AEP Texas Competitive Retailer Relations Workshop November 2, 2022



Jesse Macias

Manager, Competitive Retailer Relations



Agenda

Welcome, Introductions, Safety Contact	
	Judith Talavera, AEP Texas President & COO
	Jesse Macias, Manager Competitive Retailer Relations
2022 CR Survey Results	
-	Mark Hunt, Account Executive Competitive Retailer Relations
Customer Information Transformation (CIT)	
	Stacey Gabbard, VP Customer Operations
	Amy Jones, Director Cust Services Tech Integration
	Christopher Cole, Functional System Architect Principal
LED Streetlight deployments	
	Chad Tomanec, Regulatory Consultant Staff
	Diana Nunez – Billing Lead
	Bring Mendiala Billing Representative
	Dillia Menuloia – Dilling Representative
	Jerry Young, Advanced Meter Intrastructure Manager
EV Strategy & Technology	
	Javier Juarez, Project Manager
	Gricelda Calzada, Regulatory Pricing & Analysis Manager
DER Update	
	Rosalba Epps, Alt Energy Resource Coord Sr
REP Desk & Usage Hub Update	
-	Mike Fracassi, Technology Manager – Customer Choice
	Ashwin Kamath, Business Analyst Principal
Open Questions Session	
Closing Comments and Adjourn	



Safety Contact

Bill Snyder Business Standards Consultant





Seasonal Safety – Working Outside in the Fall

Use Caution on Ladders

Wear appropriate footwear and be cautious of slips if the ground is wet. Position ladder on a flat surface before use.





• Look up Before Pruning Trees

Survey the area carefully and make note of power lines and large limbs. Hire a professional!





Clean up Fallen Leaves

Wet leaves can create a slip hazard for pedestrians. Large leaf piles may contain large objects or even a child. Be cautious while driving through neighborhoods with curbside leaf piles.





- Daylight Saving Time ends November 6th
- Be aware of rapidly changing weather
- Check your vehicle's tire pressure
- Be alert for wildlife.
- Stay home if you're feeling ill





Judith Talavera

AEP Texas President & COO



Meet the CRR Team

Jesse Macias



Christina Gomez



Toney Gutierrez





Garrett Hodge



Sylvia Garcia



Melinda Earnest





Belinda Ybarra

Bonnie Trevino



Cindy Juarez



Rita Cardenas



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



BOUNDLESS ENERGY

2022 Competitive Retailer Survey Results

Mark Hunt

Senior Competitive Retailer Account Executive



- Surveying CRs for 19 years
- Data collection began on September 14th and concluded September 28th
- Encourage Comments and Feedback
- Participation 20 Respondents in 2022
 Survey
 - 2021 Survey 13 Respondents
 - 2019 Survey 12 Respondents representing 46 CRs (85.4% of End-Use Customers Represented)







Continue to evangelize CRIP chat- we love it.

Provide a chat feature for suppliers

Ensure AEP's CRR group retains and / or obtains as much retail market knowledge as possible.

Continue to improve your crip portal

Fix the CRIP for updating passwords :)

Make sure that you execute operations in a way that it does not cause undo operational impacts on us.







Overall, how would you rate the general performance of the AEP Texas Market Specialists? - *Avg. = 9.5*









Questions



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



Reference of Content and Antion Content (CIT)

BOUNDLESS ENERGY

Overview

Stacey Gabbard

VP Customer Operations

Amy Jones

Director Customer Services Tech Integration

Chris Cole

Functional System Architect Principal



Preparing for the Future

- Ability to stay current with new features offered in the product
- More flexible data model
- Improved usability MACSS training has been difficult over the years
- Improved customer Insights
- Improved data quality and access
- Manual process reductions

CUSTOMER VALUE

- Ability to implement new products & programs
- Enable and expand customer offerings
- Standardized integrations with external partners

OPERATIONAL

- Provides configurable vendor-supported software
- Highly configurable rates functionality enables faster, more accurate deployment
- Supports improvements to data governance & quality

FINANCIAL

- Increased speed to market
- Reduced ongoing application support costs driven by custom development

WORKFORCE

- Provides upskilling opportunity for existing employees
- Attract new talent by enabling modern technology



High-level Approach

Keeping pace with evolving energy industry and the changing needs of customers.





