AEP Ohio
CRES Provider Workshop

October 19, 2017

Agenda

- Supplier Consolidated Billing Update
- Time of Use (TOU) Rates
- AMI Update
- Business Partner Portal Updates
- Governmental Aggregation Application Updates
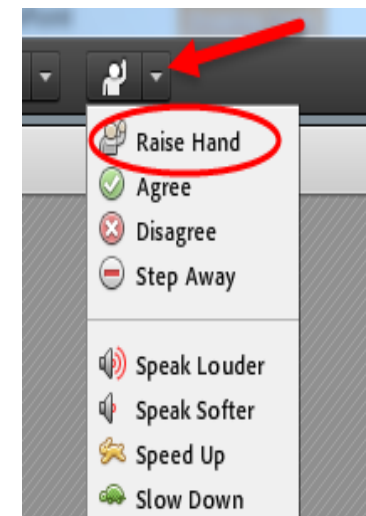- AEP Clearinghouse Updates
- Release of Cap/Tran Values
- Resources
- Q & A / Wrap Up
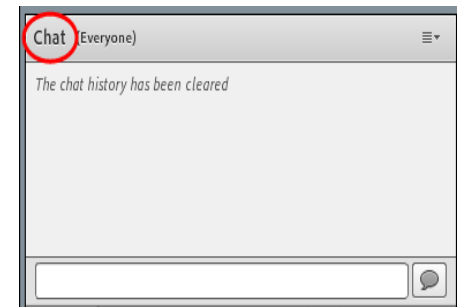
- Please mute your phone.

- Please do not put your phone on hold during the meeting.

If you have a question, please….

- Use the **Chat** function

- Or **Raise Your Hand**

    –All participants will be placed on Mute. To unmute your phone, press *6

- With either, you need to exit Full Screen mode

Supplier Consolidated Billing Update

October 19, 2017

Background

- The Supplier Consolidated Billing (SCB) Pilot was a commitment in the AEP Ohio PPA case.

- In the AEP Ohio global settlement, and ESP settlement stipulation three additional suppliers were added to the pilot.

- Actual cost of the pilot will be shared 50% between AEP Ohio and participating suppliers, with a cap on supplier share.

- A discount rate will be applied for receivables based upon collections risk.

SCB Pilot Scope

- The term of the pilot is two years, with a maximum of 16,000 customers participating from each supplier, ramped up in 5,000 increments each 6 month period based upon system and process readiness.

- At the end of the pilot the PUCO Staff will submit a report to the commission recommending next steps: modify and continue, expand, retire etc.

Process Overview

- AEP Ohio receivables collected by CRES.
- CRES will pay for receivables at a monthly interval following billing.
- Customer's payment history will always be current.
- Customers cannot be disconnected, except in cases of unsafe conditions (diversions e.g.)
- CRES bear receivables risk – no recourse.
- Customer accounts will be flagged for AEP users to know that the bill is generated by a CRES.
- Calls about payment options/credit will be referred to the CRES.
- CRES will meet same Ohio billing and bill message requirements as utilities.

System Automation

Automation In Scope

- EDI enrollment
- Customer eligibility edits
- Billing and messaging
- Credit & collections
- CRES remittance tracking, revenue & PUCO Staff standard reports
- Cash exception handling reports
- Payment options/web
- Call Center Systems

Not In Scope

- Net Metering accounts
- PIPP customers (already excluded from shopping)

Project Implementation

- Project team has started requirements gathering and design.

- Estimated project duration minimum 12 months.

Questions

Time of Use Rates

October 19, 2017

Background

- In the GridSMART Phase 2 stipulation, 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.

- AEP Ohio will deploy functionality to support the transition within six months after the order.

Background

- Staff will file recommendations on AEP Ohio's TOU SSO rate offering based upon the competitiveness of the transition program.

- Additional functionality supporting CRES TOU rate offerings leveraging AMI interval data will be deployed by 2019:
  - AMI interval data in the Business Partner Portal
  - AMI interval data historical usage
  - Automated hourly settlements in PJM

Programs Offered & Billing Methods

Programs Offered	Billing Method	
Smart Shift 2 Tier Time-of-Day (TOD)	Bill Ready Rate Ready Dual Billing	Rates entered into BPP portal for rate-ready or passed as bill ready values, or dual billed
Smart Shift Plus 3 Tier + Critical Peak Pricing	Bill Ready Rate Ready Dual Billing	Rates entered into BPP portal for rate-ready or passed as bill-ready values, or dual billed
Smart Cooling	Bill Ready Dual Billing	CRES will calculate credits and bill amounts either bill-ready or dual billing. AEP Ohio will provide opt-out list after events.

