



Time of Use Rates Transition Plan

System and Processes for Competitive
Retail Energy Suppliers Participation
during Transition Period

July 24, 2017

Document Revision 1.0

BOUNDLESS ENERGY™

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Document Revision History

Version Number	Date	Description
1.0	7/24/2017	Initial Release of Document

1. Introduction

In the stipulation for the GridSMART Phase 2 Rider, the Public Utilities Commission of Ohio (PUCO) ordered the Commission Staff, AEP Ohio and Competitive Retail Energy Providers (CRES) to work together to administer a Time Of Use (TOU) transition plan for the time differentiated rates and other gridSMART tariffs. This document contains information on the systems and processes to be used for the six month transition period that will be used to determine if a market develops for TOU rates and programs. A longer term plan will be developed depending on the outcome of the transition trial and could include further automation, expanded rate plans, new technology options and additional updates to the CRES Business Partner Portal.

2. Eligible Plans (Tariffs/Rider)

For a customer to participate on a TOU program, they must have an AMI meter installed. The stipulation calls for the CRES to develop similar programs following existing AEP Ohio programs:

1. TOD - SMART Shift – 2 Tier Time of Use – Schedule RS – TOD2 (Residential), Schedule GS1-TOD (Small General Service)
2. CPP - SMART Shift Plus – 3 Tier Time of Use – Schedule RS – CPP
3. DLC - SMART Cooling – Thermostat Direct Load Control – Rider DLC

These plans are based on Public Utility Commission of Ohio approved tariffs/riders and the specific rate sheets for the TOU program parameters are available in Appendix B of this document. They can also be found starting on page 123 of the AEP Ohio Standard Tariffs document:

https://www.aepohio.com/global/utilities/lib/docs/ratesandtariffs/Ohio/2017-05-30_AEP_Ohio_Standard_Tariff.pdf

A customer can be on both the SMART Shift program (TOD) and SMART Cooling (DLC) programs with the same CRES. A customer cannot be on SMART Shift Plus (CPP) and SMART Cooling. For the transition period, all the rules of the tariffs/rider will apply.

A new AMI Flag will be added to the enrollment list and will be populated for customers who have an AMI meter installed so CRES will know who currently eligible for a TOU program.

3. In Home Device Technology

All in home device technology for the current programs is connected to the meter and all communication to the devices is through the meter network. No devices are connected to the internet via the customers wireless or hardwire connections.

As part of the transition, AEP will not be installing any in home device technology into potential new customer's homes. The installed customer base will be available for switch to a new CRES TOU program and AEP will support the CRES use of the existing installed device technology for operation of their program. More information on the operation of the program is provided as part of this document.

As part of the transition, a CRES will be free to use another technology for operation of one of their programs as long as it does not need to be connected directly to the customer's AMI meter. The CRES would be responsible for all interactions with the new technology. The most common use case for a CRES would be an internet connected device that would receive and take action on events. Depending on the development of a market during the transition period and the commission's direction for TOU programs, additional options could be added to connect technology to the meter.

More information on AEP Ohio's current installed in home device technology for each program is provided below.

3.1. SMART Shift Device Technology

The SMART Shift (TOD) program does not require any in home device technology, however some customers do have a basic In Home Display (IHD) device to display current usage along with rate information. This is strictly for information purposes only.

3.2. SMART Shift Plus Device Technology

The SMART Shift Plus (CPP) program does not require in home technology as long as there is a method to notify customers of a CPP event. However, the AEP Smart Shift Plus program does have in home device technology installed. Customers either have a Radio Thermostat of America (RTA) thermostat that has the ability to display if an event is occurring (along with a message) and the current rate for electricity (including the CPP rate) or a few remaining customers have a Control 4 IHD and thermostat to display rate information and communicate information on events.

The program could be implemented without in home device technology and use another method to communicate the CPP event information to a customer (email, phone, text, etc.).

3.3. SMART Cooling Device Technology

The SMART Cooling (DLC) program will require the use of connected in home device technology to control the HVAC during load control events. The current program uses the Radio Thermostat of America (RTA) thermostat which has the ability to accept events to control set point, display a message and display current hourly rate information. Since a SMART Cooling customer can also be on SMART Shift (but not

SMART Shift Plus), they could also have a simple in home display that shows current usage information along with current hourly rates.

4. General Rules

The following are the general rules for the TOU Transition period:

1. A customer must have an AMI Meter to participation in a TOU Program.
2. SMART Shift (TOD) and SMART Shift Plus (CPP) are rate ready, bill ready or dual billing
3. SMART Cooling (DLC) is bill ready and dual billing only
4. CRES rates for TOU Programs must be loaded into the CRES Business Partner portal prior to offering the TOU program.
5. Programs will utilize existing meter programs only.
6. Enrollments will be effective on bill cycle the same as changes in bill method is today.
7. No new in home devices or technology will be installed by AEP Ohio.
8. CRES are free to install new technology in the customers home if they communicate with the device via communication paths other than the meter (internet, third party, etc.). No new CRES provided in home devices/technology can be connected to the meter during transition period.
9. If a CRES is offering a SMART Shift Plus plan (with or without technology), any event executed must follow the AEP event calling process so the meter knows when to accumulate the usage for the CPP tier.
10. If a CRES plans to convert any current customer to one of their programs that has installed technology, then the CRES must provide rates for display on the technology. See the In Home Technology Displayed Rates section below.
11. SMART Cooling and SMART Shift Plus have limits on number of events per year. It is the responsibility of the CRES to stay within the limits as defined. AEP Ohio will not track event limits.
12. For rate-ready offers, rates must be entered into the BPP using existing functionality and controls.
13. Customers will be flagged as CRES TOU billed in AEP Ohio systems. Customer Load will be settled hourly at PJM and PLCs will be calculated using actual hourly data. EDI hourly usage or historical data will not be available until 2019.

More information on these rules can be found within this document.

5. Enrollment/Termination

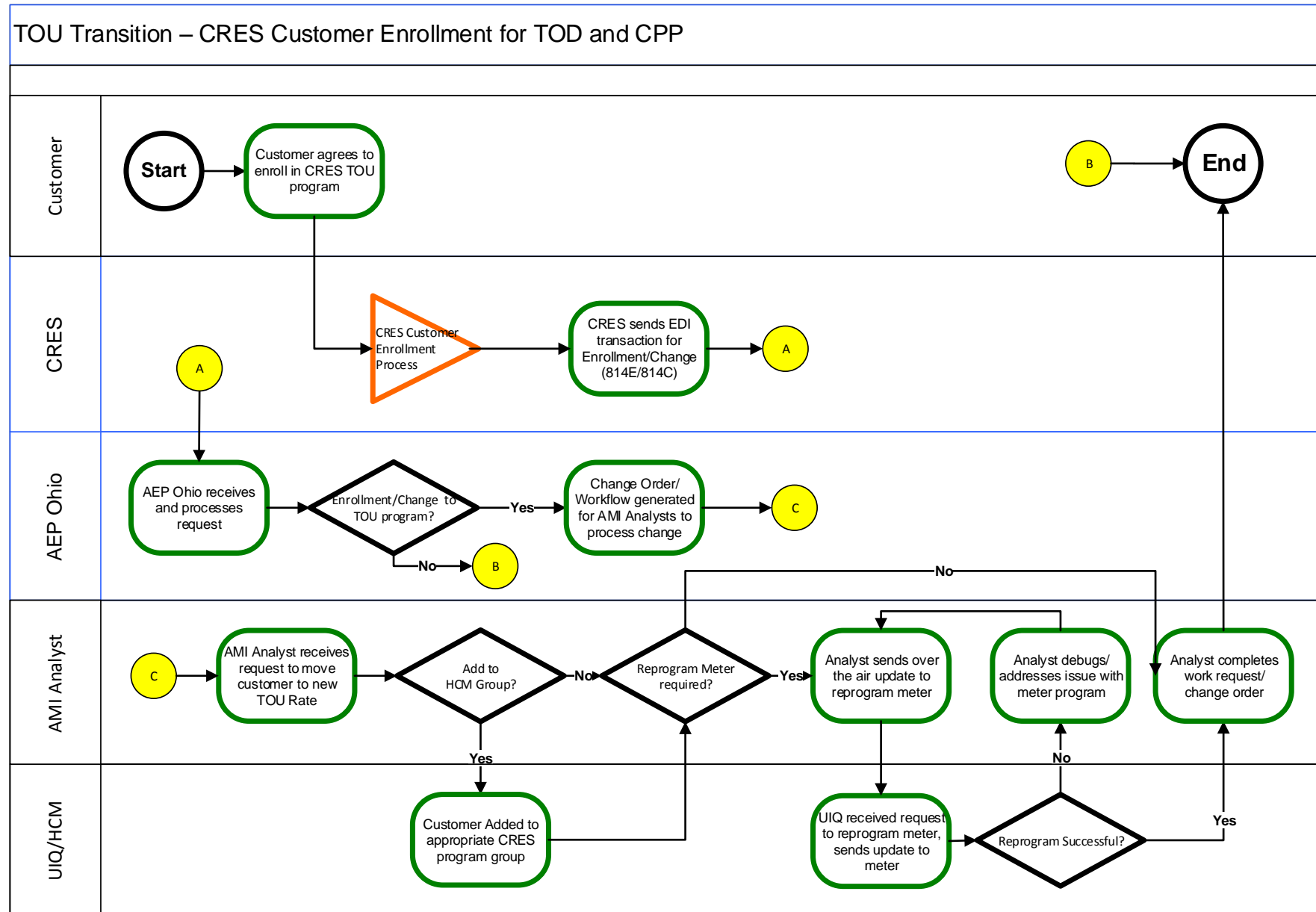
All enrollments to and terminations from a tiered CRES TOU Program (TOD and CPP) will be handled through the EDI process. For SMART Cooling (DLC), a manual process will be put in place for the transition period for enrollments and terminations. The next two sections detail the processes for each.

