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JACKSON

ENERGY

COOPERATIVE

CORPORATION

2007-2009 CONSTRUCTION WORK PLAN

KENTUCKY 03 JACKSON



**JACKSON ENERGY
COOPERATIVE**

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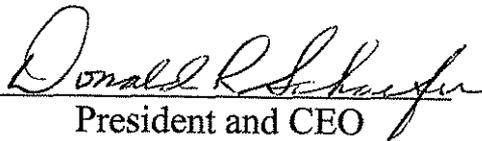
MAY 2007

ENVIRONMENTAL REPORT

KY 3

2007-2009 Construction Work Plan

The construction projects in this work plan consist of code 300 line conversions and conductor replacements only.


President and CEO

May 17, 2007

2007-2009 Construction Workplan (CWP)

Don Schaefer, President & CEO
Jackson Energy Cooperative Corporation

I have completed my review of the cooperative's 2007-2009 CWP, which was prepared by the Jackson Energy Engineering Department, and find it to be generally satisfactory for loan contract purposes. Approval to proceed with the proposed distribution system construction is contingent upon RUS's review and approval of an Environmental Report (reference 7 CFR 1794).

Headquarters, SCADA, and load management projects will be reviewed/approved by the Northern Regional Division office, as necessary. This action will be taken after their receipt of the CWP and other supporting documents (i.e., appropriate feasibility and engineering studies).

You should make a special effort to inform all of the cooperative's employees and contractors, involved in the construction of utility plant of any commitments made in the Environmental Report covering the construction of the facilities recommended in the CWP.

Changes (line improvements, tie lines, extensions, substations, etc.) in the CWP will require RUS approval. The environmental acceptability of any such changes shall also be established in accordance with 7 CFR 1794. The procedure for satisfying these environmental requirements shall be the same as that used in connection with this CWP approval.

It is your responsibility to determine whether or not loan funds and/or general funds are available for the proposed construction. If general funds are used, the requirements as outlined in 7 CFR 1717 need to be followed.

The construction shall be accomplished in accordance with RUS requirements. Specific reference should be made to 7 CFR 1726, Electric System Construction Policies and Procedures.



Mike Norman
RUS Field Representative

2007 - 2009
CONSTRUCTION WORK PLAN
JACKSON ENERGY
COOPERATIVE CORPORATION
KENTUCKY 03 JACKSON
115 Jackson Energy Lane
McKEE, KY 40447

PHONE: (606) 364-1000
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PREPARED BY:

Jackson Energy Cooperative
Engineering Department

May 2007

Name William L. Musrock
Mailing address P.O. Box 307
City, State Zip Code McKee, KY 40447

I hereby certify that this 2007-2009
Construction Work Plan meets RUS standards
and guidelines and that I am a duly registered
Professional Engineer under the laws
of the State of Kentucky. Registration
Number 24319.

By: William L. Musrock



SEAL

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Engineer's Certification

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Section One

Executive Summary

PURPOSE OF THE REPORT

This report documents the Winter of 2006-2007 engineering analysis and summarizes the proposed construction for Jackson Energy Cooperative Corporation's (JEC's) electric distribution system for the two-year planning period of 2007 through 2009.

The report also provides engineering support, in the form of descriptions, costs and justification of required new and alteration of facilities, for a loan application to RUS to finance the proposed construction program.

RESULTS OF THE PROPOSED CONSTRUCTION

Upon completion of the construction of facilities proposed herein, the system will provide adequate and dependable service to 47,427 residential consumers using an average of 1,188 kWh per consumer per month; 3,586 small commercial consumers, and 6 large consumers which are provided for on an individual basis.

GENERAL BASIS OF THE STUDY

The 2009 projected number of consumers and total peak system load of 278 MW were taken directly from the cooperative's 2006 Power Requirements Study (PRS) prepared jointly by East Kentucky Power Cooperative (EKPC) and JEC as approved by the RUS. The projected load increases were spread uniformly except for projected high growth areas that were projected individually.

New distribution, transmission, and power supply construction requirements were considered *simultaneously* as a "one system" approach for the orderly and economical development of the total system. All of the proposed construction and recommendations herein, relative to power supply and delivery, were discussed with the cooperative's power supplier, EKPC.

A complete list of the lines and equipment with their estimated cost (all based on recent historical data) required to serve additional members and service upgrades is listed on the Summary page.

An analysis, using as a basis RUS guidelines and the design criteria herein, for thermal loading, voltages, physical conditions and reliability was performed on all of the substations and distribution lines and major equipment of the existing system. Milsoft Distribution Analysis Software (WindMil) was used to analyze the distribution circuits during the Winter of 2006-2007 peak loading conditions.

For each inadequacy that was determined, alternate solutions were investigated and economically evaluated, so that the most cost effective construction, if required, could be proposed.

SERVICE AREA AND POWER SUPPLY

Jackson Energy Cooperative headquartered in McKee, Kentucky, provides service to seven counties in Southeastern Kentucky. The area is typically rolling hills to mountainous and predominately rural living except for the London area which is suburban and urban in nature. Interstate 75 runs north and south through the western portion of the system. This has allowed that area to experience high growth in residential and commercial classifications.

Most of the service area is rural in nature with some industry, tourism, farming, and commercial establishments. The population of our service area is increasing at a modest rate. Much of our commercial growth is around the London area. Manufacturing and the development of industrial parks is occurring system wide.

The following data is from JEC's 12/31/2006 Form 7:

Number of Consumers:	51,019
KWh Purchased:	954,602,092
KWh Sold:	899,896,897
Maximum kW Demand:	258,110
Total Utility Plant:	\$175,571,870
Consumers per Mile:	9.08

Each of our 27 substations is constructed for 69/12.47 kV operation. Total distribution line mileage is 5,621. Installed conductor sizes range from 8A CW to 795ACSR.

JEC receives its power from East Kentucky Power Cooperative (EKPC). They provide transmission lines and distribution substations for our supply. EKPC owns, maintains and is responsible for the operation of the substations.

EKPC provides all of our power and energy requirements, by virtue of a standard "all requirements" power contract. EKPC is an RUS financed G & T in Winchester KY.

SUMMARY OF PROPOSED 2-YEAR CONSTRUCTION AND COSTS

CODE DESCRIPTION	Number	Miles	ESTIMATED COSTS Total
100 NEW SERVICES			\$6,647,238
200 NEW DIST TIE LINES			
300 DIST LINE CONVERSIONS	51	71.7	\$6,074,600
601 TRANSFORMERS AND METERS			
UG Transformers	214		\$695,070
OH Transformers	1,738		\$1,399,090
Meters	2,674		\$481,320
602 SERVICE UPGRADES	198		\$179,422
603 SECTIONALIZING			\$1,055,000
604 REGULATORS	0		\$0
605 CAPACITORS/CONTROLS			\$8,000
606 POLE REPLACEMENTS	451		\$899,794
608 AIR BREAK SWITCHES			
Gang Operated Air Break	9		\$45,000
Load Break Solid Blade Disconnects			
701 SECURITY LIGHTS	3,000		\$1,224,000
702 SCADA			\$26,200
703 AMR			\$109,000
1501 GIS			\$851,000

TOTAL CONSTRUCTION WORK PLAN

\$19,694,734

Section Two

Basis of the Study and Proposed Construction

JACKSON ENERGY COOPERATIVE CORPORATION

DESIGN CRITERIA

Each of the following design criteria items were reviewed by the RUS General Field Representative on February 28, 2007.

Construction proposed in the work plan is required to meet the following minimum standards of adequacy for voltages, thermal loading, safety and reliability on the system.

1. The voltage on primary distribution lines are not to be less than 118 Volts, (120 Volt base, 126 Volts at source), after re-regulation.

NOTE: It is recommended that proposed construction items required for voltage improvements, whose forecasted need is based solely on calculated voltages from computerized circuit analysis printouts, not be authorized for construction until such calculated voltages are measured in the field and then compared to calculated values to corroborate that actual voltages are below the minimum design level.

2. The following ratings for equipment loading are recommended for thermal protection. The percentage is of the base plate rating, 55 deg. Rise with a 90% power factor.

Transformers (OA)	140% winter, 99% summer (ANSI C57)
Regulators	120% at 7.5% rise
Reclosers	70%
Line Fuses	70%
Current Limiting Fuses	70%

3. Primary conductors are not to be loaded over 80% of their thermal rating for existing and projected loading. Major tie lines will be limited to 80% of their thermal ratings.
4. Loading on single-phase lines beyond 40 amps will be subject to further analysis.
5. Pole and/or cross arms are to be replaced if found to be physically deteriorated by visual inspection and/or tests.
6. Capacitor banks will be installed on distribution lines as required to maintain no less than 90% lagging power factor at peak loading conditions. Capacitor switching will be utilized as required to maintain off peak power factor between 90% lagging and 90% leading.
7. All new distribution lines are to be designed and built according to RUS standard construction specifications and guidelines.
8. Replacement of copper conductors due to age and deterioration. Replace ACSR conductor when deterioration of the steel core is detected.