Lessons Learned

Implementation Benchmarking

- Strong governance executive leadership support, engagement when needed
- Multiple system integrators delivery model – a system of checks and balances
- Standardize processes, do not customize the software
- Ensure a comprehensive review of organization impacts is conducted, plan with the end in mind

Peer Utilities

- Frequent market communications with retail and ERCOT to provide updates
- 40 days and 40 nights of testing readiness testing was critical/testing with real data
- Go-live dress rehearsals / Cutover on the weekend
- Focus on stabilization don't let up
- Shift in philosophy to no customizations

Oracle User Group

- Overlapping testing cycle
- Dedicated testing teams (internal)
- Plan on system implementer resources to help support after golive
- Do not let the system implementer do all the system configurations
- Plan for the transfer of knowledge
- Avoid having a shortage of skilled resources

Mitigating Risks Associated with Replacing a CIS System

Our deployment approach balances risk to achieve the business outcome.

Phased Approach

- Helps prove the technology's usability prior to deployment to the first operating company
- Shortens the development and testing window by deploying one operating company at a time
- Allows us to better manage changing technology platforms and evolving business and regulatory needs
- Avoids "code freezing" of the legacy system during the conversion of the system to a new system
- Minimizes risk around billing issues by focusing the team's effort on any unique functionality for a single OpCo
- Increases the opportunity for increasing customer billing and overall satisfaction

Third-Party QA/QC

- Utilizing a third-party quality assurance/quality control consultant (QA/QC) for the program (industry best practice)
- Provides an unbiased review of program processes and procedures to assure risks are mitigated

Third-Party System Implementer (SI)

- Using a third-party system implementer that specializes in large-scale CIS implementations
- Provides an additional level of expertise and capacity that AEP does not currently have
- Brings technology tools for testing and post-implementation stabilization that mitigates the risk of billing errors, back-office exception processing backlog, and unbilled revenue, all of which can drive up call volume



Core Systems Being Replaced

AEP's core business capabilities will be replaced by Oracle products.



MACSS (Marketing, Accounting, and Customer Service System) is AEP's current CIS system.



AEP Texas business processes transform with new applications.

What is Oracle's MTM?

- Supports market-related business processes
- Out-of-the-box library of functions and market transactions
- Same framework and technology
 - Allowing MTM to be easily upgradeable
 - Common skill set to configure and maintain
 - Built to scale

Benefits

- One application/one login/one database
- One-stop shop for all market communications and the messages sent and received
- Messages prepared and viewed in real-time
- Users can see ending market activity without having to access multiple systems
- Allows for the mass moving of customers from one service provider to another



Oracle's Utility MTM Solution

- 15 years in deregulated markets
- 3 continents, 9 countries, 20 regulatory markets
- 25 implementations
- 10 US Utilities
 - 7 US electric 3 active, 4 in progress distributors
 - 2 TX electric distributors 1 active, 1 in progress
- 7 utilities with over 1 million customers



Hands-On Assessment

The "MVP" workstream is building capabilities in lower environments, to prove the product meets expectations, to inform Oracle's product roadmap, and to better assess the budget and schedule needed for full OpCo implementation.









Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



LED Streetlight Deployments

Chad Tomanec

Regulatory Consultant



Mass Change Out of LED Streetlights





Mass Change Out of LED Streetlights (cont'd)





Mass Change Out of LED Streetlights (cont'd)

- Currently have signed agreements with 3 large cities to replace all existing HID (High Pressure Sodium, Mercury Vapor, etc.) with LED technology.
- Approximately 20,000 lights have been replaced to date
- By end of 2023 will have replaced approximately **38,000 lights**
- Some cities standardizing light sizes based on type of utilization (commercial/residential/major intersection)
- Utilizing outside resources dedicated to the project with real-time tracking and updated records.