Business Rules

- Program business rules and EDI standards are now posted on the AEP Ohio website for your reference. https://www.aepohio.com/account/service/choice/cres/TOU.aspx

- A sample of high-level rules includes:
  – A customer must have an AMI meter to participate. Customers not currently on a TOU program may also be enrolled. AEP Ohio will program the meter accordingly.
  – A new AMI flag will be added to the customer enrollment list and BPP customer data.
  – For the transition period, all the rules of the tariffs/rider will apply.
  – Programs will utilize existing meter programs only.
  – Customer Load will be settled hourly at PJM and PLCs will be calculated using actual hourly data.
  – CRES are <u>required</u> to provide tier price values in line-item descriptors.

EDI Business Rules

- OEWG approved EDI functionality will be utilized for:
  - Enrollments, changes, drops for TOD/CPP programs
  - Billable monthly usage amounts (total kwh by tier)
  - Bill Ready line item descriptors and values

- TOU EDI functionality will be added to flight testing scripts for future CRES participants. <u>Participation in flight test scripts will be required before customer enrollment in a TOU plan</u>.

Customer Communication Plan

- AEP Ohio will send existing TOU program customers notifications on the CRES offering programs
  - Letter with follow up postcard
  - Letter will include each CRES Name, Phone Number and Website Address offering TOU Programs
- CRES may choose to upload TOU Rates/Programs to PUCO Apple to Apples website

Functionality Testing and Readiness

	2017	2018	2019
AEP Ohio Develop TOU Billing Options for CRES	Complete		
Customer Communications on TOU			
PUCO Staff Report Filed			
PUCO Decision on TOU Market & AEP Ohio SSO TOU			
Interval Data in Business Partner Portal	In Progress		
Use Hourly usage to settle CRES TOU customers	In Progress		

Questions

Appendix

2 tier Time-of-Day (TOD) – on/off peak

- On Peak - June 1 to Sept 30 from 1pm – 7pm (non-holiday weekdays only)
- Off Peak - all winter & June 1 to Sept 30 from 7pm to 1pm
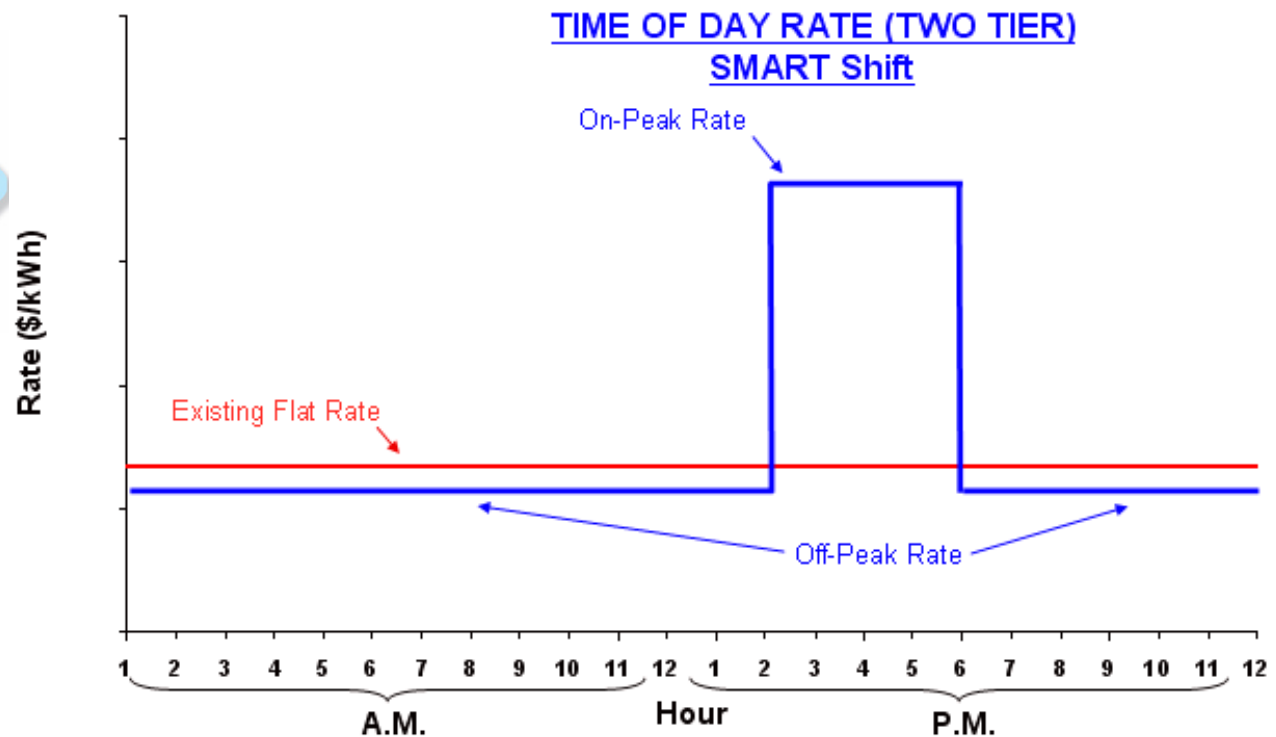
SMART Shift Plus℠