9. Inspect direct buried primary cable 20 years old or older. Replacement of direct buried primary cable as warranted.

Distribution Line and Equipment Costs

2007-2009 Estimated Cost	DISTRIBUTION LINES
	<u>1-PHASE TO 1-PHASE (OH) LINE CONVERSIONS</u>
\$55,000	1 - Phase; OH, #1/0 ACSR per mile
	<u>1-PHASE TO 2-PHASE (OH) LINE CONVERSIONS</u>
\$80,000	2 - Phase; OH, #1/0 ACSR per mile
	<u>1-PHASE TO 3-PHASE (OH) LINE CONVERSIONS</u>
\$90,000	3 - Phase; OH, #1/0 ACSR per mile
\$100,000	3 - Phase; OH, 336 MCM ACSR per mile
	<u>3-PHASE TO 3-PHASE (OH) LINE CONVERSIONS</u>
\$90,000	With #1/0 ACSR per mile
\$100,000	With #336 ACSR per mile
	NOTE: Above projects include engineering and tree trimming costs.
	<u>1-PHASE TO 1-PHASE (UG) LINE REPLACEMENT</u>
\$84,000	With #1/0 URD per mile
Estimated Labor	LINE REGULATORS
\$6,800	Single Phase, 76.2 KVA
\$20,000	Three Phase, 76.2 KVA
\$22,000	Three Phase, 114.3 KVA
\$23,000	Three Phase, 167 KVA
\$28,000	Three Phase, 250 KVA
\$30,000	Three Phase, 333 KVA
	CAPACITORS
\$3,200	1 - 300 kVAR Fixed Capacitor Bank
\$4,200	1 - 300 kVAR Switched Capacitor Bank
\$3,200	1 - 450 kVAR Fixed Capacitor Bank
\$4,200	1 - 450 kVAR Switched Capacitor Bank

Distribution Line and Equipment Costs

Estimated

Labor	OIL CIRCUIT RECLOSERS
\$1,700	35 Amp. Tyle L Recloser
\$1,800	50 Amp. Tyle L Recloser
\$1,800	70 Amp. Tyle L Recloser
\$2,100	100 Amp. Tyle L Recloser
\$2,200	140 Amp. Tyle L Recloser
\$26,250	560 Amp. Type VWE

Status of the 2005-2007 Work Plan

Item Number	Status	Description	Existing		Proposed		Estimated		Actual	
			Phases	Conductor	Phases	Conductor	Distance miles	Cost of project	Distance miles	Cost of project
301-29	Carryover	Conway Station Feeders	1	2 ACSR	3	336 MCM	1.0	\$106,000		
301-29	Carryover	Conway Station Feeders	3	2 ACSR	3	336 MCM	3.0	\$300,000		
302-10	Completed	Brush Creek	1	6A Cu	3	1/0 ACSR	1.5	\$125,250		
309-9	Completed	War Fork Road, McKee Feeder #2	1	6A Cu	1	1/0 ACSR	0.5	\$21,250	0.3	\$13,591
310-6	Completed	Southside School to Ida May	1	6A Cu	1	1/0 ACSR	2.0	\$85,000	2.3	\$96,732
313-6	Completed	Bell Point	1	6A Cu	1	1/0 ACSR	3.0	\$127,500	3.1	\$144,375
315-5	Completed	Bear Run Road	3	6A Cu	3	336 MCM	1.5	\$150,000	1.5	\$137,715
316-5	Completed	Split Poplar	1	6A Cu	1	1/0 ACSR	2.5	\$106,250	3.2	\$112,446
317-26	Completed	Duck Fork	1	6A Cu	1	1/0 ACSR	2.5	\$106,250	2.5	\$149,354
318-6**	Deleted**	HWY 708 CANYON FALLS RD	1	6A Cu	1	1/0 ACSR	1.0	\$42,500	0.0	
319-27	Completed	Morril to Kirby Knob	3	6A Cu	3	1/0 ACSR	0.5	\$35,000	0.0	
322-2	Completed	Brodhead Feeder #4			3	336 MCM	4.0	\$480,000	5.5	\$485,983
324-12 *	Completed	Crystal to Yellow Rock Road	3	6A Cu	3	336 MCM	4.0	\$400,000	6.0	\$571,933
329-2	Completed	HWY 1650 to HWY 618 1 PH to 3 PH	1	6A Cu	3	1/0 ACSR	1.5	\$125,250	0.0	
330-11	Completed	Asher Fork line goes to the tower	1	6A Cu	1	1/0 ACSR	1.0	\$42,500	0.7	\$18,811
332-16 *	Completed	Lee & Owsley County line to Monroe-Land Road	3	6A Cu	3	336 MCM	2.0	\$200,000	1.2	\$87,006
333-14	Completed	West London Feeder #5 - UG	3	350 MCM UG	3	750 MCM UG	0.5	\$100,000	1.2	\$98,070
334-6	In Progress	Fairground Ridge	1	6A Cu	3	336 MCM	4.0	\$424,000	0.0	
336-1	Completed	Union Church to Buncomb	1	6A Cu	1	1/0 ACSR	0.5	\$21,250	0.2	\$20,217
337-10	Completed	Horse Lick hill near William Callahan	1	6A Cu	1	1/0 ACSR	1.0	\$42,500	0.3	\$21,177
338-14	Completed	Wood's Edge Subdivision	1	1/0 AL URD	1	1/0 AL URD	2.0	\$128,000	1.7	\$157,614
340-16	Completed	East Side Apartments Booneville	3	1/0 AL URD	3	1/0 AL URD	1.0	\$105,000	0.0	
341-15	Completed	Holly Bay Campground	1	1/0 AL URD	1	1/0 AL URD	1.5	\$96,000	1.3	\$79,508
342-7	Completed	Opossum Run to Blue Run 1 PH to 3 PH	1	6A Cu	3	1/0 ACSR	2.5	\$208,750	0.0	
343-17	Completed	Line from HWY 11 to HWY 66	1	6A Cu	1	1/0 ACSR	0.5	\$21,250	0.4	\$27,714
345-5	Completed	ISLAND CITY POST OFFICE	1	6A Cu	1	1/0 ACSR	5.0	\$212,500	5.4	\$235,143
346-13	Completed	Hazelwood Hill tap at Moore's Creek	1	8A Cu	1	1/0 ACSR	1.0	\$42,500	1.2	\$34,426
348-1	Completed	HWY 577	1	8A Cu	1	1/0 ACSR	0.5	\$21,250	2.8	\$119,005

Status of the 2005-2007 Work Plan

Item Number	Status	Description	Existing Phases	Existing Conductor	Proposed Phases	Proposed Conductor	Distance miles	Cost of project	Distance miles	Cost of project
349-2	Completed	Level Green Road 1 PH to 3 PH	1	1/0 ACSR	3	1/0 ACSR	1.5	\$125,250	0.0	
352-13	In Progress	Eberle Feeder #3	3	2 ACSR	3	336 MCM	2.5	\$250,000	0.0	
359-16 *	Completed	Cressmont Road	1	#4 ACSR	1	1/0 ACSR	4.5	\$191,250	3.3	\$179,668
360-17	In Progress	Oneida to Jacks Creek	3	6A Cu	3	336 MCM	6.0	\$600,000	0.0	
361-17	Completed	Hector to HWY 66	3	6A Cu	3	336 MCM	3.5	\$350,000	0.0	
362-11	Completed	Hector, mouth of Bar Creek	3	6A Cu	3	336 MCM	3.0	\$300,000	3.1	\$270,255
363-4	Completed	Els Branch up Collins Fork	1	6A Cu	1	1/0 ACSR	1.0	\$42,500	0.0	
364-4	Completed	Collins Fork	1	6A Cu	1	1/0 ACSR	2.5	\$106,250	0.0	
365-6	Completed	St. Helens to Primrose Road	3	3/0 ACSR	3	336 MCM	2.0	\$200,000	0.0	
366-9	Completed	Pilgrims Rest to Hughes Fork	1	6A Cu	1	1/0 ACSR	0.5	\$21,250	0.0	
368-1	Completed	Swindling Hollow	1	6A Cu	1	1/0 ACSR	2.0	\$85,000	0.0	
373-30 *	Carryover	Big Creek Exit Circuits	3	1/0 Cu	3	336 MCM	2.5	\$300,000	0.0	

* Denotes a carryover item

** Could not obtain ROW

Total 83.0 \$6,447,250

ANALYSIS OF THE 2004 OPERATIONS AND MAINTENANCE SURVEY

In November of 2004, the Operations and Engineering Department of JEC completed the 2004 Operations and Maintenance Survey (Form 300).

In general, the distribution facilities, operations and maintenance, and engineering programs are adequate and improvements are made every year. A few recommendations were noted:

1. Some telephone poles remain close to the electric poles following pole change-outs. A program is underway to remove the old telephone poles.
2. Assuring accurate reporting and code compliance with cable TV attachments is an ongoing problem.
3. A testing program is underway to determine methods to reduce vine related outages. Also observed were a few right-of-way problems with pine trees in residential yards. A tree replacement program might help lessen the number of pine trees in the right-of-way.
4. The number of idle services reported on the Form 7 is still high. A program is underway to verify actual idle services and remove as appropriate in the field. A report verification program is also being investigated.

SECTIONALIZING STUDY

Jackson Energy will perform sectionalizing studies on an on going basis. The Milsoft Windmil software analyzes the equipment loading capabilities with each run. The program indicates areas where loading problems may occur. The Milsoft LightTable software can be used to verify protective device coordination or indicate work that needs to be done. This work will be incorporated in the two-year work plan. As the system is modified, the protection scheme will be reviewed and corrected as required.

The new GIS system and the NISC Billing Computer have a full record of the coordination devices and in the near future the maintenance records will be added. As each recloser requires service, it will be repaired and placed back in service. Maintenance will be established based on the number of load break operations and no device will continue in service more than ten years.