Mass Change Out of LED Streetlights (cont'd)




Mass Change Out of LED Streetlights (cont'd)





LED Replace on Failure

Diana Nunez Billing Lead – Unmetered

Brina Mendiola

Billing Representative



HPS (High Pressure Sodium)

HPS lamps have a much shorter lifespan than LEDs. A typical HPS lamp lasts around 24,000 hours, whereas an LED light can last upwards of 200,000 hours.





LED (Light Emitting Diode)

LED stands for light emitting diode. LED lighting products produce light up to 90% more efficiently







Replace on Failure

Replace on Failure is when the fixture goes bad, not the bulb or photocell.

- The customer has signed the replace on failure agreement.
- A light has been reported that it is not working, and a repair order gets issued.
- The technician goes out to assess the problem and will determine what will need to be done.
- The technician will check the bulb, photocell then fixture to determine if the fixture has gone bad and will then change it to the LED alternative to what we are currently billing the customer.



Bulb, Photocell & Fixture

BOUNDLESS ENERGY





Brighter Lighting





Rates/MVI – MVO Pros/Cons

- Currently the customer is being billed 500 lights on the 250HPS rate.
- We changed out 25 of the 500 lights to LEDs leaving 475 lights on the 250HPS rate.
- We are unable to make any billing corrections as far as removing the 25 lights that have been changed out to the LED rate until the activation has been received.
- Their current 250HPS account cannot be closed due to the 475 lights that still remain on that account.
- ESI ID# is created for the LED rate



Rates/MVI – MVO Pros/Cons

- The LED is billed at a much lower KWH rate than HPS/MH.
- It is to the customer's advantage that we receive the activation for the LED's so those changes can be made from the higher to the lower KWH rate.



Traditional vs LED

LED Lighting Options Traditional Street Light Alternative AEP LED Streetlight Fixture Fixture kWh Fixture Charge Fixture kWh Charge 100 W MV \$ 5.18 S 40 43 W 6.03 14 \$ 5.87 29 Ś 175 W MV 70 71 W 6.13 400 W MV 145 \$ 9.62 122 W 46 \$ 8.96 OR 73 \$ 10.95 194 W \$ 8.47 150 W MH 65 71 W 29 s 6.13 175 W MH 75 \$8.47 71 W 29 \$ 6.13 250 W MH \$8.72 46 \$ 8.96 105 122 W 155 \$ 9.19 194 W 73 Ś 10.95 400 W MH 1000 W MH 367 \$ 9.36 N/A 70 W HPS \$5.21 28 43 W 14 \$ 6.03 \$ 100 W HPS 39 \$ 5.32 43 W 14 6.03 \$ 150 W HPS 57 \$ 5.47 71 W 29 6.13 104 \$7.66 250 W HPS (Cobra) 122 W 46 \$ 8.96 250 W HPS (Flood) 104 \$7.66 146 W 50 \$ 15.24 \$8.31 73 \$ 400 W HPS 155 194 W 10.95 \$7.02 1000 W HPS 367 N/A



Questions



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



AMI Update

Jerry Young Manager - Advanced Meter Infrastructure



Advanced Meter Infrastructure Team

- Ernest Godoy AMI Technical Supervisor
 - Metering Standards, Substation & ERCOT Testing, & Revenue Protection
- Bryan Chappell AMI System Supp. & Field Com.
 - Field Support and Service Order Dispatch
 - AMI system, meter, and order automation monitoring
- Carrie Guajardo AMI Analytics and Support
 - AMI Data Analytics development, review, & training
 - Major Storm Data support
 - Automated Process/Order creation
- Barbara Gilmore AMI Coordinator
 - Project Management and Vendor Contract Support



- Infrastructure Upgrades
 - All Collectors will be upgraded beginning 2023
 - Routers will be upgraded beginning 2024/2025
 - Asset Controllers to be installed over a 5year period beginning in 2023
- AMI Management Software will move to SaaS
 - Planning 2022 & 2023
 - Conversion 2023 & 2024



Smart Meter Texas

- Kyndryl Hosting Contract expires in Feb 2024
- RFP was issued in 1st Quarter 2022.
- The RFP was awarded to IBM
- Reduction in annual hosting expenses
- Infrastructure work to begin in 2023
- Switch to Cloud architecture in Feb 2024



Questions



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



EV Strategy & Technology

Javier Juarez

Project Manager



Electric Transportation Strategy

Increase adoption of electric vehicles in our service territory and provide customer charging options that **optimize the use of the grid** for the **benefit of all customers**.

