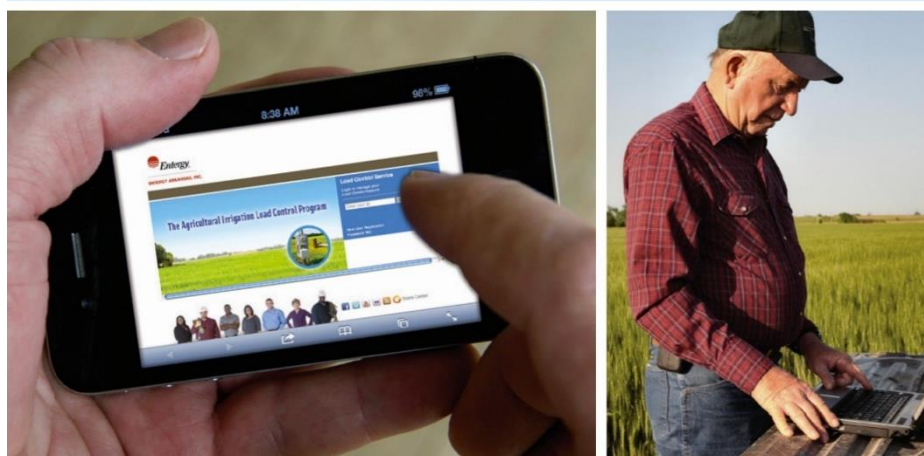




All your wells at your fingertips.



Entergy Arkansas 2021 Agricultural Irrigation Load Control Program Manual

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This manual is a living document used to describe this demand response program. Operational processes can be found in the Program Operations Manual.

PART I – Program Overview

Program Description

The Agricultural Irrigation Load Control Program is part of a comprehensive portfolio of energy efficiency programs offered by Entergy Arkansas, LLC with approval from the Arkansas Public Service Commission. The Agricultural Irrigation Load Control Program pays participants incentives in return for allowing Entergy Arkansas to interrupt their pumping loads (also referred to as curtailment event or scheduled event) during summer peak loads. These incentives are paid monthly in the form of rebate checks for eligible participants. The load control season runs from June 1 through Aug. 31. The Agricultural Irrigation Load Control Program provides other benefits for the participants such as real-time text or e-mail notifications of curtailment events, and in most cases, allows participants to remotely control (i.e., turn on and off) the wells that are on this program. The program is designed to minimize the following market barriers to demand response implementation for Entergy Arkansas' agricultural water-pumping customers:

- Lack of program awareness – The Agricultural Irrigation Load Control Program will promote benefits of the program through marketing which will feature incentives and other benefits.
- Technical impediments – The Agricultural Irrigation Load Control Program will work aggressively to provide the equipment, software and two-way communication systems required by the program for both participants and Entergy Arkansas operations.
- Burdensome capital costs – The Agricultural Irrigation Load Control Program will fund the equipment and installation costs, thereby minimizing the investment outlay for participants.
- Uninformed cultural energy environment – The Agricultural Irrigation Load Control Program will transform long-term and permanent changes in attitudes, awareness and knowledge about energy savings and use of energy-efficient technologies to achieve energy savings.

Marketing and incentives are the two primary methods in which this program will achieve these long-term changes. General awareness campaigns and program-specific marketing will raise awareness and understanding of the demand-reducing opportunities for participant's energy consumption.

Target Market

The target market is comprised of customers with large motors used in agriculture. Examples of the target market are irrigation pumps and aquaculture aerator pumps; however, any agricultural pump larger than 10 horsepower and with a minimum monthly run-time of 64 hours in each of the summer months will qualify for the program incentives.

Program Objectives

The Agricultural Irrigation Load Control Program objectives are to defer the need for new peaking generation investments by reducing utility on-peak demand and to meet emergency demand reduction. The Agricultural Irrigation Load Control Program will reduce demand by shifting on-peak energy to off-peak times. Based upon the type of usage that is being interrupted, it is expected the energy not used during interruption times will be made up during non-interruption off-peak times. The Agricultural Irrigation Load Control Program is registered as a Midcontinent Independent System Operator Load Modifying Resource committed to demand reduction during peak demand seasons.

Program Administration

Entergy Arkansas will oversee the Agricultural Irrigation Load Control Program through the use of Entergy Arkansas Energy Efficiency Project Management. The program will be implemented through a turn-key third-party contractor Connected Energy/BPL Global LLC with limited support from Entergy Arkansas IT Project Management liaising with IT technology groups such as LEIDOS, Accenture and other in-house IT departments. Support from Entergy Arkansas or Entergy Services, LLC will be coordinated through the Entergy Arkansas program manager as required to facilitate help from Entergy Arkansas or Entergy Services departments and a contract administrative assistant.

Program Guidelines

The Arkansas Public Service Commission approved and implemented the following program guidelines on Feb. 25, 2015:

- Increased the curtailment event from a three-hour event to a maximum of four hours not counting a 15-minute ramp-up time.
- Decreased the overall number of curtailment event hours from 160 hours to no more than 60 hours per year.
- Established the right for Entergy Arkansas to call an emergency curtailment anytime from June 1 through Aug. 31.
- Limited curtailment events to no more than two events in one week except in the case of a Load Modifying Resource event or a grid emergency.
- Began the use of new integrated controllers installed directly on the customer's motor controller for new installations, eliminating the need for Advance Metering Infrastructure meters.
- Initiated the contracting of a third-party vendor to own and maintain all of the new control units, and a call center to facilitate equipment repairs.

- Started the leasing of program equipment from a third-party supplier as opposed to continued capitalization of the installed equipment.
- Changed the incentives from a billing credit to a monthly incentive check based on motor horsepower.
- Nullified any incentive on the months where the participant's actions caused the load to be unavailable during a called event.

These approved guidelines were implemented by restructuring the Agricultural Irrigation Load Control Program resources. The Agricultural Irrigation Load Control Program resource plan has nearly completed transformation of all program resources from previous years. The implementation of the Agricultural Irrigation Load Control Program includes one half of an Entergy Arkansas full-time employee to function as the in-house program manager, an Entergy Services IT Liaison, a part-time contract administrative assistant and a third-party turn-key implementer who will:

- Market the program and recruit new participants.
- Develop processes and resources to enroll new participants.
- Install Agricultural Irrigation Load Control Program equipment (either retrofit existing locations or furnish new control units).
- Service and maintain operability of all Agricultural Irrigation Load Control Program equipment (retrofit or new controllers).
- Provide and support software to manage participation and curtailment events.
- Provide participant website to remotely control participating wells.
- Provide participant notification of pending curtailment events.
- Calculate, qualify, administer, reconcile, report and distribute participants monthly incentive checks.
- Provide program reporting on participation, curtailment events, equipment and incentives.

