JACKSON ENERGY
COOPERATIVE

115 Jackson Energy Lane
McKee, Kentucky 40447
Telephone (606) 364-1000 • Fax (606) 364-1007

RECEIVED
JUL 22 2010
PUBLIC SERVICE
COMMISSION

July 21, 2010

Director of Engineering
Kentucky Public Service Commission
211 Sower Blvd.
PO Box 615
Frankfort, KY 40602-0615

Re: Jackson Energy Cooperative: Application for Certificate of Convenience and Necessity
Administrative Case No. 2010-00115

Jackson Energy Cooperative respectfully submits the information requested per the order dated July 12, 2010 in Administrative Case No. 2010-00115.

Please inform me if any further information is required.

Sincerely,

Clayton Oswald
Attorney for Jackson Energy Cooperative

CW/cr

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STATE OF KENTUCKY)

COUNTY OF JACKSON)

I, Mark Keene, state that I am the Manager of Finance at Jackson Energy Cooperative, that I have personal knowledge of the matters set forth in this application and attached exhibits, and that the statements and calculations contained in each are true as I verily believe.

This 21st day of July 2010.

Mark Keene

Mark Keene

SUBSCRIBED AND SWORN to before me by Mark Keene this 21st day of July, 2010.

Connie Reid

Notary Public, KY State at Large

My Commission Expires: 7-30-12

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STATE OF KENTUCKY)

COUNTY OF JACKSON)

I, Ricky Caudill, state that I am the Planning Engineer at Jackson Energy Cooperative, that I have personal knowledge of the matters set forth in this application and attached exhibits, and that the statements and calculations contained in each are true as I verily believe.

This 21 day of July 2010.

Ricky Caudill
Ricky Caudill

SUBSCRIBED AND SWORN to before me by Ricky Caudill this 21st day of July, 2010.

Connie Reid
Notary Public, KY State at Large

My Commission Expires: 7-30-12

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STATE OF KENTUCKY)

COUNTY OF JACKSON)

I, Carol Wright, state that I am the Vice President of Engineering & Operations at Jackson Energy Cooperative, that I have personal knowledge of the matters set forth in this application and attached exhibits, and that the statements and calculations contained in each are true as I verily believe.

This 21st day of July 2010.

Carol Wright

SUBSCRIBED AND SWORN to before me by Carol Wright this 21st day of July, 2010.

Connie Reid
Notary Public, KY State at Large

My Commission Expires: 7-30-12

1. Refer to Exhibit 5, Estimated Cost of Operation on AZ8 Work Plan.

a. Provide the source and any detail supporting the "Estimated Interest Rate" of five percent.

Response by Mark Keene, Manager of Finance

The "Estimated Interest Rate" of five percent was an estimate of what the RUS long-term interest rate would be when the loan funds are borrowed in future years. The loan funds borrowed from RUS will come from the Federal Financing Bank (FFB). The FFB interest rate on December 16, 2009 was 4.25%. Since this is a four year work plan, we anticipate the interest rate would increase over the next four years, therefore a five percent interest rate was used in the calculation.

b. Provide the source and any detail supporting the "Operation and Maintenance estimated yearly expense" of $400,000.

December 2009 Total Operation and Maintenance Expense	$ 10,591,080
December 2009 Balance of Distribution Plant	$176,535,985
O & M Expenses as a percent of Distribution Plant	5.9994%

Work Plan Distribution Plant costs ($34,235,900 - $1,500,000)	$ 32,735,900
O & M Expenses percentage applied to Work Plan (5.9994%)	$ 1,963,958
***Estimation Factor	20%
Estimated Cost O & M for Distr. Plant ($1,963,958 x .20)	$ 392,792
Estimated Cost of O & M for General Plant ($1,500,000)	$ 7,208
Total Cost of Operation on AZ8 Work Plan	$ 400,000

***Since the work plan will be installing new plant and any right-of-way will be cleared during the construction, the operating and maintenance costs should not be as great for the new plant as it is for the existing and older plant. An "Estimation Factor" of 20 percent was used. There are no studies or calculations proving the 20 percent, it is an estimation of the operation & maintenance costs on the new plant.

2. Refer to the Distribution Line and Equipment Costs on pages 2-3 through 2-4 of the Construction Work Plan ("CWP").

a. Provide the source and any detail supporting the "Estimated Cost" for each category of "Distribution Lines."

<u>Response by Ricky Caudill, Planning Engineer</u>

The Estimated Cost for Distribution Lines figures are forecasted estimates of the 2013 cost for each category of distribution line construction. The actual costs, used below, are taken from the 2007-2009 Construction Work Plan Items noting that the cost of conversions can vary according to terrain and the age and condition of the poles.