**Jackson Energy Cooperative
Substation Transformer Ratings**

Substation	Present Rating		Cooling Stage
	Summer (KW)	Winter (KW)	
Annville	11,077	15,725	OA-65C
Beattyville	13,622	18,144	OA/FA-65C
Big Creek (1)	11,077	15,725	OA-65C
Booneville	11,077	15,725	OA-65C
Brodhead	11,077	15,725	OA-65C
Bush	11,077	15,725	OA-65C
Conway (2)	11,077	15,725	OA-65C
Campground	14,835	21,060	OA-65C
East Bernstadt	14,835	21,060	OA-65C
Eberle	11,077	15,725	OA-65C
Fall Rock	11,077	15,725	OA-65C
Goose Rock	11,077	15,725	OA-65C
Green Hall	15,568	20,736	OA/FA-65C
Greenbriar	11,077	15,725	OA-65C
Hargett	11,077	15,725	OA-65C
Keavy #1	11,077	15,725	OA-65C
Keavy #2	11,077	15,725	OA-65C
Laurel Industrial #1	11,077	15,725	OA-65C
Laurel Industrial #2	11,077	15,725	OA-65C
Maplesville	11,077	15,725	OA-65C
Maretburg	13,622	18,144	OA/FA-65C
McKee	11,077	15,725	OA-65C
Millers Creek	4,410	7,470	OA-65C
Oneida	11,077	15,725	OA-65C
Pine Grove #1	11,077	15,725	OA-65C
Pine Grove #2	11,077	15,725	OA-65C
Rice	13,622	18,144	OA/FA-65C
Sand Gap	11,077	15,725	OA-65C
South Fork	5,538	7,862	OA-65C
Three Links	11,077	15,725	OA-65C
Tyner	8,820	14,940	OA-65C
West London #1	13,622	18,144	OA/FA-65C
West London #2	13,622	18,144	OA/FA-65C

(1) Big Creek Station will be completed in 2007

(2) Conway Station will be completed in 2007

**Jackson Energy Cooperative
Substation Winter Loading**

Substation	Max Winter Capacity (KW)	January 2007 (KW)	% Max Loading	Projected 2008-09 (KW)	% Max Loading
Annville	18,144	9,082	50.1%	11,158	61.5%
Beattyville	18,144	11,064	61.0%	11,814	65.1%
Big Creek (1)	18,144		0.0%	5,344	29.5%
Booneville	18,144	7,704	42.5%	7,782	42.9%
Brodhead (2)	18,144	15,830	87.2%	11,439	63.0%
Bush	18,144	8,179	45.1%	8,251	45.5%
Campground	32,400	17,116	52.8%	16,502	50.9%
Conway (2)	18,144		0.0%	4,688	25.8%
East Bernstadt	31,050	16,747	53.9%	20,252	65.2%
Eberle	18,144	6,325	34.9%	6,282	34.6%
Fall Rock	18,144	9,010	49.7%	9,564	52.7%
Goose Rock (1)	18,144	12,806	70.6%	9,564	52.7%
Green Hall	24,840	4,064	16.4%	4,032	16.2%
Greenbriar	18,144	9,207	50.7%	8,813	48.6%
Hargett	18,144	5,563	30.7%	6,282	34.6%
Keavy #1	18,144	5,478	30.2%	7,313	40.3%
Keavy #2	18,144	10,241	56.4%	7,407	40.8%
Laurel Industrial #1	18,144	9,225	50.8%	4,407	24.3%
Laurel Industrial #2	18,144	5,360	29.5%	4,407	24.3%
Maplesville	18,144	8,701	48.0%	8,907	49.1%
Maretburg	18,144	9,134	50.3%	9,095	50.1%
McKee	18,144	9,963	54.9%	10,501	57.9%
Millers Creek	7,450	4,362	58.6%	2,625	35.2%
Oneida	18,144	3,436	18.9%	2,907	16.0%
Pine Grove #1	18,144	14,409	79.4%	7,595	41.9%
Pine Grove #2	18,144			7,595	41.9%
Rice	18,144	11,472	63.2%	12,470	68.7%
Sand Gap	15,720	5,445	34.6%	7,126	45.3%
South Fork	8,350	3,284	39.3%	3,563	42.7%
Three Links	18,144	8,986	49.5%	9,095	50.1%
Tyner	18,144	7,996	44.1%	8,063	44.4%
West London #1	18,144	9,001	49.6%	9,376	51.7%
West London #2	18,144	8,950	49.3%	13,783	76.0%

(1) Big Creek Station will be completed in 2007 and will relieve Goose Rock

(2) Conway Station will be completed in 2007 and will relieve Brodhead

**Jackson Energy Cooperative
Substation Summer Loading**

Substation	Max Summer Capacity (KW)	August 2006 (KW)	% Max Loading	Projected 2009 (KW)	% Max Loading
Annville	13,620	6,700	49.2%	9,376	68.8%
Beattyville (3)	13,620	9,505	69.8%	11,720	86.0%
Big Creek (1)	13,620		0.0%	4,501	33.0%
Booneville	13,620	5,512	40.5%	5,907	43.4%
Brodhead (2)	13,620	10,861	79.7%	7,501	55.1%
Bush	13,620	5,116	37.6%	6,563	48.2%
Campground	24,330	11,448	47.1%	12,939	53.2%
Conway (2)	13,620		0.0%	4,969	36.5%
East Bernstadt	24,000	9,769	40.7%	13,220	55.1%
Eberle	13,620	3,923	28.8%	4,219	31.0%
Fall Rock	13,620	7,197	52.8%	8,345	61.3%
Goose Rock (1)	13,620	8,728	64.1%	7,126	52.3%
Green Hall	19,200	2,599	13.5%	3,000	15.6%
Greenbriar	13,620	8,202	60.2%	9,189	22.0%
Hargett	13,620	4,264	31.3%	5,532	40.6%
Keavy #1	13,620	10,528	77.3%	5,719	42.0%
Keavy #2	13,620			5,626	41.3%
Laurel Industrial #1	13,620	12,963	95.2%	4,688	34.4%
Laurel Industrial #2	13,620			3,750	27.5%
Maplesville	13,620	5,320	39.1%	6,282	46.1%
Maretburg	13,620	7,396	54.3%	7,313	53.7%
McKee	13,620	5,996	44.0%	7,220	53.0%
Millers Creek	5,590	3,643	65.2%	2,438	43.6%
Oneida	13,620	3,773	27.7%	3,094	22.7%
Pine Grove #1	13,620	8,049	59.1%	3,469	25.5%
Pine Grove #2	13,620			3,938	28.9%
Rice	13,620	8,822	64.8%	11,064	81.2%
Sand Gap	13,620	3,211	23.6%	3,750	27.5%
South Fork	6,270	2,324	37.1%	3,000	47.8%
Three Links	13,620	6,110	44.9%	6,188	45.4%
Tyner	13,620	4,641	34.1%	5,344	39.2%
West London #1	13,620	7,194	52.8%	8,251	60.6%
West London #2	13,620	5,832	42.8%	9,282	68.1%

- (1) Big Creek Station will be completed in 2007 and will relieve Goose Rock
(2) Conway Station will be completed in 2007 and will relieve Brodhead
(3) East Ky Power Co-op will upgrade Beattyville transformer in 2008

JACKSON ENERGY COOPERATIVE

SERVICE INTERRUPTIONS

AVERAGE ANNUAL HOURS/CONSUMER

BY CAUSE

<u>Year</u>	<u>Power Supply</u>	<u>Storm</u>	<u>Pre-Arranged</u>	<u>Other</u>	<u>Total</u>
1998	3.64	40.59	.01	1.88	46.12
1999	.27	.00	.02	2.16	2.45
2000	.49	.10	.04	2.15	2.78
2001	.01	.02	.09	1.56	1.68
2002	.07	.11	.04	1.87	2.09
2003	.29	2.43	.06	8.60	11.38
2004	.24	.19	.01	4.81	5.25
2005	.60	.01	.07	1.43	2.11
2006	.35	.01	.10	2.47	2.93
<u>5 Year Average</u>	.31	.55	.06	3.84	4.76

Historical Annual Energy, Load and Consumer Data

Year	Energy Purchased (mWh)	Energy Sold (mWh)	% Inc.	Energy Loss (mWh)	% Loss	Coincident Peak (mW)	% Inc.	% Annual Load Factor	# of Consumers Year End	% Inc.
1992	600,612	555,405	#REF!	45,207	7.5%	143.2	#REF!	44.3%	38,788	#REF!
1993	662,974	614,277	10.6%	48,697	7.3%	159.6	11.5%	43.9%	39,896	2.9%
1994	668,499	623,023	1.4%	45,476	6.8%	205.7	28.9%	34.6%	41,090	3.0%
1995	723,680	703,501	12.9%	20,179	2.8%	180.0	-12.5%	44.6%	41,641	1.3%
1996	773,645	721,767	2.6%	51,878	6.7%	186.7	3.7%	44.1%	43,500	4.5%
1997	789,634	738,023	2.3%	51,611	6.5%	203.0	8.7%	41.5%	44,676	2.7%
1998	805,689	765,394	3.7%	40,295	5.0%	174.5	-14.0%	50.1%	45,640	2.2%
1999	848,625	789,601	3.2%	59,024	7.0%	211.2	21.0%	42.7%	46,656	2.2%
2000	902,415	852,468	8.0%	49,947	5.5%	226.7	7.3%	42.9%	47,713	2.3%
2001	906,229	853,337	0.1%	52,892	5.8%	240.9	6.3%	40.4%	48,575	1.8%
2002	943,920	879,677	3.1%	64,243	6.8%	220.7	-8.4%	45.5%	49,185	1.3%
2003	939,743	880,976	0.1%	58,767	6.3%	243.9	10.5%	41.2%	49,758	1.2%
2004	949,906	895,089	1.6%	54,817	5.8%	257.1	5.4%	39.7%	50,133	0.8%
2005	992,738	938,792	4.9%	53,946	5.4%	258.7	0.6%	41.4%	50,661	1.1%
2006	954,602	901,031	-3.8%	53,571	5.6%	258.1	-0.2%	39.9%	51,019	0.7%

Notes: All data is from the Form 7.

PROJECTED ANNUAL ENERGY, LOAD AND CONSUMER DATA

Year	Energy Sold	% Inc.	Energy Loss	% Inc.	Billing Demand	% Inc.	Number of Consumers	% Inc.
2007	957,838	7.0%	53,607	-2.2%	278.5	8.3%	51,536	2.8%
2008	985,552	2.9%	55,158	2.9%	290.3	4.2%	52,103	1.1%

Note: All of the projections above are from the 2006 Load Forecast.