Program Eligibility

The participation eligibility requirements for the Agricultural Irrigation Load Control Program are:

- Prospective participants must have an active nonresidential account in good standing with Entergy Arkansas.
- Prospective participants must have authorization to modify existing motor configuration.
- Prospective participants must have accessible motor control panels capable of accommodating program equipment.

The incentive eligibility requirements for the Agricultural Irrigation Load Control Program are:

- Participants must have a minimum of 64 hours of run time in a program month to qualify for incentives.

Program Incentives

Participating customers may qualify to receive a monthly incentive for June, July and August. The incentive will be paid for each month of active participation regardless of whether any curtailment events were called in that month. Incentive levels will vary by motor size. Entergy Arkansas anticipates the average incentive to be \$100 per month for June, July and August. The incentive level is described in Table 1 below.

TABLE 1: Incentive Categories

Motor HP	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 7	Tier 8	Tier 9
	10-25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	Larger
Monthly Incentive*	\$ 50.00	\$ 100.00	\$ 200.00	\$ 250.00	\$ 350.00	\$ 450.00	\$ 550.00	\$ 650.00	Upon Request
*Incentive void if customer actions interfere with event. A minimum of 64 run-time hours is required during summer months to receive incentive.									

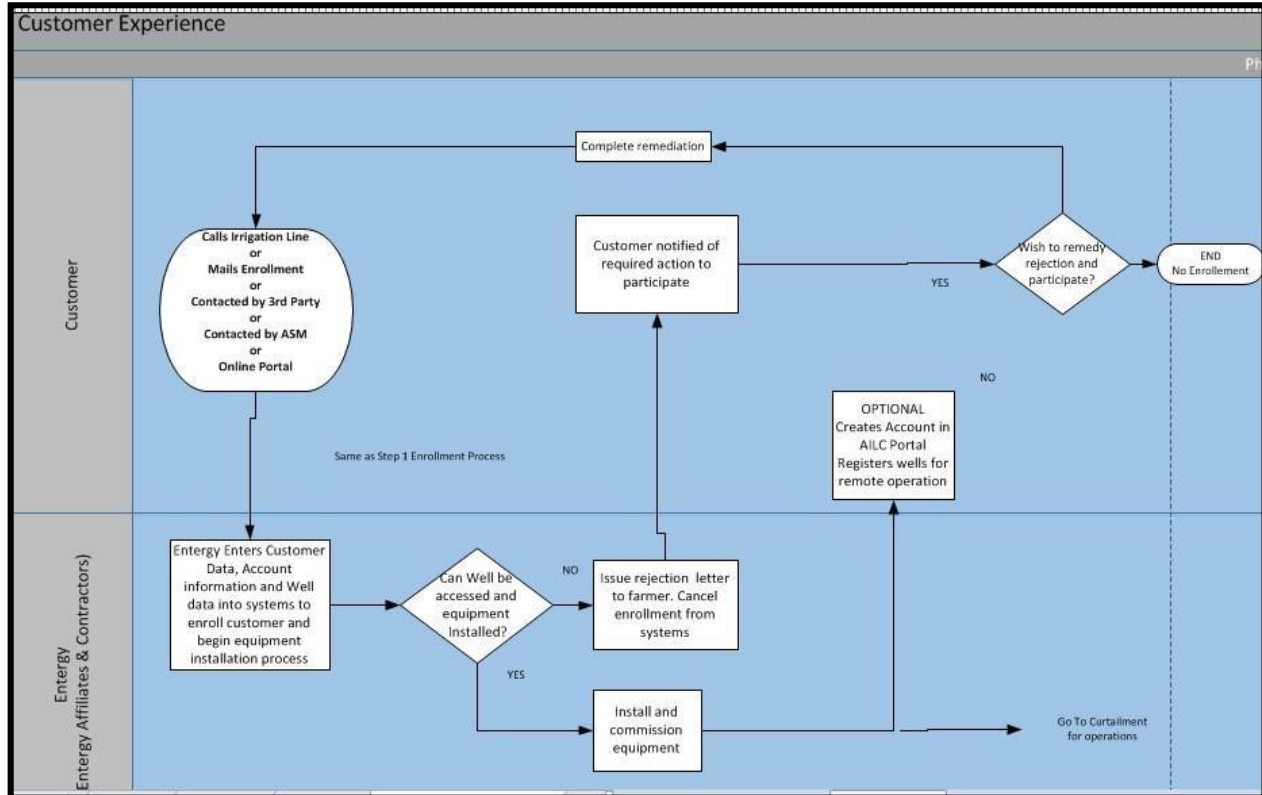
Participant actions resulting in the unavailability of a participating motor during a curtailment event will cause the forfeiture of that month's incentive. The minimum size motor will be 10 horsepower. Active participation is defined by the following characteristics:

- A participant must have an active non-delinquent, non-residential Entergy Arkansas account.
- The participating account must be equipped with Agricultural Irrigation Load Control equipment except where Entergy Arkansas has failed to install equipment through no fault of the participant.
- The enrolled motor must be available for curtailment during the designated program hours. Only the motor's ability to be activated remotely is required to participate; no motor load is required for the motor to be considered available.
- A minimum of 64 run-time hours during each program month is required. This is equivalent to running the motor 16 hours a day four times during the month.

PART II – Customer Experience

Enrollment

Customer Participation Process



Entergy Arkansas will begin the open enrollment in February and continue through August. The participant must be the owner of the motor, or the participant will furnish Entergy Arkansas the owner's written consent for the installation of the control device. If the participation response is greater than anticipated, Entergy Arkansas will suspend the marketing and outreach efforts, and a waiting list will be established for program participation in the following program year. The participant may enroll in one of the following ways:

- The participant may complete a pre-printed irrigation account form sent in recruitment mailings and either mail, email or fax back to the Entergy Arkansas Irrigation Desk.
- The participant may choose to call the Entergy Arkansas Irrigation Desk at **800-324-4709** and relay information to a customer service representative or call the Connected Energy/BPL Global enrollment desk directly at **855-664-FARM (3276)**.
- The participant may respond verbally to telephone outreach by Entergy Arkansas or its contractors.

Equipment Installations & Maintenance

Connected Energy/BPL Global, Entergy Arkansas' implementing contractor, will schedule installation of all-new program equipment. The installations will be scheduled after taking into consideration installation location, existing controller inventory, accessibility and installation complexity. The equipment will be tested for operability during the installation process. This testing will require the motor be turned off and on via the controller unit which utilizes cellular technology. The unit will also be tested to ensure the unit is reporting the correct load after installation. Please note that, once the installation is complete, it may take as many as 24 hours for the motor and controller to be operated remotely through the participant web-portal (in most cases, the availability will be a matter of minutes).