(1) Single Phase to Single Phase Overhead Line Conversions
2013 Estimated Cost $75,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the average cost per mile is $49, 575, with one job costing $88,045 per mile. Projects included in the 2010-2013 CWP will be in heavily wooded areas and may require replacement of multiple poles per project.

(2) Single Phase to Two Phase Overhead Line Conversions
2013 Estimated Cost $85,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the cost per mile is $49,012, which is based on one project.

The 2010-2013 CWP proposes two projects to convert single phase conductor to two phase. One project is located in hilly terrain and involves poles that have been in service for 30 to 40 years. This is why the estimated cost is higher than the actual cost in the 2007-2009 CWP.

(3) Single Phase to Three Phase Overhead Line Conversions
Converting to three phase 1/0 ACSR
2013 Estimated Cost $105,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the cost per mile is $42,054, which is based on one project.

There is one project in the 2010-2013 CWP. Due to the number of road crossings involved the cost was estimated at $105,000 per mile.

(4) Single Phase to Three Phase Overhead Line Conversions
Converting to three phase 336 MCM ACSR
2013 Estimated Cost $115,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the average cost per mile is $104,866.

(5) Three Phase to Three Phase Conversion
Converting to three phase 1/0 ACSR
2013 Estimated Cost $100,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the average cost per mile is $51,539. The age and condition of poles as well as the terrain will cause the cost per mile to increase.

(6) Three Phase to Three Phase Conversion
Converting to three phase 336 MCM ACSR
2013 Estimated Cost $110,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the average cost per mile is $77,698.

There are no projects converting three phase conductor to three phase 336 MCM ACSR in the 2010-2013 CWP.

(7) Single Phase to Single Phase Underground Line Replacement
2013 Estimated Cost $100,000 per mile

Using the actual costs from the 2007-2009 Jackson Energy CWP the average cost per mile is $112,720. This is based on two projects.

There is one project in the 2010-2013 CWP. This project has been estimated at $100,000 per mile.

The loan money that Jackson Energy receives from the Rural Utilities Service (RUS) is not based on the estimates in the CWP. The money that is received is based on the actual cost of each project after completion. The estimates are used to determine the projected amount of money that could be required to complete the listed projects.

b. For those distribution line projects which include engineering and tree trimming costs, provide an itemized list showing the engineering costs, the tree trimming costs and any other costs separately.

The estimated cost per mile of distribution line is an estimate based on dollars per mile of line. The exact amount of engineering, tree trimming and other costs will not be made for each project until it is surveyed. The projects identified in this CWP have not been surveyed to calculate these itemized costs.

c. Do the estimated labor amounts represent the total labor for the installation of each category of line regulators, capacitors, and oil circuit reclosers listed? If, so what would be the comparable estimated labor rate per hour for each item listed?

The figures on page 2-3 and page 2-4 of the 2010-20013 CWP included the estimated equipment costs and labor. See Exhibit A for the estimated labor amounts for each category.

d. Provide the source and any detail supporting the estimated labor amounts for each category of line regulators, capacitors, and oil circuit reclosers.

See Exhibit A.

2010-2013 Labor Rates

LINE REGULATORS	Estimated Hours	*Labor Rate	Estimated Cost	**Labor Overheads	Estimated Cost
Single Phase, 76.2 KVA	11.6314	$43.25	$503.06	25%	$628.82
Three Phase, 76.2 KVA	54.4336	$43.25	$2,354.25	25%	$2,942.82
Three Phase, 114.3 KVA	54.4336	$43.25	$2,354.25	25%	$2,942.82
Three Phase, 167 KVA	54.4336	$43.25	$2,354.25	25%	$2,942.82
Three Phase, 250 KVA	54.4336	$43.25	$2,354.25	25%	$2,942.82
Three Phase, 333 KVA	54.4336	$43.25	$2,354.25	25%	$2,942.82

CAPACITORS	Estimated Hours	*Labor Rate	Estimated Cost	**Labor Overheads	Estimated Cost
1 - 300 kVAR Fixed Capacitor Bank	17.2534	$43.25	$746.21	25%	$932.76
1 - 300 kVAR Switched Capacitor Bank	17.2534	$43.25	$746.21	25%	$932.76
1 - 450 kVAR Fixed Capacitor Bank	17.2534	$43.25	$746.21	25%	$932.76
1 - 450 kVAR Switched Capacitor Bank	17.2534	$43.25	$746.21	25%	$932.76

OIL CIRCUIT RECLOSERS	Estimated Hours	*Labor Rate	Estimated Cost	**Labor Overheads	Estimated Cost
Versa Tech Recloser	7.053	$43.25	$305.04	25%	$381.30
35 Amp. Tyle L Recloser	5.765	$43.25	$249.34	25%	$311.67
50 Amp. Tyle L Recloser	5.765	$43.25	$249.34	25%	$311.67
70 Amp. Tyle L Recloser	5.765	$43.25	$249.34	25%	$311.67
100 Amp. Tyle L Recloser	5.765	$43.25	$249.34	25%	$311.67
140 Amp. Tyle L Recloser	5.765	$43.25	$249.34	25%	$311.67
560 Amp. Type VWE	21.81	$43.25	$943.28	25%	$1,179.10

*Labor Rate is a blend of contractor labor and company labor that includes benefits.