ANALYSIS OF THE LONG RANGE WORK PLAN

Southern Engineers in Atlanta, Georgia completed Jackson Energy Cooperative's Long Range Work Plan (LRP) in 1996. It was approved by RUS and the Board of Directors and reviewed by East Kentucky Cooperative, our power supplier. The plan is being utilized as a guide to the development of our system.

The study was based on historical loads and growth patterns. The following table outlines the three load blocks studied. The Long Range Plan considered system improvements required to serve a peak system demand of 369 megawatts, approximately 1.7 times the "all time" peak demand experienced in 1996.

Three Load Blocks versus Actual

Load Block	LRP Total Consumers	01/07 Actual Consumers	Peak Mo. kWh Use	LRP Projected Demand	Actual Demand
A	51,200	51,019	105,677,200	244.0	268.1
B	62,100			280.0	
C	83,900			369.0	

The LRP recommends that the distribution system continue to be built and operated at 7.2/12.47 kV throughout the entire planning period. Alternative plans were developed, but found not to be the most economical solution to the system development.

The present LRP was completed eleven years ago and remains a valid planning document. Revision of this plan is not required at this time.

Jackson Energy Cooperative
Consumers on the System

Substation	Feeder	Description	Consumers
Annville	1	Tyner	37
	2	Bond	639
	3	Greenhill	489
	4	Mid-South	11
	5	Welchburg	96
Beattyville	1	Zoe	415
	2	St. Helens	981
	3	Heidelberg	888
	4	Bear Track	577
Booneville	1	Lerose	634
	2	Scoville	574
	3	Levi	487
Brodhead	1	Brindle Ridge	1,196
	2	Orlando	667
	3	Ottowa	501
	4	Quail	589
Bush	1	Mary Dale	807
	2	Black Water	492
	3	Lick Fork	334
Campground	1	Bush	240
	2	Camp Ground	997
	3	Old State Road	364
	4	Tom Cat Trail	1,148
East Bernstadt	1	Hazel Green	972
	2	Stave Mill	18
	3	Swiss Colony	573
	4	Fort Sequayah	944
Eberle	1	Letterbox	468
	2	Peoples	407
	3	HWY 490	647

Jackson Energy Cooperative
Consumers on the System

Substation	Feeder	Description	Consumers
Fall Rock	1	Oneida	461
	2	Greenbriar	526
	3	Foggertown	1,489
Goose Rock	1	Garrad	1,448
	2	Big Creek	1,028
	3	Bright Shade	694
	4	School House Br.	385
	5	Clay Industrial Park	3
Greenbriar	1	Federal Prison	2
	2	Island Creek	1,053
	3	Manchester	131
	4	Fox Hollow	30
Greenhall	2	Idle Feeder	0
	3	New Zion	489
	4	Tyner	242
	5	Travellers Rest	306
Hargett	1	Spout Springs	211
	2	Dry Branch	408
	3	Lower Bend	439
	4	Ivory Hill	321
Keavy	1	Rooks Branch	260
	2	HWY 312 East	551
	3	Level Green	519
	4	Baldrock	893
	5	Locust Grove	366
Laurel Industrial	1	Wal-Mart	5
	2	Laurel Industrial Park	3
	3	Sinking Creek	621
	4	Hawk Creek	597
	5	London	86
Maplesville	1	McWhorter	577
	2	Johnson Road	719
	3	Slate Lick	256

Jackson Energy Cooperative
Consumers on the System

Substation	Feeder	Description	Consumers
Maretburg	1	Maretburg	450
	2	M.V.P.	1
	3	Sand Springs	588
McKee	1	Bills Branch	532
	2	JCHS	664
	3	Indian Creek	147
	4	Sand Gap	217
	5	McKee	203
Millers Creek	1	Cobb Hill	570
	2	Youth Haven	462
	3	Pryce	515
Oneida	1	Road Run	380
	2	Little Bullskin	82
	3	Big Bullskin	302
	4	Spurlock	466
	5	Wildcat	118
Pine Grove	1	Yorkshire	237
	2	River Bend	1,009
	3	Cornin Cemetery	438
	4	Maple Grove	579
Rice	1	Sand Hill	672
	2	Station Camp	1,284
	3	Winston	642
Sand Gap	1	Lodge Hall	92
	2	Clover Bottom	680
	3	Deer Stable	577
South Fork	1	Bear Run	188
	2	Rice Town	352
	3	Walnut Grove	343
	4	White Oak	80
	5	Booneville	89

Jackson Energy Cooperative
Consumers on the System

Substation	Feeder	Description	Consumers
Three Links	1	Pine Grove	591
	2	Red Hill	266
	3	Disputanta	1,183
Tyner	1	Gray Hawk	529
	2	Zekes Point	305
	3	Egypt	546
	4	Annvilke	71
West London #1	1	Jerry's Restaurant	465
	2	HWY 229	477
	5	Parker Road	139
West London #2	3	Sublimity	705
	4	Cold Hill	472
Total			51,019

Measured Voltages

<u>Substation</u>	<u>Feeder</u>	<u>Measured Voltage Reading</u>	<u>WindMil Line Section #</u>	<u>WindMil Model Voltage</u>
Annville	2	120.9	PL.10532	116.7
Annville	3	120.5	PL.10263	120.3
Beattyville	1	125.1	PL.13484	122.2
Beattyville	2	123.1	PL.13131	121
Beattyville	3	120.1	PL.11264	123
Beattyville	4	122	PL.13833	123.4
Booneville	1	122.3	PL.37908	122.8
Booneville	2	124	PL.36317	122.9
Booneville	3	124.5	PL.36324	124.9
Broadhead	1	121.8	PL.38651	123
Broadhead	2	124.9	PL.40154	121.4
Broadhead	3	124.1	PL.38060	123.3
Broadhead	4	123.9	PL.38068	120.6
Bush	1	119.9	PL.570	117.4
Bush	2	122.6	PL.25	124.2
Bush	3	124.6	PL.49526	121.9
Campground	1	124.8	PL.35519	122.5
Campground	2	123.4	PL.35337	120.5
Campground	3	123.5	PL.35202	125.8
Campground	4	121.5	PL.34833	121.4
East Bernstadt	1	125.3	PL.2956	124.3
East Bernstadt	3	122.5	PL.49473	124.7
East Bernstadt	4	121	PL.4198	121.7
Eberle	1	124.2	PL.49335	122.5
Eberle	2	123.2	PL.14302	122.9
Eberle	3	123.7	PL.46045	119.6
Fall Rock	1	123.3	PL.41788	121.8
Fall Rock	2	125.8	PL.42008	124.6
Fall Rock	3	123.6	PL.41818	123.2
Goose Rock	1	124	PL.16985	123.6
Goose Rock	2	120.4	PL.18537	121
Goose Rock	3	121.7	PL.59412	120.8
Goose Rock	4	124.2	PL.17379	123.1
Greenbriar	2	121.2	PL.19624	121.7
Greenbriar	4	125.6	PL.18711	125.8
Green Hall	5	123.2	PL.20716	123.2

Measured Voltages

<u>Substation</u>	<u>Feeder</u>	<u>Measured Voltage Reading</u>	<u>WindMil Line Section #</u>	<u>WindMil Model Voltage</u>
Hargett	2	122.3	PL.43401	121
Hargett	3	123.4	PL.44607	121.7
Hargett	4	124.3	PL.56502	122.5
Keavy	1	125.9	PL.55840	123.8
Keavy	2	126.2	PL.21080	121.9
Keavy	3	121.6	PL.21519	119.6
Keavy	4	125.1	PL.22430	119.9
Keavy	5	122.6	PL.23350	122.1
Laurel Industrial	3	118	PL.2585	116.5
Laurel Industrial	4	123.3	PL.5550	122.7
Laurel Industrial	5	122.1	PL.3232	122.5
Maplesville	1	117	PL.25718	118.1
Maplesville	2	121.2	PL.27084	122.9
Maplesville	3	123.1	PL.26546	121.8
Maretburg	1	121.4	PL.45780	120.2
Maretburg	3	121.4	PL.46164	122.5
Mckee	2	124.8	PL.46234	125
Mckee	3	125	PL.47669	125.2
Mckee	4	124.7	PL.47467	125.1
Millers Creek	1	124.4	PL.28079	124.6
Millers Creek	2	125.3	PL.13772	125.7
Millers Creek	3	119.2	PL.27859	122.4
Oneida	1	123.3	PL.47830	123
Oneida	2	125.7	PL.48554	125.8
Oneida	3	125.2	PL.48222	125.1
Oneida	4	120.2	PL.47923	123
Oneida	5	125.2	PL.48380	125.6
Pine Grove	2	123.4	PL.21615	123.8
Pine Grove	4	124.9	PL.23918	120.5
Rice Station	1	124.7	PL.28653	123.7
Rice Station	2	123.2	PL.31020	123.2
Rice Station	3	125.6	PL.29423	114.4
Sand Gap	1	125.9	PL.6195	125.4
Sand Gap	2	123.5	PL.6951	120.3
Sand Gap	3	123.8	PL.6555	124.8

Measured Voltages

<u>Substation</u>	<u>Feeder</u>	<u>Measured Voltage Reading</u>	<u>WindMil Line Section #</u>	<u>WindMil Model Voltage</u>
South Fork	1	124.2	PL.61783	123.4
South Fork	2	124.5	PL.32201	122.2
South Fork	3	124.2	PL.31697	122.4
South Fork	4	125.5	PL.31218	124.6
South Fork	5	125.3	PL.63461	125.3
Three Links	1	121.6	PL.8392	117.6
Three Links	2	121.6	PL.8016	118.8
Three Links	3	120	PL.7366	119.6
Tyner	1	125	PL.33691	121.5
Tyner	2	124.6	PL.33403	124.5
Tyner	3	122.8	PL.33016	123.9
West London	1	125.1	PL.5352	125.5
West London	3	124.7	PL.25047	121.4
West London	4	122.5	PL.25345	124.7
West London	5	123.8	PL.2578	125.6

Differences between calculated and measured voltages

The model used to calculate voltages is a computer simulation. The computer simulation uses certain assumptions when calculating voltage drops.