5.1. Smart Shift (TOD)/Smart Shift Plus (CPP)

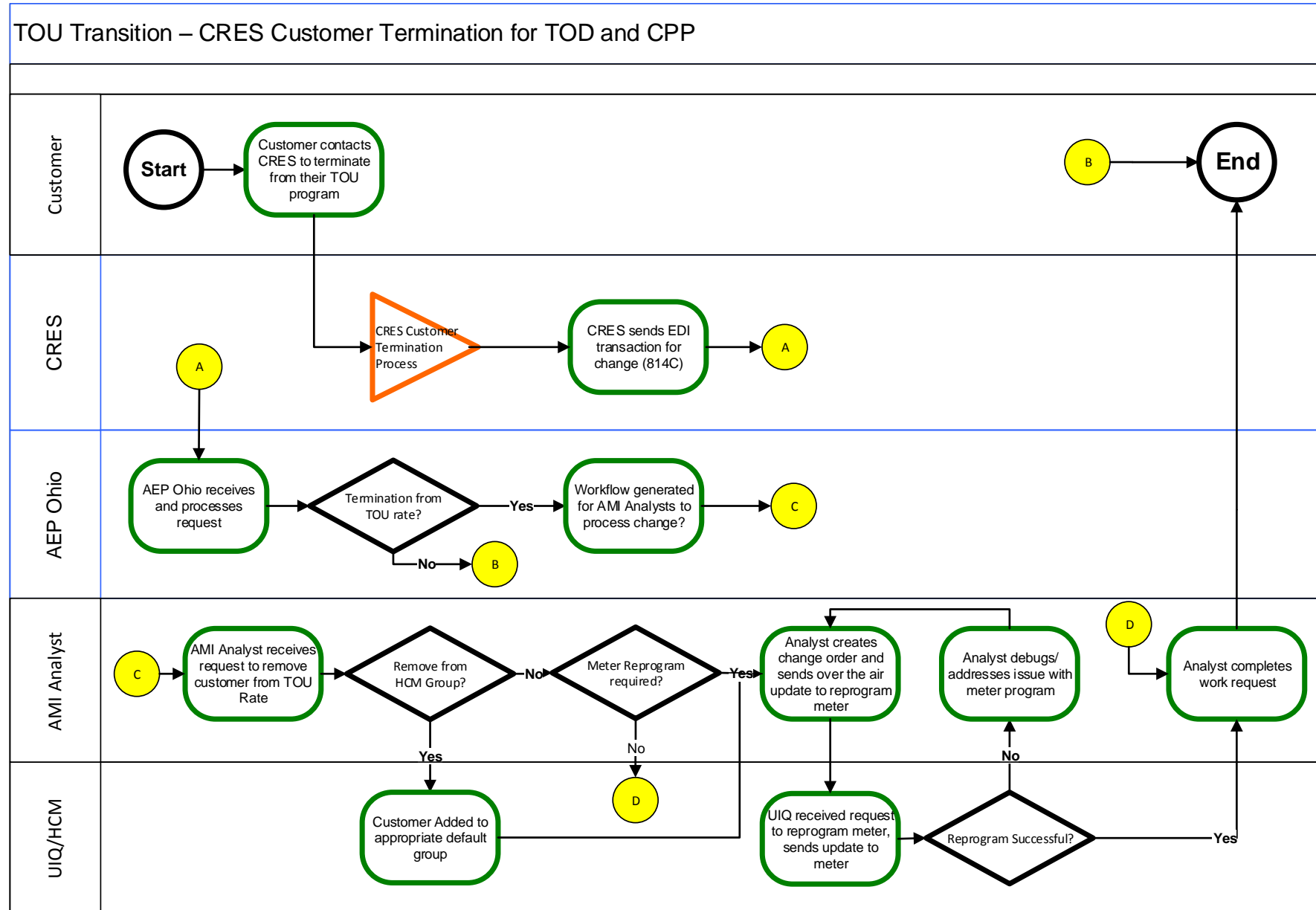
All enrollments are handled through EDI transactions. More information can be found in Appendix A on the changes to the EDI transactions that must be supported prior to offering TOU rates.

When a customer is added or removed from a TOD/CPP program, steps will be taken by AEP Ohio to manage their participation in a program. The following are the AEP Ohio processes used when a new customer is added or removed from a TOU program by a CRES.

5.1.1. TOD/CPP Customer Enrollment Process



5.1.2. TOD/CPP Customer Termination Process



5.2. SMART Cooling (DLC)

For the transition period, a manual process will be used for enrollments and terminations from the DLC program. Since DLC is a bill ready or dual billing program, all information for the program, plus credit calculations, is maintained by the CRES. However, the use of AEP installed technology for existing DLC customers switching to a CERS program is permitted. When this happens, the CRES must notify AEP via email of the customer switching so that steps can be taken to put that customer in the correct CRES group for event notifications.

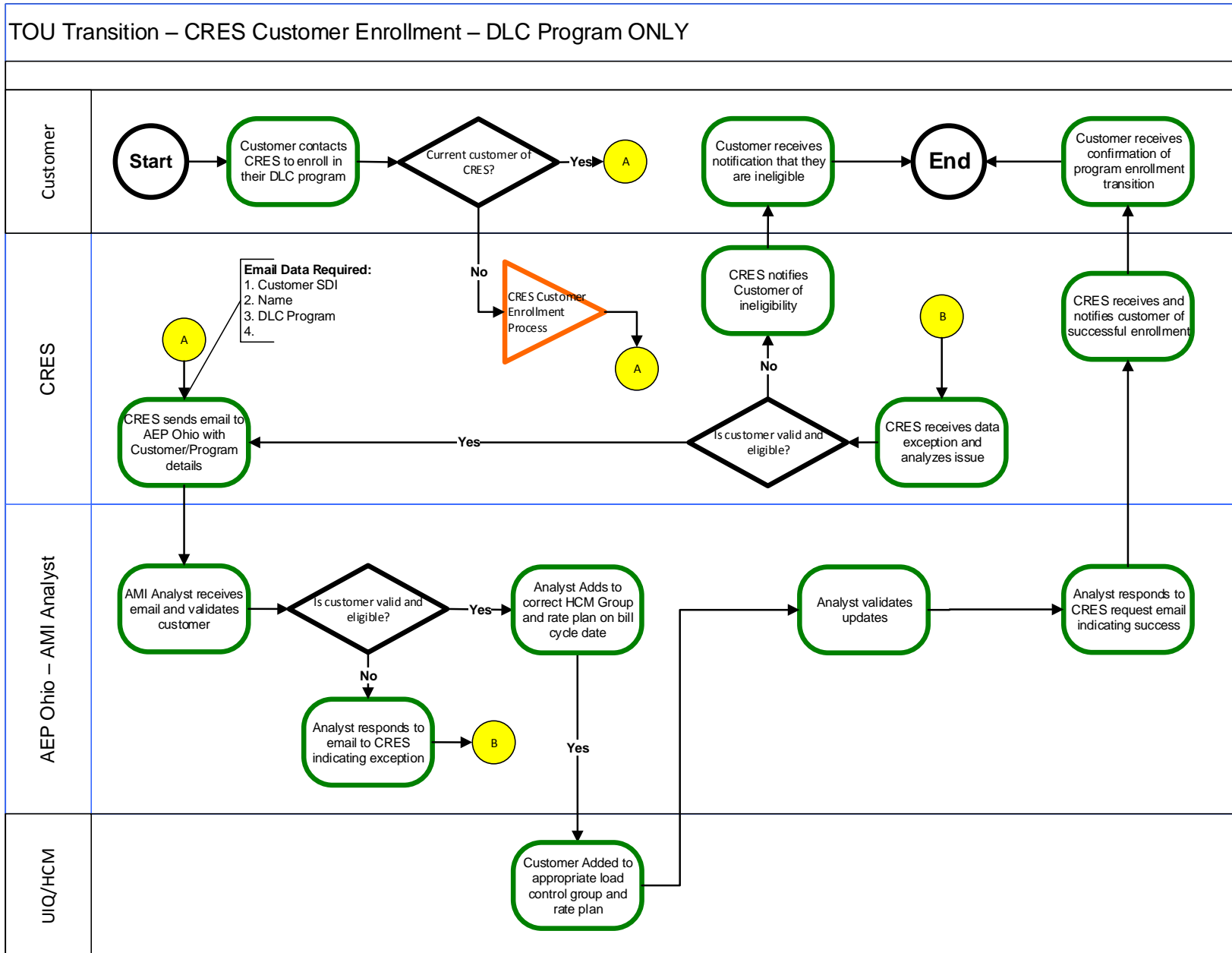
In addition, when a customer is removed from a CRES program, the CRES must notify AEP Ohio to remove the customer from the program.

The notification to enroll or remove a customer from a CRES DLC Program will be handled through email. The email should be sent to the AEPOCRES@aep.com and include the following information.

