

ORIGINAL



Big Sandy Rural Electric  
Cooperative Corporation

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RECEIVED

DEC 22 2015

PUBLIC SERVICE  
COMMISSION

December 17, 2015

Mr. Jeff Derouen  
Executive Director  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40602

RE: Public Service Commission Case No. 2015-00337

Dear Mr. Derouen:

Please find enclosed the original and 10 copies of Big Sandy Rural Electric Cooperative Corporation's response to Commission Staff's First Request for Information in Case No. 2015-00337, APPLICATION OF BIG SANDY RURAL ELECTRIC COOPERATIVE CORPORATION FOR APPROVAL OF A PREPAY METERING PROGRAM TARIFF. Billy Frasure will be the witness responsible for responding to the questions related to the information provided.

If you should need any additional information, please do not hesitate to contact me.

Thank you,

A handwritten signature in black ink, appearing to read "David Estep", written over a horizontal line.

David Estep  
President & General Manager

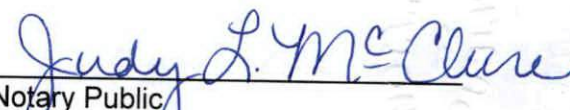
**CERTIFICATE**

**STATE OF KENTUCKY )**  
**COUNTY OF JOHNSON )**

Billy O. Frasure, CPA, being duly sworn, states that he has supervised the preparation of the response of Big Sandy RECC to the Public Service Commission Staff's Request for information in Case No. 2015-00337 dated December 04, 2015 and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief formed after reasonable inquiry.

  
\_\_\_\_\_  
Billy O. Frasure, CPA

Subscribed and sworn before me on this 17<sup>th</sup> day of December, 2015

  
\_\_\_\_\_  
Notary Public

## EXHIBITS

1. **Exhibit A**- Prepay Program Tariff
2. **Exhibit B** - Prepay Contract
3. **Exhibit C** - Explanation of Tariff and Program
4. **Exhibit D** - Prepay Administrative Policy
5. **Exhibit E** - Cost Analysis for the Proposed Rate

## ATTACHMENTS

1. **ATTACHMENT 1 - Additional Savings on Prepay Program**
2. **ATTACHMENT 2 - Automated text, email and phone call transcripts**
3. **ATTACHMENT 3 - Manufacturer Information on Meters used for Prepay Metering**

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 1

Provide the total number of Prepay Pilot program participants to date and explain whether Big Sandy continues to believe that 500 is a reasonable estimate for program participation.

**RESPONSE:**

To date Big Sandy has 190 participants in the Prepay Pilot program. Based on the continued steady increase in prepaid participants, Big Sandy continues to believe that 500 participants is a reasonable estimate.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 2

Provide the average number of transactions Big Sandy experiences per month from those members on the Prepay Pilot Program.

**RESPONSE:**

Big Sandy experiences on average 716 transactions per month from those members on the Prepay Pilot Program. This averages out to 3.77 transactions per member.

Witness: Billy Frasure

**BIG SANDY RECC**  
**COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**  
**CASE NO. 2015-00337**

Item 3

In response to Commission Staff's Second Request for Information ("Staff's Second Request") in Case No. 2012-00425,<sup>1</sup> Item 3, Big Sandy responded that internet service would not be required for participation in the proposed Prepay program. Confirm whether internet service is still not a requirement.

**RESPONSE:**

Big Sandy does not require internet service in order to participate in its prepay metering program. Participants have the options of purchasing kWh via phone transactions, mail or by coming into our office during operating hours.

Witness: Billy Frasure

**BIG SANDY RECC**  
**COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**  
**CASE NO. 2015-00337**

Item 4

Refer to the Application, Exhibit A, page 1 of 3, paragraph 2 under the section "Terms & Conditions."  
Explain whether a member must be capable of receiving email, text, *and* automated phone messages or if the member must be capable of receiving either email, text, *or* an automated phone message in order to participate in the Prepay Pilot Program.

**Response:**

The appropriate wording would be "or" rather than "and."

Exhibit A, page 1 of 3, paragraph 2 under the section "Terms & Conditions" has been updated to the correct wording.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 5

Refer to the Application, Exhibit A, page 1 of 3, paragraph 3 under the section 'Terms & Conditions.'

- a. The tariff references a member who is moving his/her status to a prepay account. Explain whether, in order to participate in the Prepay Pilot Program, a member must be moving from post-pay or whether the program is open to new members.

**RESPONSE:**

The prepay program is available to both new members and existing members.

- b. If the program is open to new members, explain whether Big Sandy is willing to change the wording to "Any member choosing to enroll in Prepay. . ."

**RESPONSE:**

Yes, Big Sandy is willing to change the wording to include new members as well as post-pay members. However, Big Sandy does not believe the term "Any" would be the correct wording due to the fact that the following conditions restrict eligibility to participate in the Prepay program:

1. A member which receives Levelized/budget billing, automatic payment drafts or net metering.
2. A member which presents a Certificate of Need, a Medical Certificate or qualifies for a Winter Hardship Reconnect.

Big Sandy has updated the wording on Exhibit A, page 1 of 3, paragraph 3 under the section 'Terms & Conditions' and attached for Commission Staff's review.

Witness: Billy Frasure



- c. Explain whether the initial required payment for electricity is for kWh usage only, or whether it can be used for other charges such as the Prepay program fee, the monthly customer charge, etc. If the initial payment can be used for all monthly charges, explain whether Big Sandy is willing to change the tariff to state that the initial purchase must be a minimum of \$100.00

**RESPONSE:**

The initial required payment applies to all billable fees associated with Prepay metering. Big Sandy is willing to change the wording and the update can be found in Exhibit A, page 1 of 3, paragraph 3 under the section 'Terms & Condition.'

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 6

Refer to the Application, Exhibit A, page 2 of 3, paragraph 4, under the section "Terms & Conditions" and to Exhibit C, page 1 of 6, paragraph 1. Confirm that all payment methods by post-pay members are available to the prepay member. If this is not the case, provide a list of methods available to post-pay members and a list available to prepay members.

**RESPONSE:**

Prepay Members have the following payment options available:

1. Big Sandy RECC's website
2. Debit/credit card by phone via Big Sandy's IVR payment system.
3. Check/money order by mail
4. Payment at the office

Post-pay members have the same payment options as listed above. However, post-pay has the following payment options prepay does not have:

1. Levelized Billing/ Budget Billing
2. Auto pay
3. Net metering

These three options, listed above, disqualify a member from participating in Prepay Metering.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
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Item 7

Refer to the Application, Exhibit A, page 2 of 3, paragraph 6, under the section "Terms & Conditions."  
Explain how the unpaid balance will be paid back.

**RESPONSE:**

If a member enrolls for prepay service, any existing balance the member currently owes to Big Sandy will be applied to the members prepaid account balance. Afterwards, when the member makes a payment on his/her prepay account, 70% of the payment will be applied to daily usage on the account. The remaining 30% will be applied to the debt balance owed when the member elected to change from post-pay to prepay services.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 8

Refer to the Application, Exhibit A, page 3 of 3, paragraph 17 under the section "Terms & Conditions."

- a. Provide the number of prepay members who customize their threshold amounts.

**RESPONSE:**

Big Sandy currently hasn't experienced any member that has customized his/her threshold amount.

- b. Provide the amount(s) chosen by members who customize their threshold amounts.

**RESPONSE:**

The threshold amount used by Big Sandy's Prepay members has remained consistent at \$25.

- c. Confirm that the automated message will be electronic.

**RESPONSE:**

The automated message Prepay customers will receive when their balance falls below the threshold amount is delivered via text message, email message and automated phone notification.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 9

Refer to the Application, Exhibit B, page 2 of 3, paragraph 11. Explain whether Big Sandy is willing to add a specific reference to the Cooperative Rules and Regulations as approved by the Kentucky Public Service Commission.

**RESPONSE:**

Yes, Big Sandy is willing to add a specific reference to the Cooperatives Rules and Regulations as approved by the Kentucky Public Service Commission.

Please refer to the changes attached in Exhibit B, page 2 of 3, paragraph 11.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 10

Refer to the Application, Exhibit B, page 3 of 3, paragraph 19. Clarify what type of communication is required, and state whether Big Sandy is willing to be more specific in this paragraph as to the communication required.

**RESPONSE:**

The types of communication required for participation in the Prepay program is text message, email message or automated phone notification. Yes, Big Sandy is willing to be more specific in this paragraph as to the communication required. Please see change on Exhibit B, page 3 of 3, paragraph 19.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 11

Refer to the Application, Exhibit B, page 3 of 3, paragraph 20. Explain the manner in which the member must opt out.

**RESPONSE:**

If a prepay member chooses to opt out of the program he/she must go through the following process to change to a post-pay consumer:

- a. Member must notify Big Sandy of his/her desire to become a post-pay consumer.
- b. Big Sandy will run appropriate credit checks on consumer and require a deposit if necessary.
- c. If member has a balance in debt recovery, he/she must either pay off debt balance remaining on the prepay account or set up a contract with Big Sandy to pay the debt off.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 12

Refer to the Application, Exhibit C, page 1 of 6, paragraph 1.

- a. Confirm that Big Sandy is now using SEDC as the provider of its Prepay program software instead of Excleron. If this is not the case, state the date of the change in provider, and provide the reason for the change.

**RESPONSE:**

Excleron is currently the provider of Big Sandy's Prepay program software due to contract agreement. Upon the expiration of this contract, August 2016, Big Sandy will change its software provider to SEDC. The reasoning for this is that SEDC will provide the same services as Excleron and will result in significant cost savings to Big Sandy and its prepay members.

- b. Confirm that the remote connect/disconnect collar is still a separate item that is added to the existing meter. If not, and if the entire meter must be replaced, provide the cost of the existing meter and the cost of the new meter.

**RESPONSE:**

Big Sandy confirms that the connect/disconnect collar is added to the existing meter. This has been the primary equipment used throughout the pilot program.

However, Big Sandy is transitioning to a meter with the connect/disconnect collar being built in to the meter. This meter will be the standard meter Big Sandy will issue and will not be specific to the Prepay program. Please see Exhibit C, Page 2 of 6, Exhibit A for cost information associated with the equipment.

Witness: Billy Frasure



**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
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Item 13

Refer to the Application, Exhibit C, page 2 of 6, Exhibit A. Provide a detailed breakdown of the 90% Benefits rate calculation.

**RESPONSE:**

Big Sandy originally estimated its benefit rate based primarily on the benefit rate of other cooperatives. Please find below Big Sandy's Benefit Analysis. Also, Big Sandy has updated all applicable calculations associated with this rate.

Big Sandy RECC

Benefit Analysis

Vacation	8%
Sick	4%
Personal Days	1%
Holidays	4%
Retirement	10%
Post-Retirement	8%
Group Insurance	25%
Social Security	7.65%
Federal Unemployment	.28%
State Unemployment	.53%
General Liability	2.02%
Workers Comp	<u>2.7%</u>
	73.18%

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
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Item 14

Refer to the Application, Exhibit C, page 2 of 6, Exhibit B. Provide the current FFB 15-year interest rate for Big Sandy.

**RESPONSE:**

The 15-year FFB rate Big Sandy used in this exhibit is an estimated rate. It was estimated based on current FFB rates at the time the exhibit was prepared for a 10-year and 20-year rate.