One of these assumptions is that all conductors of a certain type have exactly the same characteristics, such as impedance. For example, one line section with 6A Copper conductor has the same impedance as any other line section with 6A Copper conductor, in the computer model. There is no differentiation, in the computer model, due to age or deterioration. One line section may have been installed within the last two years and another line section may have been in place for over 40 years. In the computer model these two line sections would be assigned exactly the same impedance values. If all other parameters are the same, the actual voltage measured at the end of these two line sections will be different.

A second assumption concerns the load on the circuit at the time the actual voltage measurements were made. The loads used in the computer model were obtained from East Kentucky Power Cooperative, which remotely reads the substations in the Jackson Energy Cooperative service area to obtain a peak value. Due to the size of the Jackson Energy Cooperative's service area, the actual voltage readings required more than one day to obtain. At the time the actual voltage measurements were made the load on the system may not have been the same value as was used in the computer model. Depending on the time of day and weather conditions when the actual voltage measurements were made the load on the system may have been different than the load used in the computer model.

Jackson Energy Cooperative strives to maintain a balanced load flow on its system. But the system balance changes with the seasons of the year and can also vary with the time of day. At the precise moment when the actual voltage measurements were made the status of the system balance was not known.

Section Three

Required Construction Items

JACKSON ENERGY COOPERATIVE

CONSTRUCTION REQUIRED

CODE 100 NEW SERVICES	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Number of New Services							
Underground	297	265	562	281	281	290	571
Overhead	873	865	1,738	869	774	1,030	1,804
Total	1,170	1,130	2,300	1,150	1,055	1,320	2,375
Linear Feet of New Line							
Underground	69,002	72,334	141,336	70,668	70,531	75,110	145,641
Ave. Length	232	273	251	251	251	259	
Overhead	225,282	212,700	437,982	218,991	195,048	267,800	462,848
Ave. Length	258	246	252	252	252	260	
Total Length in Feet	294,284	285,034	579,318	289,659	265,579	342,910	608,489
			Length in Miles =	54.86		Length in Miles =	115
Cost of New Line							
Underground	\$724,375	\$877,908	\$1,602,283	\$801,142	\$800,850	\$851,440	\$1,652,290
Ave. Cost	\$2,439	\$3,313	\$2,851	\$2,851	\$2,850	\$2,936	
Overhead	\$2,162,182	\$2,354,415	\$4,516,597	\$2,258,299	\$2,106,828	\$2,888,120	\$4,994,948
Ave. Cost	\$2,477	\$2,722	\$2,599	\$2,599	\$2,722	\$2,804	
Total Cost New Line (1)	\$2,886,557	\$3,232,323	\$6,118,880	\$3,059,440	\$2,907,678	\$3,739,560	\$6,647,238

NOTES: (1) Net cost less nonrefundable contribution in aid of construction.

CODE 601 TRANSFORMERS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
# of New Transformers							
Padmounted	129	84	213	107	107	107	214
Overhead	1053	974	2027	1,014	869	869	1,738
Ave. Cost per							
Padmounted	\$1,685.61	\$3,204.23	\$2,284.50	\$2,284.50	\$3,200.00	\$3,295.98	
Overhead	\$737.30	\$767.98	\$752.04	\$752.04	\$793.00	\$817.00	
Cost of Transformers							
Padmounted	\$217,444.00	\$269,155.00	\$486,599.00	\$243,299.50	\$342,400.00	\$352,670.00	\$695,070.00
Overhead	\$776,372.00	\$748,012.00	\$1,524,384.00	\$762,192.00	\$689,117.00	\$709,973.00	\$1,399,090.00
Total Cost of Transformers	\$993,816.00	\$1,017,167.00	\$2,010,983.00	\$1,005,491.50	\$1,031,517.00	\$1,062,643.00	\$2,094,160.00

CODE 601 METERS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Number of New Meters	14716	10914	25,630	12,815	1,337	1,337	2,674
Ave. Installed Cost	\$192.48	\$151.64	\$175.09	\$175.09	\$180.00	\$180.00	
Cost of Meters	\$2,832,535.00	\$1,654,946.00	\$4,487,481.00	\$2,243,741	\$240,660	\$240,660	\$481,320
CODE 602 SERVICE UPGRADES							
Number of Inc. Capacity	99	71	170	85	99	99	198
Ave. Installed Cost	\$909.83	\$869.01	\$892.78	\$892.78	\$892.78	\$919.56	
Cost of Inc. Capacity	\$90,073.00	\$61,700.04	\$151,773.04	\$75,887	\$88,385	\$91,036	\$179,422

CODE 603 SECTIONALIZING	2005	2006	TOTALS 2005-2006	2005-06 YEAR AVERAGE	2007	2008	Totals 2007-2008
50 Amp., Type L	0	0	0		12	11	
Ave. Cost per Unit	\$0	\$0	\$0		\$2,000	\$2,000	
Cost of 50 Amp L					\$24,000	\$22,000	\$46,000
70 Amp., Type L	0	0	0		10	10	
Ave. Cost per Unit	\$0	\$0	\$0		\$2,500	\$2,500	
Cost of 70 Amp L					\$25,000	\$25,000	\$50,000
100 Amp., Type L	0	0	0		8	8	
Ave. Cost per Unit	\$0	\$0	\$0		\$3,000	\$3,000	
Cost of 100 Amp L					\$24,000	\$24,000	\$48,000
Fuse Type Sectionalizer	\$0	\$0	\$0		50	45	
Ave. Cost per Unit	0	0	0		\$800	\$800	
Cost of Fuse Sect	0	0	0		\$40,000	\$36,000	\$76,000
Fused Cutouts					1670	1,670	
Ave. Cost per Unit					\$250	\$250	
Cost of Fused Cuouts					\$417,500	\$417,500	\$835,000
Sectionalizing Total	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00	\$1,055,000.00

CODE 604 LINE REGULATORS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Single Phase Unit, 76.2	\$0	\$0	\$0	0	\$0	\$0	\$0
Single Phase Unit, 114.3	\$0	\$0	\$0	0	\$0	\$0	\$0
Single Phase Unit, 167	\$0	\$0	\$0	0	\$0	\$0	\$0
Single Phase Unit, 250	\$0	\$0	\$0		\$0	\$0	\$0
Single Phase Unit, 333					\$0	\$0	\$0
Total	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00	\$0.00

CODE 605 CAPACITORS/ CONTROLS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Number of Capacitors/Controls	0	0	0	0	4	4	8
Ave. Installed Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$1,000.00	\$1,000.00	
Total	\$0.00	\$0.00	\$0.00	\$0	\$4,000	\$4,000	\$8,000
CODE 606 POLE REPLACEMENTS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Number of Poles	244	199	443	222	222	229	451
Ave. Installed Cost	\$1,764.04	\$1,965.17	\$1,864.61	\$1,865	\$1,965.17	\$2,024.13	
Total	\$430,425.00	\$391,069.46	\$821,494.46	\$410,747	\$436,268	\$463,526	\$899,794
CODE 607 LIGHTNING ARRESTER REPLACEMENTS	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
Number of Arresters	0	0	0	0	0	0	0
Ave. Installed Cost	\$0.00	\$0.00	\$0.00	\$0	\$0.00	\$0.00	\$0.00
Total	\$0.00	\$0.00	\$0.00	\$0	\$0	\$0	\$0

CODE 008	2005	2006	TOTALS 2005-2006	'05-'06 YEAR AVERAGE	2007	2008	Totals 2007-2008
AIR BREAK SWITCHES							
Number of Switches	0	0	0	0	5	4	9
Ave. Installed Cost	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00	\$5,000.00	
Total	\$0.00	\$0.00	\$0.00	\$0	\$25,000	\$20,000	\$45,000
CODE 701							
SECURITY LIGHTS							
Number of Lights	668	605	1273	637	1,500	1,500	3,000
Ave. Installed Cost	\$407.37	\$339.90	\$375.31	\$375.31	\$408.00	\$408.00	
Total	\$272,125.00	\$205,638.73	\$477,763.73	\$238,882	\$612,000	\$612,000	\$1,224,000