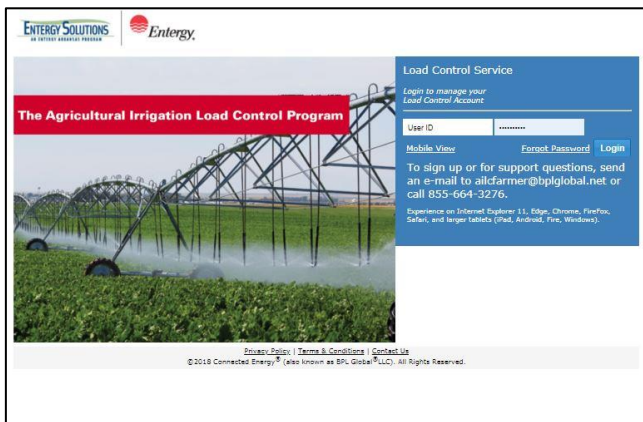


Typical New Installation

All program equipment remains property of the Agricultural Irrigation Load Control Program, and any maintenance issues should be reported to the Entergy Arkansas Irrigation Desk at **800-324-4709** or Entergy Outage at **800-9OUTAGE**. For specific controller questions or farmer portal account creation or assistance, participants may call Connected Energy/BPL Global's help line during business hours at **855-664-FARM (3276)**. The participant agrees to allow Entergy Arkansas representatives to have access to the pumping unit for the purpose of installing, testing and maintaining the remote-control device at all times.

Equipment Operations and Remote Access

After the Agricultural Irrigation Load Control equipment has been installed, the participant may operate the pump motor as normal. The controller is wired to turn the motor on or off remotely but will not interfere with manual operation. The controller is equipped with a green and amber LED indicator. The green LED is on to indicate the controller is energized and on standby mode. On standby mode, normal motor operation is available. The amber LED is on when a curtailment event is in effect. During an event, the motor is de-energized, and the motor will not operate. To operate the well remotely the participant must register on the Agricultural Irrigation Load Control website etr-fp.cnrg.com. Once registered, the participating wells will be displayed along with their current availability, run status and load. A status of unavailable means there is either no electric service to the motor or there are no cellular communications available from the control unit. If the motor is on, a history of the load in kW is recorded and displayed. If the motor is available, the motor can be turned on, or if it is turned on, it may be turned off. **As a precaution against motor damage, the ON/START function will be temporarily locked out for six minutes after the motor has been turned off.** Remote operations of the wells will not be accessible during any Agricultural Irrigation Load Control curtailment.



External Customer Website



Customer Remote Portal

Curtailment Events

Entergy Arkansas may conduct test curtailments during the equipment's installation to test the communications and operations. Other test curtailments may occur as required. The Agricultural Irrigation Load Control Program will curtail the participating irrigation loads only from June 1 through Aug. 31. Except in cases of emergency, the curtailments may only be scheduled on weekdays for a total of four hours (not counting a 15-minute ramp-up window) and be limited to occur between noon and 9 p.m.

Additionally, Entergy Arkansas will limit planned curtailment events to no more than two events in one week¹. Before a curtailment event, the participants will receive an e-mail or text message notifying them of an upcoming curtailment, including the duration of the curtailment, as long as curtailment notification is selected during the enrollment process. Remote operations of the wells will not be accessible during any Agricultural Irrigation Load Control Program curtailment.

Renewals, Termination or Expulsion

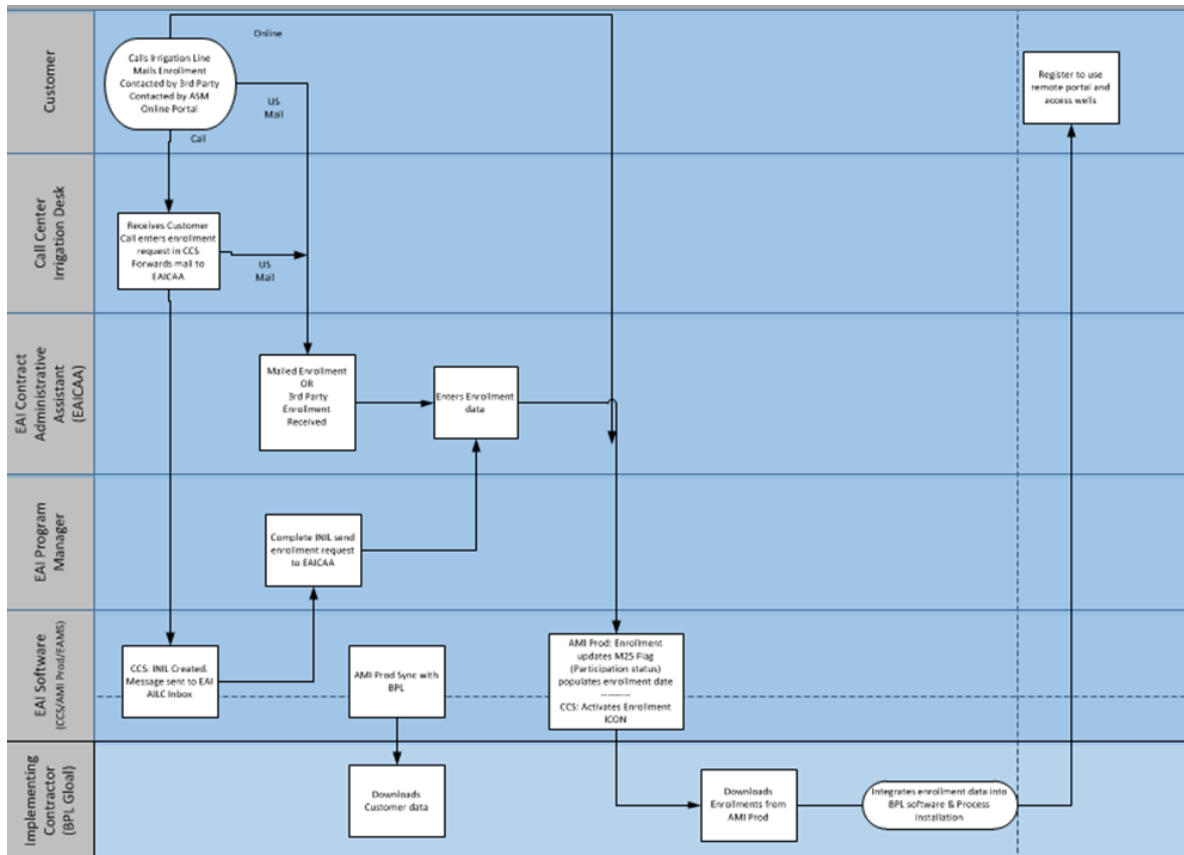
Enrollment starts in February and continues through August. Participation in this program shall be from June 1 through Aug. 31 and shall be automatically renewed for successive peak seasons in succeeding years unless terminated by participant. If participants find they cannot continue or do not wish to continue participation in the program, participants may opt-out or discontinue participation by forfeiting any pending monthly incentives. Participants may opt-out and re-enroll in the program at any time prior to June 1. After June 1, a customer may opt-out of the program, but re-enrollment into the program will be considered on a case-by-case basis. Allowable mid-season re-enrollment examples would be administrative error, change of pump ownership or management, account activation or de-activation, and pump motor modifications. Unless equipment removal is requested, opting out of the program will initiate field services to place the load control box on bypass mode.