- Rates
- Public Charging Station Support
- Trusted Advisor Role
- Education





EV Charging Basics





Charging Behavior





National EV Growth

BOUNDLESS ENERGY





Electric Vehicles in Texas





Planning for EV Impacts



EV Projections for AEP Texas

AEP-TX Total EV Vehicles



Actual — — High — Base — — Low

Year



EV System Impact Summary

- Growth in light-duty Electric Vehicles in AEP Texas is not expected to cause bulk system constraints.
- Localized upgrades may be needed in potential high EV concentration areas and residential premises adding level 2 chargers.
- Proactively planning for impact of EV Fleet Conversions.
- Direct Current Fast Chargers (DCFC)





Modeling Impact of EV Fleets

Modeling

- Locate fleets in service territory.
- Understand the fleet operations and characteristics.
- Determine charging strategies and load.
- Compare against distribution system capacity.
- Reference historical demand information if available.

Goals

- Achieve assessment of distribution system impact of EV Fleets.
- Identify system infrastructure solutions for grid readiness.





Source: https://www.electrive.com/wp-content/uploads/2021/10/rivian-amazon-2021-01-min.png Source: http://calenergycommission.blogspot.com/2019/08/energy-commission-funds-workforce.html



Charging Technologies









EV Direct Current Fast Charger







EV DCFC Power Demand Comparison

Electric Vehicle Direct Current Fast Charger Power Demand Range ~50kW – 350kW per charger Average DCFC Station in AEP Texas ~500kW

Lowe's Home Improvement ~450 kW



Source: https://www.victoriaadvocate.com/news/business/best-hardware-store-lowes-home-improvement/article_ab27e18f-78d5-5531-9084-59412aaf91b6.html Source: https://insideevs.com/news/354244/electrify-america-chargepoint-partner-public-charging/

Infrastructure Investment and Jobs

BOUNDLESS ENERGY

An AEP Company

Act

Торіс	Focus	Funds (\$M)	Lead Agency (Support)	Eligible Entities
Charging / Fueling Infrastructure	ZEV charging infrastructure ¹	5,000	DOT (DOE)	States
	Clean fueling infrastructure	2,500	DOT (DOE)	States/Local Gov't; Metro planning agencies; Special Purpose Districts
Buses	ZEV school buses	2,500	EPA	States/Local Gov't; Busing Contractors; Bus or charger manufacturers
	Clean school buses	2,500	EPA	States/Local Gov't; Busing Contractors; Bus or charger manufacturers
	Clean transit buses	105	DOT	State/Local Gov't; Public or private non-profit bus agencies
Ports	Resiliency and electrification; Clean trucks/trains	2,250	DOT	Port operators
	Trucks: Reduction of truck idling/Port electrification	250	DOT (EPA)	Port operators
	Ferries	250	DOT	Port operators

ZEV charging infrastructure ¹				
State	Funds (\$M)			
AR	54			
IN	100			
КҮ	69			
LA	73			
МІ	110			
ОН	140			
ОК	66			
TN	88			
тх	408			
VA	106			
WV	46			
TOTAL AEP States	1,260			
Total All States	5,000			







Texas Electric Vehicle Planning

Timeline



NEVI DCFC Criteria

Corridor Ready

Public DC Fast Charging:

- No greater than 50 miles between one station/site and the next on corridor.
- No more than 1 mile from Interstate exits or highway intersections along the corridor.
- Stations should include four Combined Charging System (CCS) connectors - Type 1 ports (simultaneously charging four electric vehicles).
- Site power capability should be no less than 600 kW (supporting at least 150 kW per port simultaneously across 4 ports).
- Maximum charge power per DC port should not be below 150 kW.