Code 300 Project Summary

Item Number	Description	Existing Conductor	Proposed Conductor	1 Phase Miles	2 Phase Miles	3 Phase Miles	Cost
301-29*	Conway Feeders	1 Ph 6A & 8A Cu	336 MCM		4.0		\$450,000
373-30*	Big Creek Feeders	3 Ph 6A & 8A Cu	336 MCM		2.5		\$250,000
303-14	London Laurel County Air Park	2 Ph 1/0 ACSR	1/0 ACSR	1.0		0.5	\$31,000
304-21	Junction of Sinking Creek and High Moore Road	1 Ph 6A & 8A Cu	1/0 ACSR				\$55,000
305-23	Relieve loading on Campround Feeder #4 - Convert line along Route 488	1 Ph 6A & 8A Cu	336 MCM			2.5	\$250,000
306-8	Relieve loading on Campround Feeder #4. Double circuit along Campround F1	336 MCM	336 MCM			0.4	\$80,000
307-10	Salt Peter Cave Road - Poplar Gap	1 Ph 6A & 8A Cu	1/0 ACSR	2.7			\$148,500
308-27	Mullins Hollow Road	1 Ph 6A & 8A Cu	1/0 ACSR	0.5			\$25,000
311-7	Dug Hill Road to Riddell Road	1 Ph 6A & 8A Cu	1/0 ACSR	1.4			\$77,000
312-5	Owsley County Health Care	3 Ph 6A & 8A Cu	1/0 ACSR			0.3	\$21,000
314-7	Thomas Road down Low Gap Road	1 Ph 6A & 8A Cu	1/0 ACSR	2.5			\$137,500
320-14	Cross Keys UG	1/0 UG Direct Buried	1/0 UG	0.8			\$67,200
321-14	Crown Point UG	1/0 UG Direct Buried	1/0 UG	0.9			\$75,600
323-14	Route 192, Pleasant View and Cold Hill Road	3 Ph 3/0 ACSR	336 MCM			3.0	\$300,000
326-22	Laurel Canyon Subdivision	0	336 MCM			0.5	\$60,000
327-19	Upper Raccoon Creek Road to Radio Tower	3 Ph 6A & 8A Cu	1/0 ACSR			1.2	\$108,000
328-1	Moore Road, Russell Jackson tap	1 Ph 6A & 8A Cu	1/0 ACSR	0.6			\$33,000
331-4	Robinson Fork, past Swindling Gap, to the county line	1 Ph 6A & 8A Cu	1/0 ACSR	2.0			\$125,000
335-6	Hopewell Church to Hwy 11	1 Ph 6A & 8A Cu	336 MCM			1.3	\$130,000
339-6	Hwy 498 from Fairground Ridge Road to Hopewell Church	3 Ph 6A & 8A Cu	336 MCM			1.1	\$110,000
344-15	Paris-Karr Road	3 Ph #2 ACSR	336 MCM			1.5	\$150,000
347-6	Hwy 11 to Hilltop Full Gospel Church	3 Ph 6A & 8A Cu	1/0 ACSR			2.7	\$243,000
350-6	Hwy 11 down Proffett Road near Shoemaker Ridge	3 Ph 6A & 8A Cu	1/0 ACSR	0.2			\$11,000
351-20	Hwy 80 up House Branch	3 Ph 6A & 8A Cu	336 MCM			3.1	\$310,000
353-23	Hwy 80 and Curry Branch	3 Ph 6A & 8A Cu	336 MCM			3.3	\$330,000
354-21	Hwy 1956 near Burnett Road	3 Ph #4 ACSR	1/0 ACSR			1.4	\$126,000
355-21	Hwy 1956 start at end of existing 4ACSR	3 Ph 6A & 8A Cu	1/0 ACSR			2.0	\$180,000
356-3	Reynolds Road start near end of Farris-Jones Road	3 Ph 6A&8A Cu & 1 Ph #4 ACSR	1/0 ACSR	1.7			\$93,500
357-12	Barnes Mountain to Leighton	2 Ph 6A & 8A Cu	1/0 ACSR		2.1		\$168,000
358-12	Redbud Road off Barnes Mtn. Road	3 Ph 6A & 8A Cu	1/0 ACSR	0.6			\$33,000
367-7	Wagersville up Hwy 1209	3 Ph 6A & 8A Cu	1/0 ACSR	1.1			\$60,500
369-15	Hwy 552 near I-75 to Wildcat Road off Taylor Bridge Road	3 Ph 6A & 8A Cu	1/0 ACSR			1.1	\$99,000

Code 300 Project Summary

Item Number	Description	Existing Conductor	Proposed Conductor	1 Phase			2 Phase			3 Phase		
				Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
370-3	Hwy 1394 Hazel Green School to Farris-Jones Road	3 Ph 6A & 8A Cu	1/0 ACSR							1.9		\$171,000
371-6	Hwy 11 - Tap to the Lee County Hwy Dept.	3 Ph 6A & 8A Cu	1/0 ACSR							1.0		\$90,000
372-3	Fort Sequoyah Cleft Rock UG	1/0 UG Direct Buried	1/0 UG	1.5								\$126,000
374-3	Hazel Patch to Exit 909	1 Ph 6A & 8A Cu	1/0 ACSR					0.6				\$23,300
375-6	Abner Flat Road	1 Ph 6A & 8A Cu	1/0 ACSR	1.0								\$55,000
376-22	Re-conductor a portion of Pine Grove Feeder #1	3 Ph 3/0 ACSR	336 MCM							1.4		\$140,000
377-14	Re-conductor a portion of West London Feeder #3	3 Ph 3/0 ACSR	336 MCM							0.8		\$80,000
378-11	Sally Little Road down Beech Crk	3 Ph 6A & 8A Cu	1/0 ACSR							2.1		\$189,000
379-12	Hwy 213 on Tanglewood Drive to Pitts Road	3 Ph 6A & 8A Cu	1/0 ACSR							2.3		\$207,000
380-12	Pitts Road and McIntosh Hollow	1 Ph 6A & 8A Cu	1/0 ACSR	0.7								\$38,500
381-12	Fitchburg to Hwy 213 near Gum Springs Church	3 Ph 6A & 8A Cu	1/0 ACSR							1.0		\$90,000
382-20	Hacker School	3 Ph 6A & 8A Cu	1/0 ACSR							0.5		\$45,000
383-8	Echo Valley Road	3 Ph 6A & 8A Cu	1/0 ACSR							1.6		\$160,000
384-29	Jacks Creek Road	1 Ph 6A & 8A Cu	1/0 ACSR									\$187,000
385-1	Line located behind Gray Hawk Post Office	3 Ph 6A & 8A Cu	1/0 ACSR	3.4								\$27,000
386-9	Line that feeds the McKee Sewer Plant	3 Ph 6A & 8A Cu	1/0 ACSR							0.3		\$18,000
387-16	Hwy 28 near Booneville Elem. School and down the river	3 Ph 6A & 8A Cu	1/0 ACSR							0.2		\$36,000
388-16	Line that serves Booneville Shopwise	3 Ph 6A & 8A Cu	1/0 ACSR							0.4		\$27,000
389-16	Line located across the road from Spencer's Dairy Bar	3 Ph 6A & 8A Cu	1/0 ACSR							0.3		\$9,000
390-6	Line that serves Hour Of Harvest on Hwy 11	3 Ph 6A & 8A Cu	1/0 ACSR							0.1		\$18,000
			Totals	22.6				2.7		46.4		\$6,074,600
		Total Miles	71.7									

Project: Conway Station Feeders

Project Code: 301-29

Distance: 4.0 mile

Cost: \$450,000

DESCRIPTION OF THE PROPOSED WORK

Convert 1.0 mile of single phase #2 ACSR conductor to three phase 336 MCM conductor. Convert 3.0 miles of three phase #2 ACSR conductor to three phase 336 MCM conductor. (This is a carryover item.)

REASON FOR THE PROPOSED CONSTRUCTION

Exit circuits from the new Conway Station. Conway Station will relieve loading on Brodhead Station.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved voltage levels, improved reliability due to the new substation.

Project: Big Creek Station Feeders

Project Code: 373-30

Distance: 2.5 miles

Cost: \$250,000

DESCRIPTION OF THE PROPOSED WORK

Convert 2.5 miles of three phase 6&8A Copper conductor to three phase 336 MCM ACSR conductor for feeders from .

REASON FOR THE PROPOSED CONSTRUCTION

Exit circuits from the new Big Creek Station. Big Creek Station will relieve loading on Goose Rock Station. (This is a carryover item.)

RESULTS OF THE PROPOSED CONSTRUCTION

Improved voltage levels, improved reliability due to the new substation.

Code 300 Projects

Project: London Laurel County Air Park

Project Code: 303-14

Distance: 0.5 mile

Cost: \$31,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2 phase 1/0 ACSR with 3 phase 1/0 ACSR.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3. The area near the London Laurel County Airport has recently been opened for development. In anticipation of three phase load additions the two phase 1/0 ACSR line will be changed to three phase 1/0 ACSR.

RESULTS OF THE PROPOSED CONSTRUCTION

Three phase service will be available to prospective businesses in the new Industrial Park. The load will be distributed across three phases rather than two phases.

Project: Junction of Sinking Creek and High Moore Road

Project Code: 304-21

Distance: 1.0 mile

Cost: \$55,000

DESCRIPTION OF THE PROPOSED WORK

Replace single phase 6A and 8A copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. Field personnel report this line breaking due to its age and condition.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability.

Code 300 Projects

Project: Relieve loading on Campground Feeder #4 - Convert line along HWY 488

Project Code: 305-23

Distance: 2.5 miles

Cost: \$250,000

DESCRIPTION OF THE PROPOSED WORK

Convert 2.5 miles of single phase 6A and 8A copper conductor to three phase 336 MCM ACSR conductor along HWY 488

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3. This work will make it possible to transfer load from Campground Feeder #4 to Bush station in order to relieve the loading situation.

RESULTS OF THE PROPOSED CONSTRUCTION

The load on Campground Feeder #4 will be reduced which will lessen the possibility of thermal damage to the conductor. This will also lessen the possibility of load related outages caused by loading on protective devices.

**Project: Relieve loading on Campground Feeder #4 -Double circuit along
Campground Feeder #1**

Project Code: 306-8

Distance: 0.35 mile

Cost: \$80,000

DESCRIPTION OF THE PROPOSED WORK

Overbuild a portion of the existing Campground Feeder #1 for a distance of 0.35 miles. This will make it possible to transfer the Farris Road area from Campground Feeder #4 to Campground Feeder #1.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3. Transferring load from Campground Feeder #4 to Campground Feeder #1 will lessen the load on Campground Feeder #4.

RESULTS OF THE PROPOSED CONSTRUCTION

The load on Campground Feeder #4 will be reduced which will lessen the possibility of thermal damage to the conductor. This will also lessen the possibility of load related outages caused by loading on protective devices.