This will allow the opt-out customer to experience uninterrupted service and allow future participation without additional service calls for equipment installation. If there is evidence of alteration or tampering with Agricultural Irrigation Load Control equipment, the participant will reimburse Entergy Arkansas for repair costs. Furthermore, if Entergy Arkansas considers the tampering to be recurrent or malicious, Entergy Arkansas may cancel the participation in this program, nullify any pending incentives, remove its control device and bill the participant the removal costs of \$1,950.

¹ Emergency Events may occur at any time from June 1 through Aug. 31 regardless of plan limitations.

PART III – Operations and Processes

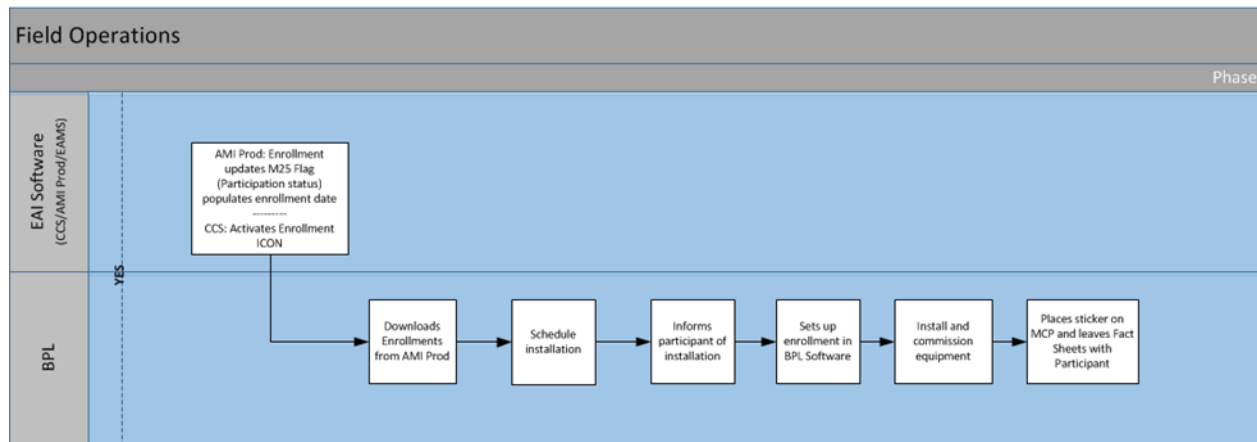
Enrollment & Installation



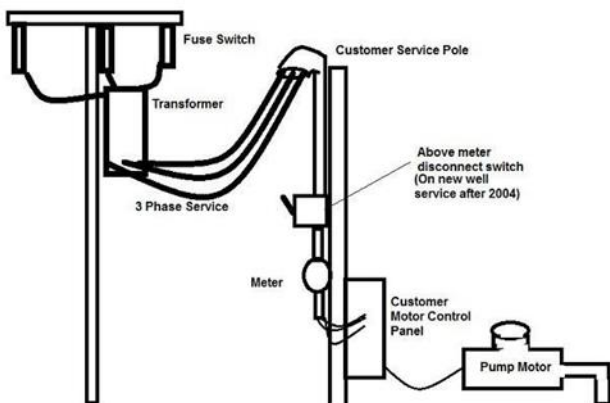
Operational Enrollment Process

The customer enrollment request begins the enrollment process with either a telephone call or return of U.S. Mail, solicitation from a third party or a customer directly registering in the Agricultural Irrigation Load Control Website. When initiated by U.S. Mail, any mail received will be forwarded to Entergy Arkansas' contract administrative assistant. The Call Center (Irrigation Desk) will take enrollment requests and enter the information into CCS Customer log, which will initiate the creation of an INIL in the CCS Agricultural Irrigation Load Control Inbox. The Entergy Arkansas Agricultural Irrigation Load Control program manager will check the Agricultural Irrigation Load Control inbox daily and complete each INIL by logging acknowledgment of the enrollment request and forwarding the enrollment data to the Entergy Arkansas contract administrative assistant. Any enrollment requests developed through marketing efforts and telemarketing will be sent to the Entergy Arkansas contract administrative assistant. The Entergy Arkansas contract administrative assistant will enter enrollment data directly into the Irrigation Load Control Portal. This secure website allows authorized users to access appropriate levels of data entry and the ability to schedule program curtailments. The website is an entry port to the AMI Prod database table.

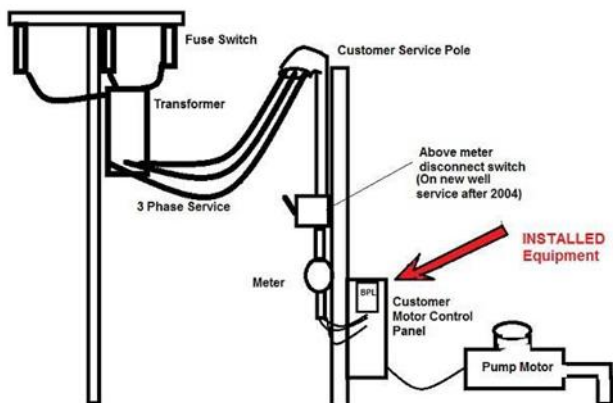
Once data is entered, the AMI Prod database is updated with the enrollment status and is synced nightly with the CCS system. CCS will activate a participation icon which indicates Agricultural Irrigation Load Control Program participation in the Call Center Application windows. At a pre-determined schedule, Entergy Arkansas will make customer data available for download to Connected Energy/BPL Global. The data will contain current account status, customer data and service location. During open enrollment, Connected Energy/BPL Global will download an update of AMI Prod nightly. The nightly download will have all new enrollments identified by an active M25 Flag field and a populated enrollment date field. Connected Energy/BPL Global will then use available customer and service data to schedule equipment installation. Once the participant has enrolled in the program, the location will be automatically added to Connected Energy/BPL Global's installation schedule. Connected Energy/BPL Global will enter all installed equipment information, customer and enrollment data into the proprietary Connected Energy/BPL Global software management systems to activate participation.