The current 10-year rate, as of December 8, 2015, is 2.18% and the current 20-year rate is 2.48%. Based on these rates Big Sandy has updated its estimated interest rate to 2.3%

Witness: Billy Frasure

**BIG SANDY RECC**  
**COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**  
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Item 15

Refer to the Application, Exhibit C, page 3 of 6, Exhibit C. Provide the calculations used to estimate the \$1.05 transaction fee.

**RESPONSE**

The transaction fee is based on a Big Sandy Customer Service Representative spending an estimated average of 3 minutes per phone transaction.

Big Sandy Average CSR Rate per hour = \$12

CSR Benefit Rate per hour (73%) = \$8.76

CSR Rate per hour = \$20.76

Big Sandy CSR Rate per minute = \$0.35

$\$0.35 \times 3 \text{ minutes} = \$1.05 \text{ rate per transaction}$

Witness: Billy Frasure

**BIG SANDY RECC**  
**COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**  
**CASE NO. 2015-00337**

Item 16

6. Refer to the Application, Exhibit C, page 3 of 6, Exhibit D. Also refer to Big Sandy's supplemental filing provided with its 2014 Annual Report as required in the Appendix of the Final Order in Case No. 2012-00425.

a. Provide the average percentage reduction in participants' monthly usage after enrolling in the Prepay Pilot program.

**RESPONSE:**

The average monthly kWh savings per consumer, as of the date the supplemental filing was submitted, is 19%.

b. Explain whether Big Sandy believes it is more appropriate to use the usage reduction that its participants have actually achieved and is directly applicable to its system or the 10 percent based on the Cooperative Research Network Project 10- 10 - Prepaid Metering Analytical Report as indicated on page 3 of Exhibit C.

**RESPONSE**

Big Sandy had 183 participants in the prepay program at the time the supplemental filing was submitted. Big Sandy continues to estimate a future participation level of 500 members and its calculations and estimations are based on that participation level. Big Sandy believes that once the estimated threshold of 500 members participating in prepay metering is reached, the kWh savings realized at that point will more closely reflect the predicted savings based on the Cooperative Research Network Project 10-10- Prepaid Metering Analytical Report.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
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Item 17

Provide an example of an automated text, an automated email, and a transcript of an automated phone call.

**RESPONSE:**

Please refer to Attachment 2 for the examples.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
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Item 18

Provide a summary of the estimated hardware and software costs, implementation costs, and monthly support and maintenance fees from Big Sandy's CIS Company.

**RESPONSE:**

Please see Exhibit C, Page 2 of 6, Exhibit A for cost information associated with the software and hardware.

Please see Exhibit C, Page 3 of 6, Exhibit C for support cost per participant (based on 500 participants).

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 19

Provide information from the manufacturer on the type of metering equipment installed in Big Sandy's Prepay Pilot program.

**RESPONSE**

Please refer to Attachment 3 for manufacturer information on the meters Big Sandy will be using in Prepay going forward.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 20

Explain whether Big Sandy has considered offering the Prepay program to its small commercial rate class.

**RESPONSE:**

Currently Big Sandy has not given consideration to offering the Prepay program to its small commercial rate customers. However, this is definitely a program Big Sandy would consider offering to its small commercial customers in the future.

Witness: Billy Frasure



**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 21

Refer to the Application, Attachment 1.

- a. Provide the average number of delinquent notices mailed by month for the years 2013 and 2014.

**RESPONSE:**

The average number of delinquent notices mailed by month for the years 2013 and 2014 is 2,300.

- b. Confirm that the overtime trips will be made by the lineman and not the serviceman.

**RESPONSE:**

Big Sandy does not have separate positions for a Lineman and a Serviceman. The position title of Big Sandy's field personnel, per union contract, is Serviceman, Journeyman/Lineman.

- c. Confirm that it will take an hour for an overtime field visit but only 30 minutes for a field visit during normal working hours.

**RESPONSE:**

Big Sandy confirms this is the correct estimation. The reasoning here is that a field visit during normal operating hours requires less commuting time to arrive at the destination due to the employee already being in the area. Whereas, an employee that is called out to reconnect a service during times that are not regular operating hours has additional commuting time leading to increased time and cost.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

- d. Provide and explain the calculations of the time savings associated with the CSR preparing cutoffs.

**RESPONSE:**

Big Sandy estimates that with 500 members participating in its Prepay metering program 20 of those members would have been processed for cutoff due to lack of payment. This processing would result in additional cost to Big Sandy. Savings in CSR time preparing cutoffs shown on Attachment 1 is a breakdown given of the estimated time it takes CSRs to process cutoffs and create contracts to enable members to pay their delinquent bill.

Big Sandy estimates that 200 minutes of CSRs time will be saved per month creating contracts due to the Prepay program.

Big Sandy estimates that 40 minutes will be saved from CSRs having to process cutoffs.

This monthly time savings CSRs will realize equals 2,880 minutes saved annually. This multiplied by Big Sandy's averaged cost per minute (\$0.35) equals an annual savings of \$1,008.

- e. State whether the current interest rate on deposits is 0.104 percent or 0.12 percent.

**RESPONSE:**

The current interest rate on deposits is .12 percent. Big Sandy has made this correction on Attachment 1.

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

f. Provide and explain the calculation of Decrease in Bad Debt Writeoffs.

**RESPONSE:**

Big Sandy's has revised the estimated bad debt savings on Attachment 1 by the following calculation:

\$29,145,291	2014 total revenue
69,966	.24001% bad debt write off to total revenue ratio 2014
<u>40,806</u>	.14001% (Estimated .1% decrease in bad debt/total revenue ratio)
29,160	Estimated reduction of Bad Debt due to prepay

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

g. Provide the difference in the wholesale and retail rate used to calculate the loss on margins.

**RESPONSE:**

Big Sandy is using an average wholesale rate that accounts for both on-peak and off-peak rates.

On-peak Rate .053279

Off-peak Rate .044554

Sum .097833 / 2= .0489165

.04892 is the average rate used for wholesale.

Big Sandy used its approved retail rate of .08900

The difference between the rates is calculated as follows:

Retail .08900

Wholesale .04892

Difference .04008

h. Provide the average residential usage used in calculating the lost margin from kWh sales.

**RESPONSE:**

Big Sandy's average residential usage for 2014 is 1253 kWh. Big Sandy has revised its estimation regarding lost margins from kWh sales. The calculation is based on the anticipated 500 members participating in the prepay program. This revision has been calculated as follows:

1253 average monthly residential usage for 2014

10% estimated reduction in kWh usage

125.3 estimated reduction in monthly average kWh usage per Prepay member

1,503.6 estimated annual reduction in kWh usage per Prepay member *(125.3 x 12 months)*

751,800 estimated total annual reduction in kWh usage *(1503.6\*500 members)*

\$30,132 estimated margin loss from reduction in kWh sales. *(751,800\*.04008 difference calculated in Item 21 (g) above)*

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

- i. Explain why the loss of connection fees is divided 50/50 between new connects or reconnects and reconnects for non-payment.

**RESPONSE:**

Big Sandy is estimating that 500 participating members will result in 100 fewer billable connection fees annually.

Big Sandy estimates that there will be 50 fewer connection fees collected from new connects or reconnects.

Big Sandy estimates there will be 50 fewer connection fees resulting from members which have been disconnected for non-payment.

**BIG SANDY RECC**  
**COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION**  
**CASE NO. 2015-00337**

- j. Explain why the loss of connection fees is not included in the total calculation of lost income due to the prepay program.

**RESPONSE:**

Big Sandy has revised and made necessary corrections to the calculations.

- k. Explain why 183 was used in the calculation of lost income due to the elimination of late fees.

**RESPONSE:**

In the original calculation, found in Attachment 1 of the application, 183 was used because this was the current number of participants in the prepaid program. Big Sandy has revised and made adjustments to this calculation which is included in the calculations on Attachment 1.

The 150 in this calculation represents Big Sandy's estimation that 30% of the 500 members anticipated to participate in prepay metering would have been billed late fees. The 141 per month represents Big Sandy's average residential bill for 2014.

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 22

Provide a revised Exhibit E and Attachment 1 if the responses to any of the preceding items caused a change in the information provided.

**RESPONSE:**

Big Sandy has provided an updated Exhibit E and Attachment 1 for Commission Staff's review.

Witness: Billy Frasure

**BIG SANDY RECC  
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION  
CASE NO. 2015-00337**

Item 23

State whether Big Sandy believes that its current monthly program charge in the amount of \$8.86 has discouraged participation in the Prepay Pilot program.

**RESPONSE:**

Big Sandy does not believe that the \$8.86 fee has discouraged participation in the prepay program. It is the goal of Big Sandy, however, to provide this program to our members at the lowest possible monthly participation fee. The cost savings that will be realized when Big Sandy discontinues services with Exceleton and begins using SEDC as its Prepay software provider has made it possible to reduce the monthly participation fee.

Witness: Billy Frasure



# **EXHIBITS**

**A - E**

Big Sandy Rural Electric Cooperative Corporation

**PREPAY Metering PROGRAM**

**STANDARD RIDER**

Voluntary Prepay Electric Service is a rider to Rate Schedule A-1 (Farm and Home) as defined by the Cooperative.

**AVAILABILITY OF SERVICE**

All Rate Schedule A-1 (Farm and Home) accounts, excluding accounts on Levelized Billing, Budget Billing, auto draft, net metering, three phase accounts, and accounts greater than 200 amp service, within the territory served by the Cooperative.

**TYPE OF SERVICE**

Prepaid Electric Service.

**RATES**

In addition to the Customer Charge and KWH charge for Rate Schedule A-1 (Farm and Home), there will be:

**Monthly Program Fee: \$6.80 (\$0.23 per day)**

**TERMS & CONDITIONS**

Prepay Electric Service is a voluntary program. Members who qualify for this program as defined above in "AVAILABILITY OF SERVICE" may choose to voluntarily enroll their electric account (s) in this program. All members who participate in the Prepay Electric Service are subject to the following:

1. An agreement for Prepay Electric Service must be signed by the member for each account enrolling in the Prepay Electric Service. The term of the agreement is for one year. Special consideration may be made to terminate the one year requirement based upon the needs and circumstances of the member.
2. Members must confirm that he/she can receive electronic communications (email, text, or automated phone messages) to participate in the voluntary prepay program.
3. When a member enrolls for Prepay Electric Service, the initial purchase must be a minimum of \$100. Members may apply funds in any amount to their prepay account(s) as they choose and as many times per month as they choose.

