL ON HPM H-1 'A' MILL ON HPM H-1 'A' MILL ON HPM H-1 'A' MILL ON HPM H-1 SILICA .449 - GOOD FOR 1500 LBS HPM H-1 'A' SIDE TIE BREAKER OPEN HPM H-1 SILICA .702 - GOOD FOR 1500 LBS HPM H-1 'A' SIDE TIE BREAKER OPEN HPM H-1 SILICA .702 - GOOD FOR 1500 LBS HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM HPM H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  B12 1,2,4,5,7,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,32,4,38,39,40,42  FUEL OILT C.H. 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PUMP AUTO STARTED - PRES  1-4 MP NOLLING H-1 TURBINE TO 3600 RPM  1-4 MP H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIED H/L  1-4 MP H-1 'A' MILL ON  1-4 MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT 1  1-4 MP H-1 'A' SIDE TIE BREAKER OPEN  1-4 MP H-1 'A' SIDE TIE BREAKER OPEN  1-5 MP H-1 SILICA .49 - GOOD FOR 1500 LBS  1-6 MP H-1 SILICA .702 - GOOD FOR 1500 LBS  1-7 MP H-1 'A' SIDE TIE BREAKER OPEN  1-8 MP H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-9 MP H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-9 MP H-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-1 SILICA .702 - GOOD FOR 1500 LBS DRUM  1-1 SILICA .702 - GOOD FOR 1500 LBS DRUM	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  H1 20/5,67,89,10,11,31,32,39  15FT  H2 1,2,4,57,9,10,11,15,18,19,20,21,22,23,24,38,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 7'61/2" 10'11/2" 7'83/4" 81/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TOWERS TRIPPED - CLOSED IT BACK IN - AI TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - CALLED T. TAYLOR  H-1 VENTS CLOSED  ACCUSED IN 1-1069 DISCONNECT  HAVING TROUBLE WITH H-1 A4 B3 B2 OIL GUNS - INST DEPT WORKING ON THEM  H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP FOUND ROD LOOSE ON LVDT INST CHECKING  H-1 PRI. & SEC. INLET DRAINS CLOSED  JOAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  JOAM RAISED H-2 CAPABILITY TO 153 NET TE GOT 2 LOADS OF AMMONIA  JOAM H-2 GENERATOR TEST COMPLETE RAISED VOLTAGE TO 17.7  RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E.H. PUMP AUTO STARTED - PRESSURE DROP  JOAM H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIED H/L  JOAM H-1 SILICA 449 - GOOD FOR 1500 LBS  JOAM H-1 SILICA 449 - GOOD FOR 1500 LBS  JOAM H-1 SILICA 449 - GOOD FOR 1500 LBS  JOAM H-1 SILICA 49 - GOOD FOR 1500 LBS  JOAM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PRO  TRANSFERRED AUX ON H-1 - 'A' SIDE TIE BREAKER WOULD NOT OPEN - CALLED J. ARNOLD - HE IS COMING BACK IN  H-1 'A' MILL ON  JOAN H-1 'A' SILICA 702 - GOOD FOR 1500 LBS  JOAN H-1 'A' SIDE TIE BREAKER OPEN  H-1 SICICA 702 - GOOD FOR 1500 LBS  JOAN H-1 'A' SIDE TIE BREAKER OPEN  H-1 SICICA 702 - GOOD FOR 1500 LBS  JOAN H-1 'A' SIDE TIE BREAKER OREN  H-1 'A' SILICA 702 - GOOD FOR 1500 LBS DRUM  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BREAKER OREN  JOAN H-1 'A' SIDE TIE BR	H2  SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  R1- 21,24,5,7,9,10,11,31,32,39  15FT  OUT  H2 1,24,5,7,9,10,11,15,18,19,20,21,22,32,48,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 7 61/2" 10'11/2" 78 3/4" 81/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST  RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TOWERS TRIPPED - CLOSED IT BACK IN - A FTER 3 MIN TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - CALLED T. TAYLOR  H-1 VENTS CLOSED  CLOSED IN H-1 0169 DISCONNECT  TE HAVING TROUBLE WITH H-1 A4 B3 82 OIL GUNS - INST DEPT WORKING ON THEM  H-2 BSCE INLET DRAINS CLOSED  DOAM H-2 FIN. & SEC. INLET DRAINS CLOSED  DOAM H-2 GENERATOR TEST - COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH '0' VARS - 17.3  SAM H-2 BRCK IN ADS  DAM RAISED H-2 CAPABILITY TO 153 NET  TE GOT 2 LOADS OF AMMONIA  PASSAM H-2 BACK IN ADS  PM H-1 BY THE SEC OR THE STORM ON THE SEC OF THE SEC OF THE SEC OF THE SEC OR TH	SOOTBLOWERS TAGGED  R1- 16,19,28,29,30,31  R1- 20,5,67,8,9,10,11,31,32,39  H2 1,2,4,5,7,9,10,11,15,18,19,20,21,22,32,4,38,39,40,42  FUEL OILT C.H. HMPL NORTH SOUTH LEVELS 76 1/2" 10'1 1/2" 78 3/4" 8 1/4"  DAM SAFETY BRIEFING  H-2 OUT OF ADS - RAISING LOAD TO 165 FOR GENERATOR TEST RAISED H-2 GENERATOR VOLTAGE TO 18.5 FOR TEST - 2A PCC AT COOLING TOWERS TRIPPED - CLOSED IT BACK IN - AFTER 3 MINUTES - IT TRIPPED AGAIN - HAD GLASSCO TO CHECK - SAID IT HAD SOME ISSUES - CALLED T. TAYLOR  H-1 VENTS CLOSED  IM H-1 OLOSED IN H-1 OLOSED DISCONNECT  HE HAVING TROUBLE WITH H-1 A4 BB 3E OIL GUMS - INST DEPT WORKING ON THEM  H-1 'B' STOP VALVE ON TURBINE SHOWING 6% OPEN - AUX. OP FOUND ROD LOOSE ON LVDT INST CHECKING  IMM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  ISSAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  ISSAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  ISSAM H-2 GENERATOR TEST COMPLETE ON HI SIDE - LOWERING VOLTAGE TO REACH 'O' VARS - 17.3  ISSAM H-2 BACK IN ADS  ISPM PULLING VAC & SEALING H-1 TURBINE  IPM M-1 ST TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E.H. PUMP AUTO STARTED - PRESSURE DROPPED  IPM RESET H-1 TURBINE - ROLLED OFFGEAR TO 170 RPM - TURBINE TRIPPED - E.H. PUMP AUTO STARTED - PRESSURE DROPPED  IPM H-1 GENERATOR TIED ONLINE - PRECIPS IN - NOTIFIED H/L  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PROBLEM  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PROBLEM  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PROBLEM  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PROBLEM  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED - FUEL OIL PRESSURE DROPPED TO 40LBS - COULD NOT FIND A PROBLEM  IPM H-1 'A' MILL TRIPPED - COAL VALVE WENT CLOSED



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### Forced Outage Report

### Boiler Tube Leak Record

Plant:	HMP&L Station Two	Unit:	1
Type of Leak:			
	<sup>n</sup> SH Inlet element) Thick Lip Failure ilure <u>V (5<sup>th</sup> SH outlet element fror</u>		<u>external</u>
Tube Wall Thinr	ning <u>√ (2<sup>nd</sup>, 4<sup>th</sup>,6<sup>th</sup> SH inlet elem</u>	ents from the East)	
Orientation of F	Rupture: Longitudinal <u>√</u> Circun	nferential	
Probable Cause	:		
Stress Over	heat ErosionInternal Co	orrosion	
External Corrosi	on <u>√</u> Weld Failure (Sho	p Field)	
Internal Obstruc	ction to Flow Soot blower Er	osion <u>√</u>	
Other			
Type of Repair:			
Dutchman <u>√</u>	_ Pad Weld <u>√</u> Plug Tube S	Short Circuit	Other

### **Description of Repair:**

The outer loop on the 5<sup>th</sup> element from the west wall was replaced along with the addition of a 3' dutchman on each side leg at elevation 537'-5". From the initial boiler hydro a pin hole leak was discovered on the 5<sup>th</sup> SH Inlet element from the east wall at elevation 536' on the north side 2<sup>nd</sup> loop from the inner (hair pin) loop. Upon inspection of this area and UT indications it was discovered that the 2<sup>nd</sup> element inner (hair pin) loop north side, 4<sup>th</sup> element 2<sup>nd</sup> loop from the inner (hair pin) loop north side, and the 6<sup>th</sup> element 4<sup>th</sup> loop from the inner (hair pin) loop north side displayed soot blower erosion. Repairs include: 5<sup>th</sup> element welded a 5'- 6" dutchman in, with swage; 2<sup>nd</sup> element welded a 46" dutchman in, 4<sup>th</sup> element welded a 5' dutchman in and the 6<sup>th</sup> element welded a 5'- 6" dutchman in, with swage, all on the north side of the elements. Repaired



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an external tube leak below the #27 observation port at elevation 482' on the NE corner of the boiler, repaired via BMR and installed a hard tie on the tube beside it.



