TEP RPAC Meeting Minutes – September 30, 2025

Facilitators:

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Meeting Purpose:

Continue the RPAC process leading to the 2026 Integrated Resource Plan.

Meeting Focus:

- Charter Review
- Integrated Resource Plan (IRP) Process
- Modeling and Portfolio Development
- Environmental Regulation Updates
- Stakeholder Feedback on Portfolios
- Procurement Process

Key Themes and Topics Discussed:

1. Introductions

2. Stakeholder Representation:
    - TEP
        - Resource Planning
        - Business Development
        - Communications
    - Local government
        - City of Tucson
        - Pima County
    - Military
        - Davis-Monthan AFB
    - Mining
        - Hudbay Minerals
    - Consumer advocacy groups
        - AARP
    - Renewable energy and Environmental groups
        - Sierra Club
        - SWEEP
        - Interwest Energy Alliance
    - Nonprofit social services groups
        - Interfaith Community Services
    - Education
        - University of Arizona

    - TUSD
  - Economic development/Business advocacy groups
    - The Chamber of Southern Arizona
    - Arizona Solar Energy Industry Association

3. Charter and Collaboration Principles:
   - Emphasis on respectful, inclusive dialogue.
   - Avoid jargon and ensure clarity.
   - Prioritize transparency and trust-building.
   - Encourage active participation and preparation for all meetings.

4. IRP Process:
   - 15-year strategic roadmap required by Arizona Corporation Commission (ACC).
   - Key Dates:
     - LSE's provide modeling data to Stakeholders, May 3, 2026
     - Finalized IRP due Aug 3, 2026
     - Stakeholder comments by Oct 30, 2026
     - Utility response Feb 2027
     - ACC review begins May 2027
   - Considerations: Regulatory compliance, rate impacts, market uncertainties, environmental considerations, infrastructure limitations.

5. Modeling and Portfolio Development:
   - Aurora: Long Term Capacity Expansion (LTCE) Modeling and Zonal Runs:
     - LTCE determines least cost resource additions, while Zonal Runs minimize system cost based on current resources and LTCE additions.
   - Inputs: Load forecasts, unit characteristics (such as operating costs, capacities, etc.), transmission constraints, environmental impacts, reliability metrics.
   - Required Portfolios: Technology-neutral least-cost; portfolio with new NGCC plant.
   - Other Portfolios: High load growth (e.g., data centers), no new fossil portfolio, divergent policy scenarios, stakeholder informed portfolios and others to be developed.
   - Excel used for analyzing monthly/annual results and calculating Net Present Value (NPV) portfolio requirements.
   - Power BI used for visualizing hourly generation profile to identify unit generation characteristics and for identifying possible model issues.

6. Environmental and Regulatory Updates:
    - EPA Rules: Regional Haze, Greenhouse Gas, Good Neighbor Rule - all under reconsideration or legal challenge.
    - Water Constraints: Aquifer limitations may affect siting of new generation.
    - Planning Challenges: Regulatory uncertainty requires sensitivity modeling.

7. Stakeholder Feedback Themes:
    - Strong focus on affordability, followed closely by sustainability.
    - Modeling Uncertainty: Variable load growth, maintaining resilience in divergent policy scenarios.
    - Technology Preferences: Renewables (solar, wind, storage), nuclear (SMRs), geothermal, demand response/energy efficiency, transmission as capacity.
    - Policy-Driven Portfolios: Desire to phase out coal, carbon neutrality by 2045, low/no water use.
    - Energy Mix Targets: Preference for diverse portfolios including solar, wind, geothermal, nuclear, storage, and some natural gas.

8. Procurement and All-Source Request for Proposal (RFP) Process
    - All-Source RFPs: Required by Arizona code; includes supply and demand-side resources.
    - Independent monitor ensures fairness and scoring transparency.
    - Recent procurements have focused on storage, solar, and hybrid solar/storage units (ex. Roadrunner Reserve and Wilmot II).

9. Questions

    ### Procurement

    - Have procurement decisions aligned with IRP projections?
        - Yes, recent ASRFP procurements (such as Roadrunner Reserve I & II) closely match 2020 and 2023 IRP timelines.
    - Do All-Source RFPs include Demand Side Management (DSM) as a resource?
        - Yes, all resource types are accepted and reviewed as part of an ASRFP. TEP is contemplating a shift from the societal cost test (SCT) to the Utility cost test (UCT) for DSM initiatives. The use of the UCT enables the cost-effectiveness of these programs to be compared directly to other resource options aligned with the IRP. This least-cost planning process will help the Company identify the optimal mix of initiatives that result in the lowest overall revenue requirements.
    - What requirements do the bidders need to meet? Can the RPAC see prior submissions?
        - Proposals are scored by levelized cost of energy (LCOE) and levelized cost of capacity (LCOC), interconnection request status, supply-chain

mitigation strategies/position and developer experience. The interconnection status of projects proposed score higher when aligned with requested Commercial Operation Date. Demonstrating the ability to procure solar panels, batteries, step-up transformers, and other supply-chain constrained elements is another scoring metric. Developer experience is evaluated on a ratio of projects completed (in MW) with the size of the project proposed.
    - Project proposals cannot be shared, but prior bid documents are available on request.
- When will the next ASRFP be run, and can the RPAC provide feedback?
    - The timeline for the next ASRFP will most likely coincide with the filing of the IRP. The RPAC can provide feedback through the development of the IRP.