DATE OF ISSUE: \_\_\_\_\_

DATE EFFECTIVE: \_\_\_\_\_

ISSUED BY: \_\_\_\_\_

TITLE: PRESIDENT AND GENERAL MANAGER

Issued by authority of an Order of the Public Service Commission of Kentucky in  
Case No. \_\_\_\_\_ Dated \_\_\_\_\_

Big Sandy Rural Electric Cooperative Corporation

PREPAY METERING PROGRAM - CONTINUED

4. Members may apply funds to their prepay account(s) by the same means as post pay member. These include payments through Big Sandy RECCs website, (except for Levelized Billing, Budget Billing, auto pay, and net metering) check by phone, debit card / credit card by phone, or check /money order by mail or by payment at the office.
5. If a member elects to enroll an account in prepay and has a deposit on the account, the deposit will be applied to the account before the account changes to prepay. Any credit remaining on the account will be applied to the prepay account. However, if the member has another account(s) which does not have a satisfactory credit history, the remaining credit will be transferred as a deposit to the unsecured account(s). The deposit will only be refunded by applying it to the member's account(s) as described.
6. If a member elects to enroll an account in prepay, the total amount of any existing payment arrangements/contracts will be applied to the account so the full unpaid balance will be reflected on the prepay account.
7. Once enrolled in the prepay service, no additional payment arrangements will be made.
8. If a member's post pay account has been disconnected for non-payment and the member chooses the prepay option for the account to be reconnected, the member will be subject to a prepayment plan whereas future payments will be split 30/70 until the unpaid debt is retired. Under this provision, the member will be applying 30% of any funds paid on the prepay account to the unpaid debt. The remaining 70% of the funds will be applied to daily usage on the account.
9. A new member, who previously received service from Big Sandy RECC and discontinued service without paying his/her final bill, (i.e. an uncollectible account) will be required to pay this amount in full or enter a debt reduction plan utilizing the 30/70 split on all future payments prior to establishing prepay service.
10. Prepay accounts will be billed at least once a day to show the remaining funds on the account. If a meter reading is not available, the account will be estimated for that day. In addition, a month end billing will be done for any unbilled miscellaneous charges. Charges such as program fee, customer charge, KWH, fuel adjustment, environmental surcharge, applicable taxes, franchise fees and outdoor lights will be prorated daily.
11. Prepay accounts will not be subject to deposits, late fees, disconnect fees, and reconnect fees.
12. For a member who request their account to be changed from prepay to post pay, a deposit may be required based on their credit report obtained by Big Sandy RECC at the time of the request.

DATE OF ISSUE: \_\_\_\_\_

DATE EFFECTIVE: \_\_\_\_\_

ISSUED BY: \_\_\_\_\_

TITLE: PRESIDENT AND GENERAL MANAGER

Issued by authority of an Order of the Public Service Commission of Kentucky in

Case No. \_\_\_\_\_ Dated \_\_\_\_\_

Big Sandy Rural Electric Cooperative Corporation

PREPAY METERING PROGRAM - CONTINUED

13. If a payment on a prepay account is returned for any reason, the account is subject to a \$20.00 returned check charge as listed in Big Sandy RECC's Rules and Regulations, Case No. 2005-00125 Appendix B. In addition if an outstanding balance is transferred from another account, the amount of the transfer will be debited to the prepay account. The member will have to apply funds to the account to cover the transfer to keep the account from disconnecting due to a negative balance.
14. If a prepay account is disconnected due to lack of funds or any other reason, the Cooperative shall be held harmless for any damages due to loss of energy services. Likewise, if the account is disconnected and the member applies funds to the prepay account thus causing the account to be reconnected, the member accepts full responsibility for any damages to the location caused by the account being disconnected.
15. A monthly paper bill will not be mailed to members who receive prepay service. However, they may request a copy of their monthly bill or may view it online through MyUsage.com or link on Big Sandy RECC's website – www.bigsandyrecc.com. Big Sandy RECC requests a deviation from 807 KAR 5:006, Section 14 for this Prepay Metering Program rider only.
16. Due to the prepay status of an account, a delinquent notice will not be mailed on prepay accounts as the account should never be in arrears. Big Sandy RECC requests a deviation from 807 KAR 5:006, Section 14 for this Prepay Metering Program rider only.
17. When the amount of funds remaining on a prepay account reaches the established threshold customized by the member, (Big Sandy recommends \$25), an automated message will be sent to the member rather than a written notice sent by U.S. Mail.
18. All prepay accounts will not be eligible for a Winter Hardship Reconnect, Certificate of Need, or Medical Certificate as outlined in 807 KAR 506, Sections 13, 14, and 15. If a member on a prepay account presents a Certificate of Need, a Medical Certificate or qualifies for a Winter Hardship Reconnect, the member will be required to transfer to a post pay account.
19. A prepay account will be disconnected if the balance of the account becomes negative. The account will be disconnected regardless of weather /temperature as the member is responsible for ensuring that the prepay account is adequately funded. If the member cannot ensure proper funding, Big Sandy RECC recommends the member not utilize the prepay service.
20. A prepay account will be disconnected immediately in cases of theft, tampering, or hazardous code violation.
21. Members who voluntarily choose the prepay service are subject to all rules and regulations outlined in the Cooperative's tariffs and bylaws unless specifically noted above.

DATE OF ISSUE:

DATE EFFECTIVE:

ISSUED BY: \_\_\_\_\_

TITLE: PRESIDENT AND GENERAL MANAGER

Issued by authority of an Order of the Public Service Commission of Kentucky in  
Case No. \_\_\_\_\_ Dated \_\_\_\_\_

**Big Sandy Rural Electric Cooperative Corporation  
Agreement for Participation in the Prepay Program**

Member Name		Home Phone	
Account Number		Cell Phone	
Service Address		Cell Carrier	
		E-mail	

The undersigned (hereinafter called the "member") hereby applies for participation in the voluntary Prepay Electric Service Program offered to members of Big Sandy Rural Electric Cooperative Corporation (Hereinafter called the "Cooperative"), and agrees to the following terms and conditions:

1. The member shall purchase electric energy from the Cooperative in accordance with the present and any future rate schedule of the Cooperative on a prepay basis for the above referenced account.
2. The member understands that the terms and conditions set forth in the member's Application for Membership continue to apply in addition to the terms and conditions of this Agreement for Prepay Electric Service, subject, however, to any changes set forth in this agreement.
3. The member shall pay any membership and fees as applicable by the Cooperative bylaws and the Cooperative Rules and Regulations as approved by the Kentucky Public Service Commission as may be required for the member to participate in the Prepay Electric Service Program.
4. Any deposit on the above referenced account will be applied to the account before the account changes to prepay. Any credit remaining on the account will be applied to the prepay account. However, if the member has another account(s) which does not have a satisfactory credit history, the remaining credit will be transferred as a deposit to the unsecured account(s). The deposit will only be refunded by applying it to the member's account(s) as described.
5. As a result of participation in the Prepay Program, the member will not be mailed a monthly paper bill for electric usage or other applicable fees or charges. However, the member may request a copy of their monthly bill or view daily usage online through Big Sandy RECC's website.
6. The member shall pay an additional daily program fee. This amount will be in addition to the charges included in the Cooperative's rate schedule.
7. If a member changes any of the contact information (i.e. e-mail address, phone number, etc.) provided on this agreement, it is the responsibility of the member to notify the Cooperative of any such changes immediately. It is the member's responsibility to manage their own communication devices and alerts.

**Big Sandy Rural Electric Cooperative Corporation  
Agreement for Participation in the Prepay Program - continued**

8. When the amount of funds remaining on a Prepay account reaches the established threshold customized by the member (\$25.00 is Big Sandy's minimum recommended amount), an automated message will be sent to the member rather than a traditional, written notice sent by U.S. Mail.
9. The member shall be responsible for regularly monitoring the balance on the prepay account and understands that the electric service will be subject to disconnection without any written notification from the Cooperative to the member once the balance of the account reaches a negative balance.
10. Levelized billing, budget billing, automatic payment draft, and net metering are not eligible for Prepay.
11. Should the member have a payment returned for any reason, the returned payment will be charged to the prepay account as per Big Sandy RECC's rules and regulations regarding returned checks. The member's account may also be charged a return payment fee in addition to the returned payment amount. If there are not sufficient funds to cover the returned item and fee, the account will be subject to disconnection immediately.
12. If a Prepay account is disconnected due to lack of funds or any other reason, the Cooperative shall be held harmless for any damages due to loss of energy services. Likewise, if the account is disconnected and the member applied funds to the Prepay account thus causing the account to be reconnected, the member accepts full responsibility for any damages to the location caused by the account being reconnected and holds the Cooperative harmless from any damages arising from such a reconnection.
13. By signing this agreement, the member affirms, there are no residents in the home currently that have medical conditions that will be impacted by loss of service. Should this status change, the member shall contact the Cooperative in writing, upon which the account will be removed from the prepay program. It is the responsibility of the member to confirm the Cooperative is in receipt of the written request for removal from the program.
14. A prepay account will be disconnected if the balance of the account becomes negative. The account will be disconnected regardless of weather/temperatures as the member is responsible for ensuring that the prepay account is adequately funded. If the member cannot ensure proper funding, Big Sandy recommends the member not utilize the prepay service.
15. Prepay accounts shall not be eligible for payment arrangements with the Cooperative and energy assistance shall not be applied until received as payment on the member's prepay account.
16. If a member on a prepay account presents a Certificate of Need, a Medical Certificate or qualifies for a Winter Hardship Reconnect, the member will be required to transfer to a post pay account.

**Big Sandy Rural Electric Cooperative Corporation  
Agreement for Participation in the Prepay Program-continued**

17. The member authorizes the Cooperative to transfer the unpaid balance of \$\_\_\_\_\_ from the member's post pay account to the prepay account. The member also authorizes the KWH used since the last bill date until the meter is changed to prepay meter be calculated and transferred to the prepay account. The member further agrees that thirty percent (30%) of any payments made on this account in the future shall be applied to the balance until said balance is paid in full. Any fees/penalties (returned payment, meter tampering, etc.) shall be paid before any payments are applied to the member's prepay account.

18. If a member wishes to disconnect service, the member shall be refunded any balance on the prepay account. Any refund will be processed in the same manner as post pay account refunds.

19. The member confirms that he/she can receive communications via text message, email message or automated phone notification to be eligible for the prepay program.

20. The term of this agreement shall be for one (1) year. After one year, the member may elect to opt out of the prepay program at any time. If discontinuing after one year, the member will have to meet the requirements of a non-prepaid member for continued service.

Member Signature: \_\_\_\_\_ SSN: \_\_\_\_\_ Date: \_\_\_\_\_

Member Signature: \_\_\_\_\_ SSN: \_\_\_\_\_ Date: \_\_\_\_\_

CSR Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Office use only

SO number \_\_\_\_\_ Date installed \_\_\_\_\_

Customer number: \_\_\_\_\_ Post by \_\_\_\_\_

Comments: \_\_\_\_\_

**Big Sandy Rural Electric Cooperative  
Prepay program Filing**

**1. How the Prepay Tariff Program works**

Big Sandy Rural Electric's customer information system (CIS) and automated metering infrastructure (AMI) software are multi-speak compliant and interface seamlessly with SEDC's prepaid Account Management System (PAMS), which will be linked to Big Sandy's website. The interface allows the member to deposit money to their electric account through all methods used by post pay members and as listed on Big Sandy Rural Electric's website; with exceptions noted earlier. The amount deposited is then available for viewing on Big Sandy's website (bigsandyrecc.com). Prepay accounts will be billed electronically at least once a day to show the remaining funds on the account. This daily balance is available for the member to view on the internet usage webpage. When the amount of funds remaining on a prepay account reaches the established threshold determined by the Prepay member (\$25.00 is Big Sandy's minimum recommended amount), an automated message will be sent to the member through texting, email or an automated voice call alerting the member. The member then deposits more into the account. If the account balance runs to a negative balance, service will be disconnected. Once a deposit is made, service will be reconnected. Service disconnection and reconnection will be automatic with the installation of a remote collar. This remote collar interfaces with the AMI system and is remotely activated with a reconnect if an amount is applied to the account or disconnected when the account balance reaches a negative balance.

**2. Basis for the rates contained in the proposed tariff**

The basis for the rates found in this tariff is an estimate of the annual expenses for this program. They were calculated similarly to how the rates were calculated for previous prepay filings. Big Sandy Rural Electric is estimating that 500 members will use the program. The timeframe obtaining this number of participants cannot be determined at the present time. Below provides the basis and the computation of the proposed rates followed by an explanation.