3 tier + Critical Peak Pricing (CPP) – on/off/shoulder/fixed price CPP

- Off Peak (low rate) – Summer 9pm – 7am plus weekend and holidays

  » Winter all day everyday

- Shoulder (med rate)–Summer June 1-Sept 30 from 7am-1pm & 7-9pm M-F

- On Peak (high rate) – Summer only June 1-Sept 30 from 1pm–7pm M-F

- Fixed Price CPP - up to (15) 4-hour events
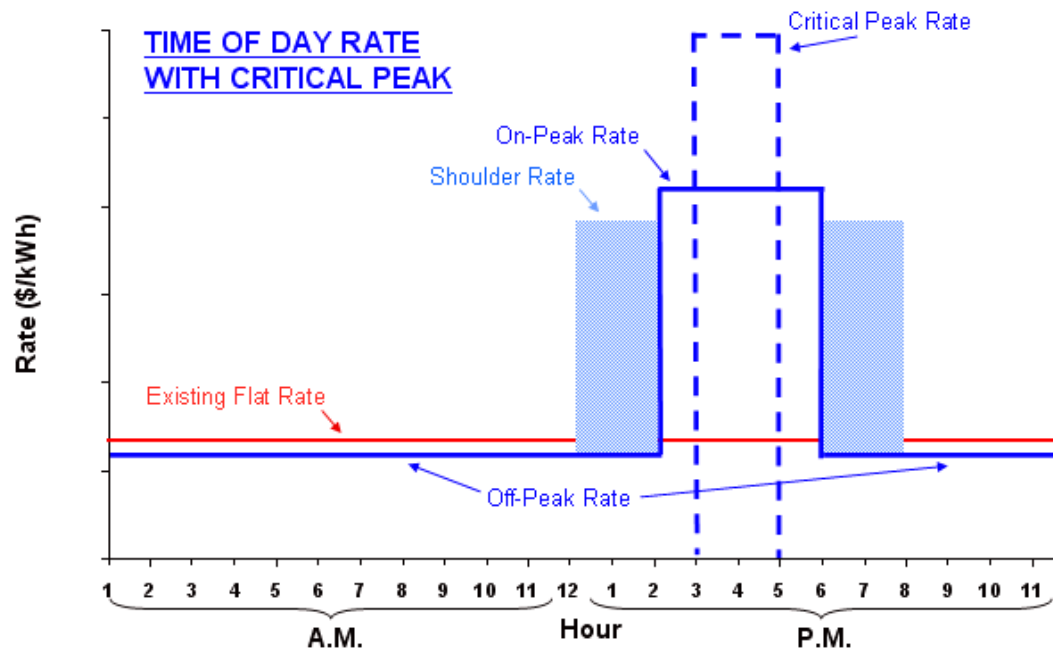
SMART Cooling℠

- Utilize existing programmable controllable thermostat

- Events called by the CRES

- Credits calculated by the CRES

- Limit of 15 events per year

- Post-event opt-outs provided to CRES

AMI Update

October 19, 2017

Smart Grid Phase 2 Overview

	Technology	Overview	Financial Impact
	Distribution Automation Circuit Reconfiguration (DACR)	▪ Deployment of 250 circuits ▪ Improves outage experience by up to 30% ▪ Creates more than $1B in customer reliability benefits	Capital - $79.6M Removal - $12.7M O&M - $8.3M
	Volt Var Optimization (VVO)	▪ Deployment of 160 Circuits ▪ Creates approximately 3% energy efficiency through reduced voltage ▪ Creates estimated customer bill savings of >$200M	Capital - $41.0M Removal - $5.7M O&M - $3.9M
	Advanced Metering Infrastructure (AMI)	▪ Deployment of 894,000 AMI Meters ▪ Creates Customer and Utility Operational improvements ▪ Expected to reduce meter reading costs by $6-7M annually	Capital - $122.1M Removal - $12.2M O&M - $17.0M

AMI Project Overview

- AMI deployment project
  - 894,000 meters
  - 1,200+ network communication devices
  - Completion by Feb 1st 2021
  - AMI meters in 89 cities/areas across Ohio
    - Count includes Columbus suburbs
- Multiple associated projects
  - Business Partner Portal
  - Settlement Process
  - Plus much more…

Technology & Installations

- Aclara Meters (formerly GE) with ZigBee

- Silver Spring Networks Communication System

- System - SSN's UtilityIQ

- Cellular backhaul - AT&T and Verizon

- Meter installations - Aclara Smart Grid Solutions

- Network installations – AEP and contractor resources

Meter reading Today with AMI

UTILITY

Cellular Carrier
(AT&T, Verizon)