Portfolio Modeling

- What constraints are being put on the LTCE modeling?
    - TEP will compile the constraints and review with the RPAC.
- Can TEP modify the "All Renewables" IRP portfolio to be a carbon free/no fossil portfolio instead?
    - TEP will look into what changes are needed to accommodate this request and review with the RPAC.
- How are Planning Reserve Margins (PRMs) and Effective Load Carrying Capabilities (ELCCs) calculated? Can those calculations be shared with the RPAC?
    - E3 (Energy + Environmental Economics, a consulting firm) is currently running a study for TEP on PRM and ELCC. TEP plans to invite E3 to a future RPAC meeting to explain the process.
- How is uncertainty modeled across portfolios?
    - TEP conducts sensitivity tests across all portfolios that can include changes in load, prices, regulatory policies, and other scenarios, to analyze portfolio resiliency.
- Will TEP share input and results dashboards, and output files with the RPAC?
    - Yes, once portfolios and results have been established. RPAC members who wish to receive Aurora modeling files will need to follow the ACC's IRP Reimbursement Framework to request a modeling license and files.

Miscellaneous

- What were TEPs positions on the EPAs recent rule revision proposals? Did TEP comment on the recent rule proposals?
    - TEP submitted company-specific comments, as well as participated in trade comments, to the Greenhouse Gas Emission Reductions for Electric Generating Units rule supporting revisions to the carbon capture and sequestration provisions of the rule. TEP did not comment on the

proposed repeal of the 2009 Endangerment Finding, as this proposed action is limited to new motor vehicles and engines.

- Does the ACC approve the IRP or just acknowledge it? How does the IRP relate to cost recovery?
    - The ACC acknowledges that the IRP fulfills statutory requirements. Cost recovery determinations are made separately during rate cases.
- What is the current length of the TEP transmission interconnection queue?
    - TEP, and all other FERC jurisdictional transmission providers, recently adopted the reforms of FERC Order 2023, which moved the processing of generator interconnections to the transmission system to an annual cluster process, rather than a serial queue. Details on the cluster process, including projects in the pre and post Order 2023 queues, is available on TEP's OASIS website.
- Is TEP participating in the current Transwestern Open Season?
    - For publicly available information on TEP's gas transportation plans, please see this webpage. General pipeline plans can be found on Transwestern's project website.

Next Steps:

- Next Meeting: December 9th
- Focus: Portfolios and Modeling

Action Items:

- Stakeholders to review charter and submit feedback.
- TEP will update the next meeting time.
- TEP will review the stakeholder input and coalesce into themes for review at the next RPAC.

These notes aim to encapsulate the discussions and outline the next steps for effective collaboration moving forward in the RPAC process.

TEP RPAC Menti Survey Responses

Question 1	
Date	2025-09-30
Session	3
Type	open
Question	What are the key challenges facing local electric utilities today?
Respondents	18

Responses

Uncertainty on many fronts
High load growth
Meeting new load growth and conforming to local mandates.
Electric rate affordability
Keeping rates as low as possible
Cost containment
Perception of over charging
Policy uncertainty
Uncertainty on many fronts
TEST
Customer expectations
Policy uncertainty Demand
Load growth and resource constraints
Meeting more aggressive customer decarbonization goals
Key to reducing carbon emission and meeting global climate goals while meeting demand
Aging infrastructure
Transmission development timelines to interconnect new resources
Capital, fuel, labor, compliance costs are up. Difficult to build and meet shifting demand. The energy requirements today need better grid stablitiy
Federal policy uncertainty
Politics and this effort to bury us in fossil fuels and unwillingness to challenge it.
Forecasting short- and long-term loads with data centers and other high use scenarios.Balancing cost to ratepayer and sustainable practices.
Electricity price increases
Optimizing storage, renewables and dispatch resources in such a way that minimizing system cost and additional infrastructure/resource needs.
Climate change
Local residents want clean energy sources, affordability, but no transmission lines.
Regulatory hurdles
Water shortages and uncertainty of future availability
Extreme weather
-Regulatory whiplash-Massively and rapidly changing demand / expectations-Disconnect for consumers between costs, technologies and demands-Local policies
Lack of customer understanding
Barriers to coordinating regionally (lack of a regional market to efficiently share resources)
Uncertain regulatory enviroment.
Resilience in the face of extreme weather events

Question 2

Date	2025-09-30
Session	3
Type	ranking
Question	Priorities check
Respondents	15

Items	1st place	2nd place
Least cost	7	2
lowest emissions	8	1

Question 3

Date	2025-09-30
Session	3
Type	ranking
Question	Initial prioritization
Respondents	14