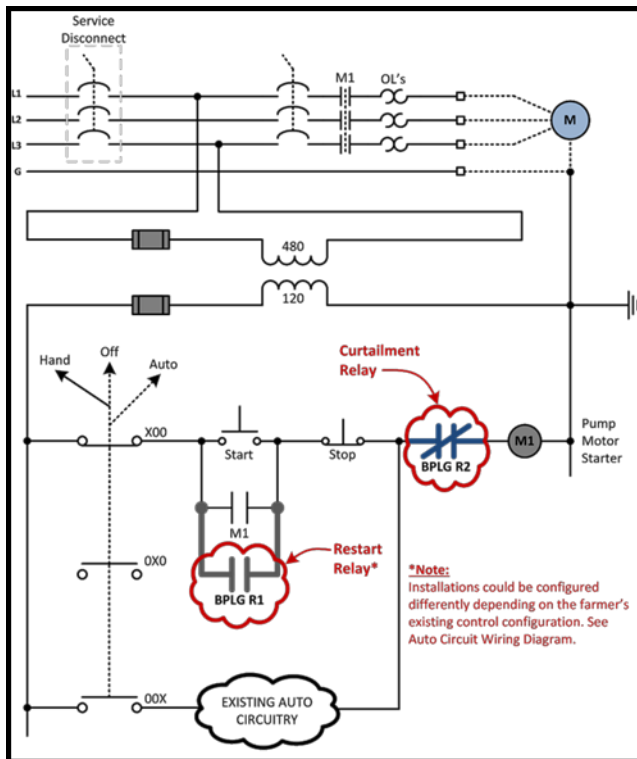
Operational Installation Process



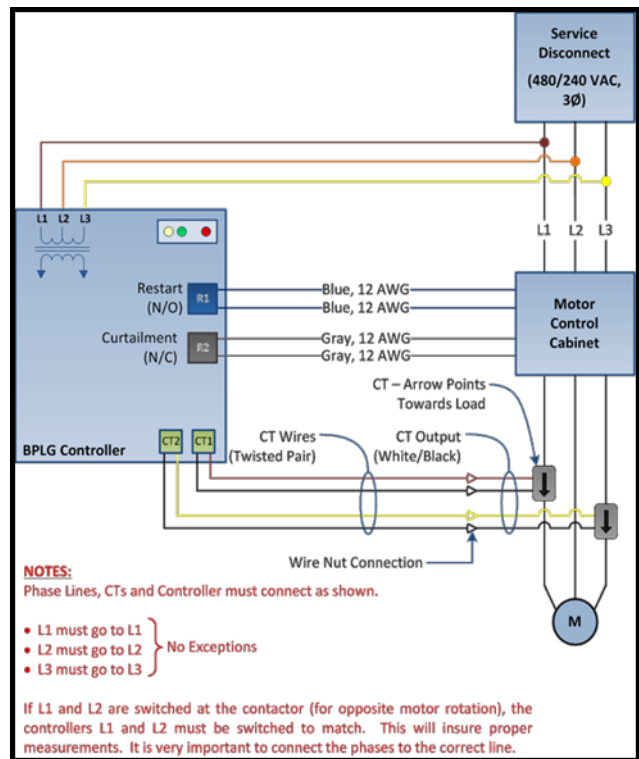
Typical Irrigation Three-Phase Electric Service



Typical New Controller Installation



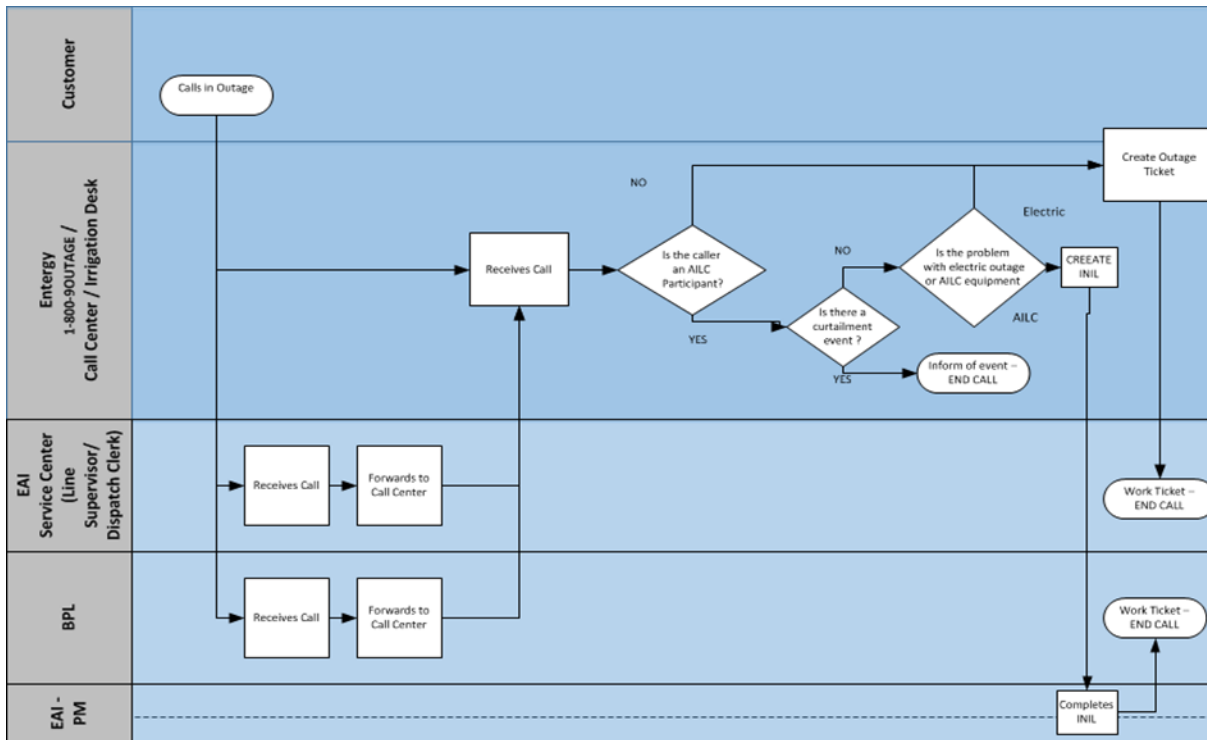
Schematic for New Installations



Wiring diagram for New Controller

New installations will typically encounter three-phase service as illustrated above. The new Connected Energy/BPL Global controllers will be mounted directly onto the customer's motor control panel as illustrated above. The Connected Energy/BPL Global controller will be wired directly into the load controller relays and in parallel with the customer's motor controller. This will allow the customer to remotely operate the motor and curtail service during curtailment events. Connected Energy/BPL Global will commission each installation by verifying communications and operability of each installed unit. After commissioning, Connected Energy/BPL Global will place a program decal on the motor controller panel and deliver program and equipment fact sheets to the participant. The customer may now enroll operational equipment in the web portal.