Corridor Pending

A strategy/plan and timeline for public DC Fast Charging stations separated by more than 50 miles.

Location of station/site- no more than 1 mile from Interstate exits or highway intersections along the corridor.



Texas Electric Vehicle Planning

Alternative Fuel Corridor



Year 1 Proposed DCFC





Texas Electric Vehicle Planning

Year 2 Proposed DCFC



Year 3+ Proposed DCFC





EV Strategy & Technology

Gricelda Calzada

Regulatory Pricing & Analysis Mgr


Advocates for Electric Transportation



Defining Value

5 Things Our Customers Expect



Reliable & Affordable Energy

We deliver energy products and services our customers can count on.



Customer Experience Commitment

We own customer experience and satisfation from start to finish.



Easy To Do Business With We make it easy for customers to do business with us.



Effective Communication & Engagement Options

We use many approaches for responsive customer communications that are simple, personalized and useful.



Relevant & Personalized Offerings

We tailor products, services and experience our customers value.



AEP Texas Fleet Transition to Electric

 American Electric Power announced that it will accelerate its electric vehicle purchases with the goal of replacing 100% of its 2,300 cars and light-duty trucks with EV alternatives by 2030







BOUNDLESS ENERGY

Improve Public Charging Electric Highway Coalition

WHAT

A collaboration among partner utilities to enable light-duty EV long-distance travel for our customers by addressing gaps along major transportation corridors in our respective service territories.

HOW

Partner utilities will collaborate to leverage and complement existing corridor fast charging locations and avoid duplication. Partner utilities will ensure deployments provide a positive customer experience for long distance travel.

March 2021



Initial Formation

AEP conceptualizes the Coalition and solicits five other major utilities with adjoining territories



Grow Coalition

AEP leads the doubling of the EHC members to 14 utility members serving 60M+ customers across 30 states



September 2021

December 2021



Going National

AEP and Ameren orchestrate for EEI to expand into the 'National Electric Highway Coalition'

Merger

AEP coordinates with Ameren (lead of the Midwest Collaborative) to merge the two Coalitions



Education and Outreach





Education and Outreach





Electric Car Calculator

ERICAN **ELECTRIC CAR CALCULATOR COMPARE CARS** Choose your current car or another gas vehicle to use as a comparison. 2. Choose one or more electric cars to compare to. + ADD ELECTRIC CAR Vehicle 2019 Chevrolet Cruze 2019 Chevrolet Bolt EV MSRP \$17,000 \$24,000 Tax Credit Eligibility 8 \$0 \$0 \$29,841 NET PRESENT COST \$43,663 **DAILY BATTERY USE %** 25% 54,000 LIFETIME TOTAL CO2e EMISSIONS (kg) 17,088

+ MORE DETAIL



Education and Outreach

City of McAllen Bus Terminal Visit









City of San Angelo Charging Station





Education and Outreach





TCEQ Grant Programs

- Texas Commission on Environmental Quality (TCEQ) was selected as lead agency responsible for the administration of funds received from the Volkswagen State Environmental Mitigation Trust.
 www.tceq.texas.gov/agency/trust
- There are currently no active grant programs available.



Challenges



EV infrastructure in under served or low-income areas (Supplier Of Last Resort)





Legislative changes regarding EV registration fees



Questions





It's Lunch Time!!!!!!



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



DER Update

David Vignes

Alternative Energy Manager

Rosalba Epps

Alternative Energy Coordinator



DER Residential & Small Commercial Historical Data

Project Count by AEP District



AEP_District_Name	Count of Project Number	
Rio Grande Valley	7067	
Laredo	4640	
Corpus Christi	3405	
San Angelo	1332	
Abilene	1126	
Total	17570	





AEP_District_Name Sum of Total System Capacity (kW-AC)

Total	420,400.33
San Angelo	32,461.66
Abilene	42,992.88
Laredo	89,763.64
Corpus Christi	92,752.99
Rio Grande Valley	162,429.15
	•