- Exhibit A: The investment per Member  
This calculates the cost of the prepay metering
  - The equipment cost is the cost of the software, hardware, training and set up divided by the number of estimate participants. The \$180 is due to the cost of the meters with built in disconnect collars necessary to perform remote disconnection and reconnection of prepaid services.
  - Installation costs is the labor costs of setting up and installing the prepay metering and disconnect collars.
  - Total per investment per prepay member or direct investment sums to \$274.91.



**EXHIBIT A**

<b>Equipment Costs</b>		<b>Per Participant</b>
SEDC Hardware & Software	\$29,800.00	\$59.60
Meters with Disconnect Collars	\$90,000.00	\$180.00
<b>Installation Costs</b>		
CSR set up		
Labor – 15 min	\$12.00/hour	\$3.00
Benefits	73%	\$2.19
Serviceman		
Labor – 30 min	\$29.03/hour	\$14.52
Benefits	73%	\$10.60
Truck	\$10.00/hour	\$5.00
<b>Invest per Participant</b>		<b>\$274.91</b>

- **Exhibit B: Annual Expenses**

Annual expenses are calculated off the investment per member in Exhibit A

- Depreciation of total investment costs at 15 yrs
- Interest expense of 2.3 percent based on an estimated FFB 15 year rate

**EXHIBIT B**

Annual Expenses		
Depreciation	15 year life	\$18.33
Interest	2.3%	\$6.32
<b>Total Annual Expenses</b>		<b>\$24.65</b>
<b>Total Monthly Expenses</b>		<b>\$2.05</b>

- Exhibit C
  - The monthly expenses are calculated to be \$2.05 per member.
  - Monthly Support Fee for SEDC prepaid metering per member is \$0.60.
  - Studies have indicated that a typical prepay customer makes four transactions per month. Instead of a separate transaction fees, the cost will be imbedded in the prepay costs with one transaction being complementary. Based on internal costs it is estimated that the transaction fee is \$1.05 per transaction. This rate is similar to Bluegrass Energy’s filing (Case no. 2012-00260).
  - Total monthly rate per participant is proposed to be \$6.80.

**Exhibit C**

<b>Monthly Expenses</b>		
Expense per Participant		\$2.05
SEDC Monthly Support Fee Per Participant		0.60
Transaction Fees – 3 per month	\$1.05 per transaction	3.15
Monthly Prepay Program Expense Exhibit D		\$1.00
<b>Recommended Monthly Program Fee</b>		<b>\$6.80</b>

- Exhibit D: Monthly Prepay Program Savings and Lost Revenue
  - Studies show that prepay customers are more conservative in their electric consumption. Big Sandy estimates that a prepay participant will consume 10% less electricity (based on Cooperative Research Network Project 10-10 – Prepaid Metering Analytical Report)
  - Elimination of late fees

**Exhibit D**

Lost Income due to Prepay Program		
Loss Margins from KWH sales		\$30,132.00
Lost Margins from Reconnect Fees	100/year	\$3,250.00
Elimination of late fees	30% of 500	\$17,766.00
Net Annual Loss with prepay metering		(\$51,148.00)
Net Savings with prepay metering		\$45,157.30
Difference		(\$5,990.70)
Monthly expense per meter		(\$1.00)

\*\*\*\*See attachment 1\*\*\*\*

3. **Who is eligible**

All Rate schedules A-1 (Farm and Home) accounts within the territory serviced by the Cooperative are eligible except the following:

- Accounts on Levelized Billing, Budget Billing, auto pay, and net metering
- Three phase accounts
- Due to restraints of the AMI switches, those accounts greater than 200 amp services

4. **Balance monitoring and explanation of balance alerts**

The member shall be responsible for regularly monitoring the balance on the Prepay account. The account will be adjusted daily and will be available for viewing on the internet usage webpage. The webpage will be updated once daily. When the amount of funds remaining on the Prepay account reaches the established threshold (25.00 is Big Sandy's minimum recommended amount), an automated message will be sent to the member. The threshold amount is configurable by the member, but Big Sandy strongly recommends \$25 dollars. The amount of \$25 was determined to be the cost of an average of four days' estimated usage. A monthly paper bill will not be mailed to members who receive prepay service. However, they may request a copy of their monthly bill or may view it online through Big Sandy Rural Electric's website. In addition, a delinquent notice will not be mailed on prepay accounts

5. **Disconnects**

A prepay account will be disconnected if the balance of the account becomes negative. The account will be disconnected regardless of weather/temperature as the member is responsible for ensuring that the prepay account is adequately funded. Service will be reconnected once the prepay account is funded. Disconnects will not occur over the weekend. If the balance falls to zero over a weekend, service will continue until noon the following Monday. Disconnects will not occur on Holidays. If the balance falls to zero during a holiday, service will continue until the next regular business day.

6. **Winter Hardships and Medical**

All voluntary prepay accounts will not be eligible for a Winter Hardship Reconnect, Certificate of Need, or Medical Certificate as outlined in 807 KAR 5:006, Sections 13, 14, and 15. If a member on a prepay account presents a Certificate of Need, a Medical Certificate or qualifies for a Winter Hardship Reconnect, the member will be required to transfer to a post pay account.

7. Benefits

There are several benefits associated with the prepay program. The first is that members will have an additional choice which leads to a higher satisfaction level. Another benefit is that prepay is an option that does not require a deposit, which also leads to greater satisfaction with the cooperative. In addition, there is a conservation benefit. Studies have shown that the prepay program reduces energy consumption up to 10 percent. This helps to reduce the carbon footprint and supports the demand side management initiatives of Big Sandy Rural Electric. Finally the program will allow Big Sandy Rural Electric to lower expenses by reducing operating costs associated with connect/disconnect trips, write-offs, and delinquents.

8. Education Plan

Big Sandy Rural Electric's voluntary prepaid metering plan will be promoted to the general membership by the following venues:

1. Kentucky Living – Monthly member newsletter insert
2. Flyers
3. Banner-Ups
4. Facebook
5. Big Sandy Rural Electric's Website – [www.bigsandyrecc.com](http://www.bigsandyrecc.com)
6. Radio
7. CSR promotion in house
8. Community events

*Promotion of the program will include options and member benefits including but not limited to:*

1. No deposit
  - a. Because money is collected upfront, there is no need to charge a deposit
2. No reconnect fees
  - a. Because disconnects and reconnects are performed automatically, there is no need to charge a fee
3. No late fees
4. Convenient payments 24/7

5. Member Choice

- a. This program will give members choice in when they pay and how much they pay

Once a member decides to enroll in the program each will be educated via one-on-one consultation. The following details will be covered:

1. Explanation of prepay service and above referenced benefits
2. Individual demonstration of accessing Big Sandy Rural Electric's web portal to access usage information
3. Explanation of text and e-mails alerts they will receive with information on their usage information
4. How to purchase additional kWhs
  - a. Via web portal
  - b. Via phone
  - c. Via Big Sandy RECC Mobile Apps
5. How to reconnect power if disconnected
6. How CAP/LIHEAP is incorporated with prepaid service

Big Sandy Rural Electric  
Administrative Policy  
Prepaid Metering Program

Objectives:

The objectives of Big Sandy Rural Electric's prepaid program are:

1. To create a member friendly, voluntary alternative option for the purchase of electric energy
2. To have a tariff option which allows members, by choice, to have technology available to assist in managing energy and energy purchased
3. To promote a tariff which will improve the over-all financial stability of Big Sandy Rural Electric
4. To make the program available to the general residential membership

The Tariff Document:

The tariff will be written as a rider to be attached to any approved Big Sandy Rural Electric A-1 Farm and Home tariff designed for the purpose of purchasing electric energy. The tariff rider may include any or all of the following:

1. A monthly program fee

Contracts/Agreements:

Each member opting for the prepaid option will be subject to all other applicable rules and regulations which apply to members opting for the post pay option. Each member will be required to pay a membership fee and be entitled to all available benefits.

The membership agreement and prepay program agreement option will require a signature.

The prepaid agreement will be for a minimum of 12 months. However, anytime a member reverts to a traditional post pay account they will be subject to a possible deposit.

**Charges and Assessments:**

Non-energy charges such as a customer charge will be pro-rated daily. The monthly customer charge is \$6.80. This spread over 30 days equals \$0.227 per day. Each day at a specific time, the pro-rated amount will be deducted from the total balance of the account.

The fuel adjustment and environmental surcharge will be credited or debited based upon factors relating to fuel purchases.

When the prepaid account is activated, an initial purchase of \$100.00 is required. Subsequent purchases may be made in increments chosen by the member.

If a member converts from post paid to prepaid and a deposit has been collected, that deposit will be applied to the outstanding balance on any post pay account in the member's name. Any overage will be placed as a credit on the prepaid account.

If a member has been disconnected for non-pay and chooses the prepaid option for reconnect, they will be offered a debt management plan for the outstanding balance. They will have the option to split future payments 70/30. Seventy-percent of any payment will be placed on future purchases while thirty percent will be applied towards retirement of the outstanding balance.

**Consumer Education Plan:**

Big Sandy Rural Electric's voluntary prepaid metering plan will be promoted to the general membership by the following venues:

1. Kentucky Living – Monthly member newsletter insert
2. Flyers
3. Banner-Ups
4. Facebook
5. Big Sandy Rural Electric's Website – [www.bigsandyrecc.com](http://www.bigsandyrecc.com)
6. Radio
7. CSR promotion in house
8. Community events

Promotion of the program will include options and member benefits including but not limited to:

1. No deposit
  - a. Because money is collected upfront, there is no need to charge a deposit
2. No reconnect fees
  - a. Because disconnects and reconnects are performed automatically, there is no need to charge a fee
3. No late fees
4. Convenient payments 24/7
5. Member choice
  - a. This program will give members choice in when they pay and how much they pay

Once a members decides to enroll in the program each will be educated via one-on-one consultation. The following details will be covered:

1. Explanation of prepay service and above referenced benefits
2. Individual demonstration of accessing Big Sandy Rural Electric's web portal to access usage information
3. Explanation of text and e-mail alerts they will receive with information on their usage information
4. How to purchase additional kWhs
  - a. Via web portal
  - b. Via phone
  - c. Via Big Sandy RECC Mobile Apps
5. How to reconnect power if disconnected
6. How CAP/LIHEAP is incorporated with prepaid service

Miscellaneous:

If a member decides to leave the prepaid program and a credit is on the account, the credit can be refunded or applied to any other active account in the member's name.