Wide Area Network
(WAN)

Neighborhood Area
Network
(NAN)

900 MHz

ACCESS POINT

ACCESS POINT

RELAY

RELAY

RELAY

M

M

M

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MESH NETWORK
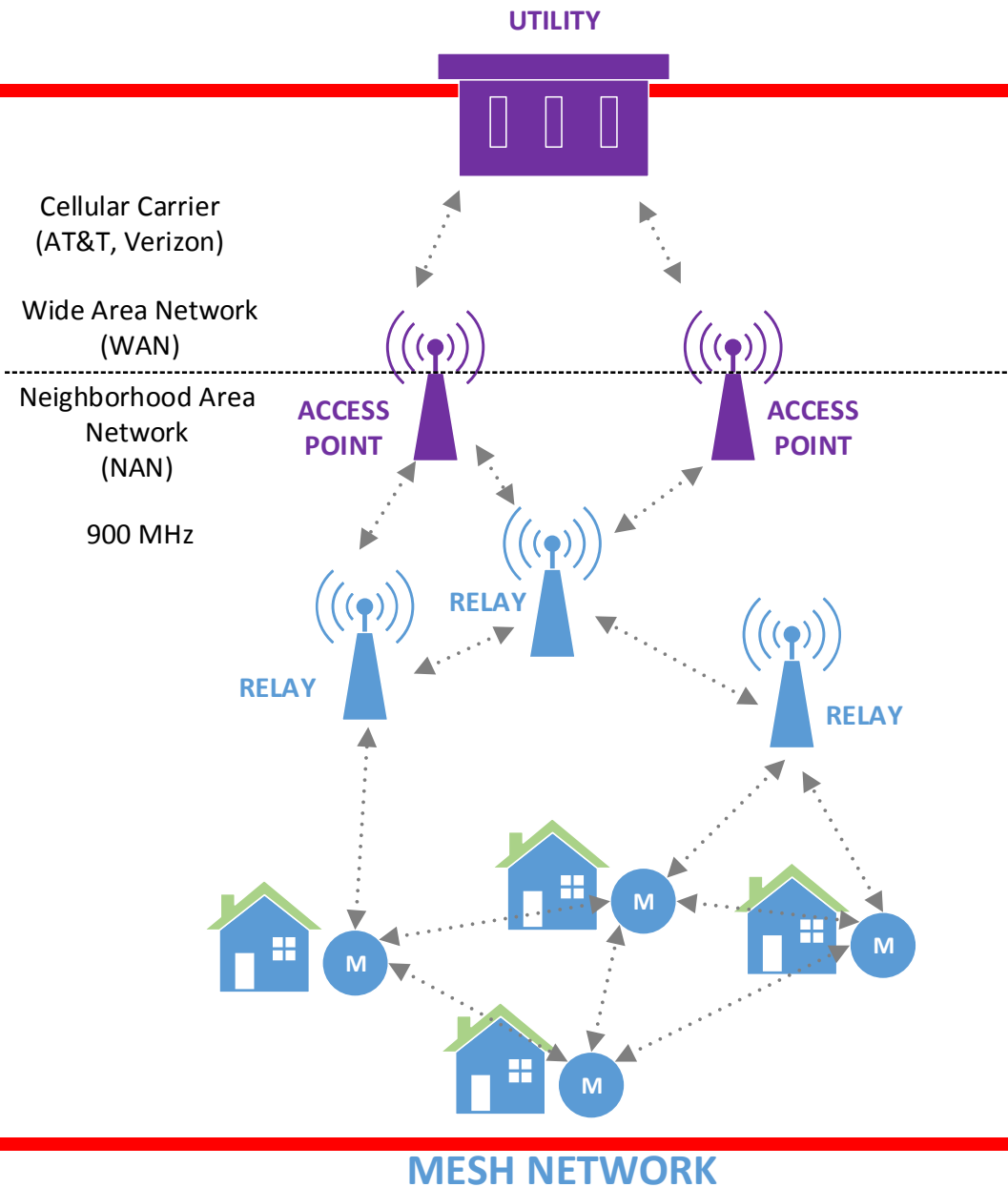
AMI Network Installation