OUNDLESS ENERGY





DER Installations by Operating Company

BOUNDLESS ENERGY

luricdiction	In Service	Distributed Generation (DG)				Energy Storage (ES)	
Junsaiction	<u>Customers</u>	<u>Solar</u>	Wind	Natural Gas	<u>Other</u>	Stand-Alone ES	<u>DG + ES</u>
AEP Texas	17,460	17,208	133	69	27	23	507
AEP Ohio	6,418	6,307	88	10	10	3	698
APCO	4,071	4,014	29	7	18	3	756
I&M	1,973	1,919	42	4	8	0	340
PSO	1,444	1,437	1	2	4	0	64
SWEPCO	3,179	3,167	2	3	4	3	79
KY Power	193	192	0	0	1	0	42
AEP	34,738	34,244	295	95	72	32	2,486



AEP Texas Applications by Year

AEP Texas Applications





AEP Texas Interconnection Process

BOUNDLESS ENERGY"



Averages for Applications submitted in 2022			
Milestone	<u>Average</u> (days)		
Receive App	8.79		
Verify App	15.19		
Approve App	1.40		
Sign IA	10.82		
Install DER	28.61		
Verify Install	5.40		
Put In Service	6.25		
Total Time From Submission to In Service	76.46		
Total time in Customer's hands	48.22		
Total Time in AEP Texas' hands	28.24		



DER Project Status by Month





Questions



Welcome to the 2022 AEP Texas Competitive Retailer Relations Workshop November 2, 2022



Mike Fracassi

IT Manager

Ashwin Kamath

Business Analyst Principal



REP Desk – Customer Lookup

- Customer Lookup Reports now display Unique ESI ID count
 - A new column under Customer Reports to distinguish Total ESI IDs from Unique ESI IDs to give an accurate count of accounts per REP

Provider Name	Duns	File Parts	Total ESIID's	Unique ESIIDs	Download



- When submitted by a REP of Record, Historical Usage requests no longer require an LOA
 - Non REPs of Record can still request HU, but REP Desk will require an LOA for request to be submitted
 - Updated queries to return Historical Usage results quicker to the requester

REP Desk – Historical Usage Requests

Historical Usage

	NEW REQUEST		ARCHIVE
Click here for Enter or Add up	or REP of Record Requests. If y to 250 ESI IDs one per each lir	ou are the REP of Rec ne*	cord on an ESI ID, you do not need to enter an LOA.
		Total ESI II	Ds: 0
ESI-ID	Address	Duplicate	Remove
		ACCEP	т

REP Desk – Historical Usage Requests



REP Desk – Safety Net

Upcoming changes to distinguish Safety Nets
& Priority Reconnections after DNP

Safety Net

Safety Net	Priority Reconnections after DNP	ARCHIVE
Upload File		
Upload File ↑ Drop file here		

(Please use market approved Safety Net format, additional rows will be ignored. Max 200 ESI IDs. Please ensure that your customers are made aware of any permit requirements before submitting a request. Permit and inspection requirements can be found <u>here</u>)



REP Desk – Safety Net

 Priority Reconnections after DNP can be requested in a new tab

Priority Reconnections



This functionality is for Priority Reconnect Orders after a DNP, and NOT for MVI requests. For MVI Safety Net requests, please click on Safety Net Tab.

Priority Reconnect Orders should only be submitted if:

- you are the Current REP of Record
- you are currently unable to send your 650_01 transaction, and need to reconnect your customer after DNP.



Upload File... ,↑ Drop file here

(Please use market approved Safety Net format, additional rows will be ignored. Max 200 ESI IDs. Please ensure that your customers are made aware of any permit requirements before submitting a request. Permit and inspection requirements can be found <u>here</u>)



- This project will implement a 3rd party vendor to replace existing user tool for Texas CRR applications. In addition to improving resilience, this enables AEP to provide a modern customer experience with features like multifactor authentication and social login
- Usage Hub will be implemented first, followed by REP Desk



- Utilized ERCOT's Marketrak API to automatically note all incoming marketraks
- Upcoming changes fully automated Switch Hold Removal conforming to market rules. This will allow market specialists and REPs to better serve customers looking to switch in a timely fashion



Questions