<u>Monthly Charge</u>	500 Prepay Members	Per Member
<b>Equipment Cost</b>		
SEDC Hardware & Software	\$ 29,800.00	\$ 59.60
Meter with Disc. Collar	\$ 90,000.00	\$ 180.00
<b>Installation Cost</b>		
CSR set up per member		
labor 15min \$3.00	\$ 1,500.00	\$ 3.00
OH @ 73% \$2.19	\$ 1,095.00	\$ 2.19
Serviceman Labor	\$ 7,260.00	\$ 14.52
OH @ 73%	\$ 5,300.00	\$ 10.60
Truck	\$ 2,500.00	\$ 5.00
<b>Total Investment</b>	<b>\$ 137,455.00</b>	<b>\$ 274.91</b>
Annual Expense based on 15 year		
Depreciation		\$ 18.33
Intrest 2.3%		\$ 6.32
<b>Annual Expense</b>		<b>\$ 24.65</b>
Monthly EXP per meter		\$ 2.05
Transaction fees x3		\$ 3.15
Monthly Software (SEDC)		\$ 0.60
		\$ 5.80
Monthly expense with prepay program		\$ 1.00
<b>Total Monthly Program Fee</b>		<b>\$ 6.80</b>

# **ATTACHMENTS**

**1 & 2**



<b>Lost Income due to Prepay Program</b>			
Loss Margarins from KWH sales			\$ 30,132.00
Loss of Connection fees	(100 per year)		\$ 3,250.00
50 reconnects @ 30.00 =		1500.00	
50 reconnects/non payment @ 35.00 =		1750.00	
Loss Income - elimination of late fees 30% of 500 members = 150			
150 X 141 per month = 21,150 X 12 = 253,800 X 7%			\$ 17,766.00
Net Annual loss with prepay metering			\$ 51,148.00
Savings		\$ 45,157.30	
Lost Income		\$ 51,148.00	
		\$ (5,990.70)	
Monthly expense per meter			\$ (1.00)

## Inbound Menu Scripts

### Menu Selections

\*\*Please indicate (Yes or No) if you would like the following menu entries to be available for your members via the Inbound IVR:

- 1) Spanish selection YES
- 2) Emergency info YES
- 3) Website info YES
- 4) Account Info (Account Balance, last payment) YES
- 5) Contact Co-op representative info YES
- 6) Usage (Last 4 days of usage) YES
- 7) Payment Locations (please provide list) YES

### Customized Inbound IVR verbiage

\*\*For those menus applicable – please customize the message you wish for the member to hear (Company Name, Contact Telephone Number and Hrs of Operation):

7100) Intro: Thank you for calling Big Sandy RECC's prepaid account system. For English press 1. Para Espanol, oprima el numero 2. If you have an emergency or an outage please press 4, si tiene una emergencia o falla electrica por favor oprima el numero 5.

7101) Emergency: For an emergency situation please call 911. To report an outage, please call 888-789-7322. Again, for an emergency situation please call 911. To report an outage please call 888-789-7322. Thank you, good-bye.

7102) Para una situacion de emergencia por favor llame al 911. Para reportar una falla electrica por favor llame al 888-789-7322. Repetimos para una situacion de emergencia por favor llame al 911. Para reportar una falla electrica por favor llame al 888-789-7322. Gracias, adios.

7103) Website: Big Sandy RECC offers you the ability to manage your account online 24 hours a day at [www.myusage.com](http://www.myusage.com). This website will allow you to view your account balance and manage your alert settings.

7104) Big Sandy RECC le ofrece la habilidad de manejar su cuenta las 24 horas del día visitando [www.myusage.com](http://www.myusage.com). Este sito web le permitirá ver su saldo de cuenta y manejar sus alertas.

7105) Contact Co-op representative info: Please call 606-789-4095 Monday through Friday 7:30 AM – 4:00 PM excluding major holidays. Thank you for calling, good bye.

7106) Por favor llame al 606-789-4095 de Lunes a Viernes de las 7:30 de manana a las 4:00 de la tarde excluyendo dias festivos. Gracias por llamar, adios.

7) Payment Locations: 7107 Payments are accepted at the following locations

Big Sandy RECC office in Paintsville, KY  
Citizens National Bank, Center Point Branch in Prestonsburg, KY)  
CheckFree® locations nationwide like Wal-Mart  
And [bigsandyrecc.com](http://bigsandyrecc.com)

7108 Pagos son aceptados en las proximas locaciones

Officina de Big Sandy RECC en Paintsville, KY  
Citizens National Bank, subdivision de Center Point en Prestonsburg, KY  
Localizacions nacional de CheckFree® como Wal-Mart  
Y [bigsandyrecc.com](http://bigsandyrecc.com)

## IVR Outbound, Email and SMS Scripts

\*\*Please review scripts below. Alerts will be active based on your indication (Active Yes or No) from PAMS Alert settings. Information required is Company Name, Contact Telephone Number and review the yellow section under the Disconnect and Pending Disconnect Alert.

### Low Balance

#### IVR

7109 This is a low balance alert from Big Sandy RECC. Press 1 to Opt Out, or call 877-301-3963. Your balance is now \$CurrentBalance.

7110 To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

7111 Esto es una alerta de Big Sandy RECC acerca de su saldo bajo. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Su saldo es \${CurrentBalance}.

7112 Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### EMAIL

This is a low balance alert from Big Sandy RECC. Your balance on account (AccountCISID) is now \$CurrentBalance. To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

Esto es una alerta de Big Sandy RECC acerca de su saldo bajo. Su saldo en su cuenta (AccountCISID) es \${CurrentBalance}. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### SMS

Your Big Sandy RECC Prepaid balance on account (AccountCISID) is low. Please make payment immediately.

Su Big Sandy RECC saldo prepago en su cuenta (AccountCISID) está bajo. Por favor haga un pago inmediatamente.

### Daily Balance

#### IVR

7113 This is a daily balance alert from Big Sandy RECC. Press 1 to Opt Out, or call 877-301-3963. Please note that your balance is \$CurrentBalance.

7110 To check your usage or change your alert settings please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

7114 Esto es una alerta de Big Sandy RECC acerca de su saldo diario. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Por favor note su saldo es \${CurrentBalance}.

7112 Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### EMAIL

This is a daily balance alert from Big Sandy RECC. Please note that your balance on account (AccountCISID) is \$CurrentBalance. To check your usage or change your alert settings please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

Esto es una alerta de Big Sandy RECC acerca de su saldo diario. Por favor note su saldo en su cuenta (AccountCISID) es \${CurrentBalance}. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### SMS

Your Big Sandy RECC Prepaid balance on account (AccountCISID) is \$CurrentBalance.

Su Big Sandy RECC saldo prepagado en su cuenta (AccountCISID) es \${CurrentBalance}.

Disconnect (The below in yellow many or many not apply based on your settings. If not applicable, please remove or edit text.)

#### IVR

~~7115 Your Big Sandy RECC service has been disconnected. Press 1 to Opt Out, or call 877-301-3963. In order to reconnect your service please pay \$AmountOwedOnDisconnectSignFlip.~~

7110 To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

~~7116: Esto es un mensaje de Big Sandy RECC. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Su servicio ha sido desconectado. Para reconectar su servicio por favor pague \$AmountOwedOnDisconnectSignFlip.~~

7112 Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### EMAIL

Your Big Sandy RECC service on account (AccountCISID) has been disconnected. In order to reconnect your service please pay \$AmountOwedOnDisconnectSignFlip. To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com). To pay by phone or for other billing questions call 606-789-4095.

Esto es un mensaje de Big Sandy RECC. Su servicio en su cuenta (AccountCISID) ha sido desconectado. Para reconectar su servicio por favor pague \$AmountOwedOnDisconnectSignFlip. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

#### SMS

Your Big Sandy RECC service on account (AccountCISID) has been disconnected. To restore service pay \$AmountOwedOnDisconnectSignFlip.



Su cuenta (AccountCISID) con Big Sandy RECC ha sido desconectado. Para reconectar pague \$AmountOwedOnDisconnectSignFlip.

### Recharge

#### **IVR**

7117 This is a message from Big Sandy RECC. Press 1 to Opt Out, or call 877-301-3963. Your account shows a payment has been received for \$PaymentAmount.

7118 Your current balance, including this payment is \$CurrentBalance.

7119 To check your usage or change your alert settings please visit [www.myusage.com](http://www.myusage.com).

7120 Esto es un mensaje de Big Sandy RECC. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Su cuenta muestra un pago ha sido aplicado en la cantidad de \${PaymentAmount}.

7121 Su saldo actual incluyendo este pago es \${CurrentBalance}.

7122 Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com).

#### **EMAIL**

Your Big Sandy RECC account (AccountCISID) shows a payment has been received for \$PaymentAmount. Your current balance, including this payment is \$CurrentBalance. To check your usage or change your alert settings please visit [www.myusage.com](http://www.myusage.com).

Esto es un mensaje de Big Sandy RECC. Su cuenta (AccountCISID) muestra un pago ha sido aplicado en la cantidad de \${PaymentAmount}. Su saldo actual incluyendo este pago es \${CurrentBalance}. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com).

#### **SMS**

Your Big Sandy RECC account (AccountCISID) shows a payment has been received for \$PaymentAmount.

Su cuenta (AccountCISID) con Big Sandy RECC muestra un pago ha sido aplicado en la cantidad de \${PaymentAmount}.

Pending Disconnect (The below in yellow many or many not apply based on your settings. If not applicable, please remove or edit text.)

#### **IVR**

7123 This is a disconnection notice from Big Sandy RECC. Press 1 to Opt Out, or call 877-301-3963. Your account is subject to immediate disconnection. If your service is disconnected you must pay \$AmountOwedOnPendingDisconnectSignFlip.

7124 To pay by phone or for other billing questions call 606-789-4095.

7125 Esto es una alerta de Big Sandy RECC sobre desconexión de servicio. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Su cuenta puede ser desconectado inmediatamente. Si su servicio es desconectado, usted tendra que pagar \$AmountOwedOnPendingDisconnectSignFlip.

7126 Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

**EMAIL**

This is a disconnection notice from Big Sandy RECC. Your account (AccountCISID) is subject to immediate disconnection. If your service is disconnected you must pay \$AmountOwedOnPendingDisconnectSignFlip. To pay by phone or for other billing questions call 606-789-4095.

Esto es una alerta de Big Sandy RECC sobre desconexion de servicio. Su cuenta (AccountCISID) puede ser desconectado inmediatamente. Si su servicio es desconectado, usted tendra que pagar \$AmountOwedOnPendingDisconnectSignFlip. Para pagar por telefono o si tiene otras preguntas llame al 606-789-4095.

**SMS**

Your Big Sandy RECC account (AccountCISID) is subject to disconnection. Please make a payment immediately.

Su cuenta (AccountCISID) de Big Sandy RECC esta sujeto a desconexion. Por favor haga un pago inmediatamente.

Reconnect

**IVR**

7127 Your Big Sandy RECC service has been reconnected. Press 1 to Opt Out, or call 877-301-3963. To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com).

7128 Su servicio con Big Sandy RECC ha sido reconectado. Oprima el 1 para optar a no recibir alertas, o llame al 877-301-3963. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com).

**EMAIL**

Your Big Sandy RECC service on account (AccountCISID) has been reconnected. To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com).

Su servicio en su cuenta (AccountCISID) con Big Sandy RECC ha sido reconectado. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com).

**SMS**

Your Big Sandy RECC service on account (AccountCISID) has been reconnected.

Su servicio con Big Sandy RECC en su cuenta (AccountCISID) ha sido reconectado.

Daily Usage - Usage Monitor Accounts Only

**EMAIL**

This is a message from Big Sandy RECC with your usage on account (AccountCISID) for the past 15 days. Based on our last successful meter read of LastMeterReadDate, your most recent

usage was LastMeterReadUseAmount KWh. To check your usage or change your alert settings, please visit [www.myusage.com](http://www.myusage.com). ChartHTML

Esto es un mensaje de Big Sandy RECC con su uso los ultimos 15 dias en su cuenta (AccountCISID).