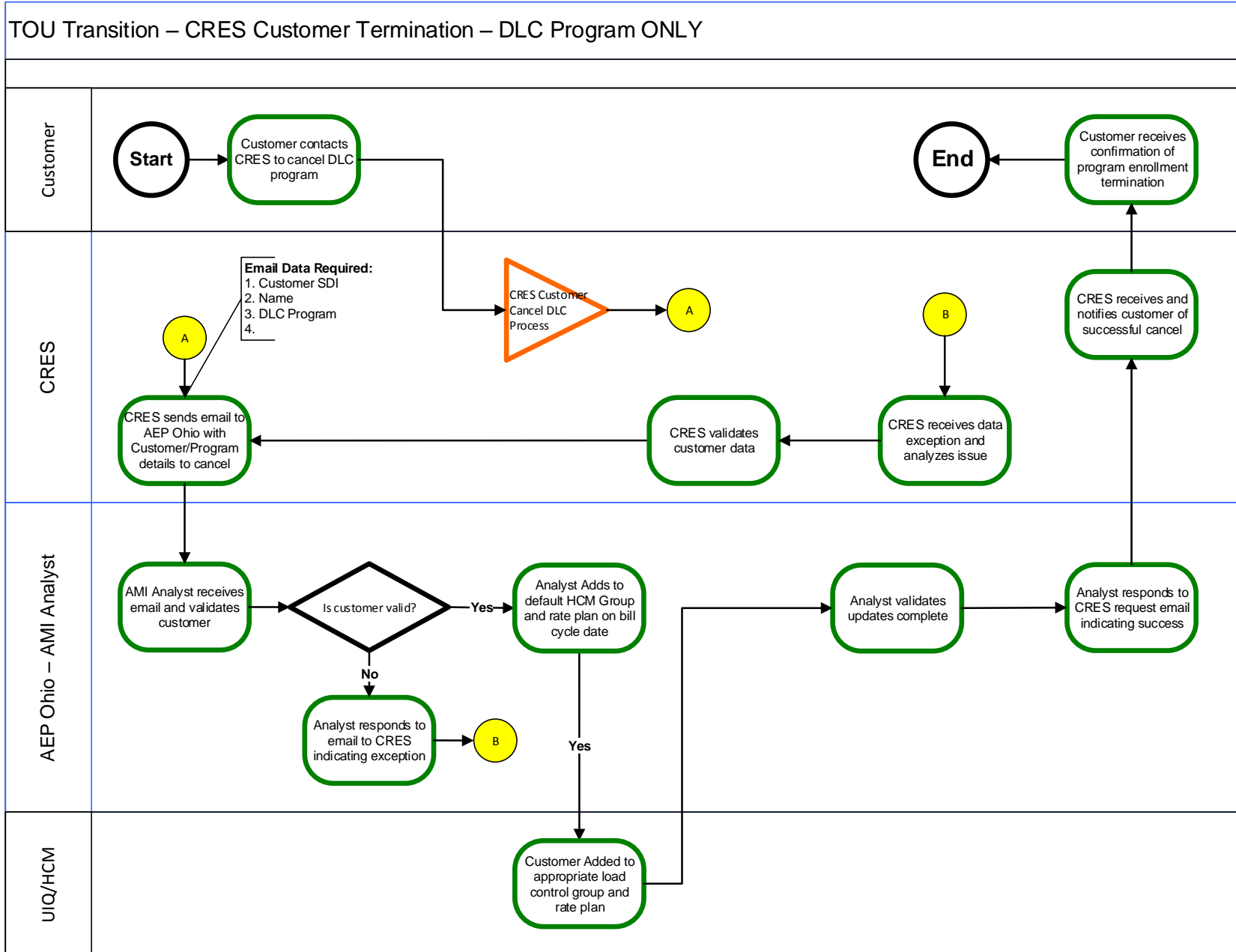
1. Email Subject: DLC CUSTOMER CHANGE
2. CRES Name
3. Customer Name
4. Customer ID
5. Address
6. City
7. State
8. Zip Code
9. Type of Change: ENROLL or REMOVE

The customer will be added or removed from the program on the next bill cycle date. On an enrollment, if the customer is at the same time switching to the CRES as their provider, then the EDI Transaction to enroll the customer with the CRES must be completed.

5.2.1. DLC Customer Enrollment Process



5.2.2. DLC Customer Termination Process



6. In Home Technology Displayed Rates

As mentioned in the in home device technology section, customers currently have devices installed with the ability to display rate information, including current kWh price (in cents). For the transition period, the rate displayed will be the kWh price for the generation charges. Because we do not have the ability to turn off this functionality and in order to continue to display this information to a customer, the CRES must supply a rate to display for each program for their customers. This is one rate plan per program (not per customer). These rates are for informational purposes only and are not used in any way for bill calculation.

For the SMART Cooling (DLC) program, the rate displayed has nothing to do with the monthly credit, it is simple the kWh they are paying for energy. If a customer is also on the SMART Shift (TOD) program, then the tiered rates for that program would be displayed.

Because of the manual processes during the transition, the CRES is limited to making changes to the displayed rates once per month. The low/off peak tier rate will be used for all hours during the winter seasons for SMART Shift and SMART Shift Plus programs (as defined in the tariff). Once we update the displayed rate changes in the system, they are pushed to the customers in home device at 5AM the next day.

The following describes the rate information that must be provided for each program.

6.1. SMART Shift (TOD) Displayed Rates

The following data points are required for the SMART Shift rate plan:

1. Off Peak Tier Name – Limit 5 Characters
2. Off Peak Tier Price – Cents/kWh
3. On Peak Tier Name – Limit 5 Characters
4. On Peak Tier Price – Cents/kWh

6.2. SMART Shift Plus (CPP) Displayed Rates

The following data points are required for the SMART Shift Plus rate plan:

1. Low Tier Name – Limit 5 Characters
2. Low Tier Price – Cents/kWh
3. Medium Tier Name – Limit 5 Characters
4. Medium Tier Price – Cents/kWh
5. High Tier Name – Limit 5 Characters
6. High Tier Price – Cents/kWh
7. Critical Tier Name – Limit 5 Characters
8. Critical Tier Price – Cents/kWh

6.3. SMART Cooling (DLC) Displayed Rates

The following data points are required for the SMART Cooling rate plan:

1. Name – Limit 5 Characters
2. Price – Cents/kWh

Note: If a customer is on the SMART Shift program in addition to SMART Cooling, the SMART Shift rate will be used for display purposes and the CRES will be required to provide rate plans for both (if a CRES is offering both programs).

6.4. Displayed Rate Plan Updates

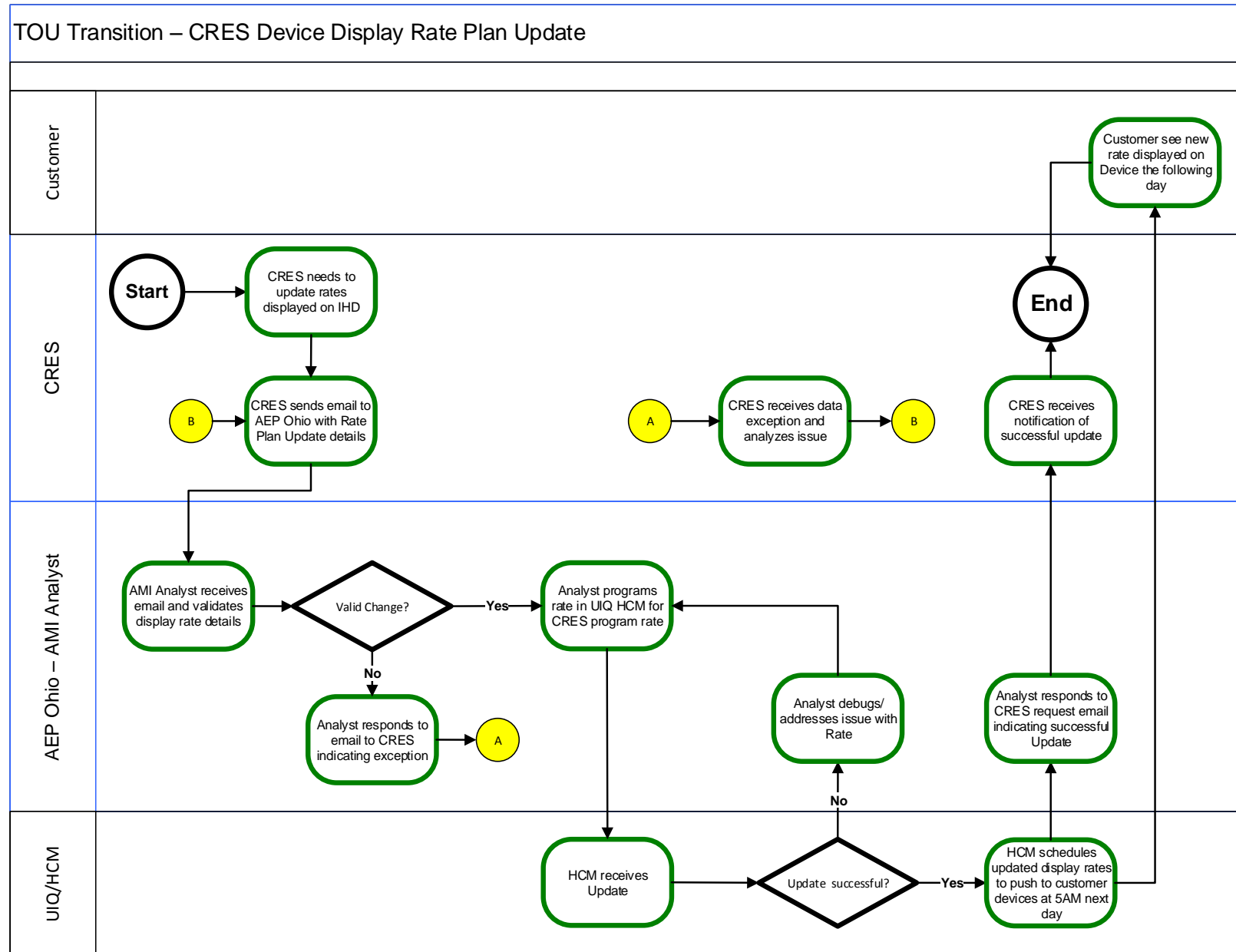
The following process will be used by a CRES when first setting up a TOU program or when an update to rates values to be displayed on a device. Again, this is only for informational purposes for customers on currently installed devices and is not used in any billing calculation.

Displayed rate updates are limited to one change per month during the transition period due to the manual processes being used. The email should be sent to AEPOCRES@aep.com. The email for any new/updated rate plans must include the following:

1. Email Subject: RATE UPDATE
2. CRES Name
3. Program Name
4. Displayed Rate Plan Details – see required data above

AEP Ohio will make the requested displayed rate changes within 3 Business Days after receipt of the email to request the change. These changes only impact informational rates displayed on devices and CRES must follow existing processes for updating rates used for billing in the CRES Business Partner Portal.

6.4.1. Displayed Rate Plan Update Process



7. Events

All events for Critical Peak Pricing or Direct Load Control will be initiated by the CRES. For events that occur on Tuesday thru Friday, AEP Ohio must be notified 24 hours in advance of the event. For events that occur on Monday, AEP Ohio must be notified by 3pm the prior Friday. For the transition period, no events will occur on the weekends or the holidays of July 4th and Labor Day. Events, once scheduled, can be cancelled until 8AM the day of the event. Event requests received outside of these required notification windows will not be scheduled or cancelled. The tariff and rider have limits on the number of events per year and it is the responsibility of the CRES to stay within these limits. AEP Ohio will not be tracking the event limitations.