AMI Network Install Project

Status Update

- June 19, 2017 - Started in Delaware, Ohio

- Completed in Delaware, NE Columbus and Ohio Valley district

- Installs completed in NW Columbus - testing in process

- Install contractors returned from Florida (Irma restoration) on 09/27/17

- Current plan is to complete all equipment installations by Q1 2018

Total Percent Completed

Installation % Complete

TOTAL 37.4%
ACCESS POINTS 34.2%
RELAYS 37.8%
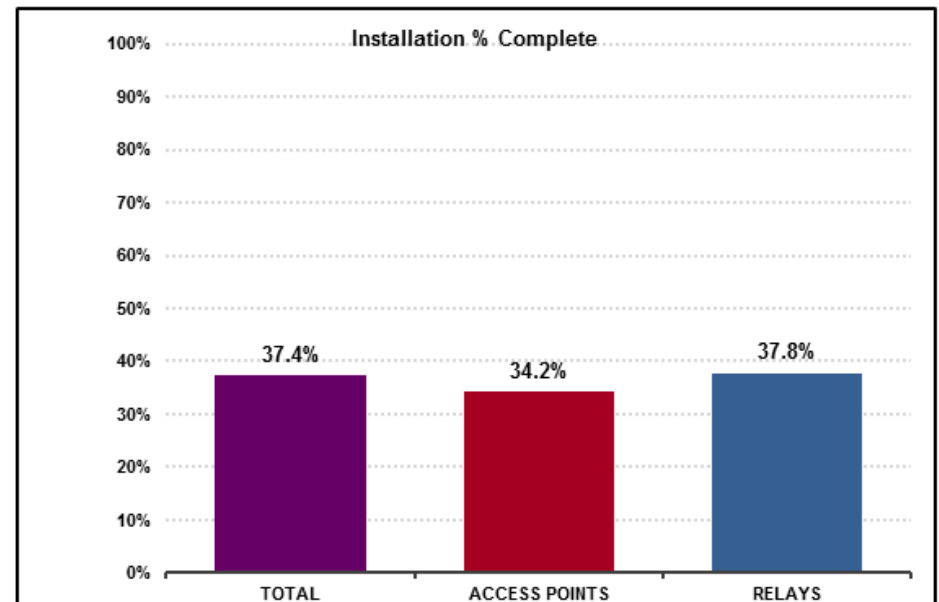
AMI Meter Deployment Plan

Meter Installations

- August 21st 2017 - Begin meter installs in Columbus District (Delaware)

- Crews in Columbus until completion (Q1 2019)

- Q4 2017 – Begin meter installs in East Liverpool, Ohio

- All areas north of I-70 will be completed before moving south

- Plan calls for final area to receive AMI meters in Q3 2020 (Chesapeake, Ohio)

AMI Meter Install Project

Status Update

- Installing in Delaware & Lewis Center

- Scheduled to begin in Ohio Valley District (East Liverpool) in November

- Meters installed – 6,063

- Initial install rate is lower than planned due to tight Columbus labor market

Total Percent Completed

Installation % Completed

Delaware & Lewis Center: 20.38%

Ohio: 0.68%

AMI Meter Schedule

AEP Ohio AMI Phase 2 Deployment Schedule by Quarter

Revised October 10, 2017

Columbus District:

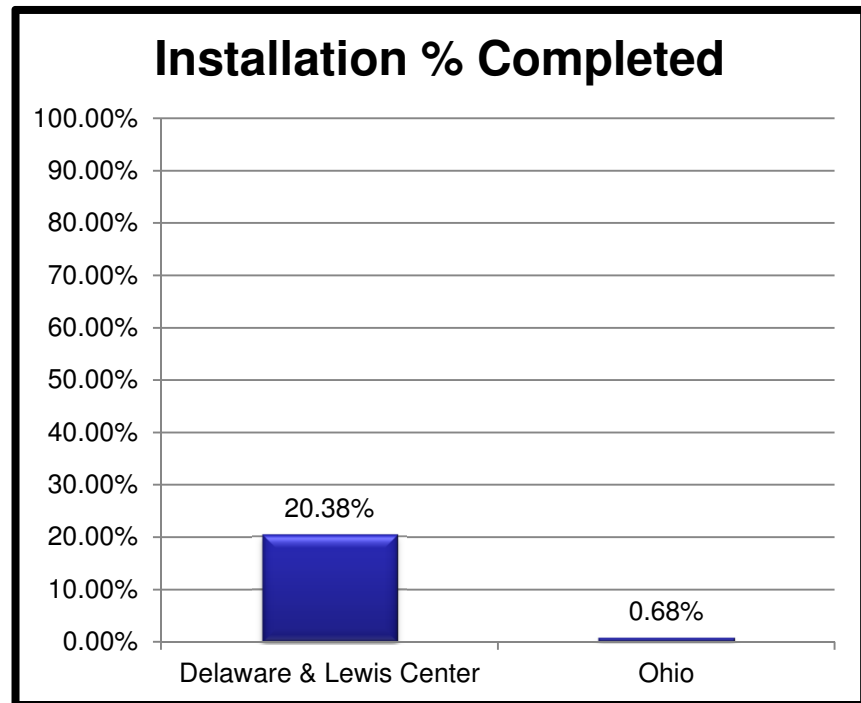| 2017 4th Qtr	2018 1st Qtr	2018 2nd Qtr	2018 3rd Qtr	2018 4th Qtr	2019 1st Qtr
Delaware	Westerville	Upper Arlington	Columbus SE	Columbus SW	Grove City
Lewis Center	New Albany	Columbus NW	Bexley	Grandview	Urbancrest
Sunbury	Pataskala	Columbus NE	Whitehall	Marble Cliff	Galloway
Johnstown	Worthington	Blacklick	Groveport	New Rome	West Jefferson
Galena	Powell	Gahanna	Lockbourne		Mount Sterling
	Dublin	Columbus U/G	Obetz		Orient
	Amlin	Columbus SE	Reese		
	Plain City		Canal Winchester		
	Hillard		Pickerington		
			Reynoldsburg		
			Brice		
			Etna		