**Labor Overheads includes transportation and miscellaneous supplies.

Exhibit A

3. Refer to page 2-8 of the CWP.

a. Provide a copy of the spreadsheet information which is captured for recloser operations. Only provide this information for the recloser with the highest volume of operations.

<u>Response by Ricky Caudill, Planning Engineer</u>

JEC #: 109101
Substation: McKee
Feeder: 1
Phase Location: Left
Location Description: Macedonia to Sand Springs
Number of conductor phases: 3
Installation Date: 11/30/2006
Serial Number: 42057
Recloser Type: L 70
Number of Operations at Installation: 555
Date recloser counter read in 2009: 1/21/2009
2009 Counter reading: 613
Date recloser counter read in 2010: 3/10/2010
2010 Counter reading: 653
Recloser bypass: Fuse
In line switches: 600 amp non load break on load and source side of recloser

b. The CWP states "As each recloser requires service, it will be repaired and placed back in service."

1. What is the standard for determining when a recloser requires service?

For a hydraulic recloser the guideline is 100 load break operations or 10 years in service. For an electronic recloser the guideline is 200 load break operations or 10 years in service. This standard was determined by the Jackson Energy engineering department based on the manufacturer's recommendation.

2. What is the average time to repair any such recloser and place it back in service?

Whether a recloser is removed for maintenance as described in question 3.b.1 or due to damage, it is replaced by a working recloser taken from inventory. For maintenance the recloser in service is replaced as soon as it is removed from service. For a damaged recloser the recloser may be bypassed with a fuse until a recloser can be transported from the warehouse.

The reclosers that are removed from service are taken to the Jackson Energy warehouse, tagged and stored in a separate area.

Jackson Energy uses an outside vendor to maintain and repair reclosers. Reclosers may be shipped to the vendor for maintenance or repair. At other times, the vendor may come on site to perform recloser maintenance and repair. Depending on the vendor's schedule and when the recloser is removed from service, a recloser can be maintenanced or repaired, any time from one day to six weeks after it is removed from service. The average time is approximately 4 weeks.

After the recloser is maintenanced or repaired it is placed in inventory. It remains in inventory until it is needed in the field. Therefore the amount of time before a recloser is placed back in service will vary.

4. Refer to the Projected Annual Energy, Load and Consumer Data on page 2-13 of the CWP.

Response by Ricky Caudill, Planning Engineer

Due to an error in a spreadsheet cell reference, the values for the year 2009 calculated incorrectly. A corrected copy of page 2-13 is attached as Exhibit B.

a. For "Energy Sold" in 2009, show the detailed calculation for the "% Inc" column.

The value for 2009 was calculated incorrectly. The correct value should be (960,501 - 965,491) / 965,491 = -0.5%

b. For the "Billing Demand" in 2009, show the detailed calculation for the "% Inc" column.

The value for 2009 was calculated incorrectly. The correct value should be (316 - 276.1) / 276.1 = 14.5%

c. For the "Number of Consumers" in 2009, show the detailed calculation for the "% Inc" column.

The value for 2009 was calculated incorrectly. The correct value should be (51,969 - 51,699) / 51,699 = 0.5%

d. Do the amounts in the "Number of Consumers" column represent year-end number of consumers or the average number of consumers for the year?

Year-end number of consumers.

e. Does the "% Inc." column to the right of the "Energy Loss" column really represent the percent of loss? If not, recalculate this "% Inc." column to reflect the annual percentage increases.

The "% Inc" for "Energy Loss" in the CWP for 2009 was a projected number at the time the CWP was composed as the actual data was not available. The actual 2009 is now available. The year 2009 has been moved from the projected numbers to the actual data section as shown in Exhibit B.

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.
1998	805,689	765,394		40,295	5.0%	174.5		50.1%	45,640	
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	-4.0%	53,571	5.6%	258.1	-0.2%	39.9%	51,019	0.7%
2007	999,556	946,899	5.1%	52,657	5.3%	266.4	3.2%	40.6%	51,460	0.9%
2008	1,006,833	965,491	2.0%	41,342	4.1%	276.1	3.6%	39.9%	51,699	0.5%
2009	975,111	922,367	-4.5%	52,744	5.4%	298.5	8.1%	35.3%	51,306	-0.8%

Notes: All data is from the Form 7.