The following rules apply to SMART Cooling (DLC) and SMART Shift Plus Critical Peak (CPP) events:

1. Request to schedule an event are made via email sent to AEPOCRES@aep.com
2. The timing of the email for event scheduling:
 - a. Tuesday thru Friday event days: 24 hours prior to event start time
 - b. Monday events: 3pm Friday prior to event day
 - c. Weekends: No events permitted.
3. Requests to cancel a scheduled event are made via email and must be received by 8AM day of event.
4. All customers in the CRES's program will be called as part of the event
5. For the transition period on the DLC program, only the temperature setback methodology will be supported for events.
6. Only one event per CRES program may be called per day.
7. The maximum number of events per customer per season is defined in the tariff/riders by the PUCO and it is the responsibility of the CRES to stay within the required limits. Note: If a customer changes supplier/program, it is assumed that the limits for events for this customer are reset.
8. When requesting the event, the following must be provided:
 - a. Email Subject: SCHEDULE EVENT
 - b. CRES Name
 - c. Program
 - d. Event Date
 - e. Event Start Time
 - f. Event End Time
 - g. Degree Offset (DLC/SMART Cooling ONLY)
 - h. Display Message (limited to 20 characters). AEP Ohio does not guarantee how the message is displayed on the individual device screens.
9. When requesting to cancel a previously scheduled event, the following must be provided:
 - a. Email Subject: CANCEL EVENT

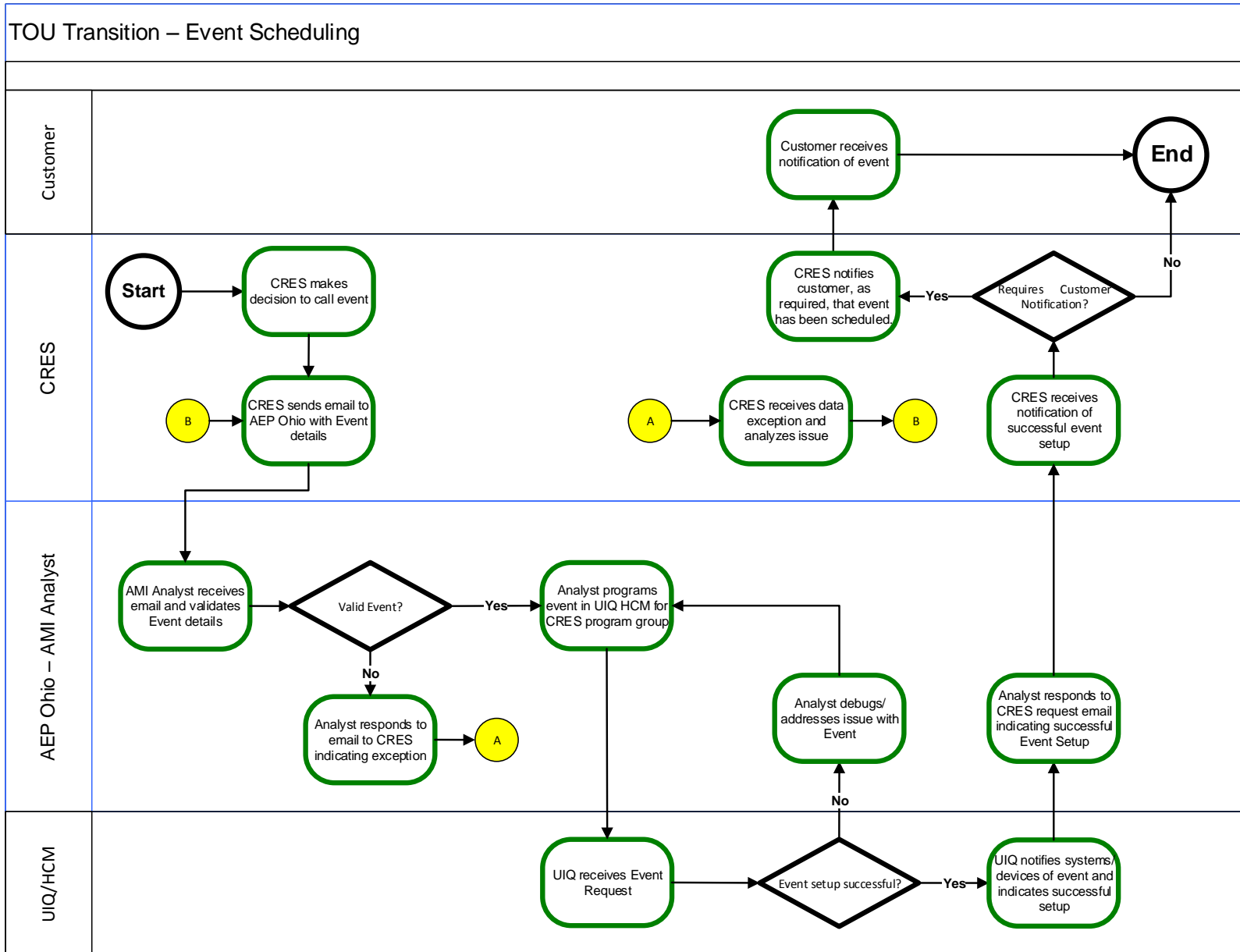
- b. CRES Name
- c. Program
- d. Event Date
- e. Event Start Time
- f. Event End Time

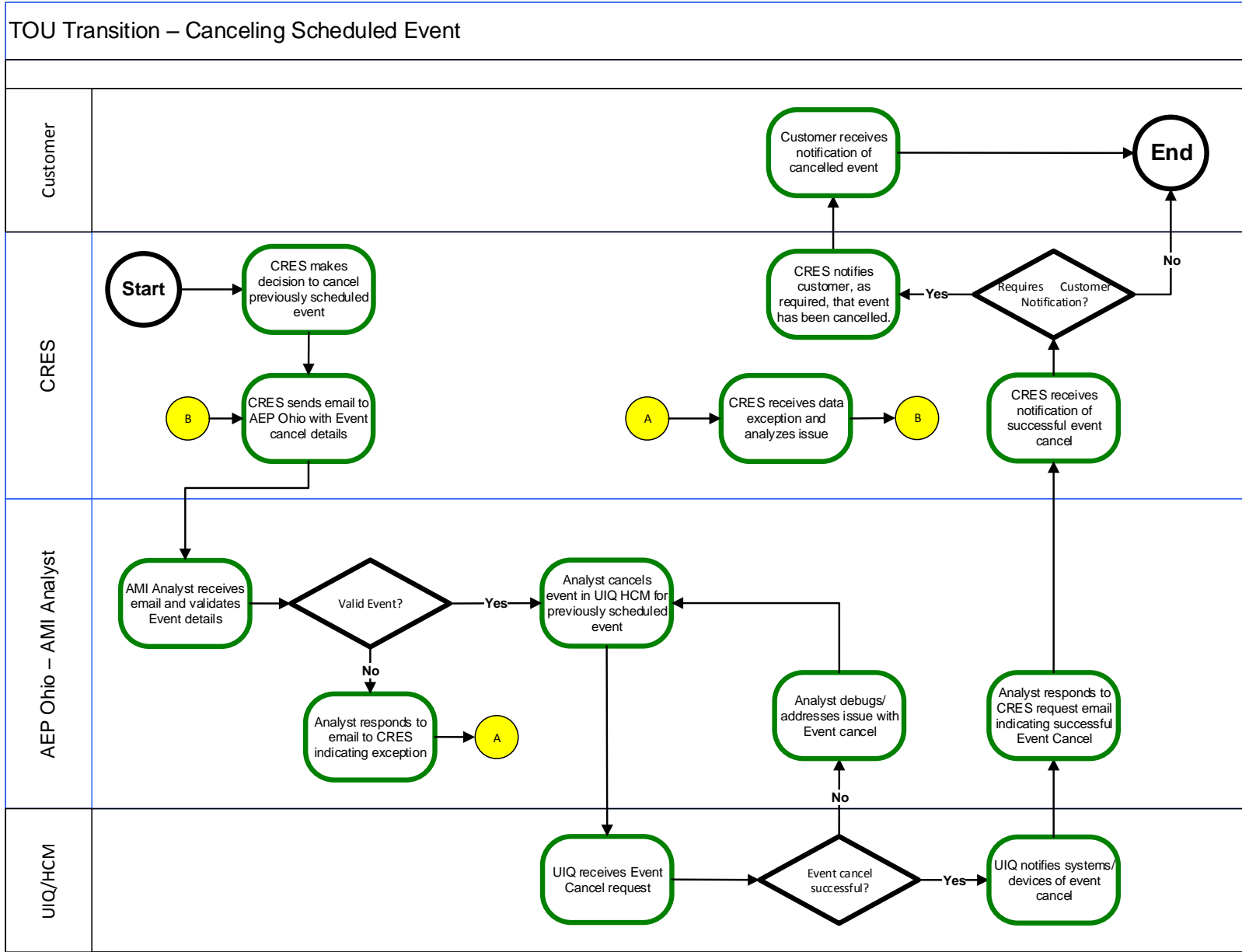
10. Any required notifications to customers are the responsibility of the CRES.

7.1. Event Processes

The following are the processes used by CRES/AEP Ohio to execute an event for either the SMART Shift Plus or SMART Cooling programs.