Other Districts:

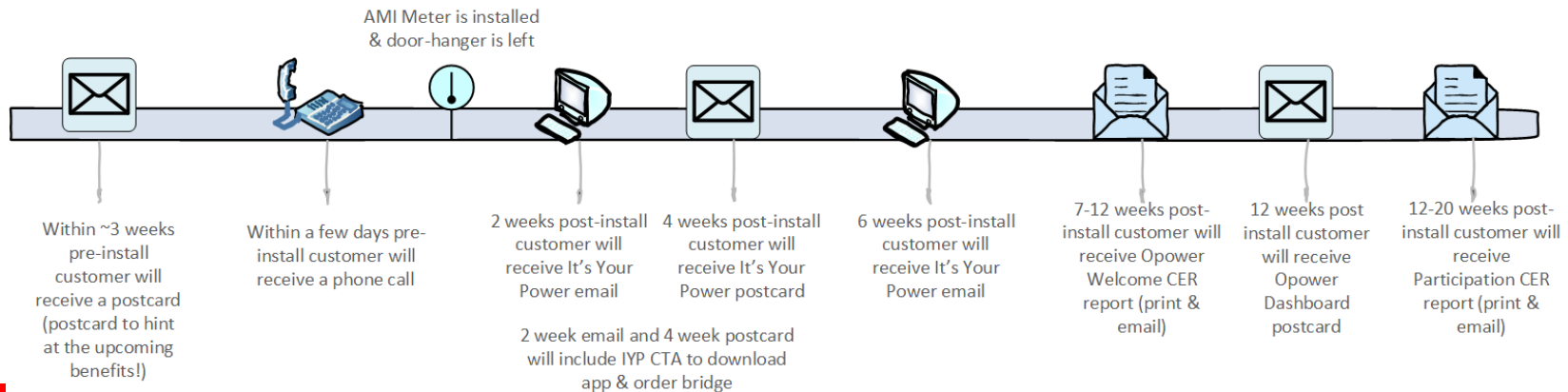| 2017 4th Qtr	2018 1st Qtr	2018 2nd Qtr	2018 3rd Qtr	2018 4th Qtr	2019 1st Qtr	2019 2nd Qtr	2019 3rd Qtr	2019 4th Qtr	2020 1st Qtr	2020 2nd Qtr	2020 3rd Qtr
East Liverpool	Bridgeport	Lancaster	Newark	Wooster	Canton	Canton	Willard	Findlay	Lima	Nelsonville	Portsmouth
Toronto	Shadyside	Thornville	Heath	Minerva		Bucyrus	New Haven	Kenton	Elida	Buchtel	Ironton
Steubenville	Barnesville	Buckeye Lake	Mount Vernon	Canton			Plymouth	Van Wert	Marietta	Circleville	South Point
Martins Ferry	Byesville	Millersport	Gambier				Tiffin	Lima	Gallipolis	Chillicothe	Chesapeake
	Cambridge	Hebron	Coshocton				Fremont	Elida	Athens	Waverly	
	Zanesville	Newark	New Philadelphia				Fostoria			Hillsboro	
		Heath	Wooster				Upper Sandusky				

.com

AEP Ohio Customer Communications

Plan for customer communications includes

- Pre-deployment mixed media customer outreach
- Pre-install postcards sent to all residential premises
- Pre-install automated phone calls to all residential premises
- Door hanger when meter installed describing benefits to customer
- Post-install mailer on AEP-Ohio customer web portal
- Post-install mailer on AEP-Ohio smart phone app

New Customer Timeline of Touchpoints

AMI Meter is installed & door-hanger is left

Within ~3 weeks pre-install customer will receive a postcard (postcard to hint at the upcoming benefits!)