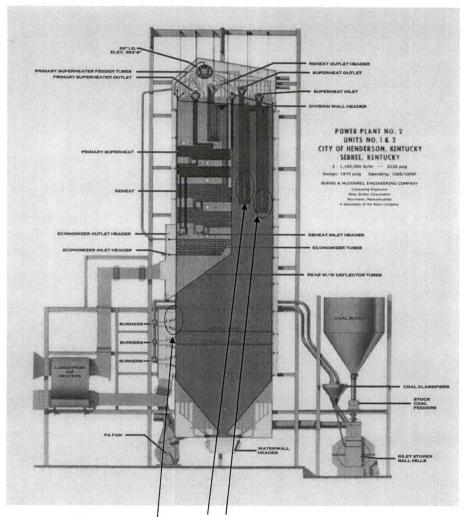


**Exact Location of Leaks:** 

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### HMPL STATION UNIT 1 2013 (6) TUBES INVOLVED

Date and Time Unit Off\_\_\_ 1601 6-2-13
Date and Time Unit On Stand-by\_\_\_1401 6-5-13



The outer loop on the 5th element from the west wall was replaced along with the addition of a 3' dutchman on each side leg at elevation 537'-5". From the initial boiler hydro a pin hole leak was discovered on the 5th SH Inlet element from the east wall at elevation 536' on the north side 2<sup>nd</sup> loop from the inner (hair pin) loop. Upon inspection of this area and UT indications it was discovered that the 2<sup>nd</sup> element inner (hair pin) loop north side, 4th element 2nd loop from the inner (hair pin) loop north side, and the 6th element 4th loop from the inner (hair pin) loop north side displayed soot blower erosion. Repairs include: 5th element welded a 5'- 6" dutchman in, with swedge; 2<sup>nd</sup> element welded a 46" dutchman in, 4<sup>th</sup> element welded a 5' dutchman in and the 6<sup>th</sup> element welded a 5'- 6" dutchman in, with swedge. Repaired an external tube leak below the #27 observation port at elevation 482' on the NE corner of the boiler, repaired via BMR and installed a hard tie on the tube beside it.



Lost Sales Opportunity Report



### FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 1	- H1-13-04		Produc	tion Co	st
Date & Time Off Line	6/2/	13 16:01		MW		\$/MW
Date & Time On Line	6/5/	13 14:01		89	\$	30.20
Outage Duration	70 h	r. 0 min.		133	\$	28.32
Outage Code		UO2		155	\$	28.17
Outage Reason		in radian superheat ection				
Date	DA LMP Averag	e RT LMP Average	DART P&L	Lost Opportunity		
6/2/12 (UE 16 24)	¢ 22.40	07.70	¢ 050	•	7	

Date	DA LMF	Average	RT	LMP Average	DART P&L	Lost Opportunity
6/2/13 (HE 16-24)	\$	32.18	\$	27.70	\$ 356	\$ -
6/3/13 (HE 1-24)	\$	30.78	\$	29.66	\$ (6,465)	\$ -
6/4/13 (HE 1-24)	\$	25.49	\$	28.79	\$ -	\$ -
6/5/13 (HE 1-23)	\$	27.24	\$	42.27	\$ 4,721	\$ -
Total					\$ (1,388)	\$

Start Up Fu	el Cost		Total Forced	Outag	ge Cost
S/U Fuel Consumed		4,058	DART P&L	\$	(1,388)
S/U Fuel Price	\$	3.19	Lost Opportunity	\$	
S/U Fuel Cost	\$	(12,941)	S/U Fuel Cost	\$	(12,941)
			Total	\$	(14,329)

12

#### 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: Bob Berry

From: Billy Boarman

Date: 24-Jun-2013

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

**Duration** 

Trip Time: 18-Jun-2013 23:22 Tie Time: 21-Jun-2013 17:08

Time Offline: 65:46

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Tuesday, 18-Jun-2013 at 23:22 due to #7 exciter bearing having excessive vibration

#### **Root Cause**

Precision Power Services Inc. was retained to explore the possible causes for the excessive vibration on this bearing. The #7 bearing outboard oil seal was found to be set incorrectly, creating a rub on the bottom of the shaft. During this inspection a fuse on the exciter wheel was found with a loose bolt also.

#### Failure History

15-Jun-2013 19:12 HMP&L Station Two Unit 2 auto tripped on turbine

vibration on Saturday, 15-Jun-2013 at 06:25 due to #7 exciter bearing vibration reaching 10.5 mils on the Y probe (trip set point > 10 mils) and 8.4 mils on the X probe (trip set point > 5 mils).

#### **Corrective Action**

The bearing was disassembled and inspected; both oil seals were removed, inspected, and cleaned, the bearing was reassembled and the oil seals were reset to the proper clearance. Replaced and torqued the loose fuse bolt. At the recommendation of Siemens, PPSI also removed 30 grams of weight from the exciter fan and installed a 10oz. balance shot on plane #2, generator end of the HP, at bearing #2 on the shaft mark of 190 degrees. The Siemens balance engineer monitored turbine vibration until



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we could achieve full load. All bearings are operating at acceptable vibration levels at this time.

### **SOE Print Out**

STANDARD SOE REPORT Triggered on: 18-Jun-2013 23:22:40:830

Event Time	State	Tag Name	Tag Description
18-Jun-2013 23:23:00:523	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
18-Jun-2013 23:22:59:042	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
18-Jun-2013 23:22:56:480	LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
18-Jun-2013 23:22:56:339	OK	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
18-Jun-2013 23:22:48:919	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
18-Jun-2013 23:22:47:175	OK	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:47:106	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:46:738	OK	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:45:660	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:45:599	OK	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:45:359	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:44:639	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
18-Jun-2013 23:22:44:576	OK	H233LMISTRP	LAST MILL IN SERVICE TRIP
18-Jun-2013 23:22:44:521	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
18-Jun-2013 23:22:44:512	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
18-Jun-2013 23:22:44:496	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
18-Jun-2013 23:22:44:410	OK	H250OCB182GETR	OCB 0182 GEN H2 TRIP
18-Jun-2013 23:22:44:410	OK	H250OCB186GETR	OCB 0186 GEN H2 TRIP
18-Jun-2013 23:22:44:385	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
18-Jun-2013 23:22:44:380	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
18-Jun-2013 23:22:44:379	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
18-Jun-2013 23:22:41:332	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
18-Jun-2013 23:22:40:830	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
18-Jun-2013 23:22:40:580	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP

### Other Work Completed While Unit Was Offline

Repaired coal leak on B Mill
Repaired gas leaks on the economizer dog house
Cleaned the seal trough
Cleaned Seal Air Fan filters
Replaced primary inlet and reheat inlet root valves
Inspected boiler back pass
Boiler hydro
Reheat Vacuum Check



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## **Forced Outage Report**

Replaced top sight glass on DA tank Inspected B-1 Burner flame stabilizer Replaced "A" bushing on the precipitator Repaired bearing on the "A" boiler feed pump Repaired service air leak Replaced A-4 coal valve cylinder Replaced SCR differential taps Replaced steam coil hotwell tank drain valve