PROJECTED ANNUAL ENERGY, LOAD AND CONSUMER DATA

Year	Energy Sold	Annual % Inc.	Energy Loss	Annual % Inc.	Billing Demand	Annual % Inc.	Number of Consumers	Annual % Inc.
2010	980,526	6.3%	54,944	4.2%	320	7.2%	52,410	2.2%
2011	995,901	1.6%	52,783	-3.9%	324	1.3%	52,901	0.9%
2012	1,012,250	1.6%	53,649	1.6%	329	1.5%	53,459	1.1%
2013	1,026,776	1.4%	54,419	1.4%	333	1.2%	54,030	1.1%

Note: All of the projections above are from the 2008 Load Forecast.

5. Refer to the Conductor Replacement - Code 608 information on page 3-17 of the CWP. Provide all of the detail supporting the derivation of the conductor replacement costs of $7,860,000.

<u>Response by Ricky Caudill, Planning Engineer</u>

See Exhibit C which is a list of Code 608 projects. These projects were submitted by field personnel based on the condition of the conductor.

The mileage figures for the conductors on page 3-17 should be corrected to read

6A Copper	100.0 miles
#4 ACSR	1.3 miles
Total	101.3 miles

2010-2013 CWP
Code 608 Costs

Item #	Project Description	Existing Phases	Proposed Phases	Miles	Cost per mile	Project Cost
1	Bar Creek, off HWY 66, Clay County	3	1	1.2	$75,000	$90,000
2	Chop Bottom single phase line	1	1	0.3	$75,000	$22,500
3	Southern Bell Dairy	3	3	0.4	$100,000	$40,000
4	Serenity Point Road	3	3	1	$100,000	$100,000
5	Hwy 192 behind Curry Oil	3	3	0.1	$100,000	$10,000
6	Beattyville Country Club	3	3	0.5	$100,000	$50,000
7	Ferrell Gas on Greenbriar Road	3	3	0.1	$100,000	$10,000
8	Rickie's Wheel & Axle	3	3	0.2	$100,000	$20,000
9	Gabbard Fork three phase	3	3	0.5	$100,000	$50,000
10	Maretburg-Spiro Road to Freedom School Road	3	3	1.5	$100,000	$150,000
11	Furnace, down Mtn. Springs Road	3	3	1.4	$100,000	$140,000
12	Mtn. Springs Road	3	1	0.8	$75,000	$60,000
13	Little Bullskin Road	3	3	2.3	$100,000	$230,000
14	Hwy 28 Smith Fork to Breathitt County	3	1	1.7	$75,000	$127,500
15	HWY 25, Filter Plant Road	3	3	0.2	$100,000	$20,000
16	Laurel Lodge	3	3	0.2	$100,000	$20,000
17	St. Helens near Gas Co. & Coal Tipple	3	3	0.4	$100,000	$40,000
18	Wallace Saw Mill, at Winston	3	1	0.3	$75,000	$22,500
19	Gravel Lick Road #4 ACSR	1	1	0.1	$75,000	$7,500
20	Gravel Lick Road 6A Cu	1	1	2.3	$75,000	$172,500
21	Big Andy Ridge	1	1	4.5	$75,000	$337,500
22	Delvinta Road and HWY 399 along Farmer Ridge	1	1	1.5	$75,000	$112,500
23	Stone Coal along Farmer's Ridge	1	1	2.5	$75,000	$187,500
24	Rocky Branch (Goose Rock)	3	1	1	$75,000	$75,000
25	Granny's Branch to Butterfly Branch	3	3	1.5	$100,000	$150,000
26	Granny's Branch from Butterfly Branch to the end of Granny's Branch	1	1	2	$75,000	$150,000
27	Gabbard's Fork single phase	1	1	3	$75,000	$225,000
28	Vincent to Greenhall F5	1	1	2	$75,000	$150,000
29	Levi to Booneville F3	1	1	3	$75,000	$225,000
30	Salt Rock and Wind Cave	1	1	5	$75,000	$375,000