Outage Calls



Outage Call Process

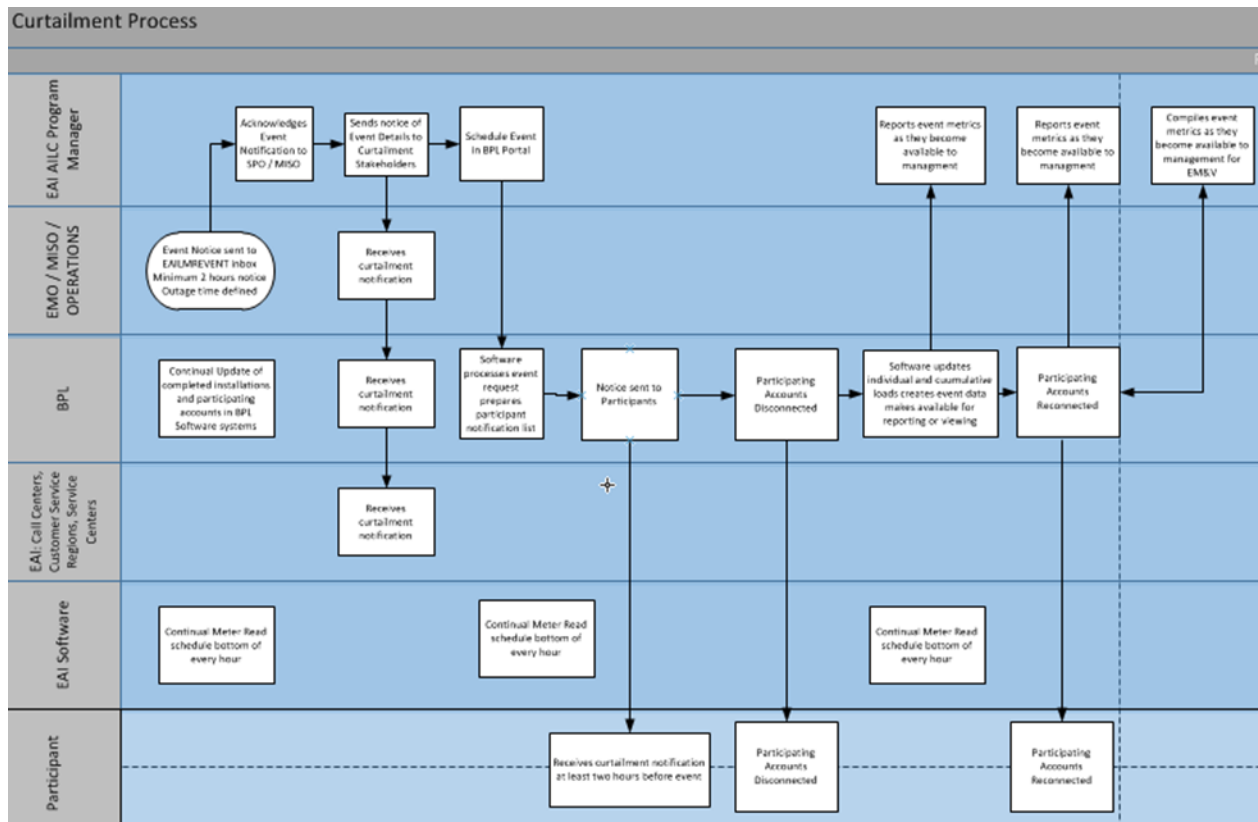
All outage calls will be processed through the Entergy Call Center through either the **800-9OUTAGE**, Irrigation Desk, or another call-in number. Any calls received by Connected Energy/BPL Global or an Entergy Arkansas regional service center should be forwarded to the call centers. The call centers will have access to CCS, where Agricultural Irrigation Load Control Program participation is identified by an enrollment icon. An outage service ticket should be issued to the local service center if the caller is not a participant in the Agricultural Irrigation Load Control program. If the caller is an Agricultural Irrigation Load Control program participant and a curtailment event is ongoing, the caller should be notified of the event specifics, including the end time of the event, and this should end the call. If there is not an active event, the CCR should ask probing questions to determine if the service is related to a lack of electric service (an outage) or problems with the Agricultural Irrigation Load Control program equipment and then issue either an outage ticket or create an INIL. Unknown responses or origin of problem should be issued an outage ticket. Examples of probing questions are:

- Are you calling about Irrigation Load Control? – Yes = INIL.
- Is the problem with your pump? – Yes, problem is pump = INIL.
- Can you tell if you have electric service? – No service = Outage ticket.

- Is the LED light on the Agricultural Irrigation Load controller on? – No = Outage ticket; AMBER = Curtailment event is ongoing.
- Can you tell if the meter is energized? – Not energized = Outage ticket; Energized = INIL.
- Are the transformer fuses blown? – Yes = Outage ticket.

Entergy Arkansas field operations will handle all outages as per standard operating procedures. Any service calls determined to be Agricultural Irrigation Load Control equipment issues should be reported to the Entergy Arkansas Agricultural Irrigation Load Control program manager or Connected Energy/BPL Global project manager directly.

Curtailments



Curtailment Process

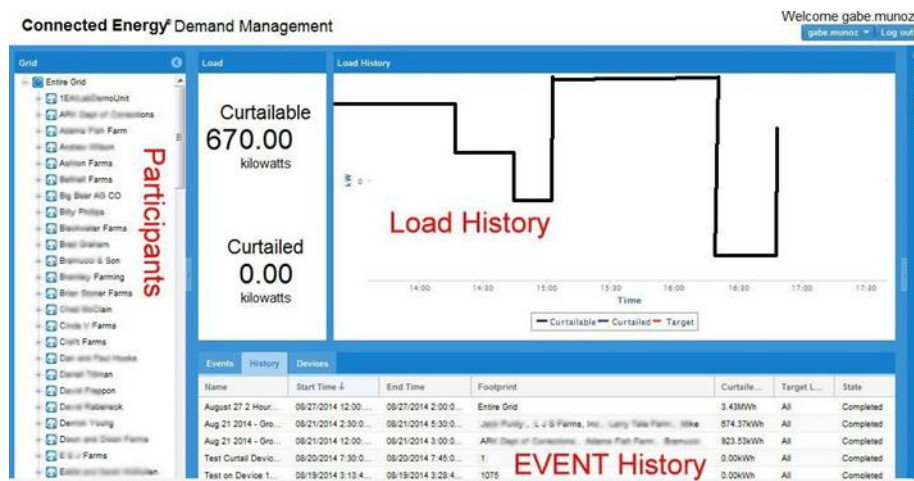
Program curtailments can be initiated three ways. A curtailment may be called by MISO or Entergy Arkansas' System Planning and Operations group to activate the primary function of the program. An emergency curtailment request may be called by regional operations centers in an emergency situation to alleviate grid overloading. The last curtailment initiation method is one initiated by the program manager for program testing. For an event to be activated by MISO, SPO or regional operations centers, the

initiating party will send an event activation notice to **eailmreventnotify@entergy.com**. The Entergy Arkansas Agricultural Irrigation Load Control program manager will acknowledge receipt of the activation request.