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### Operators Event Log

6/18/2013	8:00PM	FELTY, CE	CIL, BLAIR, E	MBRY, HIL	LYARD							A SHIFT T	. TOW			
		DUVALL S	L,BEAN D	ONAN											-	
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE		
		R1	24HR	55	48									18'		
			STBY											27'		
		H1	144	165	153	0.404	19.2	0.075	13.1	91.1	11.21	196	2.6			
		H2	150	165	150	0.210	107	0.040								
		riz.	130	163	152	0.318	10.7	0.048	14.2	93.6	13.33	200	3	15.4'		-
		C.T.	0	58	58											
											GAUGE GL	ASSES		DRYING A	GENT	
		ALARMS:									OK			0%		
		R1 H1	CTEALAGE													
		H1 H2			N. ROTOR V	ANG., EH PI	RSS LO, CT	LEVEL								
		пи	EH KES LE	VEL HI,GEI	V. KUTUK V	IB									-	-
		SOOTBLO	WERS TAG	SED											-	
			5,7,16,17,1		29 30 31										-	-
			8,9,10,11,2		,23,30,31											
			5,7,9,10,11		0,21,22,23,	24,39					SILO			BOOTHE S	SYSTEM	-
											16'			IN		
		FUEL OIL T	C.H.	HMPL	NORTH	SOUTH								-		
		LEVELS	10' 1"	9' 2 1/2"	17' 7 3/4"	8 1/4"										
		JOB SAFET														
		H-2 DROP														
		WET SEAL						EEN MAINT	HERE TO F	REPAIR						
	9:00PM	CLOSED N														
		HAD MAIN					WET BOTTO	OM SET BAC	K UP H-1							
		TAKING H					NA/AI					_				-
		H-2 SCRUE				U SHUT DO	VVIN									
		H-2 UNTIE														
		H-2 PRECI														
	NOTE				AININGAN	D FANING										
6/19/2013	12:00AM	FANS IN P	ENTHOUSE	AND TOP	DOORS OP	EN										
	1:01AM	WAS ISSU	ED HOLD O	N 0189 H-2	DISCONN	ECT										
	1:45AM	H-1 WET B	W MOTTO	EST SIDE P	ULLED A LIT	TLE SLOW	EAST SIDE	NOT PULLI	NG DOWN	BACK FLUS	HED TWICE	E				
		STILL NO	HELP GOOD	FLOW OF	WATER OL	JT S/W DRA	IN CHECK	D END OF	LINE GOOD	FLOW LET	TING LINE	FLUSH				
			ILE THAN													
	NOTE					HOURS P-										
	NOTE	CALLED G.	EDWARDS	COMING	N J.BAKER I	L/M,J.GATT	ON L/M J.	REYNOLDS	L/M R.DEN	TON COM	INGIN					
6/19/2013	84000-8	EDMOND	INCREON	CDIFFIN	HOGAN S	OMILEY AT	EVANDED :	A/A DUILLOT	ON			6.011	TCAPTER			
0/ 19/ 2013	o,coalvi	vac	HACKSON	, GRIFFIN,	HUGAN, B	OWLEY,ALI	EXANDER,	WADLINGT	JI4			CSHIF	T CARTER			
		UNIT	LOAD	LINITCAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	ANANA ELO	BACK PRES	CLIDE		
		R1	24HR	48			202	1107	CFACIII	KEIVIOVAL	5031	AIVIIVI. FLC	DACK PRES	JUNE	CTL 18.0	
		·		70	70										PWTL/ 2	6.2
			STBY												2	
		H1	STBY 163	165	153	0.366	10.8	0.074	33.2	92.6	21.03	235/C	3.3			
		H1		165	153	0.366	10.8	0.074	33.2	92.6	21.03	235/C	3.3			
		H1 H2				0.366 #7 BRG VIB		0.074	33.2	92.6	21.03	235/C	3.3		CTL 15.5	
		H2	163	165	OFF LINE	#7 BRG VIB		0.074	33.2	92.6	21.03	235/C	3.3		CTL 15.5	
		H2		165		#7 BRG VIB		0.074	33.2	92.6	21.03	235/C	3.3		CTL 15.5	
		H2 C.T.	163	165	OFF LINE	#7 BRG VIB		0.074	33.2	92.6	21.03				CTL 15.5	
		H2 C.T. ALARMS:	163	165	OFF LINE	#7 BRG VIB		0.074	33.2	92.6	21.03	235/C 0			CTL 15.5	
		H2 C.T. ALARMS: R1	163	165 DBY	OFF LINE	#7 BRG VIB	RATION					0		10000	CTL 15.5	
		H2 C.T. ALARMS: R1 H1	ON STAND	165 DBY MANAGEMI	OFF LINE : 58	#7 BRG VIB	RATION  / PRESSURI					0	GAUGE GL	ASSES	CTL 15.5	
		H2 C.T. ALARMS: R1 H1	ON STAND	165 DBY MANAGEMI	OFF LINE : 58	#7 BRG VIB	RATION  / PRESSURI					0		ASSES	CTL 15.5	
		H2 C.T. ALARMS: R1 H1 H2	ON STAND BURNER M E.H.TEMP	165 DBY MANAGEMI HI-E.H. PSI	OFF LINE : 58	#7 BRG VIB	RATION  / PRESSURI					0	GAUGE GL	ASSES	CTL 15.5	
		H2 C.T. ALARMS: R1 H1 H2 SOOTBLOW	ON STANE BURNER M E.H.TEMP WERS TAGG	165 DBY MANAGEMI HI-E.H. PSI GED	OFF LINE : 58	#7 BRG VIB	RATION  / PRESSURI					0	GAUGE GL	ASSES		GENT
		H2 C.T. ALARMS: R1 H1 H2 SOOTBLOV R1- 16,19,	DURNER NE.H.TEMP WERS TAGGE 28,29,30,3:	165 DBY MANAGEMI HI-E.H. PSI GED 1	OFF LINE : 58	#7 BRG VIB	RATION  / PRESSURI					0	GAUGE GL	ASSES	DRYING A	GENT
		H2 C.T.  ALARMS: R1 H1 H2  SOOTBLOV R1- 16,19, H1 20/5,	163 ON STANE BURNER N E.H.TEMP WERS TAGG 28, 29, 30, 3: 5, 7, 8, 9, 10, 1	165 DBY MANAGEMI HI-E.H. PSI GED 1 11,32,39	OFF LINE : 58	#7 BRG VIB M SEAL LOW ROGEN OFF	RATION  / PRESSURI					0	GAUGE GL	ASSES	DRYING A H1- 0%	GENT
		H2 C.T.  ALARMS: R1 H1 H2  SOOTBLOV R1- 16,19, H1 20/5,	DURNER NE.H.TEMP WERS TAGGE 28,29,30,3:	165 DBY MANAGEMI HI-E.H. PSI GED 1 11,32,39	OFF LINE : 58	#7 BRG VIB M SEAL LOW ROGEN OFF	RATION  / PRESSURI					0	GAUGE GL	ASSES	DRYING A	GENT
		H2 C.T.  ALARMS: R1 H1 H2  SOOTBLOV R1- 16,19, H1 20/5,	163 ON STANE BURNER N E.H.TEMP WERS TAGG 28, 29, 30, 3: 5, 7, 8, 9, 10, 15, 7, 9, 10, 15,	165 DBY MANAGEMI HI-E.H. PSI GED 1 11,32,39	OFF LINE : 58	#7 BRG VIB M SEAL LOW ROGEN OFF	RATION  / PRESSURI					0	GAUGE GL	ASSES	DRYING A H1- 0%	GENT
		H2 C.T.  ALARMS: R1 H1 H2 SOOTBLO R1- 16,19, H1 20/5, H2 1,2,4,5 FUEL OIL T LEVELS	163 ON STANE BURNER M E.H.TEMP WERS TAGG 28,29,30,3: 5,7,8,9,10,15,7,9,10,15,	165 DBY MANAGEMI HI-E.H. PSI 5ED 1 11,32,39 18,19,20,2	S8 SNT/STEAM LOW-HYDI	#7 BRG VIB  1 SEAL LOW  ROGEN OFF	RATION  / PRESSURI	E/H1 COOLI		R HI / LOW		0	GAUGE GL	ASSES	DRYING A H1- 0%	GENT



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	NOTE	UTILITY &	MAINT WO	ORKINGON	N H1 EASTS	IDE WETBO	ттом							1		
	NOTE		DS GOT IT					1								-
		G.EDWAF												1		
	7;35AM	SAFETY B	RIEFING													
	NOTE	H2 PURGI	NG GENER	ATOR TO C	02					1			-	-	+	
	8;35AM	H1 BOOS	TER FAN TR	IPPED LO	LO OIL FLO	w										
	8;54AM	H1 SCRUE	BERS BACK	CIN									-			
	NOTE	SETTING	H2 BOILER	FOR HYDRO	& VACUN	CHECK										
	9;00AM	R.DENTO														
			ON FOR HY	DRO & PU	LUNG VAC	UM										
	NOTE		RRING FUE													
			RATOR PUR		12											
		H2 HYDRO		020 10 00												
	1;36PM		MMONIA T	BIDDED												
	1;43PM		OWINGAN													
	1;45PM		ING BOILE		4 COOD											
	NOTE		ON H2 WI		i GOOD											
	NOTE				LNOTPHI	UNIC DOW										
			IDE WETBO		LNUTPUL	LINGDOW	N									
	4;00pm		DS GOING													
	5;00PM		N GOING H						_							
	NOTE		IDE WETBO											NOTALLT	IME	
			DOOR TO							NATMIN	LOAD PULL	ING WEST	SIDE.			
			ADY STREA													
	NOTE	H2 BOOIL	ER SET TO F	IRE OTHER	THAN MA	INSTEAMS	TOP VALV	E BEING CL	OSED							
/19/2013	8:00PM		IGGINS, CL			DUNG						B SHIFT P	ENDLEY			
		CONN, BE	REEDEN VA	C-ONAN H	HERE											
		UNIT	LOAD		NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE		
		R1	24HR	55	48	STNDBY								R-1 CTL	18'	
														PWTL	27'	
		H1	143	165	153	0.508	10.4	0.058	16.8	90.7	13.58	223	2.5			
		H2	OFF	165										HMPL	15.5'	
														-		
		C.T.		58	STANDBY											
				30							GAUGE GL	ASSES		DRYING A	GENT	
		ALARMS:									OK OK	A33L3		H-1 0%	OLIVI	
		R1									OK			H-2 0%		
		H1	CTEANACE	AL HI/LO	DUDNEDA	ANCT FU	DDECCLIDE	LO / DUINAD	CTART DEC					H-2 U%		-
		H2	STEAIVISE	AL HI/LU	BURNERIV	ANGT. EH	PRESSURE	LO/PUMP	STARTREC							
		HZ														
				055												
			WERS TAG													-
			,28,29,30,3							SILO			BOOTHE S	YSTEM		
			6,7,8,9,10,							6'			OUT			
		H2 1,2,4,	5,7,9,10,11	,15,18,19,2	0,21,22,23,	24,39,42,4	5									
		FUEL OIL		HMPL	NORTH											
		LEVELS	9' 10 1/4"	14' 1/4"	16' 9 1/4"	8 1/4"										
/19/2013	8:00PM	SAFETY BI														
	8:00PM		ON H-2 W													
	8:15PM	H-1 WETB	OTTOM WI	EST WATER	BLOCK VA	LVE NOT C	LOSING - V	VITH VALV	E CLOSED -	GETTING F	ULL STREA	M OF WAT	ERATASH	POND -		
			TOPS WHEN													
	NOTE	TRYING TO	D PULL H-1	EAST SIDE	WETBOTTO	M										
/20/2013	NOTE	H-2 A.H. V	WASH SET L	JP - TAGGE	D ELECTRIC	AL - TESTE	D AIR DRIV	ES - OK								
	2:00AM		VELL CHECK													
	NOTE		EAL CLEAN													
	6:00AM	TAGGED C	OUT H-2 CO	NDENSER	VACUUM P	UMPS										
	6:20AM	TAGGED C	OUT STEAM	TO H-2 STI	EAM COILS	OFF OF LO	W PRESSU	RE HEADER	- 2ND FLO	OR						
/20/2013	8;00pm	EDMOND	S,JACKSON	, GRIFFIN,	HOGAN, B	OWLEY, AL	EXANDER.	WADLINGT	ON			C SHIF	TCARTER			
		vac			vac							3 2.31				
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE		
		R1	24HR	48											CTL 18.0	
			STBY	,,,	70										PWTL/ 2	6.2
		H1	143	165	153	0.537	10.4	0.065	14	89.4	11.37	209	2.5		1 111/ 2	J. Z
		T	2-13	100	133	0.557	10.4	0.003	14	03.4	11.37	209	2.3		-	
		H2		165	OFF LINE	#7 BRG VID	RATION								CTI 1F F	
		/12		105	OT LINE	", PUG AIR	MATION								CTL 15.5	
		СТ	ON STAND	DDV												
		C.T.	ON STANE	101	58											
		ALAFTER	-	-												
		ALARMS:										0				
		R1														
		H1		MANAGEME				E/H1 COOL	ING TOWE	R HI / LOW			GAUGE GL	ASSES		
		H2	F 11 TEL 10	III F II DCI	LOWLING	ROGEN OF	CVCTERA						OK			