2010-2013 CWP
Code 608 Costs

Item #	Project Description	Existing Phases	Proposed Phases	Miles	Cost per mile	Project Cost
31	Indian Creek 1 phase from the end of the 2 phase to the Horse Lick Bridge	1	1	4.27	$75,000	$320,055
32	Indian Creek - Three phase at the rock quarry	3	1	0.4	$75,000	$30,000
33	Indian Creek single phase past the rock quarry	1	1	1.7	$75,000	$127,500
34	Middlefork up Indian Creek	1	1	0.5	$75,000	$37,500
35	Andrew Road - Charlie Lewis - HWY 30 East	1	1	2	$75,000	$150,000
36	Herd to Andy Browns	1	1	2	$75,000	$150,000
37	Patsy Road	1	1	3	$75,000	$225,000
38	Watson Ridge	1	1	3	$75,000	$225,000
39	Locust Branch	1	1	1.5	$75,000	$112,500
40	Red Lick Road	1	1	1.5	$75,000	$112,500
41	Kissey Branch	1	1	2	$75,000	$150,000
42	Apple Flat to Gray Road	1	1	2.2	$75,000	$165,000
43	Fox Hollow	3	3	0.3	$100,000	$30,000
44	Ells Branch to Cool Springs	1	1	5	$75,000	$375,000
45	Sexton Creek	1	1	3	$75,000	$225,000
46	HWY 847 & HWY 2025	1	1	2.2	$75,000	$165,000
47	HWY 30 and HWY 290 – William Howard	1	1	0.5	$75,000	$37,500
48	Blaine's Branch Road,	1	1	0.3	$75,000	$22,500
49	Hwy 1411 and Stay	1	1	0.8	$75,000	$60,000
50	Hisle – HWY 2004 – From Happy Top to Drip Rock	1	1	10	$75,000	$750,000
51	Morrill to Kirby Knob	1	1	4	$75,000	$300,000
52	Hwy 2017 Glen Eden	1	1	2.4	$75,000	$180,000
53	Ivory Hill	1	1	2.3	$75,000	$172,500
54	Little Sexton Creek to HWY 1709	1	1	1.5	$75,000	$112,500
55	Sexton's Creek to Island City	1	1	3	$75,000	$225,000
56	South Fork Road	1	1	0.4	$75,000	$30,000
			Total	101.3		$7,860,055.00

6. Refer to the Code 615 - Communications Equipment information on pages 3-19 and 3-20 of the CWP.

<u>Response by Ricky Caudill, Planning Engineer</u>

a. Using the quantity information for the listed items and the unit cost of the listed items, provide the detail supporting the equipment cost of $1,322,537.

Jackson Energy Cooperative utilizes a radio system licensed in the Private Land Mobile Radio service. The channel width of the existing radio system is 25 KHz.

The Federal Communications Commission is requiring that Private Land Mobile Radio licensees, operating below 512 MHz, migrate to a channel width of 12.5 KHz. The deadline for the change is January 1, 2013.

In order to meet the requirements of the Federal Communications Commission Jackson Energy Cooperative requested bids from radio communications companies for a new radio system.

After the bids were received, they were reviewed to determine which proposed radio system would best fit Jackson Energy's future needs. The total cost of the new system was also a determining factor. Using these criteria, a radio communications company was selected to deliver a turn-key solution.

The equipment cost of $1,322,537 is the cost provided by the vendor in the selected bid as a turn-key solution.

b. Provide the detail supporting the labor cost of $177,000 and allocate this cost to each of the listed items.

See the answer to question 6 a.

The labor cost was not allocated to each item in the bid by the radio communications company. Therefore, Jackson Energy Cooperative does not have the labor cost for each item.

7. Refer to Section 2, page 7of the CWP, Analysis of the 2007 Operations and Maintenance Survey.

Response by Carol Wright, Vice President of Engineering & Operations

a. In item 3, Jackson Energy notes that "Several problem trees were observed in residential areas". Describe fully what steps Jackson Energy has taken to address the concerns/issues posed by these trees. If no action has been taken, explain why and provide in detail Jackson Energy's plan to address the concerns/issues noted.

Mike Norman, RUS field representative, observed these problem trees while performing a field inspection in 2007 along a small section of one distribution feeder. This situation is not indicative of our entire system. However, we have taken steps to address shade trees in residential areas. We have established a six year clearing cycle for all distribution feeders. During this regular clearing cycle, our clearing contractors are encouraged to remove any trees directly under the line with the customer's permission. In addition, we have a tree voucher system that encourages landowners to permit removal of trees in residential areas. The voucher enables them to purchase a low growing tree species to replace the removed tree. If a tree cannot be removed and presents a clearance problem between regular clearing cycles, then an hourly contract crew will obtain the proper clearance.

b. In item 4, Jackson Energy indicates that a "more aggressive right-of -way clearing program" was implemented. Provide a detailed description of the right-of - way clearing program that Jackson Energy has implemented.

The PSC received a copy of Jackson Energy's detailed Vegetation Management Plan in March 2010. It was included as an attachment to the Annual Reliability Report.

8. Refer to Section 1, Page 3, Code 601, Transformers and Meters.

Response by Ricky Caudill, Planning Engineer

a. Are the meters that Jackson Energy proposes to install Automated Meter Reading ("AMR") meters? Provide a full description of the proposed meters, including specifications and capabilities.

Yes. The meters are Centron C1S meters manufactured by Itron. A meter specification sheet is included in Exhibit D.

b. How do the proposed meters differ from the meters installed in the three previous CWP's? Describe fully.

The proposed AMR meters do not differ from the AMR meters in the three previous CWP's.

c. Are the proposed meters compatible with the TWACS AMR system that Jackson Energy began installing in the 2003-2005 Work Plan?