Project: Salt Peter Cave Road – Poplar Gap

Project Code: 307-10

Distance: 2.7 miles

Cost: \$148,500

DESCRIPTION OF THE PROPOSED WORK

Replace 1.7 miles of #4 ACSR and 1.0 mile of 6A & 8A Copper with 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8 Field personnel report having outages due to the condition of this conductor.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Mullins Hollow Road

Project Code: 308-27

Distance: 0.5 mile

Cost: \$25,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.5 mile of 6A & 8A Copper conductor with 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. Field personnel report the exiting 6A & 8A Copper conductor breaks easily and is causing problems due to its condition.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Dug Hill Road to Riddell Road

Project Code: Item # 311-7

Distance: 1.4 miles

Cost: \$77,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.4 miles of single phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8 Field personnel report the exiting 6A & 8A Copper conductor breaks easily and is causing problems due to its condition.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Owsley County Health Care

Project Code: 312-5

Distance: 0.3 mile

Cost: \$21,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.3 mile of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor near the Owsley County Health Care.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Thomas Road down Low Gap Road

Project Code: 314-7

Distance: 2.5 miles

Cost: \$137,500

DESCRIPTION OF THE PROPOSED WORK

Replace 2.5 miles of single phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8 Field personnel report the exiting 6A & 8A Copper conductor breaks easily and is causing problems due to its condition.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Replace the underground conductor in Cross Keys subdivision

Project Code: 314-7

Distance: 0.8 mile

Cost: \$67,200

DESCRIPTION OF THE PROPOSED WORK

Replace the existing 1/0 direct buried underground in Cross Keys subdivision with 1/0 conductor in conduit.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 9

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability

Code 300 Projects

Project: Replace the underground conductor in Crown Point subdivision

Project Code: 321-14

Distance: 0.9 mile

Cost: \$75,600

DESCRIPTION OF THE PROPOSED WORK

Replace the existing 1/0 direct buried underground in Crown Point subdivision with 1/0 conductor in conduit.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 9

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability

Project: Route 192, Pleasant View and Cold Hill Road

Project Code: 323-14

Distance: 3.0 miles

Cost: \$300,000

DESCRIPTION OF THE PROPOSED WORK

Replace the existing three phase 3/0 ACSR conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3

RESULTS OF THE PROPOSED CONSTRUCTION

Increase the capacity of the conductor to prevent future load problems.

Code 300 Projects

Project: Laurel Canyon subdivision

Project Code: 326-22

Distance: 0.5 miles

Cost: \$60,000

DESCRIPTION OF THE PROPOSED WORK

Construct a three phase 336 MCM ACSR line to Laurel Canyon subdivision.

REASON FOR THE PROPOSED CONSTRUCTION

Construction of this line will allow the load in Laurel Canyon subdivision to be split between two overhead lines. During some outages a greater number of consumers can be restored more quickly by having a second feed into the subdivision.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability

Project: Upper Raccoon Creek Road to Radio Tower

Project Code: 327-19

Distance: 1.2 miles

Cost: \$108,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.2 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Moore Road, Russell Jackson tap

Project Code: 328-1

Distance: 0.6 mile

Cost: \$33,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.6 mile of single phase 6A & 8A Copper conductor and #4 ACSR conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Robinson Fork, past Swindling Gap, to the county line

Project Code: 331-4

Distance: 2.0 miles

Cost: \$125,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2.0 miles of single phase 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. Outage reports indicate the conductor is deteriorated and has failed causing outages.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Hopewell Church to Highway 11

Project Code: 335-6

Distance: 1.3 miles

Cost: \$130,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.3 miles of single phase 6A & 8A Copper conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. This line requires replacement due to age and deterioration. By converting to three phase 336 MCM ACSR conductor future load transfers with Miller's Creek Station will be possible

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels. Also the capability for future load transfers.

Project: Highway 498 from Fairground Ridge Road to Hopewell Church

Project Code: 339-6

Distance: 1.1 miles

Cost: \$110,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.1 miles of three phase 6A & 8A Copper conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Paris-Karr Road
Project Code: 344-15
Distance: 1.5 mile
Cost: \$150,000

DESCRIPTION OF THE PROPOSED WORK

Replace three phase #2 ACSR with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3. The distribution line preceding and following this line section is three phase 336 MCM ACSR conductor.

RESULTS OF THE PROPOSED CONSTRUCTION

Increase current capacity of the feeder by removing a section with less capacity.

Project: Highway 11 to Hilltop Full Gospel Church
Project Code: 347-6
Distance: 2.7 miles
Cost: \$243,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2.7 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Hwy 11 down Proffett Road near Shoemaker Ridge
Project Code: 350-6
Distance: 0.2 mile
Cost: \$11,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.2 mile of three phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Highway 80 up House Branch
Project Code: 351-20
Distance: 3.1 miles
Cost: \$310,000

DESCRIPTION OF THE PROPOSED WORK

Replace 3.1 miles of three phase 6A & 8A Copper conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. This line requires replacement due to age and deterioration. By replacing with 336 MCM ACSR conductor future load transfers with Bush Station will be possible.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels. Increased Line capacity.

Code 300 Projects

Project: Highway 80 and Curry Branch

Project Code: 353-23

Distance: 3.3 miles

Cost: \$330,000

DESCRIPTION OF THE PROPOSED WORK

Replace 3.3 miles of three phase 6A & 8A Copper conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8. This line requires replacement due to age and deterioration. By replacing with 336 MCM ACSR conductor future load transfers with Greenbriar Station will be possible.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels. Increased Line capacity.

Project: Hwy 1956 start near Burnett Road

Project Code: 354-21

Distance: 1.4 miles

Cost: \$126,000

DESCRIPTION OF THE PROPOSED WORK

Replace 3 phase #4 ACSR conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Hwy 1956 starting at the end of the #4 ACSR

Project Code: 355-21

Distance: 2.0 miles

Cost: \$180,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2.0 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Reynolds Road start near end of Farris-Jones Road

Project Code: 356-3

Distance: 1.7 miles

Cost: \$93,500

DESCRIPTION OF THE PROPOSED WORK

Replace 3 phase 6A & 8A Copper conductor and #4 ACSR conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Barnes Mountain to Leighton

Project Code: 357-12

Distance: 2.1 miles

Cost: \$168,000

DESCRIPTION OF THE PROPOSED WORK

Replace two phase 6A & 8A Copper conductor with two phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Redbud Road off Barnes Mountain Road

Project Code: 358-12

Distance: 0.6 mile

Cost: \$33,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.6 miles of three phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Wagersville up Highway 1209

Project Code: 367-7

Distance: 1.1 miles

Cost: \$60,500

DESCRIPTION OF THE PROPOSED WORK

Replace 1.1 miles of three phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Hwy 552 near I-75 to Wildcat Road off Taylor Bridge Road

Project Code: 369-15

Distance: 1.1 miles

Cost: \$99,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.1 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: HWY 1394 - Hazel Green School to Farris-Jones Road

Project Code: 370-3

Distance: 1.9 miles

Cost: \$171,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.9 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Hwy 11 - Tap to the Lee County Highway Department

Project Code: 371-6

Distance: 1.0 mile

Cost: \$90,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.0 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Fort Sequoyah from Cleft Rock

Project Code: 372-3

Distance: 1.5 miles

Cost: \$126,000

DESCRIPTION OF THE PROPOSED WORK

Construct 3800 ft of single phase 1/0 UG, in conduit, to Fort Sequoyah from Cleft Rock.

REASON FOR THE PROPOSED CONSTRUCTION

This second feed into Fort Sequoyah will make it possible to divide the load between two different overhead lines. This will also improve the reliability of service to Fort Sequoyah by providing an alternate feed source during outages.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability

Project: Hazel Patch to Exit 909

Project Code: 374-3

Distance: 0.6 miles

Cost: \$23,300

DESCRIPTION OF THE PROPOSED WORK

Replace 0.6 miles of single phase 6A & 8A Copper conductor with two phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3

RESULTS OF THE PROPOSED CONSTRUCTION

Improve reliability by decreasing the load and number of consumers on the protective devices.

Code 300 Projects

Project: Abner Flat Road

Project Code: 375-6

Distance: 1.0 mile

Cost: \$55,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.0 miles of single phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Reconductor a portion of Pine Grove Feeder #1

Project Code: 376-22

Distance: 1.4 miles

Cost: \$140,000

DESCRIPTION OF THE PROPOSED WORK

Replace three phase 3/0 ACSR conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3

RESULTS OF THE PROPOSED CONSTRUCTION

Relieve conductor loading.

Code 300 Projects

Project: Reconductor a portion of West London Feeder #3

Project Code: 377-14

Distance: 0.8 miles

Cost: \$80,000

DESCRIPTION OF THE PROPOSED WORK

Replace three phase 3/0 ACSR conductor with three phase 336 MCM ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 3

RESULTS OF THE PROPOSED CONSTRUCTION

Relieve conductor loading.

Project: Sally Little Road, down Beech Creek

Project Code: 378-11

Distance: 2.1 miles

Cost: \$189,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2.1 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Hwy 213 on Tanglewood Drive to Pitts Road

Project Code: 379-12

Distance: 2.3 miles

Cost: \$207,000

DESCRIPTION OF THE PROPOSED WORK

Replace 2.3 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Pitts Road and McIntosh Hollow

Project Code: 380-12

Distance: 0.7 mile

Cost: \$38,500

DESCRIPTION OF THE PROPOSED WORK

Replace 0.7 miles of single phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Fitchburg to Hwy 213 near Gum Springs Church

Project Code: 381-12

Distance: 1.0 mile

Cost: \$90,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.0 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Hacker School

Project Code: 382-20

Distance: 0.5 mile

Cost: \$45,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.5 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Echo Valley Road

Project Code: 383-8

Distance: 1.6 miles

Cost: \$160,000

DESCRIPTION OF THE PROPOSED WORK

Replace 1.6 miles of single phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 4. Echo Valley Road has experienced load problems following outages causing longer outage times.