7.1.1. Schedule Event Process

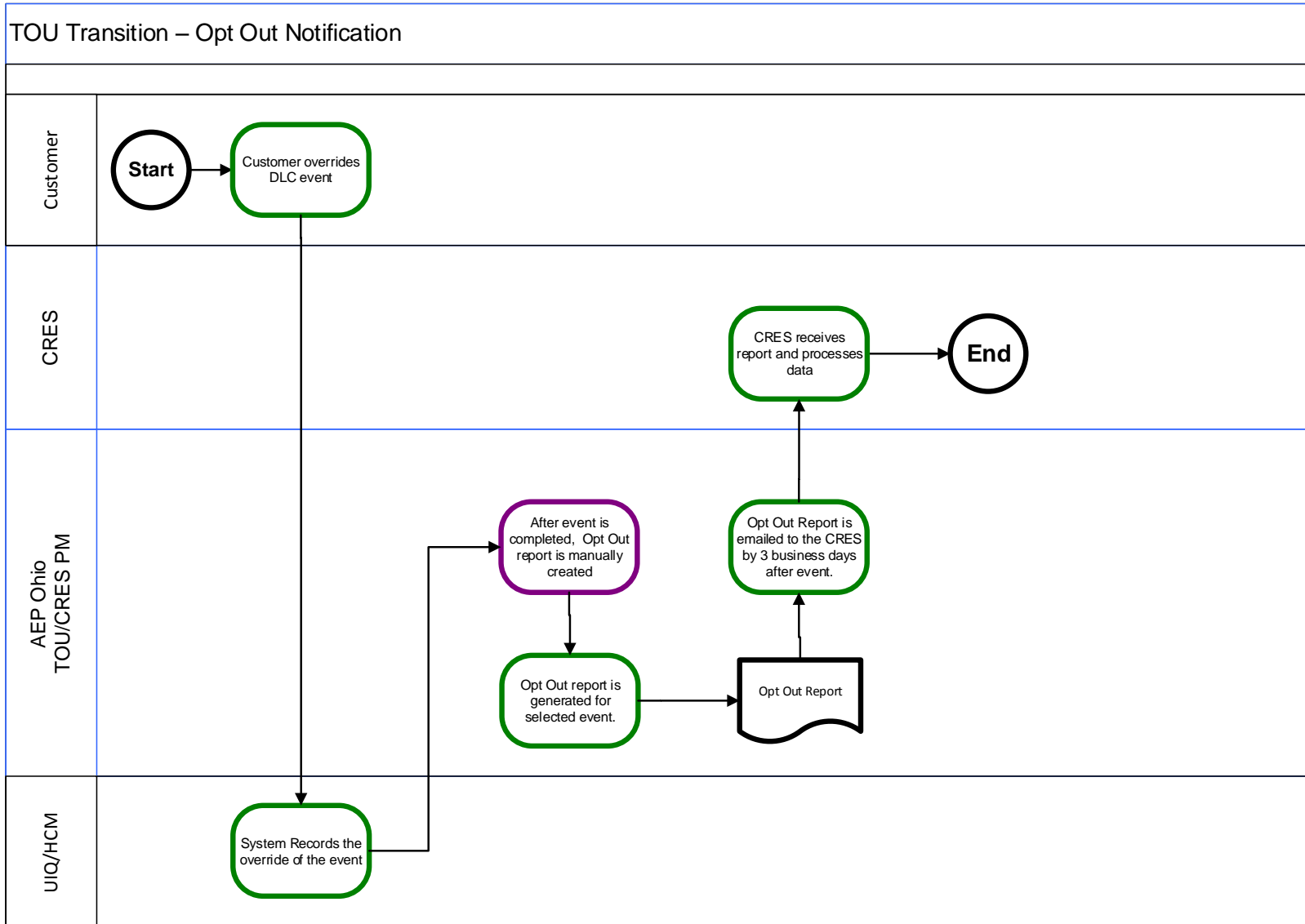




7.2. Post Event Opt Out Report – SMART Cooling ONLY

Within 3 business days of a completed SMART Cooling event, AEP Ohio will provide to the CRES a list of customers in the event who opted out (overrode) the event on their RTA thermostat.

7.2.1. Opt Out Notification Process



8. Settlement/Billing

8.1. Setup Rates in the CRES Business Portal

Prior to offering any program as rate ready, the CRES must setup their rates in the CRES Business Partner portal.

8.2. Billing

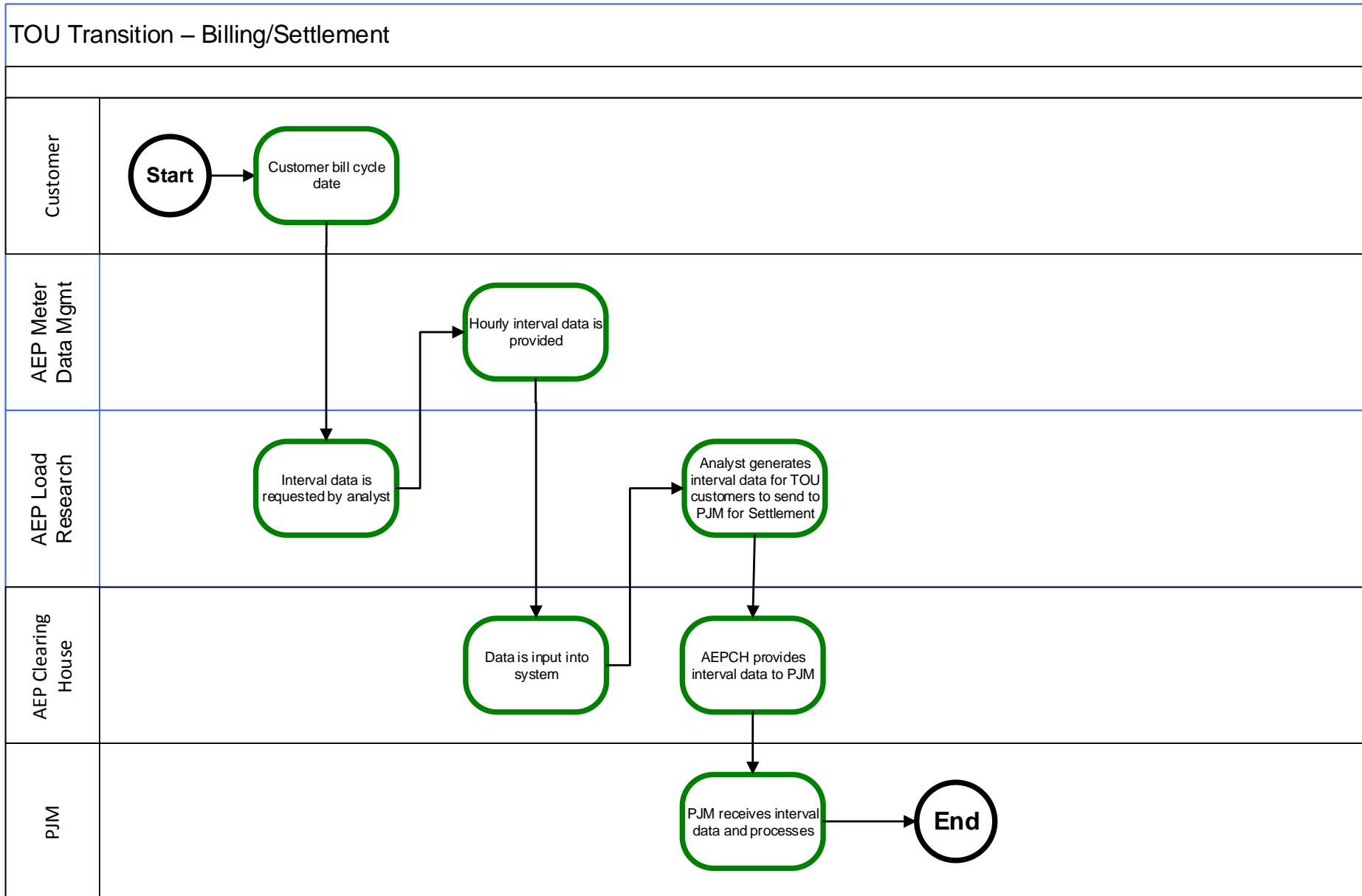
All billing will continue to be handled through the existing EDI processes. There have been some changes/updates to support the new TOU programs. See Appendix A for more information. In addition, the following business rules apply to TOU tiers:

1. All pricing information for tiered rates must be displayed on the bill. CRES providers using bill-ready must include separate line-items with descriptors for each tiered rate.
2. CRES are required to provide tier price values in line-item descriptors
3. All descriptions displayed for each tier must be descriptive to the customer indicating the tier being billed.

8.3. Settlement with PJM

The 60 day settlement with PJM will be handled by AEP through a manual process for the transition period.