Yes.

d. Provide an update on the status of the TWACS AMR system that has been included in the work plans for 2003-2005, 2005-2007, and 2007-2009. Assuming the current work plan is a continuation of this program, will all the customer meters be AMR capable by the end of 2013?

Jackson Energy has been 100% AMR since 2006. The AMR equipment listed in the 2007-2009 CWP was substation equipment for two new substations.

Yes. Jackson Energy has been 100% AMR since 2006. The estimated number of new meters required will be used to serve new members and replace damaged meters during the time span of the CWP. The meters will be purchased on an as needed basis.

e. Do these meters reflect the most current meter technology available on the market? If not, explain why Jackson Energy has decided on this particular meter.

Jackson Energy continually monitors AMR meter technology and is open to field testing AMR meters from other manufacturers. A limited number of AMR meters, from other manufacturers, will be procured and field tested to determine if they offer any advantages over the Centron C1S meter. Should the AMR meters from another manufacturer provide advantages over the Centron C1S meters, for a comparable price, then the AMR meters from the alternative manufacturer would be used.

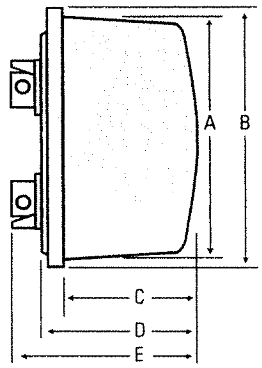
Dimensions

Polycarbonate

A	B	C	D	E	F	G
6.29" 16 cm	6.95" 17.7 cm	2.7" 6.9 cm	3.16" 8 cm	4.53" 11.5 cm	6.29" 16 cm	6.95" 17.7 cm

Glass

A	B	C	D	E	F	G
6.42" 16.3 cm	6.95" 17.7 cm	3.03" 7.7 cm	3.55" 9 cm	4.9" 12.5 cm	6.42" 16.3 cm	6.95" 17.7 cm



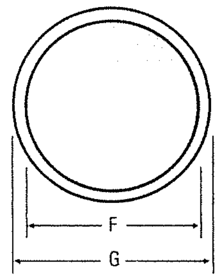
Shipping Weights

Polycarbonate

4 meter cartons	Approx. 8.9 lbs	4.04 kg
120 meter pallets	Approx. 260-265 lbs	117.936 kg

Glass

4 meter cartons	Approx. 13.96 lbs.	6.35 kg
120 meter pallets	Approx. 335 lbs	151.956 kg



Specifications

Power Requirements	Voltage rating: 240 V Frequency: 60 Hz, 50 Hz	Operating voltage: ±20% (60 Hz), ±10% (50 Hz) Operating range: ±3 Hz
Operating Environment	Temperature: -40° to +85°C Humidity: 0% to 95% non-condensing	
Transient/Surge Suppression	ANSI C37.90.1-1989 IEC 61000-4-4 ANSI C62.45-1992	
Accuracy	ANSI C12.20 0.5 Accuracy Class	
General LCD Display	Five-digit liquid crystal display Data digit height: 0.4"	Annunciator height: 0.088" Electronic load indicator
Characteristic Data	Starting watts: 5 watts	
Temperature Rise Specifications	Meets ANSI C12.1 section 4.7.2.9	
Burden Data	Voltage circuit Voltage: 240 — Watts: 0.5 — VA: 7.5	
	Current coil-self contained test amp current: 60 Hz Service: 3-Wire — Test current (amps): 30 — VA: <0.50	

*Burden data applies to FM2SV 240 V meter

Option Module Upgrades

- Demand module (C1SD)
- TOU with demand module (C1ST)
- Load profile with TOU and demand module (C1SL)
- R300 900 MHz RF module (C1SR)

Option Availability

- Glass cover
- Electronic detent
- Identification/Accounting aids

Technical Data

Meets applicable standards

- ANSI C12.1 - 1995
- ANSI C12.10 - 1997
- ANSI C12.20 (Class 0.5) 1998
- ANSI C37.90.1 - 1989
- ANSI C62.45 - 1992
- IEC 61000-4-4
- IEC 61000-4-2
- FCC Part 15 Subclass C

Reference Information

- CENTRON Technical Reference Guide
- CENTRON C1SR Specification Sheet
- CENTRON C1SC Specification Sheet
- CENTRON C1SD T L Specification Sheet
- Electricity Price Bulletin
- Hardware Specification Form
- ZRO-C2A Handheld Meter Resetter Instructions

Product Availability

Meter Version	Class	Volts	Wire	Form	Digits/ Mult	Energy Setting	Catalog Number Glass	Catalog Number Poly
C1S	100	120	2	1S	5x1	Undetented	G980225	G980205
C1S	200	240	3	2S	5x1	Undetented	G980194	G980181
C1S	320	240	3	2S	5x1	Undetented	G980236	G980213
C1S	20	120	2	3S	5x1	Undetented	G980247	G980248
C1S	20	240	3	4S	5x1	Undetented	G980255	G980223
CN1S	200	120	3	12S	5x1	Undetented	G980257	G980195
CN1S	200	120	3	25S	5x1	Undetented	G980265	G980266

f. Provide a full description of the proposed meter disconnect collars, including specifications and capabilities.