After acknowledging the request to the initiating party, the program manager will send event notifications to curtailments stakeholders such as:

- Call Center supervisors and managers.
- Irrigation Desk representatives.
- Customer Service representatives and Customer Service directors.
- Field Service Center dispatch clerks, line supervisors and regional operations managers.
- Agricultural Irrigation Load Control team members, contractors and team personnel.
- Regional Operations Center, SPO and MISO.
- Entergy Arkansas Energy Efficiency program managers, Energy Efficiency management, directors and executives.
- Communications and Marketing.

After sending notification of event, the program manager will enter the event specifications in the Connected Energy/BPL Global Event Portal **etr-dm.cnrg.com**. The Demand Management portal is a secure website and available only to authorized users. The portal window is shown below.



Connected Energy/BPL Global Curtailment Portal

Initiating a curtailment event begins a series of proprietary Connected Energy/BPL Global software processes, including scheduling the actual disconnect signal and preparation of event notification for participants. The notifications are filtered to eliminate repetitive notifications to participants with multiple locations. The participant notification will be sent two hours before the start of the event. In the case of an emergency event without a full two hours' notice, the notification will be made as soon as the list of

participants is complete. Connected Energy/BPL Global software will report successful disconnected load through the Connected Energy/BPL Global Event Portal as soon as information is available. In addition to MISO, SPO and Regional Operations center called events, Entergy Arkansas will conduct test curtailments during the season to test the communications and operations of installed equipment or to conduct Evaluation Measurement and Verification. The same notification process will be followed for test events as regular events. The Agricultural Irrigation Load Control program will only curtail the participating irrigation loads during the peak billing season. In addition, the curtailments may only be scheduled on weekdays for a total of four hours (not counting a 15-minute ramp-up window) and be limited to occur between noon and 9 p.m. Furthermore, scheduled curtailments may not exceed two events in the same week. Planned curtailments may not exceed 60 hours of curtailed service during the season.

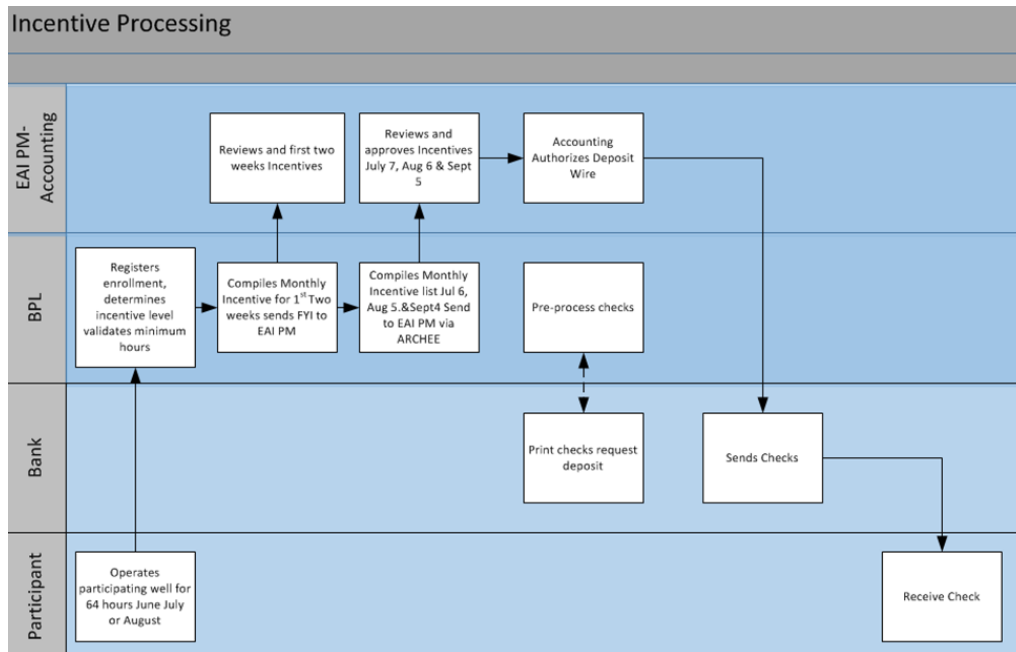
Before a curtailment event, the participant will receive an e-mail or text message notifying them of an upcoming curtailment including the duration of the curtailment as long as curtailment notification is selected during the enrollment process.

In order for the entire curtailment process to function, meters enrolled in the program must be able to be disconnectable. This means the unit must have cellular communications available and have the motor energized. If a meter is not disconnectable because the participant has manually disconnected electric service² to the motor, the scheduled curtailment will fail for that unit, and any incentives earned by the participant will be nullified. Connected Energy/BPL Global or Entergy Arkansas will place a switch operation violation notice upon reported instances of this event. Please reference the Appendix for a copy of the switch notice. If the curtailment fails due to cellular communications failure, no incentive penalty will be applied and Connected Energy/BPL Global will issue a repair ticket if required to remedy the communications. During the scheduled event, the External Customer Portal will have the remote-control feature disabled.

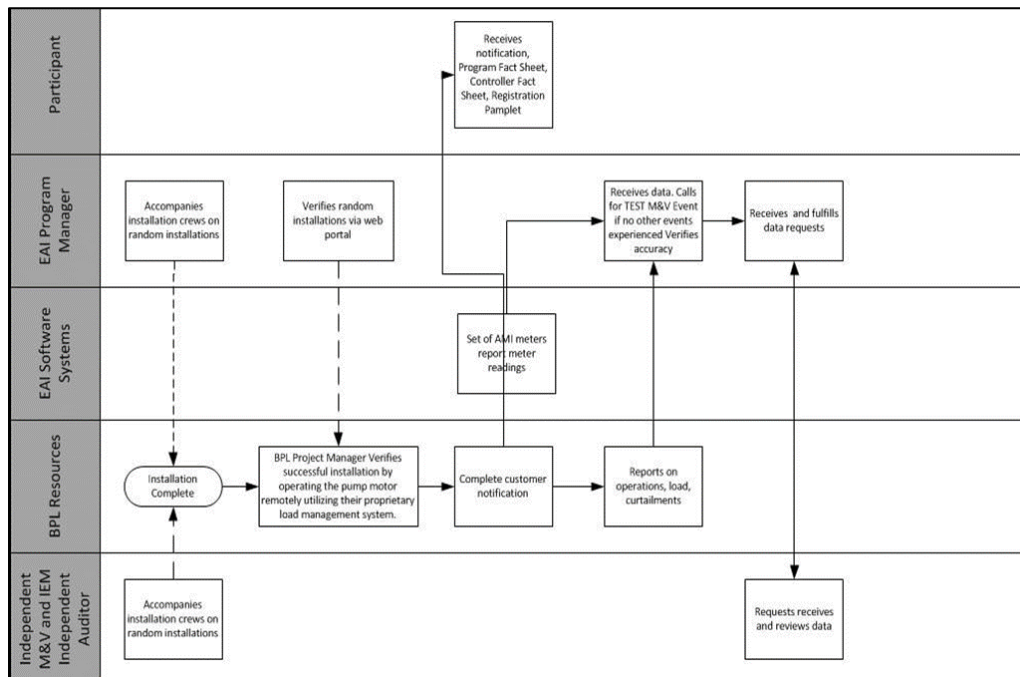
² Manually disconnecting electric service by operating any switch or device between the meter and transformer is not allowed. Please see Appendix for disconnect switch specifications.