8.3.1. PJM Settlement Process Flow



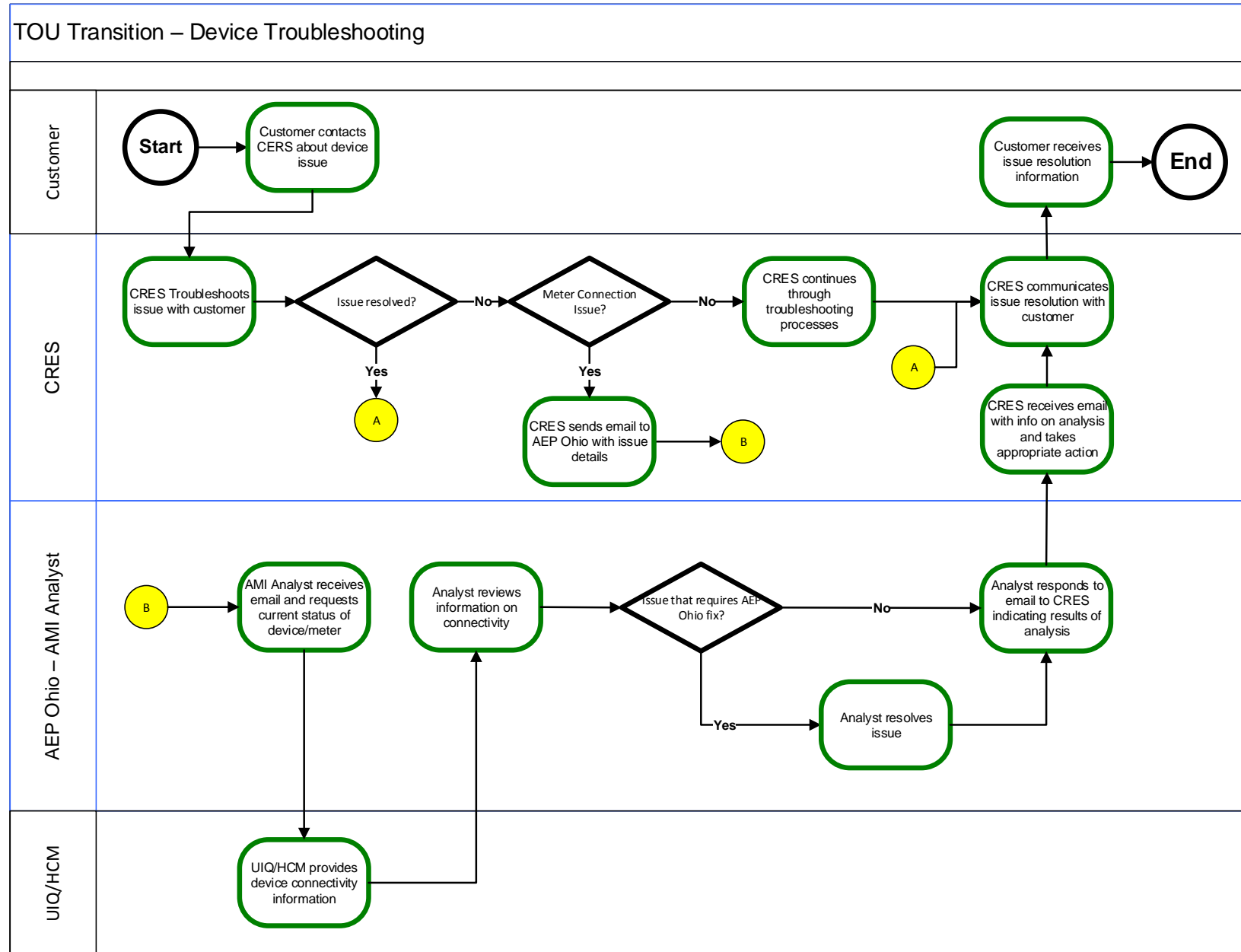
9. In Home Device Troubleshooting

All customer calls and troubleshooting issues for devices will be handled by the CRES. AEP Ohio will support a CRES to do troubleshooting issues with a connection between the meter and the device. The CRES should send an email with the following information to request support:

1. Email Subject: Connectivity Support
2. Customer ID
3. Address
4. City
5. State
6. Zip Code
7. CRES
8. Program Name
9. Device Type
10. CRES Contact
11. CRES Contact Phone Number

AEP Ohio will respond within one business day with the findings of the connectivity analysis.

9.1. Device Troubleshooting Process



9.2. SMART Cooling - Disconnected Device Report

If requested by a CRES, AEP Ohio will send every other week a list of their program customers where our system is reporting the thermostat as disconnected from the meter. This will only be done for the SMART Cooling program using the RTA thermostat installed as part of phase 1 of GridSMART. It will be the responsibility of the CRES to act on this data and work with the customer to determine why it is disconnected (i.e., did the customer replace the thermostat).

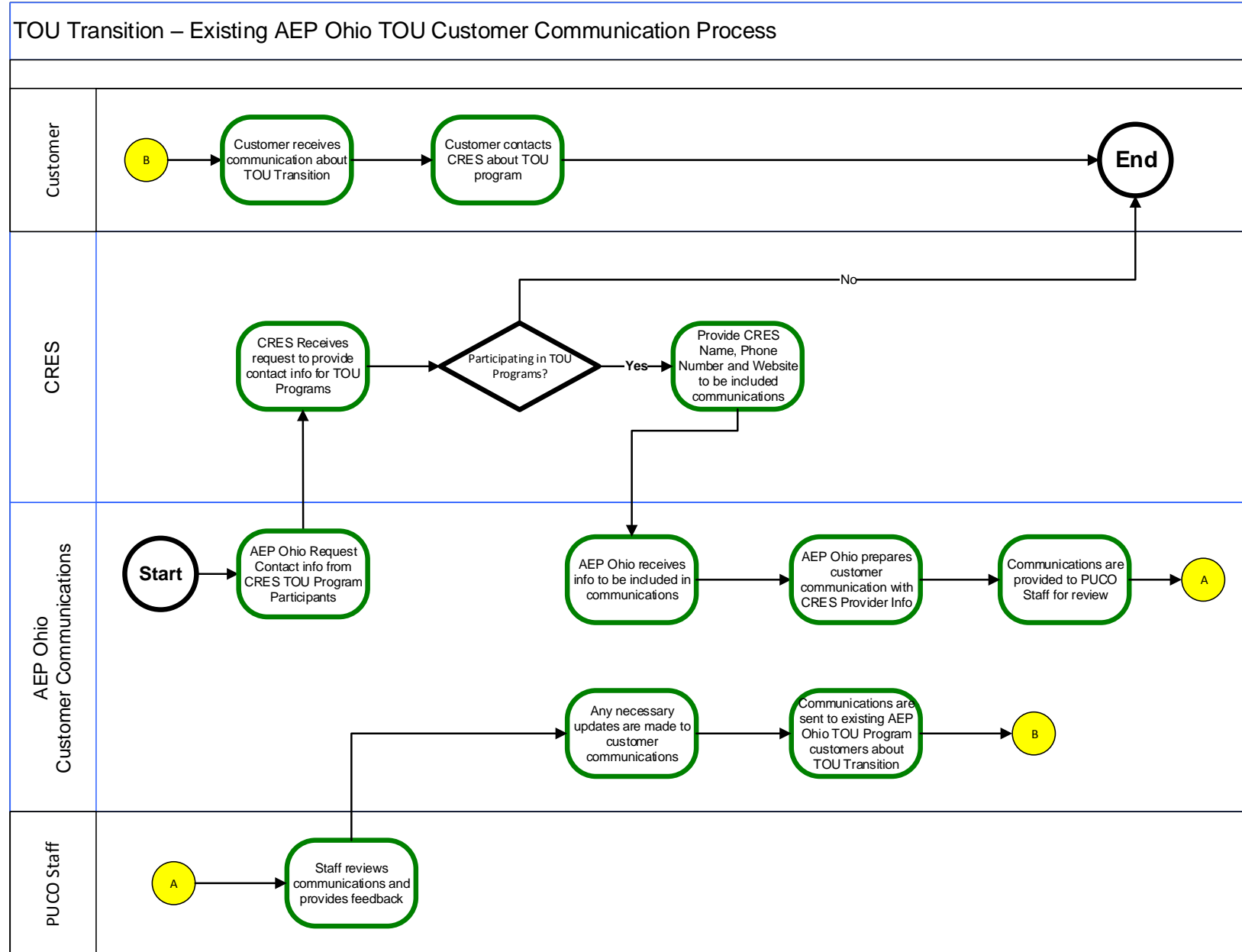
10. Customer Communication on TOU Transition

During the transition period, AEP Ohio will work with the CRES providers to disseminate communications to existing program customers to aid in switching to a new CRES TOU program.

The following items will be part of the existing AEP Ohio TOU Customer communications plan:

1. Information about the transition will be sent to existing AEP Ohio TOU customer programs via letter followed up by a postcard reminder and include a list of suppliers who have TOU programs.
2. Information about the transition will be placed on the AEP Ohio website
3. Mailed notices and the website will include the CRES name, Phone Number and Website address for all suppliers who will have TOU Transition offerings.
4. While the Apple to Apples website could be used by a CRES to include their programs, AEP Ohio will not be directing customers to this site for information on TOU Programs during the transition.
5. AEP Ohio will not be giving a list of current TOU customers, but the enrollment file will now include an AMI Flag column indicating all the customers who have an AMI meter.
6. All customer communications about the transition will be shared with the PUCO staff prior to sending.

10.1. Existing Customer Communication Process



11. Summary - CRES Steps to Offer TOU Rate to Consumers

In order for a CRES to begin offering one of the TOU Programs to customers during the transition period, the following steps must have been completed with AEP Ohio:

1. Test EDI transactions to support TOU Programs. Initially, testing will be setup specifically to test the new TOU related EDI transactions. Ongoing testing will occur during the standard testing cycles.
2. Input rates into the CRES Business Partner portal (Rate Ready)
3. Provide “technology displayed rate plans” for devices for the program (if using existing AEP Ohio installed devices)
4. Provide phone number and website address to be included in AEP Ohio customer communications to existing TOU customers about transition.

Appendix

A. EDI Transactions

This section contains the information on EDI Transactions updates/changed required by CRES to support TOU Rates.

- OEWG Change Controls 144,145 and 146 were submitted and have been approved for use to support these TOU programs.
- Additional OEWG changes are pending related to SAC04 code rate tier descriptors, as well as reject reasons for enrollments and changes.
- Enrollments or changes related to TOU will be rejected if the account does not have an AMI meter.

Approved Change Controls

- Change Control 144 : 814E (enrollment) : add a REF*PID segment to be used if enrolling under a TOU billing program
 - Add to 814 Enrollment request and response
- Change Control 145 : 814C (change) : add a REF*PIPD segment to be used to update the type of TOU billing program and associated change code of REFPID (REF*TD*REFPID).
 - Add new change code of REFPID
 - Request and response
- Change Control 146 : 867 (billing usage) : monthly usage only to add new codes (71, 76, 85, 97) to the MEA07 in the SU and PL loops for AEP only for AEP's TOU Market Transition
 - Add new MEA07 codes of 71, 76, 85, and 97 to facilitate AEP's TOU Market Transition program.
 - Smart Shift plus (TOD2) already had acceptable values in Ohio EDI guide

Pending Change Controls

- 810 Rate Ready new SAC04 Charge Codes : Smart Shift Plus (CPP3)
 - EDI 810 sent to Suppliers will identify the calculated dollar amount for each tier of the program. Following new Charge Codes are needed.
 - GENONN, GENOFF, GENLOW, GENMED, GENHIGH, GENCRT
- 814E (enrollment) New Reject values
 - Populated in the REF 7 G segment
 - ATI : account type invalid
 - NAM : no AMI meter
 - IMR : Invalid Meter Register
 - IBP : Invalid billing program ID

- 814c (CHANGE) New Reject values
 - Populated in the REF 7 G segment
 - ATI : account type invalid
 - NAM : no AMI meter
 - IMR : Invalid Meter Register
 - IBP : Invalid billing program ID
 - PPC : pending program change
 - PLC : Pending Liability change

B. PUCO Rate Sheets

OHIO POWER COMPANY
Columbus Southern Power Rate Zone

P.U.C.O. NO. 20

6th Revised Sheet No. 315-1
Cancels 5th Revised Sheet No. 315-1

SCHEDULE RS – TOD2 (Experimental Residential Time-of-Day Service)

Availability of Service

Available to individual residential customers on a voluntary, experimental basis for residential electric service through one single-phase, multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is restricted to customers served by the circuits designated for the Company's gridSMARTSM pilot program. This tariff will be in effect for a minimum of one (1) year.