		SOOTBLO	WERS TAG	GED												
			,28,29,30,3												DRYING	AGENT
			,6,7,8,9,10,		-								-		H1- 0%	AGENI
					21,22,23,24	.39									H2- 0%	
				,,_,		1									H2- U%	
		FUEL OIL	TANKS													
		LEVELS	C.H.	HMPL	NORTH	SOUTH			SILO LVL		BOOTHE S	VSTEM	OUT		1	
			9' 7 3/4"	14' 1/4"	16' 9 1/4"	8 1/4"			2B #2 - 9'		DOOTTIL	TOTEIVI	001			-
															-	
	NOTE	INLANDS	ETTING UP	FOR H2 EC	ONS VACU	MING & A	H WASH								-	
	8;00PM	SAFETY B													1	+
	NOTE	PULLING	H2 WET BO	ттом вот	H SIDES GO	OOD SPLAS	HBACK ON	BOTH SIDE	S						-	
	8:30AM				TROKING											
					/ AH WASH		12725									
							ASH LINE R	FMOVAL								+
							TDEPTINS									
					UTTING CO			LCITIVO								
							CLEANING	FLOOR & D	LICKSTAVE	ON STU EI	OOR				-	+
				FULL NO L		,	CLEAINING	LOOK & B	CINICIO	ON SINFL	OUR					-
						GTON 74-7	P 6/21/20	13								
									DVDACC OD	EN EN TON	ING TO MA	INITAINIOE	100 050 11	IDE OIL		
	NOTE			GE GLASS F		PRAISOI	M33ED LUE	SE OIL REG	DIPASS OF	EN 5% IKT	ING TO MA	IN IAIN 95	-100 DEG L	DRE OIL	-	
					MING OUT	MATER									-	-
				WILL BE LA		VVATER										
	7.42FIVI	R. BLANK	S CALLED -	WILL BE LA	(IE											
/20/2013	8:00PM	CLARK H	GGINS CI	ITSHAW BI	LANKS & YO	NING						B SHIFT P	ENDLEY		+	
, 20, 2010	0.001 111			C - ONAN		30110					-	D SHIFT F	LINDLET		-	
		,		0												
		UNIT	LOAD	UNIT CAP	NET CAP.	502	CO2	NOX	OPACITY	REMOVAL	DUST	AMM FIC	BACK PRES	SSLIRE		
		R1	24HR	55		STNDBY	COL	III	OTACITI	HEINOVA		AIVIIVI. I LC	DACKTINE	R-1 CTL	18'	+
			2.11.11.		7	STIVEDT								PWTL	27'	-
		H1	143	165	153	0.452	10.5	0.062	15.4	91.2	13.58	223	2.5		21	
			210	10.	155	0.452	10.5	0.002	13.4	31.2	13.50	223	2.3		-	-
		H2	OFF	165		-								HMPL	15.5'	+
			311	103	1	t	-							HVIPL	15.5	-
		C.T.		50	STANDBY											
		C. 1.		36	JIMNUDI						GAUGE GL	ACCEC		DRYING	ACENT	
		ALARMS:			-						OK	MJJEJ		H-1 0%	AGENT	-
		R1									UK			H-1 0%		+
		H1	STEAMAC	EAL HI/LO	DUDNEDA	MANGT FU	PRESSURE	LO/PLINAD	CTART DEC				-	n-2 0%		+
		H2	31 LAIVI SI	LAL HI/LU	DONNER IV	IANGI. EH	- NESSUKE	LO/FUIVIP	JIANI KEQ						-	
	-	112											-		-	-
		SOOTRIO	WERS TAG	GED												
										SILO			BOOTHE	VCTE 4		
		R1- 16,19,28,29,30,31 SILO BOOTHE SYSTEM H1 20 / 5,6,7,8,9,10,11,32,39 10' OUT														
					00 21 22 22	24 20 42 4	E			10			OUT			
		112 1,2,4,	5,7,9,10,11	,,13,18,19,	20,21,22,23	,24,39,42,4	3									
		FUEL OIL	T C H	HMPL	NORTH	COLITU							-			-
					NORTH											
		LEVEL2	9 / 3/4"	14 1/4"	16' 9 1/4"	81/4"										



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/20/2012	0.0004	CASED: 5:	01551110												
/20/2013		SAFETY BI													
		R. BLANK													
	NOTE		P DOORS	CLOSED											
	10:00PM	R. GENTR	Y HERE												
	11:04PM	PPSI HERE	E PER GUAR	RD											
	NOTE	WASHING	H-2 STEAM	M COILS & I	F.D. FANS										
	11:30PM	H-2 TURB	INE OFF GE	AR - TAGG	ED OUT										
	11:35PM	H-2 TURB	INE OIL PUI	MPS OFF											
		INLAND L													
			2,11,11,0												
6/21/2013	12:45AM	TAGGED	OLIT H-2 TLI	RBINE OIL	DIIMADS										
	NOTE			N PRECIP H										-	
				1	OPPERS										
		ELECTRICI													
	NOTE			HOPPER TO											
	7:25AM	CONTACT	ED D PEND	LEY TO SIG	N HIM OFF	AANDBF	D FANS CC	NTACT MA	DE						
5/21/2013	8:00AM			MBRY VAC								A SHIFT T.	.TOW		
		DUVALL S/L, BEAN M JOHNSON J WALDINGTON J BOWLEY													
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE	
		R1	24HR	55	48	3								18'	
			STBY											26'	
		H1	159	165	153	0.386	10.3	0.072	16.4	92.7	11.07	240	2.8		
		H2		165	152									15.4'	
			OFF EXCIT	ER BRG RE											
		C.T.	0												
		GAUGE GLASSES DRYING AGEN												GENT	
		ALARMS:									OK OK	73313		0%	CLIVI
		R1									OK.			0%	
		H1	STEAMAGE	ENI HIVIO E	DI IDNIED AA	ANG ELID	DCC 10 CT	LEVEL							
						ANG., EH PI	N33 LU, CI	LEVEL							
		H2	ETI KES LE	VEL HI,GEN	v. KOTOK V	/16									
		SOOTBLOWERS TAGGED													
		SOOTBLOWERS TAGGED													
				8,19,22L,28	,29,30,31										
			8,9,10,11,2												
		H2 1,2,4,	5,7,9,10,11	,15,18,19,2	0,21,22,23	,24,39					SILO			BOOTHE S	YSTEM
											11.6'			OUT	
		FUEL OIL T	C.H.	HMPL	NORTH	SOUTH									
		LEVELS	9'5"	12'9"	16'9 1/4"	8 1/4"									
	8:00AM	JOB SAFET	TY BRIEFING	G											
		AIR TEST O													
		PURGING													
				/L NOTIFIE	D										
				ALVE OPE											
		1		LOSED STA											
				H-2 EXCITE		-			-						
		SPINDAL			DING			-		-				-	
					ST COCC	ATCT 143	10 100 500	CN 7 0 1/1	225.0	-					
						AT S.T. 142		EN 7.9 VA	25.8						
						IST CHECKI									
						OVERSPEE	D 26								
				NG OK NOV	V										
		H-2 TIED C													
	5:15PM	H-2 PRECI													
	NOTE	GREEN CA	LLED FIRE	WATER CRO	OSS TIE CLO	DSED									
		H-2 SCRUE	BBERS IN SE	ERVICE											
	6:33PM	H-2 SCRUE H-2 WARN		ERVICE											



Lost Sales Opportunity Report



### FORCED OUTAGE COST ANALYSIS

### MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 2 -	H2-13-0	)4			Product	ion Co	ost	
Date & Time Off Line		6/15/1	3 6:25				MW	\$/MW		
Date & Time On Line		6/16/1	3 1:37				72	\$	31.48	
Outage Duration		19 hr.	12 min.				127	\$	28.76	
Outage Code		U	02				149	\$	28.44	
Outage Reason		as tripped du n #7 bearing. insta	Balance							
Date	DA LMP Average		RT LMP Average		DART P&L		Lost Opportunity			
6/15/13 (HE 7-24)	\$	30.29	\$	36.57	\$	(21,786)	\$ -			
6/16/13 (HE 1-13)	\$	23.13	\$	23.97	\$	2,721	\$ -			
Total					\$	(19,064)	\$ -			
Start Up Fu					Total Forced	ge Cost				
S/U Fuel Consumed		13,008					DART P&L	\$	(19,064)	
S/U Fuel Price	\$	3.19					Lost Opportunity	\$		
S/U Fuel Cost	\$	(41,484)					S/U Fuel Cost	\$	(41,484)	
							Total	\$	(60,548)	
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 COST ANALYSIS**

### MISO DART Revenue and LOST OPPORTUNITY

Unit	t HMP'L 2							Product	ion C	ost
Date & Time Off Line		6/18/1	3 23:22	2				MW	\$/MW	
Date & Time On Line		6/21/1	3 17:08	3				83	\$	30.71
Outage Duration		65 hr.	46 min					127	\$	28.76
Outage Code		U	03					149	\$	28.44
Outage Reason	Repa	air high vibra bea	tion on ring.	#7 turbine						
Date	DA LI	MP Average	RT LMP Average		DART P&L		Lost Opportunity			
6/18/13 (HE 23-24)	\$	31.51	\$	22.51	\$	1,009	\$	-		
6/19/13 (HE 1-24)	\$	36.01	\$	30.45	\$	(7,387)	\$	-		
6/20/13 (HE 1-24)	\$	41.33	\$	30.16	\$	-	\$	(48,037)		
6/21/13 (HE 1-24)	\$	43.40	\$	26.33	\$	(3,610)	\$	(54,884)		
Total					\$	(9,988)	\$	(102,922)		
Start Up Fu	el Cost							Total Forced	Outa	ge Cost
S/LI Fuel Consumed		12 706					10000	ADT DOL		