Items	1st place	2nd place	3rd place	4th place
Tech neutral	4	3	1	1
NG expansion	1	1	0	6
Renewable Only	5	1	4	0
Customer Growth	4	3	2	0

Question 4

Date	2025-09-30
Session	3
Type	open
Question	Focus on technology- build your tech menu
Respondents	13

Responses
New nuclear
Geothermal
Deep Geothermal
Geoexchange where appropriate
Advanced Nuclear
Long-Duration Energy Storage
Thermal batteries
NG expansion
Transmission as a capacity resource
Expanded DSM (both EE and DR)
Long duration energy storage
Geothermal
Non fossil/ EE/ behind the meter/ DSM scenario
UPV + 4-hr (going up to 6-hr when cost reduces) BESS, energy efficiency, demand response, distributed energy resources, nuclear, 10% (or less) gas.
Small Modular Reactors

Long duration storage and different types of batteries.
Emissions reductions for existing and future natural gas loads. (Fancy mufflers) To make RICe and the future Springville as clean as possible. Can we have load growth and cleaner air?
NG, solar+storage
Solar + Storage
Small modular reactor
Long-Haul Wind (NM)
New Mexico geothermal is exciting
New transmission
Hydro pumping for resilience storage
More DG solar
Thorium
Virtual Power Plants
More DSM
VPP

Question 5	
Date	2025-09-30
Session	3
Type	open
Question	Focus on Policy- what are you tracking?
Respondents	14

Responses

Coal plant closures
Water
Keep interim decarbonization targets
Neutrality by 2045
IRA and energy efficiency.
"Community-Wide Carbon Neutrality by 2045" Tucson City (with interim goals)
Behind the meter generation/ coop with large user groups
Climate action plans
Practical policies that truly balances responsible growth -economic and literal- and protecting natural resources
Sensitivities around tax credits
Climate neutrality state-wide for the University of Arizona
Water
Will TEP join a Regional Transmission Organization (and when)?
Regional plans and partnerships Countywide Climate Action Now (Pima CAN)
High load capacity customer-sited battery
Regulatory environment, feds
More distributed generation given significant utility scale constraints in this policy environment
Day-Ahead Market Plans (which one, timing)
Resilience and Climate adaptation
RTO benefit analysis
The need to increase investments in renewable energy and storage.
Regional Transmission Development (compliance with FERC Order 1920)
EPA regulatory changesFederal installation regulation changesFERC expansion plansNRC regualtion changesACC policy for new large customers (i.e. data centers)
Energy equity and affordability
Rate cases

Question 6	
Date	2025-09-30
Session	3
Type	open
Question	Focus on Energy Mix- what's a good approach?
Respondents	11

Responses

New growth paying for new growth
Close all coal by 2032
No storage constraints in model
Significant increase in renewables
More shared resources across the west.
Storage -- expand current investments in BESS and LDES
Clearly defining what the PRM is and how it impacts the investment in renewables/batteries and emissions
Balancing cost with reliability— for example, solar + storage for peak shaving lowers costs, but lower cost options are necessary for other times of day and night.
Resource balance
More EE, DER, UPV, BESS and wind, and more transmissions to accommodate RE
Storage + Renewables
Long term vision, not just reactionary to current political environment
Diversify assets, empower customers to store energy and use more efficiently, encourage cogeneration and a two way exchange
More DG
More DSM
Less gas reliance
Maximize renewables and storage to reduce emissions and water use.
Regional resource sharing (transmission + markets to optimize least-cost portfolio with high imports/exports to take advantage of regional diversity in wind/solar resources/timing)
Not overly reliant on gas
Transportation sector load growth
Zero carbon and minimal water
Consider all forms. Do not put the solution before the problem statement.
Be a climate hero!
In addition to data centers, many large (and also small) customers will be electrifying, adding additional demand, well beyond the 3% used in the past

Question 7	
Date	2025-09-30
Session	3
Type	open
Question	What is the best way to approach unprecedented demand?
Respondents	2

Responses

VPPs
Community feedback

Question 8	
Date	2025-09-30
Session	3
Type	open
Question	What do we need to know?
Respondents	8

Responses

Dynamic customer pricing to scale DVPP/DR
There’re multiple studies that show an optimal dispatch of UPV and BESS can bring reliability and less cost to the system, ERCOT is 1 example.
How the different option work together or not. What is complimentary
Growth is coming. Need sustainable solutions to meet the demand.
TEP must be responsive to local priorities: how does IRP supports City of Tucson 2045 carbon neutrality goal? Expand the planning horizon to 2045 for this IRP (this is not Michael!)
Growth sustainability
The endangerment finding repeal is not just about automobiles, the rule challenges the scientific underpinnings of it, which would affect any future efforts to regulate GhG from power plants.
This too shall pass. Don’t fall into being reactionary. TEP should stay the course on the 2020 clean goals. Coal is not the future of the grid.