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Jacks Creek Road

Project Code: 384-17

Distance: 3.4 miles

Cost: \$187,000

DESCRIPTION OF THE PROPOSED WORK

Replace 3.4 miles of three phase 6A & 8A Copper conductor with single phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Gray Hawk Post Office

Project Code: 385-1

Distance: 0.25 mile

Cost: \$27,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.25 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: McKee Sewer Plant

Project Code: 386-9

Distance: 0.2 mile

Cost: \$18,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.2 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Hwy 28 near Booneville Elementary School down river

Project Code: 387-16

Distance: 0.4 mile

Cost: \$36,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.4 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Booneville Shopwise

Project Code: 388-16

Distance: 0.3 mile

Cost: \$36,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.3 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Code 300 Projects

Project: Spencer's Dairy Bar
Project Code: 389-16
Distance: 0.1 mile
Cost: \$9,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.1 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Project: Hour of Harvest on Hwy 11
Project Code: 390-6
Distance: 0.2 mile
Cost: \$18,000

DESCRIPTION OF THE PROPOSED WORK

Replace 0.2 miles of three phase 6A & 8A Copper conductor with three phase 1/0 ACSR conductor.

REASON FOR THE PROPOSED CONSTRUCTION

Design Criteria: 8

RESULTS OF THE PROPOSED CONSTRUCTION

Improved reliability and voltage levels.

Security Lights

RUS Code: 701

Estimated Cost \$1,224,000

The Energy Policy Act of 2005 mandated that mercury vapor light ballasts can not be manufactured or imported after January 1, 2008.

Jackson Energy Cooperative uses mercury vapor security lights that contain ballasts such as those mentioned in the Energy Policy Act of 2005. The impact on Jackson Energy will be that mercury vapor ballasts will become increasingly difficult to obtain and eventually will be impossible to obtain.

In the past a mercury vapor security light could be repaired in the field if the ballast failed. In the future when the ballast fails the entire light fixture will have to be replaced with a different type of light, most likely a high pressure sodium light.

In the past Jackson Energy has averaged approximately 1,500 security light installations per two year period. This work plan estimates that Jackson Energy will install 3,000 security lights over the next two years. The increased estimate is because more light fixtures will require replacement due to the fact mercury vapor ballasts will not be available.

3,000 security lights X \$408 per security light = \$1,224,000

**SUPERVISORY CONTROL AND DATA ACQUISITION
(SCADA)
FOR
JACKSON ENERGY COOPERATIVE
CORPORATION (KY-3)
MCKEE, KENTUCKY**

RUS CODE: 702

ESTIMATED COST: \$26,200

DEFINITIONS:

Supervisory Control and Data Acquisition – Also known as **SCADA**. This technology permits an electric utility to monitor and control a distribution substation's various devices.

Master Station Computer – The main computer that represents the intelligent interface between the system operators and the actual substation devices. This computer operates the software routines that monitor and control the system.

Remote Terminal Unit – Also known as a **RTU**. This is a computerized device that sends/receives data and instructions to/from the master station computer. The **RTU**'s reside in each substation and each is a unique interface between the individual substation and the master station computer.

Multiple Address Radio – Also known as a **MAR**. A 960 MHz radio that is placed at each substation to provide a communication link in order for the **RTU** to send and receive data to and from the master station computer.

Master Radio – A centralized radio (usually at a microwave tower) that serves several substations by distributing data to and from the master station computer – usually via a microwave link – to a substation's **RTU** through its connection to an **MAR**.

Real-Time Data – In terms of a **SCADA** system, this is data that is sent from each substation **RTU** back to the Master Station Computer with a nearly imperceptible delay. The system operator at the Master Station Computer is, in effect, seeing substation events as they happen.

DESCRIPTION: A SCADA system provides real-time monitoring and control capabilities of key substation equipment. The monitoring function provides immediate detection of the general location and magnitude of system problems and failures. Circuit load currents and recloser status monitors are the key parameters used to determine outage magnitude and location. Oil circuit recloser control functions such as open; close; ground trip relay block; and non-reclose are all available for control by the system operator at the master station computer. Substation regulator voltages, transformer oil level, and transformer oil temperature are also key parameters in electronically maintaining excellent service. The immediate notification and control capability permits the system operations group to quickly develop an optimal game plan for rapid and efficient service restoration and substation device repairs. Considering that all circuit currents, regulated voltages, substation recloser operations, substation loading and feeder power factors are continually monitored; the system is a valuable reporting tool. Hourly, daily, and monthly reports may be generated from the large amount of historical data. Monthly reports of recloser operations, circuit load currents, circuit power factor, and station demand/energy usage make for some very useful operational and cash flow reports.

The application of microprocessor-based controls and reasonably priced multiple address radio systems have resulted in the development of SCADA systems that provide substation control at a justifiable cost per customer. In the case of Jackson Energy Cooperative Corporation, EKPC has provided a centralized master station computer which operates under their ABB Network Management System. By utilizing the EKPC system as their master station computer, JECC will enjoy a tremendous costs savings versus purchasing their own, in-house SCADA master computer. As part of the cost of the system, EKPC will provide master station computing, data base construction, display building, report development, system checkout, RTU configuration and other miscellaneous services associated with the system.

COST OUTLINE: A SCADA system, cost-sharing agreement has been made between JECC and EKPC. This type of arrangement is available to any and all of the distribution cooperatives in the EKPC system. A communications network has been established to pass data to and from the master station computer at EKPC headquarters and the JECC substation RTUs and also from the master station computer to the computer console at the JECC dispatch center in McKee.

The SCADA system has been installed in twenty-seven substations. Conway and Big Creek substations are scheduled for completion in 2007. SCADA will be installed in Conway and Big Creek substations, which represent the twenty-eighth and twenty-ninth substations scheduled for SCADA installation.

The cost for installing SCADA in two new Jackson Energy substations is shown on the next page.

**SCADA Installation
2007-2009**

Costs

System Development Cost by EKPC

-Data Base Build

-Display Build

-Report Development

-System Checkout

-RTU Configuration

\$520.00 per Substation x 2 Stations

\$ 1,040

RTU Cost

-RTU with fiber optic interface and DNP or Cooper Protocol

\$5,700 per RTU x 2 Stations

\$11,400

Communication Cost

-\$2,100 per Multiple Address Radios x 2 Stations

\$ 4,200

-\$380 per Antenna x 2 Stations

\$ 760

-\$4,400 Cross-Band Repeaters with Antennas x 2 Sites

\$ 8,800

TOTAL COST =

\$26,200

Automated Meter Reading (AMR)
Project
For
Jackson Energy Cooperative Corporation
(KY-3)
McKee, Kentucky

RUS CODE: 703

Estimated Cost: \$109,000

Definitions

AMR – Automated Meter Reading. A technology which allows a consumer's meter to be read remotely.

PLC – Power Line Carrier or Power Line Communications. A technology which uses existing power lines to carry data.

DCSI – Distribution Control Systems Inc. a subsidiary of ESCO Technologies Inc. DCSI is located in St. Louis, Missouri.

TWACS – Two-Way Communications System. TWACS is a patented product manufactured by DCSI to communicate between a central location and a consumer's meter.

Load Control – The ability to control designated consumer loads

Line-Voltage Monitoring – The ability to obtain a voltage reading from a meter.

Remote Service Connect/Disconnect – The ability to remotely connect and disconnect a consumer's meter.

Outage Monitoring/Restoration Monitoring – The ability to determine if an individual consumer is out of power during an outage and the ability to determine if an individual consumer's power has been restored after power is restored in an area.

Tamper/Theft Detection – The ability to determine if a meter tampering or energy theft has occurred.

The TWACS system was chosen for its ability to perform functions beyond meter reading. The capabilities include Load Control, Line-Voltage Monitoring, Outage Management/Restoration Monitoring, Remote Service Connect/Disconnect, and Tamper/Theft Detection.

Jackson Energy Cooperative made the decision to install and implement the TWACS AMR system from DCSI in the 2003-2005 Construction Work Plan. The proposed work in this work plan is a continuation of the work started in 2003-2005 Construction Work Plan.

Two new substations are planned for completion during the 2007-2009 Work Plan. These substations are Big Creek and Conway. The justifications for building these substations are contained in previous work plans.

**Automated Meter Reading
2007-2009
Estimated Costs**

<u>Description of Work</u>	<u>Quantity</u>	<u>Cost Per Unit</u>	<u>Cost</u>
Substation equipment	2	\$40,000	\$ 80,000
Labor to install substation equipment	2	\$10,000	\$ 20,000
MTU Transformers	6	\$ 1,500	\$ 9,000
		Total Cost	\$109,000

Geographical Information System (GIS)

RUS Code 1501

Estimated Cost \$851,000

A Geographical Information System (GIS) is a computer based system used to acquire, store and manage data. It is called a "Geographical" Information System because the data is related to the geography of the area in some manner.

In the case of Jackson Energy Cooperative, the data is information about the distribution lines and poles. The geographical aspect is correctly mapping the location of the poles and conductors within the Jackson Energy service area.

Jackson Energy Cooperative began work in 2006 to inventory its distribution facilities. This inventory includes the hardware and devices on each distribution pole. As inventory data was collected the pole location was associated with the Global Positioning Satellite (GPS) coordinates for that location. This enables the precise mapping of the distribution facilities using an industry standard methodology.

Roads and other background data have been acquired in GPS format from local and state government agencies. When the distribution data, with GPS coordinates, is plotted against the background data, which also has GPS coordinates, a more accurate map of the service area will be obtained.

By implementing a GIS mapping system, Jackson Energy will be better able to manage its resources and assets. It will also enable Jackson Energy to work with state and local agencies more efficiently.

This project will take four more years to complete.

Equipment: \$13,500.26

Field Inventory Labor: $\$1,116,530 \times 0.75 = \$837,397.50$

Total: \$850,897.76