Start Up Fu	el Cost		Total Forced	Outa	ge Cost
S/U Fuel Consumed		12,786	DART P&L	\$	(9,988)
S/U Fuel Price	\$	3.19	Lost Opportunity	\$	(102,922)
S/U Fuel Cost	\$	(40,776)	S/U Fuel Cost	\$	(40,776)
			Total	\$	(153,685)

#### 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: Bob Berry

From: Billy Boarman

Date: 24-Jun-2013

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

**Duration** 

Trip Time: 18-Jun-2013 23:22 Tie Time: 21-Jun-2013 17:08

Time Offline: 65:46

#### **Outage Description**

HMP&L Station Two Unit 2 was removed from service on Tuesday, 18-Jun-2013 at 23:22 due to #7 exciter bearing having excessive vibration

#### Root Cause

Precision Power Services Inc. was retained to explore the possible causes for the excessive vibration on this bearing. The #7 bearing outboard oil seal was found to be set incorrectly, creating a rub on the bottom of the shaft. During this inspection a fuse on the exciter wheel was found with a loose bolt also.

#### Failure History

15-Jun-2013 19:12 HMP&L Station Two Unit 2 auto tripped on turbine

vibration on Saturday, 15-Jun-2013 at 06:25 due to #7 exciter bearing vibration reaching 10.5 mils on the Y probe (trip set point > 10 mils) and 8.4 mils on the X probe (trip set point > 5 mils).

#### **Corrective Action**

The bearing was disassembled and inspected; both oil seals were removed, inspected, and cleaned, the bearing was reassembled and the oil seals were reset to the proper clearance. Replaced and torqued the loose fuse bolt. At the recommendation of Siemens, PPSI also removed 30 grams of weight from the exciter fan and installed a 10oz. balance shot on plane #2, generator end of the HP, at bearing #2 on the shaft mark of 190 degrees. The Siemens balance engineer monitored turbine vibration until



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we could achieve full load. All bearings are operating at acceptable vibration levels at this time.

#### **SOE Print Out**

STANDARD SOE REPORT

Triggered on: 18-Jun-2013 23:22:40:830

Event Time	State	Tag Name	Tag Description
18-Jun-2013 23:23:00:523	TRIP	H250OCB186CSTR	OCB 0186 GEN H2 CS TRIP
18-Jun-2013 23:22:59:042	TRIP	H250OCB182CSTR	OCB 0182 GEN H2 CS TRIP
18-Jun-2013 23:22:56:480	LOW	H225DRMLVLLOW	BOILER DRUM LEVEL LOW
18-Jun-2013 23:22:56:339	OK	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
18-Jun-2013 23:22:48:919	LOW	H222HTR2LVLLO	LP HEATER 2-3 LEVEL LOW
18-Jun-2013 23:22:47:175	OK	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:47:106	HIGH	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:46:738	OK	H222HTR2LVLHI	LP HEATER 2-3 LEVEL HIGH
18-Jun-2013 23:22:45:660	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:45:599	OK	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:45:359	LOW	H222HTR3LVLLO	LP HEATER 3-3 LEVEL LOW
18-Jun-2013 23:22:44:639	TRBLE	H246XFERTOMAN	VOLTAGE REG TROUBLE
18-Jun-2013 23:22:44:576	OK	H233LMISTRP	LAST MILL IN SERVICE TRIP
18-Jun-2013 23:22:44:521	OPEN	H250FLDBKRSTS	GEN H2 FIELD BKR STATUS
18-Jun-2013 23:22:44:512	OPEN	H250OCB186STS	OCB 0186 GEN H2 STATUS
18-Jun-2013 23:22:44:496	OPEN	H250OCB182STS	OCB 0182 GEN H2 STATUS
18-Jun-2013 23:22:44:410	OK	H250OCB182GETR	OCB 0182 GEN H2 TRIP
18-Jun-2013 23:22:44:410	OK	H250OCB186GETR	OCB 0186 GEN H2 TRIP
18-Jun-2013 23:22:44:385	LKOUT	H240STPVLO86TV	TURB STOP VLV LOCKOUT (86TV3)
18-Jun-2013 23:22:44:380	TRIP	H250OCB186GETR	OCB 0186 GEN H2 TRIP
18-Jun-2013 23:22:44:379	TRIP	H250OCB182GETR	OCB 0182 GEN H2 TRIP
18-Jun-2013 23:22:41:332	TRIP	H240STPVLVTRP	TURB STOP VLV CLSD TRIP
18-Jun-2013 23:22:40:830	TRIP	H233EMERBLRTRP	EMERGENCY BLR TRIP
18-Jun-2013 23:22:40:580	TRIP	H233LMISTRP	LAST MILL IN SERVICE TRIP

### Other Work Completed While Unit Was Offline

Repaired coal leak on B Mill
Repaired gas leaks on the economizer dog house
Cleaned the seal trough
Cleaned Seal Air Fan filters
Replaced primary inlet and reheat inlet root valves
Inspected boiler back pass
Boiler hydro
Reheat Vacuum Check



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# Forced Outage Report

Replaced top sight glass on DA tank Inspected B-1 Burner flame stabilizer Replaced "A" bushing on the precipitator Repaired bearing on the "A" boiler feed pump Repaired service air leak Replaced A-4 coal valve cylinder Replaced SCR differential taps Replaced steam coil hotwell tank drain valve