De acuerdo con la ultima lectura de su medidor en

LastMeterReadDate

, su mas reciente uso fue

LastMeterReadUseAmount

KWh. Para verificar su uso diario o cambiar sus alertas, por favor visite [www.myusage.com](http://www.myusage.com). ChartHTML

### High Usage - Usage Monitor Accounts Only

#### **EMAIL**

This is a message from Big Sandy RECC. Our records indicate your electric usage on account (AccountCISID) was LastMeterReadUseAmount KWh yesterday. This amount exceeds UsageThreshold KWh, the amount you indicated you wished to receive notification.

Esto es un mensaje de Big Sandy RECC. Nuestros registros indican su uso electrico en su cuenta (AccountCISID) de ayer fue

LastMeterReadUseAmount

KWh. Esta cantidad excede

UsageThreshold

KWh, la cantidad que usted indico querer ser notificado.

GE  
Digital Energy

# Residential Electrical Metering

## Advanced ANSI metering for the Smart Grid

For more than 100 years GE has provided utilities with robust and high quality metering solutions. GE's I-210 product line continues that tradition, bringing innovative and flexible technology solutions that cover all your metering needs from basic electronic energy-only meters to highly-flexible smart metering solutions that provide advanced functionality to meet the evolving Smart Grid system needs.

GE's family of meters go beyond meeting your complex business challenges. The advanced, powerful and easy-to-use meters give you an extra edge in the energy business. You can look forward to real-time instrumentation, power quality monitoring and easy access to critical information. All these add up to give you higher productivity, improved efficiency and reduced energy costs.

### Key Benefits

- Reliable and accurate cash register for utilities
- AMR/AMI Plug-n-Play functionality
- Multiple communication technologies tied to AMI systems provide reliable data in a timely manner
- Smart metering functions such as Time of Use demand metering and service switch capabilities
- Demand side management through pre-payment and demand limiting features
- Advanced functions such as reactive measurement and, IEEE reliability indices measurement
- Robust meter security and standards compliance

### ANSI Single Phase Meters



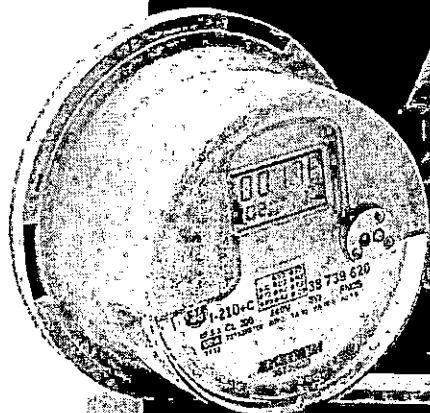
#### I-210+c Full featured, Smart Grid enabled metering

This is GE's flagship residential meter product, offering demand, load profile, TOU, service switch, and a full complement of communication options.



#### I-210+ Value packed Smart Grid functions

World class accuracy and reliability in a solid-state kWh meter platform package. Available with a service switch, as well as a wide array of communications options.



### Communications

- Broad AMI/AMR Plug-n-Play options - RF Mesh, Power line Carrier, Cellular, etc
- Allows interchangeability of AMR/AMI Plug-n-Play options
- Supports connectivity and integration with 3rd party communications solutions providers

### Smart Configuration

- Ability to customize advanced metering options to suit customer's needs
- Configure load profile, time-of-use and demand metering capabilities
- Versatile programming Softswitches allowing the selection of advanced functionality such as power quality measurement and reactive power measurement
- Service Switch option improves operational efficiency and addresses issues such as demand side management, remote repayment systems, and controlled outage restoration

### Reliability

- Robust revenue-grade watt-hour and demand meters
- Based on GE's cutting edge technology providing typical 0.2% accuracy, and reliability
- Enable utilities with tools to lower operational cost and provide accurate metering solutions



imagination at work

### Reliable Metering

In this dynamic time of regulatory scrutiny and customer engagement, you can be assured of the product and the company behind the product. We have ANSI and ISO certified labs to ensure that our product design and manufacturing processes yield a robust product every time.

Our testing procedures go well beyond the ANSI and IEC requirements for which we design to, including some of the most aggressive internal standards in the market place today. We now have included world-class Radio Frequency (RF) communications expertise to ensure that our meter products are hardened to withstand even the harshest of RF environments without sacrificing the quality or integrity of the metrology or the communications technology.

### Accurate & Dependable

Typically measured at +/- 0.2%, the GE I-210 family of meters provides best-in-class capabilities for accuracy. Combined with the low starting watts, the utility can have confidence in the metered value and measured electricity usage.

### Integrity of Supply

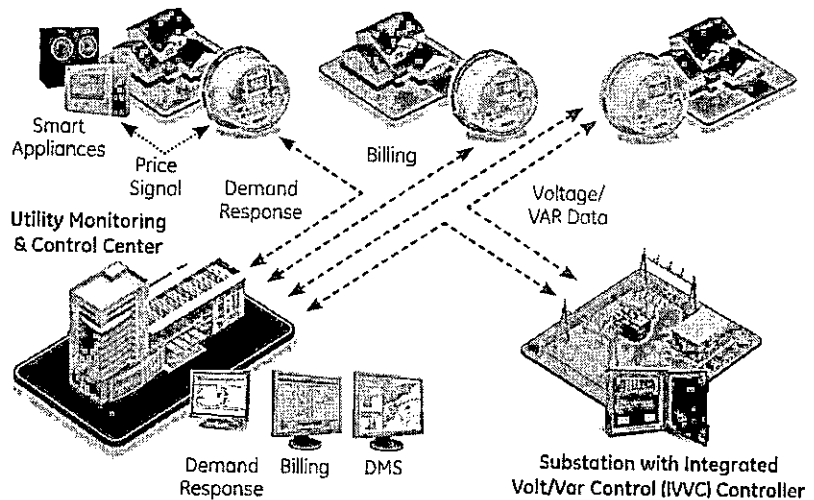
Having a partner that can provide assurance in supply is critical when a utility begins a mass deployment of meters. GE's process focus and rigor around supply chain excellence minimizes the risk to the utility, giving them confidence to manage installation crews and provide accurate scheduling to customers.

### Broad Communications Support

The I-210 family has been designed to allow for the interchangeability of AMR/AMI modules and cover the broadest range of possible AMI communication technologies including RF Mesh, Cellular, Power Line and Ethernet. Modules can be added at the GE factory, after the fact, or replaced with another compatible module if the meter is redeployed.

### Billing & Smart Applications

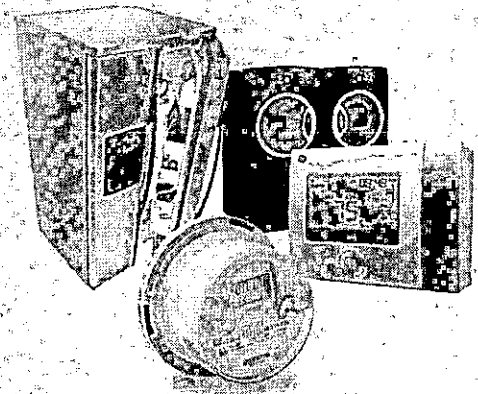
Traditional billing continues to be a vital component of today's solid state meters, but they are also now a vital part of your grid operation. We've leveraged the strength and knowledge of GE Digital Energy around distribution automation, volt-var control, demand optimization, and distributed generation to develop a line of metering products that are designed to integrate and provide the critical information needed to optimize all of these grid operation solutions. As GE continues to build on its Smart Grid solutions, you can count on GE Digital Energy and our new metering products to include innovative and unique capabilities you never thought possible.



### Leading the way on integrated appliances for demand response

One of the most compelling benefits of the Smart Grid is the promise of delivering demand management or load control. Utilities will save energy, lower costs, and defer additional transmission and generation expenses with the ability to shave peak load, shape load and curtail load to mitigate grid events. Additionally, consumers will be able to conserve energy and shift energy use to benefit from time of use or time based rate structures. Various studies have shown that these actions can generate customer savings from 5% to 15% of their monthly electricity use.

GE, through our Digital Energy and Appliance businesses, is continuing to work on integrated solutions for electricity metering and smart appliances in the home. This is an exciting time for our business as we pioneer a new generation of electricity smart meters and smart appliances that work seamlessly together to deliver energy savings never thought possible.



## Full featured, Smart Grid Meter

I-210+c

### Smart Grid enabled, consumer friendly metering

GE's most advanced residential electricity metering product line, the I-210+c, delivers Smart Grid capability for today and the future. Derived from our industry leading commercial and industrial product line, the kV2c, the I-210+c benefits from our advanced metrology capability and lessons learned from over 10 years of solid state metering design. All the way down to the advanced microprocessor, the I-210+c contains much of the advanced polyphase functionality that GE has been known for. We have also added capability that makes the I-210+c the referenced residential product line in the industry.

### Capability

Designed for today's dynamic rate structures, the I-210+c provides capability for demand, load profile, and TOU recording, along with a number of other power quality and demand response related functions. Configurable to support various metering quantities, this meter supports delivered (+), received (-), and net metering for distributed generation.

### Advanced Functionality

With the addition of the fully rated 200 amp service switch, the meter is capable of pre-payment metering without all the historical cost associated with card readers or other legacy pre-payment technology. Load limiting and emergency conservation modes set this meter apart when working in conjunction with a demand response program. Having the capability to be remotely configured, as well as being firmware upgradeable, this product serves today's needs, as well as tomorrow's evolving requirements.

### Communications

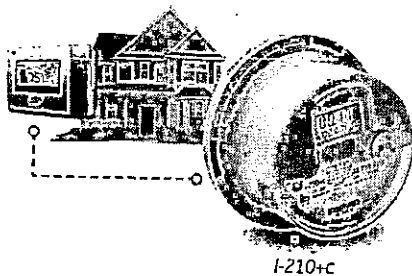
Designed to specifically accommodate the communications technology required to support a Smart Grid, the I-210+c has the same electrical and mechanical interface as our I-210+ platform, making communications interchangeable and interoperable between these two residential metering platforms.

### AMR/AMI Plug and Play Communications

Multiple communication options on the I-210+c allows greater customer choice. Ideally optimized for RF Mesh, PLC, 3G/4G point-to-point communication technologies, the I-210+c can cover a wide variety of communication scenarios.

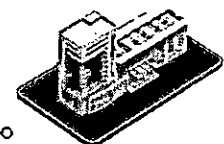
#### Residential Communication

- ZigBee ESI 802.15.4 SEP 1.0

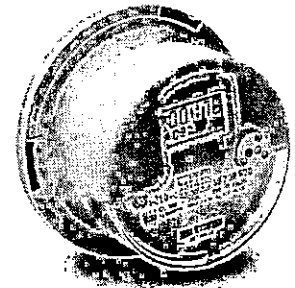


#### Utility Communication

- Radio Frequency Mesh (RF Mesh),
- Power Line Communications (PLC),
- Cellular (GPRS/CDMA) communications
- Ethernet



Utility Monitoring & Control Center



### Features & Benefits

- Customize advanced metering options through SoftSwitches
- AMR/AMI Plug-n-Play designed to accommodate:
  - Radio Frequency Mesh (RF Mesh)
  - Radio Frequency Point-to-Multipoint
  - Cellular communications
  - Ethernet
- Advanced functionality such as:
  - time-of-use, insensitive demand, load profile recording, event logging, voltage sag/swell recording
- Typical accuracy: within +/- 0.2%
- Service Switch to improve operational efficiency and address issues such as:
  - Demand side management
  - Remote prepayment systems
  - Controlled outage restoration
- Low starting watts; capture energy consumption at levels typically not registered by electromechanical meters
- Low burden, which minimizes utility system losses
- Patented tamper algorithm to detect tamper-by-meter inversion
- Meets or exceeds ANSI C12.1, C12.10, C12.20, C37.90.1

## Value packed, Smart Grid Meter

I-210+

### Load Management

The I-210+ is one of the most popular single phase meters among US utilities for residential metering installations. Equipped with a fully-rated 200A service switch, this meter platform is ideal to provide basic load management functionality.