Within a few days pre-install customer will receive a phone call

2 weeks post-install customer will receive It's Your Power email

4 weeks post-install customer will receive It's Your Power postcard

2 week email and 4 week postcard will include IYP CTA to download app & order bridge

6 weeks post-install customer will receive It's Your Power email

7-12 weeks post-install customer will receive Opower Welcome CER report (print & email)

12 weeks post install customer will receive Opower Dashboard postcard

12-20 weeks post-install customer will receive Participation CER report (print & email)

.com

Questions

Business Partner Portal Updates

October 19, 2017

Overview

AEP Ohio's Business Partner Portal (BPP):

- Provides access to timely updates to customer enrollment list downloads

- Customer historical usage – cumulative and interval hourly data

- Rate Ready management portal

- Other specific customer information lookup using customer SDIs.

TOU Transition Functionality (complete)

– AMI Meter flag on customer record

– AMI Meter flag on customer enrollment list

AMI Phase 2 (Work in Progress)

– LOA for historical AMI data functionality

– Customer AMI interval historical usage

– Customer daily interval data up-loads

Future Changes

"Enroll From Your Wallet"

- Part of AEP Ohio's ESP settlement stipulation (pending re-hearing)

- Additional functionality to be added to the AEP Ohio BPP

- Provide input of customer specific data by CRES, returning the SDI for matches

- Batch functionality for multiple requests

Questions

Governmental Aggregation Application Updates

October 19, 2017

Need for Updates

- Mirror the AEP Ohio CRES Registration Application

- Easier to understand – Primary Contact

- Provide an expiration date

- Time limit on refreshed premise list requests

- Aggregation Code on enrollment requests

Mirror CRES Application

- In order to keep our applications uniform, some language has been changed based on recommendations from the PUCO.

AGGREGATOR REGISTRATION APPLICATION FOR THE STATE OF OHIO
Ohio Power Company d/b/a AEP Ohio

ANNUAL AGGREGATOR REGISTRATION APPLICATION
for Aggregator Services in Ohio Power Company d/b/a AEP Ohio

This is NOT an application to be a Power Broker, Billing Agent, Meter Service Provider, Meter Data Management Agent or Power Marketer.

Easier to Understand

- In the past, there has been confusion as to who the premise list will be sent to. This is clearly stated in section 1. If the primary contact gives AEP Ohio permission to send the list to someone else, there is a space to include their name and email address in section 2.

Easier to Understand

Primary Governmental Aggregation Contact (list sent to primary contact):

First and Last Name _____

Title _____

Address _____

City, State, Zip Code _____

E-mail Address _____

Telephone _____

ANNUAL AGGREGATOR REGISTRATION APPLICATION
for Aggregator Services in Ohio Power Company d/b/a AEP Ohio

2. Broker/CRES Provider Serving Aggregation Group Primary Contact Information

Community/Municipality/Township _____

CRES Provider Name _____

First and Last Name _____

Title _____

Address _____

City, State, Zip Code _____

E-mail Address _____

Telephone _____

**If list is to be sent to someone other than the primary contact in Section 1, please provide name and email address here. _____

_____

Expiration Date

- Changes occur so to be sure we have the most up to date information, we have incorporated an expiration date.

- The Aggregation Registration Application is good for one year, as is our CRES Registration Application.

Refreshed Lists

- Lists are refreshed, upon request, no more often than 30 days of previously received list.

- If a list is lost or deleted in error, you may request another list however, it will be the same list originally sent.

- If 30 days has passed, we will request a refreshed list from our mapping group.

Aggregation Codes

- After a premise list is emailed to the primary contact, an email is sent with the aggregation code (GAGG Code) for that municipality. It is of the <u>utmost importance</u> to include that code on **ALL ENROLLMENTS ASSOCIATED WITH THAT AGGREGATION!**

Conclusion

- In order to get the most accurate information, it is important to:

1. Complete the application correctly and in its entirety

2. Be sure to include the aggregation code (GAGG Code) on all enrollments associated with the aggregation

3. Make requests in plenty of time as to not rush the process

Questions

AEP Clearinghouse Updates

October 19, 2017

Process Improvements

Registration Outage Process

- Performed a cross-functional value stream mapping effort
- Identified areas for improvement around regular registration outage process that can impact market operations
- Implemented process improvements early 2017

Results

- Better communication between AEP Ohio and EDI providers
- Shorter production implementation outages
- Fewer registration set-up errors due to miscommunication

IT Project initiated in 2016, now complete and operational

- Identified and implemented EDI automation opportunities to increase market transaction processing reliability and accuracy

- Focused on priority transactions

- Automated alerts must assure continued operational monitoring and support

Results

- Freed up AEPCH Operators from high volume 'point-and-click' activities

- Allows for additional resources to focus on system tuning and continuous SLA improvement

- All transactions now processed 24/7

- Quicker response times on confirmations

- Continuous automated system monitoring

Other System Improvements

- Implemented AEPCH IBM middleware upgrades in 2017, resulting in improved system performance
- AEPCH EDI Translator upgrade now in-flight
- AEPCH server life-cycles planning

Questions

Release of Cap/Tran Values

October 19, 2017

Agenda

- Capacity/5CP (Coincidental Peaks)
- Network Transmission Service/Network Service Peak Load (NSPL)/1CP
- Weather Normalization Factor(WNF)
- Important Dates

Peak Load Contribution (PLC)

- AEP Ohio has obligation to calculate capacity and network peak load contribution (PLC) for each account within AEP Ohio's zone.