#### Your Touchstone Energy® Cooperative

### Operators Event Log

E/10/2012																
0/ 10/ 2013	8:00PM		CIL, BLAIR, E		LYARD							A SHIFT T	. TOW			
		DUVALLS	/L,BEAN D	ONAN												
		UNIT	2401	LINUT	MET	500	000									
			LOAD		NET CAP.		CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES			
		R1	24HR	55	48									18'		
		114	STBY	465	450									27'		
		H1	144	165	153	0.404	19.2	0.075	13.1	91.1	11.21	196	2.6			
		H2	150	165	152	0.318	10.7	0.048	14.2	93.6	13.33	200	3	15.4'		
		C.T.	0	58	58											
											GAUGE GL	ASSES		DRYING A	GENT	
		ALARMS:									OK			0%		
		R1														
		H1					RSS LO, CT	LEVEL								
		H2 EH RES LEVEL HI, GEN. ROTOR VIB														
			WERS TAG													
			5,7,16,17,1		,29,30,31											
			8,9,10,11,2													
		H2 1,2,4,	5,7,9,10,11	,15,18,19,2	0,21,22,23,	24,39					SILO			BOOTHE S	YSTEM	
											16'			IN		
		FUEL OIL T		HMPL	NORTH											
		LEVELS	10' 1"	9' 2 1/2"	17' 7 3/4"	8 1/4"										
			Y BRIEFING													
			PED TO 142			-										
								EEN MAINT	HERE TO F	REPAIR						
		CLOSED MAIN SLUICE WATER VALVE TO H-1 WET BOTTOM  HAD MAINT PUT CAP ON LINE AND REPLACE VALVE WET BOTTOM SET BACK UP H-1														
			DOWN WI													
			-2 SCR OUT			U SHUT DO	WN									
			BBERS OUT													
			D FIRES OL		ER											
			PS OUT OF													
	NOTE	PUMPING	BOILER UP	TWICE DR	AININGAN	D FANING										
-			ENTHOUSE													
			ED HOLD O													
	1:45AM							NOT PULLI								
						T S/W DRA	IN CHECKE	ED END OF	LINE GOOD	FLOW LET	TINGLINE	FLUSH				
		FOR A WH			RY AGAIN											
	NOTE					HOLIDED	1 WORK OF	RDER PLUG	GAGE ON							
		WORK ON	H-1 WET B	оттом го							INICINI					
	NOTE	WORK ON	H-1 WET B	оттом го				REYNOLDS		TON COM	INGIN					
	NOTE	WORK ON CALLED G.	H-1 WET B	COMING I	N J.BAKER	_/M,J.GAT	ON L/M J.I		L/M R.DEN	TON COM	INGIN					
	NOTE	WORK ON CALLED G.	H-1 WET B	COMING I	N J.BAKER	_/M,J.GAT	ON L/M J.I	REYNOLDS WADLINGTO	L/M R.DEN	TON COM	INGIN	C SHIF	T CARTER			
	NOTE	WORK ON CALLED G. EDMONDS vac	H-1 WET B EDWARDS S,JACKSON	COMING II	HOGAN, B	L/M,J.GATT	ON L/M J.I	WADLINGTO	L/M R.DEN			C SHIF	T CARTER			
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT	H-1 WET B EDWARDS 5,JACKSON LOAD	COMING II	N J.BAKER	L/M,J.GATT	ON L/M J.I	WADLINGTO	L/M R.DEN	TON COM			T CARTER	SURE		
	NOTE	WORK ON CALLED G. EDMONDS vac	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR	COMING II	HOGAN, B	L/M,J.GATT	ON L/M J.I	WADLINGTO	L/M R.DEN					SURE	CTL 18.0	
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY	OTTOM FO COMING II , GRIFFIN, UNIT CAP	HOGAN, B	L/M,J.GATT	ON L/M J.I	WADLINGTO	L/M R.DEN					SURE	CTL 18.0 PWTL / 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR	OTTOM FO COMING II , GRIFFIN, UNIT CAP	HOGAN, B NET CAP.	L/M,J.GATT	CO2	WADLINGTO	L/M R.DEN	REMOVAL		AMM. FLC		SURE		6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48	HOGAN, B NET CAP. 48	J/M,J.GATI OWLEY,ALI SO2 0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SURE		6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48	HOGAN, B NET CAP.	J/M,J.GATI OWLEY,ALI SO2 0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SURE		6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165	HOGAN, B NET CAP. 48 153	OWLEY,ALI SO2  0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SSURE	PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165	HOGAN, B NET CAP. 48	OWLEY,ALI SO2  0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SURE	PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T.	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165	HOGAN, B NET CAP. 48 153	OWLEY,ALI SO2  0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SURE	PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS:	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165	HOGAN, B NET CAP. 48 153	OWLEY,ALI SO2  0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRES	SURE	PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS:	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165	HOGAN, B NET CAP. 48 153	OWLEY,ALI SO2  0.366	CO2	WADLINGTO	L/M R.DEN ON OPACITY	REMOVAL	DUST	AMM. FLC 235/C	BACK PRES	SURE	PWTL/ 2	26.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165	N J.BAKER HOGAN, B NET CAP. 48 153 OFF LINE 58	./M,J.GATTOWLEY,ALL SO2 0.366	CO2 10.8	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	26.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS:	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58	OWLEY, ALI SO2  0.366  #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58	OWLEY, ALI SO2  0.366  #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58	OWLEY, ALI SO2  0.366  #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	6.2
	NOTE	WORK ON CALLED G. EDMONDS Vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLO	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND BURNER M E.H.TEMP	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58	OWLEY, ALI SO2  0.366  #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	
	NOTE	WORK ON CALLED G. EDMONDS Vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLO	H-1 WET B EDWARDS 6, JACKSON LOAD 24HR STBY 163 ON STAND BURNER N E.H.TEMP WERS TAGG	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58	OWLEY, ALI SO2  0.366  #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2	
	NOTE	WORK ON CALLED G. EDMONDS Vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLOI R1- 16,19, H1 20 / 5,	H-1 WET BEDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND BURNER M E.H.TEMP WERS TAGG 28,29,30,3:	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58 ENT/STEAM LOW-HYDI	_/M,J.GATT OWLEY,ALI SO2 0.366 #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2 CTL 15.5	
	NOTE	WORK ON CALLED G. EDMONDS Vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLOI R1- 16,19, H1 20 / 5,	H-1 WET BEDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STANE BURNER N E.H.TEMP WERS TAGG 28,29,30,3: 5,7,8,9,10,1	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58 ENT/STEAM LOW-HYDI	_/M,J.GATT OWLEY,ALI SO2 0.366 #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2 CTL 15.5  DRYING A H1- 0%	
	NOTE	WORK ON CALLED G. EDMONDS Vac UNIT R1 H1 H2 C.T. ALARMS: R1 H1 H2 SOOTBLOI R1- 16,19, H1 20 / 5,	H-1 WET B EDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND BURNER M E.H.TEMP WERS TAGG 28,29,30,3:5,7,9,10,15,	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58 ENT/STEAM LOW-HYDI	_/M,J.GATT OWLEY,ALI SO2 0.366 #7 BRG VIB	CO2  10.8  RATION	WADLINGTO	L/M R.DEN DN OPACITY 33.2	REMOVAL	DUST 21.03	AMM. FLC 235/C	BACK PRES		PWTL/ 2 CTL 15.5  DRYING A H1- 0%	
	NOTE	WORK ON CALLED G. EDMONDS vac UNIT R1  H1  H2  C.T.  ALARMS: R1  H1  H2  SOOTBLOV R1- 16,19, H1 20 / 5, H2 1,2,4,5	H-1 WET BEDWARDS 5,JACKSON LOAD 24HR STBY 163 ON STAND BURNER M E.H.TEMP WERS TAGG 28,29,30,3: 5,7,8,9,10,15,7,9,10,15,	OTTOM FO COMING II , GRIFFIN, UNIT CAP 48 165 165 DBY	N J.BAKER I HOGAN, B NET CAP. 48 153 OFF LINE 58 ENT/STEAM LOW-HYDI	_/M,J.GATT OWLEY,ALI SO2  0.366 #7 BRG VIB	CO2  10.8  RATION	NOX  0.074	L/M R.DEN DN OPACITY 33.2	92.6	DUST 21.03	AMM. FLC 235/C 0	BACK PRES		PWTL/ 2 CTL 15.5  DRYING A H1- 0%	



Your Touchstone Energy Cooperative

Гυ	10	<b>2</b> U	U	ulc	126	3 K	ep	100	ι					Your Tou	chstone Ene	ergy <sup>e</sup> C
	NOTE		MAINT WO													
	NOTE		DS GOT IT		VIII EASIS	IDE WEIBC	TION									-
	7:25AM	G.EDWAF		COVERED	-					-						
	7;35AM	SAFETY B			-										-	
				A TOD TO C	000	-		-		-			-			-
	NOTE		NG GENER													
	8;35AM	-	TER FAN TR		LO OIL FLO	W			-							
	8;54AM		BERS BACK													
	NOTE		H2 BOILER F	OR HYDRO	& VACUN	1 CHECK										
	9;00AM	R.DENTO	N HERE													
	11;38am	H2-B BFP	ON FOR HY	DRO & PU	LLING VAC	UM										
	NOTE	TRANSFE	RRING FUEL	OIL												
	12;45PM	H2 GENER	ATOR PUR	GED TO CO	2											
	1;20PM	H2 HYDRO	GOOD													
	1;36PM	H1 SCR A	MMONIA TI	RIPPED												
	1;43PM		OWINGAN													
	1;45PM		ING BOILE		4 GOOD											
	NOTE		ON H2 WE		10000											
	NOTE	-	IDE WETBO		LNOTPHI	LING DOW										-
					LNOTPUL	LING DOW	N									
			DS GOING													
	5;00PM		N GOING H													
	NOTE	OPEN BIG	DE WETBO DOOR TO ADY STREA	TRY TO SEE	IF BRIDGE	D RUNNIN	G 165MW (	SOING TO	OPEN AGAI					NOT ALL T	IME	
	NOTE		ER SET TO F													
/19/2013	8:00PM		IGGINS, CU			OUNG						B SHIFT P	ENDLEY			
		CONN, BE	REEDEN VA	C-ONAN	HERE											
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE		
		R1	24HR	55		STNDBY								R-1 CTL	18'	
		-	2	33	40	3								PWTL	27'	
		H1	143	165	153	0.508	10.4	0.058	16.8	90.7	13.58	222	2.5		21	
		114	143	165	155	0.508	10.4	0.058	16.8	90.7	13.58	223	2.5			
		H2	OFF	165										HMPL	15.5'	
		C.T.	-	58	STANDBY											
		ALADNAC.									GAUGE GL	ASSES		DRYING A	AGENT	
		ALARMS:									OK			H-1 0%		
		R1						L						H-2 0%		
		H1	STEAM SE	AL HI/LO	BURNER N	MANGT. EH	PRESSURE	LO/PUMP	START REQ	2						
		H2														
		SOOTBLO	WERS TAG	GED												
		R1- 16,19	,28,29,30,3	1						SILO			BOOTHE S	YSTEM		
		H1 20/5	6,7,8,9,10,	11,32,39						6'			OUT			
			5,7,9,10,11		0.21.22.23	24.39.42.4	5									
		-1-1-1	-,.,-,,	,,,,-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,										
		FUEL OIL	CH	HMPL	NORTH	SOLITH			-	-						-
		LEVELS	9' 10 1/4"		16' 9 1/4"										-	
		LLTLLO	3 10 1/1	21 2/1	10 3 2/4	0.44										1
/19/2013	8:00PM	SAFETY B	RIEFING													
	8:00PM		ON H-2 W	ET SEAL FL	USH											
	8:15PM		оттом w			LVE NOT	LOSING - V	VITH VALVI	E CLOSED -	GETTING F	ULL STRFA	M OF WAT	ERATASH	POND -		
			OPS WHEN								J.L. J. NLA				-	-
	NOTE		O PULL H-1				.JJOED W	,,,								
			, JEE II-1	DIST SIDE		- 181									-	
/20/2012	NOTE		VACUET.	ID T1000	D EL FOTO:		D AID 22	F6 6"								
/20/2013			VASH SET L			AL - IESTE	D AIK DRIV	ES-OK								
	2:00AM		VELL CHECK		1 HOUR											
	NOTE		EAL CLEAN													
	6:00AM	TAGGED (	OUT H-2 CO	NDENSER 1	VACUUM P	UMPS										
	6:20AM	TAGGED (	OUT STEAM	TO H-2 ST	EAM COILS	OFF OF LO	W PRESSU	RE HEADER	- 2ND FLO	OR						
														-		
20/2013	8;00pm		S,JACKSON	, GRIFFIN,		BOWLEY, AL	EXANDER,	WADLINGT	ON			C SHIF	TCARTER			
		vac			vac											
		UNIT	LOAD	UNIT CAP	NET CAP.	SO2	CO2	NOX	OPACITY	REMOVAL	DUST	AMM. FLC	BACK PRE	SSURE		
		R1	24HR	48	48										CTL 18.0	
			STBY												PWTL/ 2	6.2
		H1	143	165	153	0.537	10.4	0.065	14	89.4	11.37	209	2.5			
		H2		165	OFF LINE	#7 BRG VIE	RATION								CTL 15.5	
					58											
		CT	ON													
		C.T.	ON STANE	DBY	58											
			ON STANE	DBY	58											-
		ALARMS:	ON STANE	DBY	58							0				
							/ DDEcci In	E/H1 COOL	ING TOWE	B HI / LOW		0	GAUGE GL	ACCEC		