Customers may enroll in this Schedule during the period of September 1 – March 1.

This schedule is not available to customers currently taking service under Schedule R-R-1 or the PIPP Plus program.

Monthly Rate (Schedule Code 040)

	Distribution
Customer Charge (\$)	4.52
Energy Charge (\$ per KWH):	
Low Cost Hours	2.58097
High Cost Hours	2.58097

Billing Hours

<u>Months</u>	<u>Low Cost Hours (P1)</u>	<u>High Cost Hours (P2)</u>
Approximate Percent (%) of Annual Hours	94%	6%
October 1 to May 31	All Hours	None
June 1 to September 30	Midnight to 1 PM, 7 PM to Midnight	1 PM to 7 PM

NOTE: All kWh consumed during weekends (all hours of the day on Saturdays and Sundays) and the legal holidays of Independence Day and Labor Day are billed at the low cost (P1) level.

Minimum Charge

The minimum monthly charge for service shall be the Customer Charge

Payment

Bills are due and payable in full by mail, checkless payment plan, electronic payment plan or at an authorized payment agent of the Company within 15 days after the mailing of the bill.

Filed pursuant to Order dated February 25, 2015 in Case No. 13-2385-EL-SSO

Issued: April 24, 2015

Issued by
Pablo Vegas, President
AEP Ohio

Effective: June 1, 2015

OHIO POWER COMPANY
Columbus Southern Power Rate Zone

6th Revised Sheet No. 315-2
Cancels 5th Revised Sheet No. 315-2

P.U.C.O. NO. 20

SCHEDULE RS – TOD2
(Experimental Residential Time-of-Day Service)

Applicable Riders

Monthly Charges computed under this schedule shall be adjusted in accordance with the Commission-approved riders on Sheet Number 104-1.

Term of Contract

Annual. Customers selecting this schedule must take service under this schedule for a minimum of one (1) year. A written agreement may, at the Company's option, be required.

Special Terms and Conditions

This schedule is subject to the Company's Terms and Conditions of Service.

This schedule is intended for single phase service. Where the residential customer requests three-phase service, this schedule will apply if the residential customer pays to the Company the difference between constructing single-phase service and 3 phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service schedule will apply to such service.

Customers with cogeneration and/or small power production facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978 shall take service under Schedule COGEN/SPP, Schedule NEMS, or by special agreement with the Company. All other customers having sources of electrical energy supply other than the Company shall take service under the applicable Residential Schedule or Schedule NEMS.

For customers with cogeneration and/or small power production facilities which do not qualify for service under Schedule COGEN/SPP or Schedule NEMS, detents shall be used on the necessary metering to prevent reverse rotation. At its discretion, the Company may require that Company-owned metering be installed to monitor the customer's generation. The Company reserves the right to inspect the customer's relays and protective equipment at all reasonable times.

At the end of the initial one (1) year trial period under the Schedule, the customer will be held harmless from charges in excess of the energy charges they would have incurred under the otherwise applicable service schedule. After the one (1) year trial period, the customer will be required to pay the actual energy charges incurred under this Schedule.

The Company shall collect data during the course of this experiment. Customer-specific information will be held as confidential and data presented in any analysis will protect the identity of the individual customer.

Filed pursuant to Order dated February 25, 2015 in Case No. 13-2385-EL-SSO

Issued: April 24, 2015

Issued by
Pablo Vegas, President
AEP Ohio

Effective: June 1, 2015

OHIO POWER COMPANY
Columbus Southern Power Rate Zone

6th Revised Sheet No. 320-4
Cancels 5th Revised Sheet No. 320-4

P.U.C.O. NO. 20

SCHEDULE GS1 – TOD
(Experimental Small General Service Time-of-Day)

Availability of Service

Available on a voluntary, experimental basis for general service to customers with maximum demands less than 10 kW through one single-phase, multi-register meter capable of measuring electrical energy consumption during variable pricing periods. Availability is restricted to customers served by the circuits designated for the Company's gridSMARTSM program. This tariff will be in effect for a minimum of one (1) year.

Customers may enroll in this Schedule during the period of September 1 – March 1.

Monthly Rate (Schedule Code: 284)

	Distribution
Customer Charge (\$)	6.47
Energy Charge (¢ per KWH):	
Low Cost Hours	1.47707
High Cost Hours	1.47707

Billing Hours

<u>Months</u>	<u>Low Cost Hours</u>	<u>High Cost Hours</u>
Approximate Percent (%) of Annual Hours	94%	6%
October 1 to May 31	All Hours	None
June 1 to September 30	Midnight to 1 PM, 7 PM to Midnight	1 PM to 7 PM

NOTE: All kWh consumed during weekends (all hours of the day on Saturdays and Sundays) and the legal holidays of Independence Day and Labor Day are billed at the low cost level.

Minimum Charge

The minimum monthly charge shall be the Customer Charge.

Delayed Payment Charge

Bills are due and payable in full by mail, checkless payment plan, electronic payment plan or at an authorized payment agent of the Company within 21 days after the mailing of the bill. On all accounts not so paid, an additional charge of 5% of the total amount billed will be made. Federal, state, county, township and municipal governments and public school systems not served under special contract are subject to the Public Authority Payment provision, Supplement No. 21.

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OHIO POWER COMPANY
Columbus Southern Power Rate Zone

3rd Revised Sheet No. 320-5
Cancels 2nd Revised Sheet No. 320-5

P.U.C.O. NO. 20

SCHEDULE GS1 – TOD
(Experimental Small General Service Time-of-Day)

Applicable Riders

Monthly Charges computed under this schedule shall be adjusted in accordance with the Commission-approved riders on Sheet Number 104-1.

Term of Contract

Annual. Customers selecting this schedule must take service under this schedule for a minimum of one (1) year. A written agreement may, at the Company's option, be required.

Special Terms and Conditions

This schedule is subject to the Company's Terms and Conditions of Service.

Customers with cogeneration and/or small power production facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978 shall take service under Schedule COGEN/SPP, Schedule NEMS, or by special agreement with the Company. All other customers having sources of electrical energy supply other than the Company shall take service under the applicable General Service Schedule or Schedule NEMS.

For customers with cogeneration and/or small power production facilities which do not qualify for service under Schedule COGEN/SPP or Schedule NEMS, detents shall be used on the necessary metering to prevent reverse rotation. At its discretion, the Company may require that Company-owned metering be installed to monitor the customer's generation. The Company reserves the right to inspect the customer's relays and protective equipment at all reasonable times.

At the end of the initial one (1) year trial period under the Schedule, the customer will be held harmless from charges in excess of the energy charges they would have incurred under the otherwise applicable service schedule. After the one (1) year trial period, the customer will be required to pay the actual energy charges incurred under this Schedule.

The Company shall collect data during the course of this experiment. Customer-specific information will be held as confidential and data presented in any analysis will protect the identity of the individual customer.

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OHIO POWER COMPANY
Columbus Southern Power Rate Zone

6th Revised Sheet No. 317-1
Cancels 5th Revised Sheet No. 317-1

P.U.C.O. NO. 20

SCHEDULE CPP
(Experimental Critical Peak Pricing Service)

Availability of Service

Available to individual residential customers on a voluntary, experimental basis for residential electric service. Availability is restricted to customers served by the circuits designated for the Company's gridSMARTSM program. Customers taking service under this schedule are not eligible for Rider DLC. This schedule will be in effect for a minimum of one (1) year.

For non-owner occupied multi-family dwellings, the Company may require permission from the owner to install auxiliary communicating equipment. Customers will not be eligible for this schedule if the owner does not allow installation of auxiliary communicating equipment.

Customers may enroll in this Schedule during the period of October 1 – April 1.

This schedule is not available to customers participating in the PIPP Plus program.

Service under this schedule is limited based upon the availability of in-home displays and/or programmable communicating thermostats. The Company plans to have 1,000 in-home displays or programmable communicating thermostats available through 2013. At the Company's option, this schedule may be made available to additional customers. Upon request by the Company and approval by the Commission in a future filing, additional customers may be responsible for the Commission-approved cost of the in-home display and programmable communicating thermostat.

Monthly Rate (Schedule Code 043)

Winter Months: October 1 through May 31		
	Billing Hours	Distribution
Customer Charge (\$)		4.52
Energy Charge (¢ per KWH):		
First 800 KWH (excluding Critical Peak kWh)		2.98899
Over 800 KWH (excluding Critical Peak kWh)		0.57028
Critical Peak Hours	When Notified	0.57028

Summer Months: June 1 through September 30		
	Billing Hours	Distribution
Customer Charge (\$)		4.52
Energy Charge (¢ per KWH):		
Low Cost Hours	Midnight – 7 AM, 9 PM - Midnight	2.98899
Medium Cost Hours	7 AM – 1 PM, 7 PM – 9 PM	2.98899
High Cost Hours	1 PM – 7 PM	2.98899
Critical Peak Hours	When Notified	2.98899

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6th Revised Sheet No. 317-2
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P.U.C.O. NO. 20

SCHEDULE CPP
(Experimental Critical Peak Pricing Service)

NOTE: Unless a critical peak event is called, all kWh consumed during the Summer Months on weekends (all hours of the day on Saturdays and Sundays) and the legal holidays, Independence Day and Labor Day, are billed at the low cost level.