### Reliability

The I-210+ has enjoyed tremendous success in the marketplace for smart meters, with over 10 million units shipped since 2009. This product is the industry benchmark for quality and reliability, having passed both internal and external validation tests for billing accuracy. At GE, we have an unprecedented testing and validation process to ensure that our products are robust and exceed the industry standard ANSI requirements.

We have substantial expertise in wireless communications and the testing that is required to ensure that our meters perform flawlessly, even in the harshest of radio frequency (RF) environments.

### Communications

The I-210+ has the same electrical and mechanical interface as our I-210+c platform, designed to specifically accommodate Smart Grid communications technology, making communications interchangeable and interoperable between these two residential metering platforms. Multiple RF Mesh and PLC communication technologies are supported with a newly updated power supply.

### Features & Benefits

- AMR/AMI Plug and Play designed to accommodate: RF Mesh, RF Point-to-Multipoint, PLC, Ethernet
- Typical accuracy: within +/-0.2%
- Service Switch to improve efficiency and address:
  - demand side management
  - remote prepayment systems
  - controlled outage restoration
- Low starting watts; capture energy consumption at levels typically not registered by electromechanical meters
- Low burden, which minimizes utility system losses
- Meet or exceeds ANSI C12.1, C12.10, C12.20, C37.90.1

### Factory Integrated Communication Options for I-210+ and I-210+c Meters

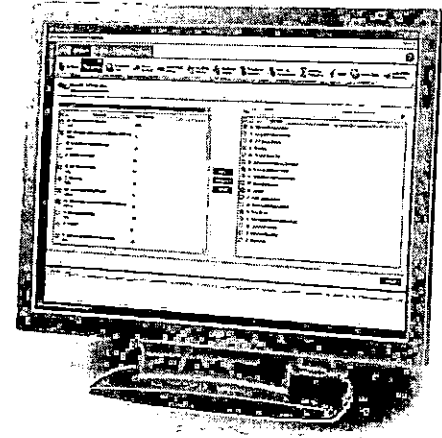
AMI TECHNOLOGIES	TYPE	I-210+	I-210+c
Acara UMT-R	PLC	X	
Ingenu RPMA	RF P2MP	X	
Itron S6ESS ERT, S5ESS ERT, S6ESS ERT	1-way RF AMR	X	X
Itron S7ESS ERT	1-way RF AMR		X
Itron Cellular EVDO & HSPA	Cellular Network		X
Sensus FlexNet	RF P2MP		X
Silver Springs Networks NIC 310	RF Mesh	X	
Silver Springs Networks NIC 410	RF Mesh		X
Silver Springs Networks MicroAP	Cellular & RF Mesh		X
Trilliant SecureMesh	RF Mesh	X	X

## Full featured, Secure Metering Software

### MeterMate

GE's innovative MeterMate™ software suite enables meter administrators to easily configure and manage GE meters. Each software component in the MeterMate suite is optimized to address the different aspects of a meter's lifecycle. MeterMate program creation software enables the user to effortlessly configure the meter's basic and advanced functionality, ranging from creating a simple demand program and setting up the meter display to configuring the meter's I/O and alerts. With MeterMate reading and programming software, a user can read, program and perform real-time instrumentation and power quality monitoring on a meter, via a variety of different communication methods such as local OPTOCOM, remote telephone, RS-232/485 and IP communications.

The suite also provides the MeterMate Batch Control, MeterMate Load Profile (MMLP) and MeterMate XTR utilities. MeterMate Batch Control enables the user to automate remote meter reading. MeterMate Load Profile (MMLP) provides analysis of load profile data and MeterMate XTR supports the export of meter data to the MV-90 HHF format.



### Features & Benefits

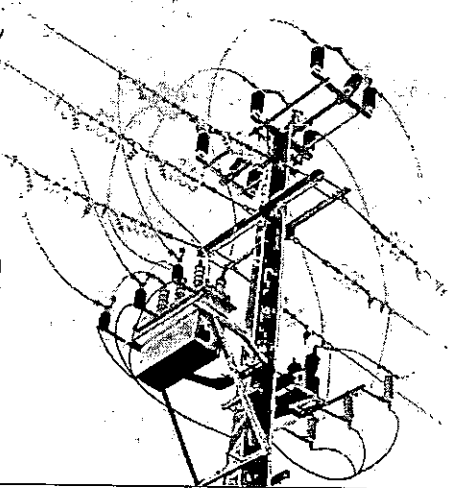
- One software suite to configure and read from the GE portfolio of meters: kV family, I-210 family and SGM3xxx family
- Supports the ANSI C12.19 communication protocol
- Multiple methods to communicate with meters: USB & RS232 OPTOCOM, RS485, Modem
- Modular configuration workflow that enable the reuse of frequently used configuration settings and measurements
- Various reports to display information for meter management, auditing, billing and monitoring power quality
- Command line interface and batch-control enabling automated and scheduled meter operations
- Configurable role-based access control security

## With GE meters, your business case just got a whole lot better

At GE, we've leveraged our expertise to ensure you get the most out of your investment in GE products and solutions. The capability available in the GE Smart Meter's provide for data that can be used to optimize a number of utility operational systems outside of traditional billing. These integrated solutions include:

- Outage events and alarms integrated into PowerOn™, GE's Outage Management Solution
- Voltage and Var data, provided in real-time, to enhance distribution automation solutions for Conservation Voltage or Integrated Volt/Var Coordination
- Integration with GE's GridIQ™ Demand Optimization Solution for coordinated load control and demand response for surgical implementation of load shedding and load deferral

The strength of metering products come from our broad knowledge of electrical utilities and their operational systems. We will continue to provide metering products that build on this knowledge and provide differentiated value for both the utilities and the consumer.





Residential Meter Selector

Product Characteristics		I-210 Basic Energy	I-120+ci																																										
1	Meter Functionality	<ul style="list-style-type: none"> <li>Real Energy Consumption Management</li> </ul>	<ul style="list-style-type: none"> <li>Real Energy Consumption Management</li> <li>Reactive Energy Consumption Measurement</li> <li>Apparent Energy Consumption Measurement</li> <li>Voltage Measurement (Min, Avg, Max)</li> <li>Sag/Swell Measurement</li> <li>Outage Count and Duration</li> </ul>																																										
2	ANSI Models	<table border="1"> <thead> <tr> <th>Form</th> <th>Class</th> <th>Volts</th> </tr> </thead> <tbody> <tr> <td>1S</td> <td>100</td> <td>120 &amp; 240</td> </tr> <tr> <td>2S</td> <td>200 &amp; 320</td> <td>240</td> </tr> <tr> <td>3S &amp; 3CS</td> <td>20</td> <td>120 &amp; 240</td> </tr> <tr> <td>4S</td> <td>20</td> <td>240</td> </tr> <tr> <td>12S</td> <td>200 &amp; 320</td> <td>120 &amp; 240</td> </tr> <tr> <td>25S</td> <td>200 &amp; 320</td> <td>120 &amp; 240</td> </tr> </tbody> </table>	Form	Class	Volts	1S	100	120 & 240	2S	200 & 320	240	3S & 3CS	20	120 & 240	4S	20	240	12S	200 & 320	120 & 240	25S	200 & 320	120 & 240	<table border="1"> <thead> <tr> <th>Form</th> <th>Class</th> <th>Volts</th> </tr> </thead> <tbody> <tr> <td>1S</td> <td>100</td> <td>120 &amp; 240</td> </tr> <tr> <td>2S</td> <td>200 &amp; 320</td> <td>240</td> </tr> <tr> <td>3S &amp; 3CS</td> <td>20</td> <td>120 &amp; 240</td> </tr> <tr> <td>4S</td> <td>20</td> <td>240</td> </tr> <tr> <td>12S</td> <td>200 &amp; 320</td> <td>120 &amp; 240</td> </tr> <tr> <td>25S</td> <td>200 &amp; 320</td> <td>120 &amp; 240</td> </tr> </tbody> </table>	Form	Class	Volts	1S	100	120 & 240	2S	200 & 320	240	3S & 3CS	20	120 & 240	4S	20	240	12S	200 & 320	120 & 240	25S	200 & 320	120 & 240
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3	Soft-Switches to upgrade meter function	<ul style="list-style-type: none"> <li>Optional Soft-switches can be loaded in the factory or by the user to activate advanced functions</li> <li>O<sub>1</sub> - Activates communication capability with AMR/AMI modules</li> <li>S<sub>1</sub> - AMI/AMR calculated demand displayed on meter LCD</li> <li>V<sub>1</sub> - Simple Voltage Event monitor in addition to a display of RMS momentary voltage on the 3 lower LCD digits</li> </ul>	<ul style="list-style-type: none"> <li>Optional Soft-switches can be loaded in the factory or by the user to activate advanced functions</li> <li>A<sub>1</sub> - Activates communication capability with AMR/AMI modules</li> <li>E<sub>1</sub> - Activates Event Log Recording (up to 200 Events)</li> <li>K<sub>1</sub> - Activates Reactive/Apparent Energy Consumption recording</li> <li>N<sub>1</sub> - Activates Demand</li> <li>Q<sub>1</sub> - Activates Instrument Recording</li> <li>R<sub>1</sub> - Activates LP recording (up to 4 channels)</li> <li>T<sub>1</sub> - Activates TOU recording</li> <li>V<sub>1</sub> - Activates Sag/Swell monitor and recording</li> </ul>																																										
4	AMR Interface (Factory enabled or installed by customer)	<ul style="list-style-type: none"> <li>Quadrature Pulse</li> <li>SPI Format-1 data</li> <li>SPI Format-2 data</li> <li>PSEM Communications</li> </ul>	<ul style="list-style-type: none"> <li>PSEM Communications</li> </ul>																																										
5	Energy Accumulation	<ul style="list-style-type: none"> <li>Must specify at time of order either:                             <ul style="list-style-type: none"> <li>Delivered only</li> <li>Delivered + Received</li> <li>Delivered - Received</li> <li>Received only</li> </ul> </li> <li>Customer can change selection later using MeterMate</li> </ul>	<ul style="list-style-type: none"> <li>Specified at time of order for factory programmed meters or configured by the customer using MeterMate. Any two or four of the following energy measurements can be selected:                             <ul style="list-style-type: none"> <li>Delivered only kWh</li> <li>Received only kWh</li> <li>Delivered + received kWh</li> <li>Delivered - received kWh</li> <li>Logging only kvarh; requires K<sub>1</sub> Soft-switch</li> <li>Leading only kvarh; requires K<sub>2</sub> Soft-switch</li> <li>Logging + Leading kvarh; requires K<sub>3</sub> Soft-switch</li> <li>Logging - Leading kvarh; requires K<sub>4</sub> Soft-switch</li> <li>Phasor apparent VAh; requires K<sub>5</sub> Soft-switch</li> </ul> </li> </ul>																																										
6	Cycle Insensitive Demand	<ul style="list-style-type: none"> <li>Not available</li> </ul>	<ul style="list-style-type: none"> <li>Requires T<sub>1</sub> &amp; N<sub>1</sub> Soft-switches to be enabled</li> <li>Provides an alternative method for calculating the maximum demand in meters equipped with one-way AMR system.</li> <li>The meter maintains the daily maximum demands and the two peaks for the period.</li> <li>Demand is calculated using the programmed method (Block, rolling or thermal).</li> <li>The daily maximum demands are stored in a circular queue.</li> <li>Each entry in the circular queue contains a date.</li> </ul>																																										
7	Power Quality	<ul style="list-style-type: none"> <li>With V<sub>1</sub> Softswitch enabled, provides a count of Sag/Swell Events. Value and duration thresholds are programmable.</li> </ul>	<ul style="list-style-type: none"> <li>With Q<sub>1</sub> and R<sub>1</sub> Softswitches enabled, Min, Max and Average Voltage recording is possible.</li> <li>With V<sub>1</sub> Softswitch enabled, provides counts and magnitude recording of Sag/Swell Events with date and time stamped. Value and duration thresholds are programmable. This Sag/Swell Event Log is separate from the Event Log recording provided by the E<sub>1</sub> Softswitch</li> <li>With E<sub>1</sub>, R<sub>1</sub> and T<sub>1</sub> Softswitches enabled, recording of sustained and total outage counts and duration is possible to permit calculation of IEEE Reliability indices.</li> </ul>																																										
8	Back-up power	<ul style="list-style-type: none"> <li>Not available</li> </ul>	<ul style="list-style-type: none"> <li>Back-up power is used to maintain the meter clock during outages. If the R2 or T2 softswitch is required, one of the following back-up power options must be selected.                             <ul style="list-style-type: none"> <li>Battery</li> <li>Supercap</li> <li>Batteryless operation. For batteryless operation, the AMI system must be able to re-synchronize the meter clock after a power outage</li> </ul> </li> </ul>																																										
9	Service Switch (provide remote controllable disconnection and reconnection of electrical service for residential applications)	<ul style="list-style-type: none"> <li>A switching device intended to provide remote controllable disconnection and reconnection of electrical service for residential applications</li> <li>Factory installed option, specify at time of order.</li> <li>Full functionality requires two-way AMI module</li> <li>Switch is installed under standard size cover</li> <li>Typical applications include:                             <ul style="list-style-type: none"> <li>Remote disconnect and reconnect of service</li> <li>Energy conservation demand limiting</li> <li>Demand limiting as an alternative to service disconnection</li> <li>Prepayment metering</li> <li>Outage management/restoration</li> </ul> </li> <li>Note: Energy conservation demand limiting and prepayment metering functionalities are not available on forms 12S and 25S.</li> </ul>	<ul style="list-style-type: none"> <li>A switching device intended to provide remote controllable disconnection and reconnection of electrical service for residential applications.</li> <li>Factory installed option, specify at time of order.</li> <li>Full functionality requires two-way AMI module</li> <li>Switch is installed under standard size cover</li> <li>Typical applications include:                             <ul style="list-style-type: none"> <li>Remote disconnect and reconnect of service</li> <li>Energy conservation demand limiting</li> <li>Demand limiting as an alternative to service disconnection</li> <li>Prepayment metering</li> <li>Outage management/restoration</li> </ul> </li> </ul>																																										