		COOTELO	WEDG TA													
			WERS TAG			-										
			,28,29,30,3		-										DRYING A	AGENT
			6,7,8,9,10,			L									H1- 0%	
		H2 1,2,4,	5,7,9,10,15	5,18,19,20,	21,22,23,24	,39									H2- 0%	
		FUEL OIL	TANKS			-										
		LEVELS		HMPL	NORTH	SOUTH		-	SILO LVL	-	BOOTHE S	VCTERA	OUT		-	+
				-	16' 9 1/4"				2B #2 - 9'		BOOTHE 3	13 I EIVI	001		-	
					2004	- Ly .			LU IIL J							+
	NOTE	INLANDS	ETTING UP	FOR H2 FO	ONS VACU	IMING & A	H WASH								-	+
	8;00PM	SAFETY B						1							-	+
	NOTE			TTOM BOT	TH SIDES GO	OD SPLASI	HRACK ON	BOTH SIDE	e						-	
					TROKING 1			BOTH SIDE	.5						-	
					/ AH WASH		TEVES								-	
					PERMIT FO		ACHIINED	ENACYAL							-	-
					OORS STILL										-	
					UTTING CO			FECTING							-	-
					A NOTIFIED			ELOOP P P	LICKSTAVE	ON ETU S	000		-		+	-
				FULL NO L		/ INLAND	LEANING	FLOOR & B	OCKSTAYS	ONSIHEL	OOK				-	-
	2;50PM					CTON 74 7	D 6/21/20	12								
					J.WADLIN				DVDAGGOD	EN FOC TO					-	
	NOTE					PRAYS BYP	ASSED LUE	SE OIL REG	BYPASS OF	EN 5% TRY	ING TO MA	INTAIN 95	-100 DEG L	JBE OIL	-	
				GE GLASS F		MATER									-	
					MING OUT	WATER										
	7:42PM	R. BLANK	CALLED -	WILL BE LA	NIE.											
6/20/2013	8:00PM	CLARK, HI	GGINS, CU	JTSHAW, BI	LANKS & YO	DUNG						B SHIFT P	ENDLEY			
		CONN, BR	REEDEN VA	C - ONAN	HERE											
		UNIT	LOAD	LINITCAR	NET CAP.	502	CO2	NOX	OBACITY	REMOVAL	DUST	ANANA FLO	BACK PRES	CLIDE		
		R1	24HR	55		STNDBY	COZ	IVOX	OFACITI	KEIVIOVAL	.0031	AIVIIVI. FLC	DACK PRE	R-1 CTL	18'	
		11.2	241111	3.	, 40	STINDET								PWTL	27'	-
		H1	143	3 165	5 153	0.452	10.5	0.062	15.4	91.2	13.58	223			21	
		112	14.	10.	, 155	0.432	10.5	0.002	13.4	91.2	13.36	223	2.3			
		H2	OFF	165	5									HMPL	15.5'	
																1
		C.T.		58	STANDBY											
											GAUGE GL	ASSES		DRYING	AGENT	
		ALARMS:			1					-	OK			H-1 0%	7-11	1
		R1									- /4			H-2 0%		
		H1	STEAM S	EAL HI/LO	BURNER N	ANGT. FH	PRESSURF	LO/PUMP	START REC	)				0,0		
		H2			1			-,,		1						f-
																1
		SOOTBLO	WERS TAG	GED												
			,28,29,30,3							SILO			BOOTHE S	YSTEM		
			6,7,8,9,10,							10'			OUT			
					20,21,22,23	,24,39,42,4	5						-91			
		FUEL OIL 1	C.H.	HMPL	NORTH	SOUTH										





6/20/2013	8:00PM	SAFETY BE	RIEFING													
	8:15PM	R. BLANKS	HERE													
	NOTE	H-2 PRECI	P DOORS	CLOSED												
	10:00PM	R. GENTRY	HERE													
		PPSI HERE		RD												
	NOTE			M COILS & I	ED EANS										-	
		H-2 TURBI													-	
					ED 001										-	
		H-2 TURBI		MPS OFF												
	11:45PM	INLAND LE	AVING													
/21/2013	12:45AM	TAGGED C	I IT H-2 TI I	RRINE OIL	DLIMPS											
	NOTE			N PRECIP H											+	
					OFFERS										-	
		ELECTRICIA														
	NOTE			HOPPER T												
	7:25AM	CONTACT	ED D PEND	LEY TO SIG	N HIM OFF	AANDBF	D FANS CC	NTACT MA	DE							
/24/2012	0.00444	FFITY OF														
/21/2013	8:00AM	FELTY,CEC										A SHIFT T	. TOW			
		DUVALL S	L,BEAN N	JOHNSON	J WALDIN	IGTON J BO	WLEY	-	-							
		UNIT	LOAD	LINIT CAR	NET CAP.	502	CO2	NOX	OBACITY	REMOVAL	DUST	A BABA ELO	DACK DOC	CCLIDE		
						1	CO2	INOX	OFACITY	REIVIOVAL	1600	AMM. FLC	DACK PRE	1.12.2	-	
-			24HR	55	48					-				18'	-	
			STBY											26'		
		H1	159	165	153	0.386	10.3	0.072	16.4	92.7	11.07	240	2.8			
		H2		165	152									15.4'		
			OFF EXCIT	ER BRG RE				-						15.4		
		C.T.	0												-	
		0.11		50	50	1					GAUGE GL	ACCEC		DRYING A	CENT	
		ALARMS:									OK OK	AJJEJ				
											OK			0%	0	
		R1														
		H1				ANG., EH P	RSS LO, CT	LEVEL								
		H2	EH RES LE	VEL HI,GEN	N. ROTOR V	/IB										
		SOOTBLOV	NEDS TAG	SED												
				8,19,22L,28	20 20 21											
					,29,30,31											
		H1 5,6,7,8														
		H2 1,2,4,5	5,7,9,10,11	,15,18,19,2	0,21,22,23	,24,39					SILO			BOOTHE	SYSTEM	
											11.6'			OUT		
		FUELOILT	C.H.	HMPL	NORTH	SOUTH										
		LEVELS	9'5"	12'9"	16'9 1/4"	8 1/4"										
	8:00AM	JOB SAFET	Y BRIEFING	G												
	9:00AM	AIR TEST G	GOOD													
		PURGING														
		FIRE IN H-		/L NOTIFIE	D											
		MAIN STE						-	-							
		0189 DISC				-		-	-						-	-
															-	
		7X TRIP BA			DNG A				ļ							
		SPINDAL		Control of the last control of the												
	3:26PM					AT S.T. 142		EN 7.9 VA	25.8							
			TALTEMP													
	3:45PM				T PASSED	<b>OVERSPEE</b>	D 26									
	4:25PM	RAN ALL F														
	4:25PM															
	4:25PM 5:00PM	RAN ALL F	MP READIN													
	4:25PM 5:00PM 5:08PM	RAN ALL F #7 BRG TEI	MP READIN													
	4:25PM 5:00PM 5:08PM	RAN ALL F #7 BRG TEI H-2 TIED O	MP READIN IN LINE PS IN	NG OK NOV	V	OSED										
	4:25PM 5:00PM 5:08PM 5:15PM NOTE	RAN ALL F #7 BRG TEI H-2 TIED O H-2 PRECIF GREEN CA	MP READIN IN LINE PS IN LLED FIRE V	NG OK NOV	V	DSED										
	4:25PM 5:00PM 5:08PM 5:15PM NOTE 6:33PM	RAN ALL F #7 BRG TEI H-2 TIED O H-2 PRECIE	MP READIN IN LINE PS IN LLED FIRE I BERS IN SE	NG OK NOV	V	DSED										



**Lost Sales Opportunity Report** 

#### Your Touchstone Energy Cooperative

### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit	HMP'L 2	- H2-13-04		Produc	tion Co	st
Date & Time Off Line	6/15/	13 6:25		MW	1 9	\$/MW
Date & Time On Line	6/16/	13 1:37		72	\$	31.48
Outage Duration	19 hr.	12 min.		127	\$	28.76
Outage Code	l l	JO2		149	\$	28.44
Outage Reason	on #7 bearing	due to high vibration g. Balance shot called.				
-				Lost		
Date	DA LMP Average	RT LMP Average	DART P&L	Opportunity		
6/15/13 (HE 7-24)	\$ 30.29	\$ 36.57	\$ (21,786)	\$ -		

Total			\$ (19,064)	\$ -		
Start Up Fu	el Cost			Total Forced	Outag	ge Cost
S/U Fuel Consumed		13,008		DART P&L	\$	(19,064)
S/U Fuel Price	\$	3.19		Lost Opportunity	\$	
S/U Fuel Cost	\$	(41,484)		S/U Fuel Cost	\$	(41,484)
						(00 F40)

23.97 \$

2,721 \$

N	U.	TE	C

All negative values are money out of pocket.