Critical Peak Events

Critical peak events shall be called at the sole discretion of the Company. Critical peak events shall not exceed five (5) hours per day and 15 events per calendar year.

Critical Peak Event Notification

Customers will be notified by the Company by 7 PM the evening prior to a critical peak event through the in-home display, programmable communicating thermostat, and / or email. The Company may utilize text messaging to a cellular device when the enabling technology becomes available. In the event of an emergency, the Company may invoke a critical peak event by providing notice no less than two (2) hours prior to the start of the event.

Minimum Charge

The minimum monthly charge shall be the Customer Charge.

Payment

Bills are due and payable in full by mail, checkless payment plan, electronic payment plan or at an authorized payment agent of the Company within 15 days after the mailing of the bill.

Applicable Riders

Monthly Charges computed under this schedule shall be adjusted in accordance with the Commission-approved riders on Sheet Number 104-1.

Equipment

The Company will furnish and install, in the customer's presence, either an in-home display or a programmable communicating thermostat. If necessary, the Company may also furnish and install an auxiliary communicating equipment inside the customer's residence. All equipment will be owned and maintained by the Company until such time as the experimental critical peak pricing service is discontinued or the customer requests to be removed from the program after completing the initial mandatory period of one (1) year. At that time, ownership of the programmable communicating thermostat will transfer to the customer. Upon request, the in-home display and/or auxiliary communicating equipment will be picked up or returned to the Company at the Company's expense in good working order. The customer is not required to pay a deposit for this equipment; however, failure to return the in-home display and auxiliary communicating equipment in good working order may result in additional charges in the amount of the current prevailing cost of the in-home display and auxiliary communicating equipment.

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Columbus Southern Power Rate Zone

6th Revised Sheet No. 317-3
Cancels 5th Revised Sheet No. 317-3

P.U.C.O. NO. 20

SCHEDULE CPP
(Experimental Critical Peak Pricing Service)

Should the customer lose or damage the in-home display, programmable communicating thermostat, and/or auxiliary communicating equipment, the customer will be responsible for the cost of repairing or replacing the device(s). If the device(s) malfunctions through no fault of the customer, the Company will replace or repair the device(s) at its expense.

Term of Contract

Annual. Customers selecting this schedule must take service under this schedule for a minimum of one (1) year. A written agreement may, at the Company's option, be required.

Special Terms and Conditions

This schedule is subject to the Company's Terms and Conditions of Service.

This schedule is intended for single phase service. Where the residential customer requests three-phase service, this schedule will apply if the residential customer pays to the Company the difference between constructing single-phase service and 3-phase service. Where motors or heating equipment are used for commercial or industrial purposes, the applicable general service schedule will apply to such service.

Customers with cogeneration and/or small power production facilities which qualify under Section 210 of the Public Utility Regulatory Policies Act of 1978 shall take service under Schedule COGEN/SPP, Schedule NEMS, or by special agreement with the Company. All other customers having sources of electrical energy supply other than the Company shall take service under the applicable Residential Schedule or Schedule NEMS.

For customers with cogeneration and/or small power production facilities which do not qualify for service under Schedule COGEN/SPP or Schedule NEMS, detents shall be used on the necessary metering to prevent reverse rotation. At its discretion, the Company may require that Company-owned metering be installed to monitor the customer's generation. The Company reserves the right to inspect the customer's relays and protective equipment at all reasonable times.

At the end of the initial one (1) year trial period under the Schedule, the customer will be held harmless from charges in excess of the energy charges they would have incurred under the otherwise applicable service schedule. After the one (1) year trial period, the customer will be required to pay the actual energy charges incurred under this Schedule.

The Company shall collect data during the course of this experiment. Customer-specific information will be held as confidential and data presented in any analysis will protect the identity of the individual customer.

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Original Sheet No. 318-1

P.U.C.O. NO. 20

Rider DLC
(Experimental Direct Load Control Rider)

Availability of Service

Available to individual residential customers on a voluntary, experimental basis for residential electric service. Availability is restricted to customers served by the circuits designated for the Company's gridSMARTSM program. Customers taking service under Schedule CPP are not eligible for this rider. This rider will be in effect for a minimum of one (1) year.

For non-owner occupied dwellings, the Company may require permission from the owner to install auxiliary communicating equipment, smart thermostat device, or load control switch. Customers will not be eligible for this rider if the owner does not allow installation of the equipment.

The customer may chose to participate in the electric cooling unit program only. Customers participating in the electric cooling unit program may also choose to participate in the electric water heating unit control, electric pool pump or electric hot tub programs.

Service under this rider is limited based upon the availability of smart thermostat devices and load control switch devices. The Company plans to have approximately 8,500 smart thermostat devices in total to distribute in the gridSMARTSM area for all programs. The Company plans to have a total of 1,000 load control switches available for the electric water heating unit, pool pump, or hot tub program. At the Company's option, this rider may be made available to additional customers. Upon request by the Company and approval by the Commission in a future filing, additional customers may be responsible for the Commission-approved cost of the smart thermostat device and load control switch.

Program Description

To participate, customers must allow the Company, or its authorized agents, to install a smart thermostat device, load control switch(es) and, if necessary, auxiliary communicating devices to control the customer's central electric cooling unit(s) and / or electric water heater unit(s), pool pump(s), or hot tub(s). All such devices shall be installed at a time that is consistent with the orderly and efficient deployment of this program.

The Company will utilize the smart thermostat device and the load control switch(es) to reduce customer's energy use during load management events. The smart thermostat device may employ either a temperature setback or cycling methodology.

Under a temperature setback methodology, the Company may increase the preset temperature on the customer's thermostat by no more than four (4) degrees during load management events.

Under a cycling methodology, the Company may cycle off the central electric cooling unit(s) generally for up to one-half of every hour of a load management event.

The load control device will switch off the electric water heating unit, pool pump, and/or hot tub during a load management event.

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Rider DLC
(Experimental Direct Load Control Rider)

Company planned load management events shall not exceed five (5) hours per day. Such non-emergency load management events shall not exceed 15 events and shall occur only during the months of May through September between Noon and 8 pm.

Electric water heating units and hot tubs would be subject to 15 additional non-emergency load management events during the months of October through April between 5 am and 11 pm.

For emergency purposes, load management events shall not exceed 10 events per PJM planning year (June through May) and not last longer than six (6) hours duration. Emergencies shall be determined by PJM as defined in PJM Manual 13 – Emergency Operations. Emergency load management events can only occur between Noon and 8 pm on weekdays during May through September and 2 pm to 10 pm on weekdays during October through April.

Rate Credit

Electric Cooling Unit (Summer Only)

Customers taking service under Schedules R-R, RLM, RS-ES, RS-TOD, and RS-TOD2 shall receive the following monthly billing credits in June through October for each electric cooling unit controlled during the calendar months of May through September:

- \$ 8.00 for any calendar month where the customer does not override an event signal
- \$ 4.00 for any calendar month where the customer overrides one (1) event signal
- \$ 0.00 for any calendar month where the customer overrides more than one (1) event signal

Customers taking service under Schedule R-R-1 shall receive the following monthly billing credits in June through October for each electric cooling unit controlled during the calendar months of May through September:

- \$ 3.00 for any calendar month where the customer does not override an event signal
- \$ 1.50 for any calendar month where the customer overrides one (1) event signal
- \$ 0.00 for any calendar month where the customer overrides more than one (1) event signal

Pool Pump (Summer Only)

Residential customers shall receive a \$6.00 billing credit per month in June through October for each pool pump controlled during the calendar months of May through September.

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P.U.C.O. NO. 20

Rider DLC
(Experimental Direct Load Control Rider)

Electric Water Heating Unit and Hot Tub (Year-Round)

Residential customers shall receive the following monthly billing credits for each electric water heating unit or hot tub controlled:

Electric Water Heating Unit	\$ 1.00 per calendar month
Hot Tub	\$ 2.00 per calendar month

Such credits shall not reduce the customer's bill below the minimum charge as specified in the schedule under which the customer takes service.

Equipment

The Company will furnish and install, in the customer's presence, a smart thermostat device, load control switch(es) and, if necessary, an auxiliary communicating device inside the customer's residence. All equipment will be owned and maintained by the Company until such time as the experimental direct load control program is discontinued or the customer requests to be removed from the program after completing the initial mandatory period of one (1) cooling season (May through September) for electric cooling units and pool pumps or one (1) year for electric water heating units and hot tubs. At that time, ownership of the smart thermostat will transfer to the customer and the auxiliary communicating device will be picked up or returned to the Company at the Company's expense in good working order. The customer is not required to pay a deposit for this equipment; however, failure to return the auxiliary communicating device in good working order may result in additional charges in the amount of the current prevailing cost of the auxiliary equipment.

Should the customer lose or damage the smart thermostat device, load control switch(es) or auxiliary communicating equipment, the customer will be responsible for the cost of repairing or replacing the device(s). If the device(s) malfunctions through no fault of the customer, the Company will replace or repair the device(s) at its expense.

Contract

Electric Cooling Unit and Pool Pump

Participating customers must agree to participate for an initial period of one (1) cooling season (May through September) and thereafter may discontinue participation by contacting the Company.

Electric Water Heating Unit and Hot Tub

Participating customers must agree to participate for an initial period of one (1) year and thereafter may discontinue participation by contacting the Company.

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Original Sheet No. 318-4

P.U.C.O. NO. 20

Rider DLC
(Experimental Direct Load Control Rider)

Special Terms and Conditions

This Rider is subject to the Company's Terms and Conditions of Service and all provisions of the schedule under which the Customer takes service, including all payment provisions.

The Company shall not be required to install load management equipment if the installation cannot be justified for reasons such as: technological limitations, safety concerns, or abnormal utilization of equipment, including vacation or other limited occupancy residences.

The Company and its authorized agents shall be permitted access to the customer's premises during normal business hours to install, inspect, test, or maintain the load management device(s). The Company shall also be allowed access to the customer's premise to repair or remove faulty load management device(s).

The Company shall collect data during the course of this experiment. Customer-specific information will be held as confidential and data presented in any analysis will protect the identity of the individual customer.

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