Incentive Process

Incentive checks will be calculated by the implementing contractor and follow the following process.



Quality Management System and EM&V



Entergy Arkansas management will utilize a three-tiered system for quality assurance, evaluation measurement and verification. The first level or Tier 1 will ensure participant enrollment, installation and operation of Agricultural Irrigation Load Control equipment and appropriate incentive processing. Please reference process flow charts for further details. Tier 1 tools and resources are built into Connected Energy/BPL Global program reporting. Tier 1 tools and resources monitor the quality and functionality of participating accounts. These Tier 1 tools and resources include but are not limited to:

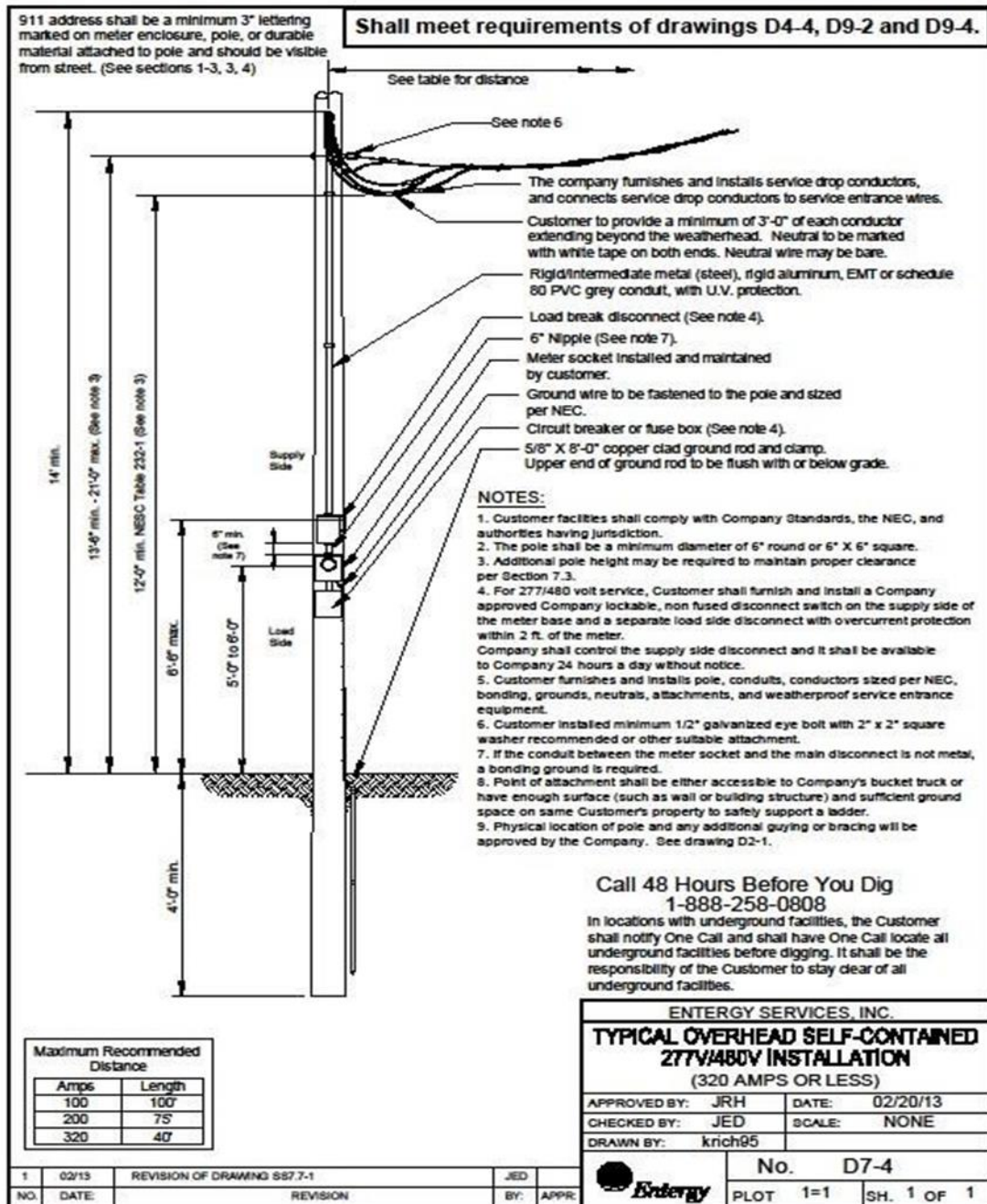
- Entergy Arkansas' proprietary customer service software CCS.
- Entergy Arkansas' EAMS reporting.
- COGNOS Reporting (15-minute interval meter readings).
- Connected Energy/BPL Global reporting software.

A second or Tier 2 quality assurance and verification will include review and oversight from Entergy Arkansas management and staff. Entergy Arkansas personnel will review installation invoicing and verify installation work by reviewing meter operations and conducting field site visits. Entergy Arkansas staff resources will personally attend to participant issues either by telephone, in person or through correspondence. Entergy Arkansas management will query available database information to measure activity success and failure rates for proposed curtailments, remote well operations, incentive distribution and budgetary execution. Entergy Arkansas management will also monitor and create monthly internal reporting on load and participant goal attainment.

For the last or Tier 3 set of QA/QC activity, Entergy Arkansas will also employ a third-party vendor to conduct participant and ex-participant surveys to measure program satisfaction and marketing effectiveness. Additionally, an independent auditor will verify incentive processing is accurate and authentic. Lastly, the state Independent Evaluation Monitor will review processes and achievements.

APPENDIX

New 240/480 Electric Service Standard



Do-Not-Operate Switch Tag