The collars are TWACS Disconnect Switch Interbase. See the meter disconnect collar specification sheets in Exhibit E.

g. Provide Jackson Energy's criteria for the determination of which customers will have the collars installed.

If a consumer has received six disconnect notices for non-payment in a twelve month period, then a disconnect collar is installed.

h. Once a collar is installed on a customer's meter, will it be considered a permanent installation, or will it be subject to removal at some future date?

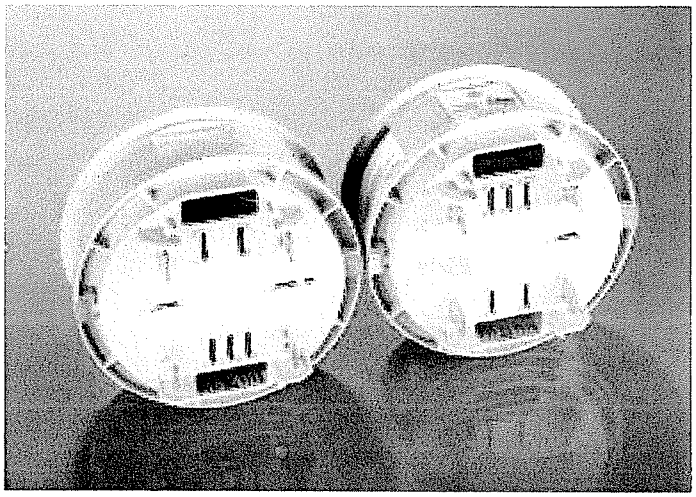
No, it is not a permanent installation. A disconnect collar will be removed if a customer makes regular monthly payments and does not receive a disconnect notice in a twelve month time period from the installation date of the collar. A disconnect collar may also be removed if a customer has an account read out of their name and the account is not reconnected in three months.

TWACS® Disconnect Switch Interbase (DSI)

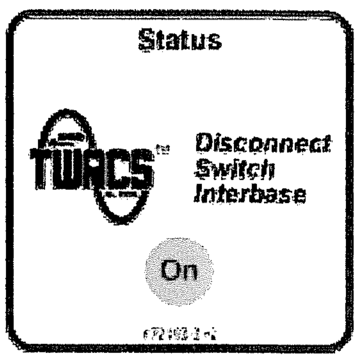
communications confirm that the DSI has not been removed. Load side detection verifies proper operation and will indicate a bypass condition. The diagnostic register generates an alarm flag that is sent to the utility office if tamper is detected.

Switch Status LED and Connect Push-Button
The DSI offers two options to close the switch: a) a direct software command from DCSI's master station software, or b) a two-step process that allows the consumer to make sure their home is ready for connection. First a software command is issued to arm the switch followed by the consumer manually depressing the "On" Push-Button.

Low Profile
The Low Profile design enhances the universal fit and minimizes any change of appearance to the consumer's service.