6/16/13 (HE 1-13)

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

23.13 \$

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

\$



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### **FORCED OUTAGE COST ANALYSIS**

#### MISO DART Revenue and LOST OPPORTUNITY

Unit		HMP'L 2	- H2	-13-05			Product	ion C	ost
Date & Time Off Line		6/18/1	3 23	:22			MW		\$/MW
Date & Time On Line		6/21/1:	3 17	:08			83	\$	30.71
Outage Duration		65 hr.	46 n	nin.			127	\$	28.76
Outage Code		U	О3				149	\$	28.44
Outage Reason	Rep		tion ring	on #7 turbine					
Date	DA LI	MP Average	RT	LMP Average	DART P&L	(	Lost Opportunity		
6/18/13 (HE 23-24)	\$	31.51	\$	22.51	\$ 1,009	\$	-		
6/19/13 (HE 1-24)	\$	36.01	\$	30.45	\$ (7,387)	\$	_		
6/20/13 (HE 1-24)	\$	41.33	\$	30.16	\$ -	\$	(48,037)		
6/21/13 (HE 1-24)	\$	43.40	\$	26.33	\$ (3,610)	\$	(54,884)		
Total			Į.		\$ (9,988)	\$	(102,922)		
Start Up Fu	el Cost						Total Forced	Outa	ge Cost
S/U Fuel Consumed		12,786					DART P&L	\$	(9,988)
S/U Fuel Price	\$	3.19				Lo	st Opportunity	\$	(102,922)
S/U Fuel Cost	\$	(40,776)					S/U Fuel Cost	\$	(40,776)
							Total	\$	(153,685)
	-								

N	-	-	_	-	
N			-	•	•

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: **Bob Berry** 

From: Billy Boarman

Date: 8-Jul-2013

Plant: Reid Station Unit: 1 GADS Class: UO1

#### Duration

Tie Time: 29-Jun-2013 05:36 Trip Time: 28-Jun-2013 22:58

Time Offline: 06:38

#### **Outage Description**

Reid Station Unit 1 tripped on low vacuum on Friday, 28-Jun-2013 at 22:58.

#### **Root Cause**

The large hot well regulator controller had a damaged diaphragm and required replacement, operations put the regulator on a hand jack, maintained load and also the hot well level utilizing the small regulator until the new diaphragm was to be installed. When the new diaphragm was on-hand, instrumentation and the operations supervisor studied the situation and decided to valve out the air to the controller. When they did this the large regulator opened to 100% flooding the hot well which caused the unit to trip on low vacuum.

#### Failure History

Reid Station Unit 1 tripped in July 2008 for a total of 0.8 hours due to low vacuum. In August 2008, there was a 5.3 hour forced outage due to low vacuum. In October 2008, a forced outage of 2.2 hours was due to low vacuum. In June 2009 the unit tripped on low vacuum for a total of 2.4 hours. In November 2010, the unit tripped on low vacuum for a total of 24.98 hours, repairs to B2 burner extended this outage duration. In March 2011, the unit tripped on low vacuum for a total of 2.43 hours. In May 2011, the unit tripped on low vacuum for a total of 7.28 hours. In July 2012, there was forced outage due to low vacuum caused by #1 Circulating Water Pump shaft breaking for a total of 9:20 hours. On July 28 2012, there was a forced outage due to low vacuum caused by the #3 Circulating Water Pump shaft broke causing lost flow through the condenser for a total of 8:06 hours.





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### **Corrective Action**

Replaced the diaphragm on the large hot well regulator controller.

### **Lost Sales Opportunity Report**

						T OPPOR	ALYSIS		
Unit		Reid 1 -	R1-13-0	)2			Product	ion Co	st
Date & Time Off Line		7/2/13	12:57				MW		MW
Date & Time On Line		7/2/13	13:57				35	\$	34.36
Outage Duration		1 hr.	0 min.				45	\$	33.73
Outage Code		U	01				55	\$	33.39
Outage Reason		Unit tripped on low vacuu to weak market, unit was p hour reserve stand							
Date	DA LN	IP Average	RT LM	IP Average	D	ART P&L	Lost Opportunity		
7/2/13 (HE 13-24)	\$ 27.73		\$ 32.25		\$	701	\$ -		
7/3/13 (HE 1-24)		\$ 34.39	34.39	\$	(679)	\$ -			
Total	-				\$	22	\$ -		
Start Up Fu	el Cost						Total Forced	Outage	e Cost
S/U Fuel Consumed			Placed	in Reserve	- No s	start fuel	DART P&L	\$	22
S/U Fuel Price			entered	t			Lost Opportunity	\$	
S/U Fuel Cost	\$						S/U Fuel Cost	\$	
							Total	\$	22
NOTES:									
All negative values are mo	ney out o	of pocket.							
DART Revenue is calculate	ted from o	differences l	etween	the DA awa	rd an	d RT events			
Lost Opportunity is the los	t margins	if the unit h	ad staye	ed running					





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### Forced Outage Report

To: Bob Berry

From: Bart Boles

Date: 2-Jul-2013

Plant: Wilson Unit: 1 GADS Class: UO1/UO1

Duration

Trip Time: 15-Jun-2013 11:42 Tie Time: 15-Jun-2013 22:12

Time Offline: 10:30

Duration

Trip Time: 15-Jun-2013 23:49 Tie Time: 16-Jun-2013 02:15

Time Offline: 02:26

#### **Outage Description**

Wilson Station was removed from service on Saturday, 15-Jun-2013 at 11:42 due to the unit tripping on high furnace pressure. The outage was a result of the #2 ID Fan tripping caused by an issue with the Beck Drive. The BREC instrument, electrical, and mechanical maintenance departments were able to restore the #2 ID Fan Beck Drive back to service and the unit was tied online on Saturday, 15-Jun-2013 at 22:12. Additional work completed during this outage is listed in the sections below

#### **Root Cause**

During normal operation on Saturday, 15-Jun-2013 the # 2 ID fan Beck Drive position went to zero and the demand for that drive went to 100%; however, the fan couldn't recover and the ID Fan tripped. The #1 ID Fan responded, but it was not enough to keep the unit at full load. Thus, the unit tripped on high furnace pressure because it couldn't keep up with only one ID Fan in service.

#### **Corrective Action**

Two (2) new Beck Drives have been purchased for both the #1 and #2 ID Fans. They will be installed during the next unit outage.





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### Forced Outage Report

#### Other Work Completed While Unit Was Offline

The #1 PA Fan was removed from service for a period of three (3) days due to the inlet blades rubbing, which was causing excessive vibration in the fan. The Regulating arm broke, which was the root cause of the inlet blades rubbing. Both the inlet blades and the regulating arm were replaced, and the fan was balanced during this timeframe.

#### Outage Description

During the start-up on 15-Jun-2013 the unit tripped on high-high drum level.

#### **Root Cause**

When the BFPT #1 was put in automatic we experienced control issues and the drum level went high.

#### **Corrective Action**

Instructed the CRO's to wait until the pressure is higher before transferring automatic control from the "A" BFP to the BFPT's. This will give the BFPT's better control.

#### **Failure History**

09 Dec 2012

Tripped on drum level during start up.



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# Forced Outage Report

#### **Operators Event Log**

6/15/2013	12:00am	Weekly Testing
		Combustion Log
	3:15am	Sootblowing header working. Blowing soot
	3:29am	JB1 circ pump on
	4:00am	Williams, K Burden, Norris, Howard out
		Cleaned Mezz level
	8:00 AM	Peercy in / Feeney out
		McCarty, Roby, Wilson, Worley, McElwain, Winders, in 448 Gross, 417 Net MW in ADS, Temp. 67, SCR s/p- 82%, Ammonia tank levels- 57/66%, CSI I/S-Enhanced, 2.58'/3.07', Water Analysis- OK, Ball Mill amps 0/50, Stack- 2.52 inwc, SO2626, inlets-4.99/5.56, Boiler CO2- 10.33%, Nox061, CO ppm- 181.2/99.6, Opacity-3.2%, Flow- 1093.60, SO2 Removal - 89.2, SO3 Sys. I/S, SCR- I/S, 1,2,3,4 modules I/S, 1,2,4,5 mills I/S, Total Coal Flow- 79.82 @ 361 kpph-15%, Total Air Flow-93.63%, Thickener bed level 96"+ A I/S, B O/S Seal Oil Diff 15.04 psi, H2 Pressure- 59, H2 Purity- 98.37%, Gen. Gas Density- 42% inwc, Fan Diff 76, H2 Dew Point104.04 Stator Gas Temp. diff 6.93 Gen. Voltage- 23.98, Gen. MVars- 106.13, Back

Press. - 2.42/3.07 Ave. - 2.62, Windbox - 2.78 psi,

	Safety Briefing & Cleaning Assignments
9:00 AM	Scrubber Daily Vehicle Checklist

Boiler Walkdown

Checked SO3 Nozzles - 3&5W plugged / 6E leaking - O/S to clean nozzles

and repair leak

9:30 AM CSI O/S for cleaning

10:00 AM Checksheets - Cooling Tower Fans

Swapped River Water Duplex Strainers

11:00 AM Daily Vehicle Checklist11:42 AM Unit Tripped - Notified HL

Turbine drain 150 leaking at elbow

1:30 PM Ran Callout List for Ops. - got no one

2:30 PM Ran Callout List for Ops. - got no one - S Baker called back / coming in

#1 ID fan lube oil pressure xmitter not working. #1 LO pump will not start

4:30 PM CSI I/S

Robbed started from WWP-58 to put on #1 IDF #1 LO pump

WO# 610159 WWP-58 needs new starter (been robbed)

6:30 PM J Stewart called in sick - A/T Submitted

6:44pm Oil Fire

Ran Callout List for Lab - got no one

7:00pm Feeney in/Peercy out



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8:00pm McIntyre, Hall, Piper, Drake, Barrett in

> McElwain, Winders staying over Ran Ops callout list- no answer Ran E/M callout list- no answer Ran I/M callout list- no answer Ran Lab callout list- no answer

7:45pm Seal turbine 8:41pm Roll turbine

WO# 6101555 East Econ recirc vlv assembly broken

Put temporary handwheel on east econ recirc. Valve now operates in

opposite direction and requires two people to turn

10:00pm Webster, Burcham, Gardner, Meade in

10:01pm Transfering valves

10:08pm #2 mill on/ Precips in service

10:12pm Unit tied online

11:49pm Unit tripped on high drum level

6/16/2013 12:00am

> 12:28am Fire in boiler 12:40am Rolling turbine 1:00am #2 PA fan on 1:23am Transfering valves

1:27am #1 mill on/ Precips in service

2:15am Unit tied online