- AEP Ohio aggregates PLCs by capacity and network transmission for each CRES to PJM.

- Capacity/5CP :

  – PJM identifies five highest weather normalized (WN) PJM system coincident peaks. These occur in different days from June-1 to Sep-30.

  – AEP Ohio will calculate each customer's PLC (tag or ticket) annually based on average of these five hours which are effective from June-1 to May-31.

Peak Load Contribution (PLC)

- ## Network Transmission Service/1CP/NSPL :
  - PJM will identify the highest load hour that occurred in AEP Ohio' zone during summer period.
  - AEP Ohio will calculate annually a transmission PLC (tag or ticket) for each customer. Tags are effective from Jan-1 to Dec-31.

- ## Weather Normalization Factor
  - WNF is used to adjust the aggregation of daily LSE capacity obligations for year-to-year changes due to weather or load growth within AEP's zone.
  - WNF calculation is the ratio of PJM's Summer Weather Normalized RTO Coincident Peak (MW), and the average of the EDC's five coincident peaks (5CP).
  - AEP Ohio applies WNF to each supplier aggregated SDI PLC capacity tags obligations (WNF 2017/2018 =2.18%)

Important Dates

- PJM releases 2018/2019 Critical Peaks (CP) by November first week (dates are subject to change by PJM). If PJM dates change then Capacity and NSPL tags must be re-calculated.

- AEP Ohio calculates Capacity and NSPL tags by Nov/Dec
  - Tags are verified and modified
  - Add-backs are applied (if necessary)
  - Tags are re-verified

- Tags are expected to be send via EDI by the December third week

- Tags are made available in Business Partner Portal (BPP) and customer enrollment list to the customer's assigned CRES by January first week.

- Additional details can be found in Ohio Choice Market Settlement Policies & Procedures link

- https://www.aepohio.com/global/utilities/lib/docs/account/service/choice/OH/CalculationsProcesses/AEPOhioSettlementPolicies20170118.pdf

Questions

AEPOHIO.COM

The Place to Find Quick Answers
to All of Your Questions

October 19, 2017

AEPOhio.com

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🏠 My Account | Service Requests | Electric Choice | CRES Providers

CRES Provider Registration

Aggregator Registration

Power Broker Registration

AEP Ohio CRES Calculations Processes

AEP Ohio TOU Rates Transition Plan

AEP Ohio Transmission

Business Partner Portal

CRES Provider Handbook

CRES Provider Workshops

CRES Providers

Welcome to AEP Ohio's web pages for the Ohio Customer Choice program.

On the left margin of this page, you will find links to many valuable resources. Whether you are already certified as a Competitive Retail Electric Service (CRES) Provider or you are interested in becoming registered as a Power Marketer, Aggregator, or Power Broker these links will provide you with business processes and information you need to serve retail load in AEP Ohio territory.

We also have a dedicated site called Business Partner Portal for Power Marketers and Power Brokers certified by the PUCO and registered in AEP Ohio. Through this portal, Power Marketers and Power Brokers can access a pre-enrollment customer list, usage data and meter attributes, and set up rate codes for Rate Ready billing as applicable to their registration. To obtain a username and password for this site, please email ohiochoiceoperation@aep.com.

If you have any questions or need assistance regarding Ohio Choice, please email ohiochoiceoperation@aep.com. The Ohio Choice Operation team is shown below:

RESOURCES

CRES PROVIDER HANDBOOK

https://www.aepohio.com/account/service/choice/cres/ProviderHandbook.aspx

CRES CALCULATIONS PROCESSES

https://www.aepohio.com/account/service/choice/cres/CalculationsProcesses.aspx

TOU TRANSITION PLAN

https://www.aepohio.com/account/service/choice/cres/TOU.aspx

METER READING SCHEDULE

https://www.aepohio.com/account/service/choice/cres/MeterReadingSchedule.aspx

RESOURCES

USAGE HISTORY – LOA

https://www.aepohio.com/account/service/choice/cres/MeteringUsage.aspx

BPP AND XAM INSTRUCTIONS

https://www.aepohio.com/account/service/choice/cres/BusinessPartnerPortal.aspx

RESOURCES

PLEASE SEND **<u>ALL</u>** EMAIL TO:

ohiochoiceoperation@aep.com

This box is always monitored. We usually respond within three days to your request.

Wrap-up

Q & A

Thank You for Attending

ohiochoiceoperation@aep.com