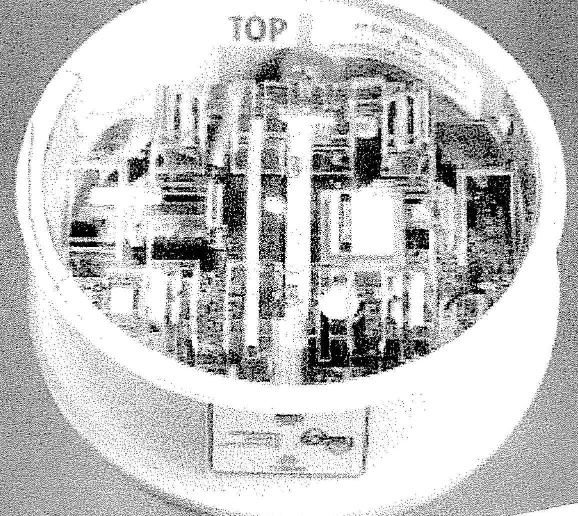


Functional Specifications	Value or Range
Line Voltage	208, 240 VAC +/-15%
Frequency	60 Hz +/-5%
Temperature Range	
With Solar Load	-40°C to +53°C
Without Solar Load	-40°C to +60°C
Storage Temperature	-40°C to +85°C (18 months max.)
Humidity	0% to 95%, non-condensing
Switch Operations	
Rated Current	200 Amps
Short Circuit Closing Withstand	10,000 Amps per UL 1008 - 1999
Short Circuit Withstand	10,000 Amps per UL 508 - 1999
Overload	12,000 Amps per ANSI C12.1 - 1995
Peak Overload	6 Cycles at 7000 Amps per ANSI C12.1, 1995
Temperature Rise	UL 508. 1999 and UL 414
Dielectric	1500 volts at 60Hz for 1 minute per UL 508
Creepage and Clearance	UL 508 - 1999
Switch Endurance	30,000 Mechanical Operations 5,000 Full Load Electrical Operations
Standards Compliance	
EMI/RFI Susceptibility	ANSI C12.1 Test No.26
AC Line Surge	ANSI/IEEE C62.41-1991 per ANSI C12.1-2001 Test No.17
Electrical Fast Transient	IEC 61000 PT4 per ANSI C12.1-2001 Test No.25
EMI/RFI Emissions	CFR 47 Part 15, Subparts A&B per ANSI C12.1-2001 Test No.27
Meter Forms	Class 200 2S, 12S, 25S



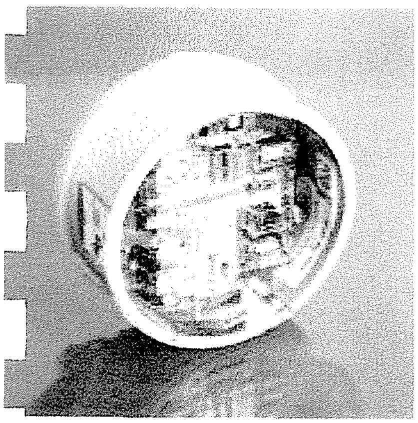
The use of the Disconnect Switch Interbase "DSI" permitting remote disconnect/connect may be subject to certain laws, regulations, and/or tariffs at the federal, state and/or local level. Prior to utilizing such a feature, the user is responsible for compliance with all such laws, regulations and/or tariffs. DCSI is held harmless in case of violation of laws, regulations, and tariffs due to the use of the Disconnect Switch Interbase feature of the product.

TWACS® Disconnect Switch Interbase (DSI)



The Disconnect Switch Interbase (DSI) from TWACS® offers a stand-alone, two-way, addressable disconnect switch which provides tamper detection capabilities and paves the way for pre-pay services.

The DSI combines the functionality of a 200 Amp latched relay with the convenience of the superior TWACS two-way power line communications system.



Stand-alone Design
The stand-alone design offers a plug-in, self-contained solution, which requires no additional connections and is independent of the meter type or technology. All that is required is installation on a TWACS-enabled distribution system.

Whole House Disconnect
Now you can provide for remote whole house disconnect and reconnect with the DSI. The DSI utilizes a dependable and reliable 200 Amp latched relay and combines it with the powerful TWACS system. This combination permits the Customer Service Representative (CSR) to disconnect and reconnect individually metered residential or small commercial, single-phase 200 Amp services remotely from the utility office. The DSI disconnects the electric service to the home while leaving the meter powered for monitoring or communication purposes.

Remote Control - - From Utility Office
No longer is it necessary to create a work order and dispatch a meter technician to remove or "boot" a meter. The CSR or TWACS system operator can simply issue the command for an immediate or scheduled disconnection. Reconnection is equally easy. Each DSI is uniquely addressable based on a secure, factory assigned identity for the highest integrity. Remote communication is provided via the TWACS system which links the utility control center and the meter site. Rapid confirmation of service disconnect or reconnect can be obtained within 20 seconds of command initiation.

Universal Design
The DSI's universal design fits most residential applications. Compatibility is assured with 200 Amp 4-jaw form 2S and 5-jaw form 12S/25S residential sockets. The DSI works with meters both old and new, electromechanical and electronic. The DSI consists of an interbase collar, a 200 Amp latched relay and a TWACS communication module with an electronic switch controller. The collar has four (or five) jaws that accept the blades from the meter on the topside and four (or five) blades that insert into a standard meter socket on the bottom side.

Utility and Consumer Benefits
Utilities utilizing this product will have at their disposal a powerful revenue collection tool for problem accounts, as well as the ability to enhance customer service by providing a convenience for seasonal and rental customers. Additionally, this improves utility efficiency and personnel safety by allowing connects and disconnects to be performed from the convenience of the utility office. The two-way addressable DSI also paves the way for future pre-pay metering implementations.

Tamper Detection
Tamper Detection is provided through the use of a periodic two-way communications check, load side detector, and diagnostic register. Two-way

9. Identify any other costs in the CWP associated with any Advanced Metering Infrastructure System, the AMR, or Smart Grid activities.

<u>Response by Ricky Caudill, Planning Engineer</u>

There are no additional costs associated with any of these systems.