Technical Specifications

I-210+c

<b>Basic Functions</b>
Single Phase Demand Meter
- Energy management, 4 quantities
- Demand, block, or rolling demand
- Fundamental plus harmonic measurements
- Bi-directional energy measurements
Load Profile recording
Time of Use Billing Measures
Four Energy options (Delivered, Received, Delivered+Received, Delivered-Received)
Tamper detect capability
Broad communication module options
Network applications
Models available for 120 or 240 volt CL 20, CL 100, CL 200, CL 320 applications, 50 or 60 Hz operation

<b>Optional Functions</b>
Factory integrated Service Switch Capability

<b>Soft-Switch Functions</b>
<b>A, Soft-switch</b>
- The Alternate Communication Soft-switch allows a communication option board to communicate with the meter
<b>E, Soft-switch</b>
- The Event Log Soft-switch allows the meter to track the most recent 200 events. Use MeterMate™ Program Manager, Diagnostics Editor, to select the event types to be logged and how many occurrences should be tracked, up to a maximum of 200 events. Date and time stamps are included on logged events for Demand/LP or TOU meters
<b>K, Soft-switch</b>
- The kVA and kvar Soft-switch adds kVA(h) and kvar(h) measurement capability
<b>N, Soft-switch</b>
- The Demand (N, I) Soft-switch adds billing demand calculations
<b>Q, Soft-switch</b>
The Instrumentation Measurements Soft-switch enables
- Voltage (L-N), VA (max, min, store) for summations, demand, and load profile recording
- RMS voltage measurement for reading and display
- Low potential caution
- Temperature (max, min, avg) load profile recording
<b>R, Soft-switch</b>
- The Load Profile Soft-switch activates up to 4 channels of LP recording
<b>T, Soft-switch</b>
The Time-of-Use Soft-switch enables TOU operation
- Up to four TOU periods and four Seasons
- Up to three daily rate schedule types and one holiday schedule
- Up to 80 TOU schedule set points
- Up to 50 programmable dates
- Holidays, season changes, Daylight Savings Time (DST), self-read, and demand reset
- Perpetual calendar handles most dates
- Up to two billing and two demand measures per TOU period
- Self-read actions on specified dates, with or without a demand reset
<b>V, Soft-switch</b>
- The voltage Soft-switch activates San/Swell monitor and recording

<b>Accuracy</b>
Typical Accuracy: Within +/- 0.2%
Starting Watts: 12W @ 240V, 6W @ 120V
Typical Watt Loss: 0.7 Watts

I-210+

<b>Basic Functions</b>
Basic function as electronic single phase Revenue Meter
Four Energy options (Delivered, Received, Delivered+Received, Delivered-Received)
Tamper detect capability
Broad communication module options
Network applications
Models available for 120 or 240 volt CL 20, CL 100, CL 200, CL 320 applications, 50 or 60 Hz operation

<b>Optional Functions</b>
Factory integrated Service Switch Capability

<b>Soft-Switch Functions</b>
AMR/AMI Communications (AMR/AMI Interface formats include quadrature pulse, PSEMI, SPI Format-1 data, SPI Format-2 Data)
Display AMR calculated Demand value shown on the lower 3 LCD digits
Simple Voltage Event monitoring in addition to RMS momentary voltage display

<b>Accuracy</b>
Typical Accuracy: Within +/- 0.2%
Starting Watts: 12W @ 240V, 6W @ 120V
Typical Watt Loss: 0.7 Watts

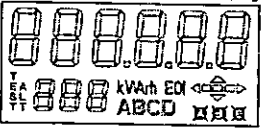
<b>Rating</b>
Voltage: 120 V - 240 V
Current: Class 100, Class 200, Class 320, Class 20
Frequency: 50 or 60 Hz

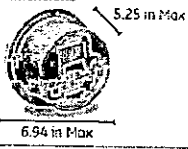
<b>Cover Options</b>
Polycarbonate cover with molded sunshield
- Plain cover without RESET OR "D" ring
- With Optocom "D" ring
- With RESET latch and Optocom "D" ring

<b>Operating Range</b>
Voltage: +/- 20%
Operates over a broad temperature range (-40C through +85C under the cover)

<b>Available Models</b>
ANSI Form 1S, 2S, 3S, 4S, 12S, 25S
CL 20, CL100, CL200, CL320

<b>Applicable Standards</b>
Performance meets or exceeds industry standards
ANSI C12.19
ANSI C12.1
ANSI C12.10
ANSI C12.20
ANSI C37.50.1
UL 2735

<b>LCD Display</b>
6 large characters to display the main programmed metering quantities


<b>Weights and Dimensions</b>	
<b>Dimensions</b>	
	
<b>Approximate Weight</b>	
Meters with service disconnect	
- Individual meter	2.0 - 2.4 lbs
- 4 meter pack	9.0 - 10.6 lbs
- Pallet (120 meters)	285 - 340 lbs
Meters without service disconnect	
- Individual meter	1.3 - 1.7 lbs
- 4 meter pack	6.2 - 7.8 lbs
- Pallet (120 meters)	200 - 255 lbs

<b>Rating</b>
Voltage: 120 V - 240 V
Current: Class 100, Class 200, Class 320, Class 20
Frequency: 50 or 60 Hz

<b>Cover Options</b>
Polycarbonate cover with molded sunshield
- Plain cover without RESET OR "D" ring
- With Optocom "D" ring

<b>Operating Range</b>
Voltage: +/- 20%
Operates over a broad temperature range (-40C through +85C under the cover)

<b>Available Models</b>
ANSI Form 1S, 2S, 3S, 4S, 12S, 25S
CL 20, CL100, CL200, CL320

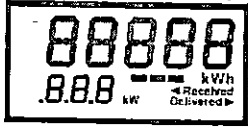
<b>Applicable Standards</b>
Performance meets or exceeds industry standards ANSI C12.1
ANSI C12.10
ANSI C12.20
ANSI C37.50.1

ATTACHMENT 3

Technical Specifications


I-210+ (cont'd)

**LCD Display**  
5 large characters to display the billing quantities



**Weights and Dimensions**

**Dimensions**  
6.94 in Max  
5.25 in Max

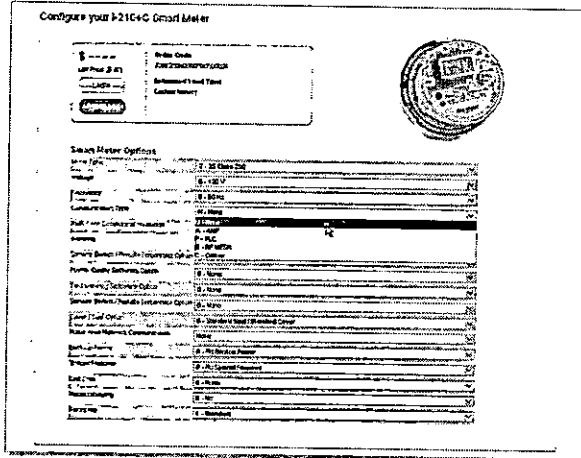
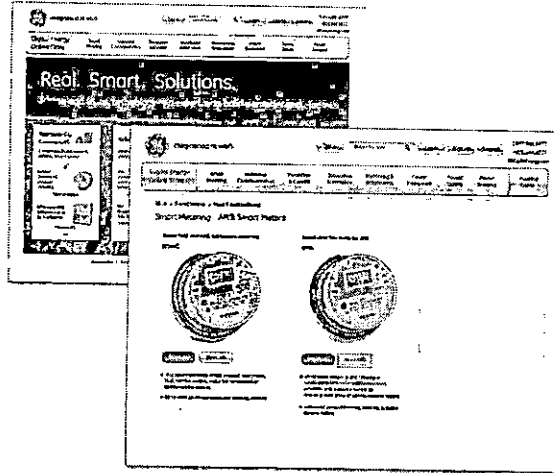


**Approximate Weight**

Meters with service disconnect	
- Individual meter	2.0 - 2.4 lbs
- 4 meter pack	9.0 - 10.6 lbs
- Pallet (120 meters)	285 - 340 lbs
Meters without service disconnect	
- Individual meter	1.3 - 1.7 lbs
- 4 meter pack	6.2 - 7.8 lbs
- Pallet (120 meters)	200 - 255 lbs

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