Arizona Public Service - July RPAC Meeting Minutes

Date	Location	Start	Stop
7/10/2025		10:00 a.m.	12:00 p.m.

MEETING OBJECTIVES

- Recap the April RPAC meeting and provide the status of previous action items.
- Participant and APS introductions.
- Provide an overview of APS's Resource Planning process.
- Forecast next steps and future RPAC engagement opportunities.

Attendees	Organization	Title/Role
Thomas Abshire	ACC	ACC Staff
Ylenia Aguilar	Sierra Club	Senior Organizer
Sandy Bahr	Sierra Club	Director, Grand Canyon Chapter
Greg Blackie	Arizona Free Enterprise Club	Deputy Director of Policy
Tim Bourcet	GPEC	Vice President, Government & Community Affairs
Kate Bowman	Vote Solar	Regulatory Director
Diane Brown	Arizona PIRG	Executive Director
Courtney Coolidge	Arizona Chamber of Commerce	Policy Advisor
Seamus P. Crowley	Arizona Large Customer Group	Associate
Gary Dirks	ASU	Senior Director, Global Futures Laboratory
Will Greene	SWEEP	Arizona Representative
Jared Gorshe	Americans for Prosperity	AZ Deputy State Director
Chad Heinrich	National Federation of Independent Business	Arizona State Director
Nicole Hill	The Nature Conservancy	Climate Program Director
Hunter Holman	Interwest Energy Alliance	Regulatory Attorney
Autumn Johnson	Tierra Strategy	CEO
Phil Jones	Alliance for Transportation Electrification	Manager, Growth
Nitin Luhar	Mitsubishi	Consultant
Amanda Ormond	Western Grid Group	Director
Greg Patterson	AZ Competitive Power Alliance	Rotational Program Associate
Alex Routhier	Western Resource Advocates	Senior Policy Advisor
Bill Ruiz	Carpenter's Union	Arizona Representative

Stephen Shadegg	Americans for Prosperity	State Director
Andy Tobin	The Western Way	Director
Laura Wickham	SWEEP	Senior Arizona Associate
Ryan Witt	ACC	ACC Staff
Todd Wynn	Associated General Contractors - AZ Chapter	Director, Governmental Affairs

Adam Constable | APS/Consultant, Federal/State Regulatory | Welcome & Meeting Agenda

- No Questions

Mike Eugenis & Omaya Ahmad | APS/Director, Resource Planning | APS/Manager, Regulatory Compliance | RPAC Member Introductions

Summary: Mike and Omaya opened the meeting by leading participant introductions, recognizing that this was the first in-person RPAC meeting and there were a number of new participants. Participants and APS representatives each shared their name, the organization they are representing and its mission, what their organization hopes to gain from RPAC participation, and what inspired them to enter their current line of work.

- No Questions

Mike Eugenis & Akhil Mandadi | APS/Director, Resource Planning | APS/Leader, Resource Plan & Analysis | Integrated Resource Planning Process

Summary: Following member introductions, Mike Eugenis and Akhil Mandadi shared an overview of APS's Resource Planning process. Mike discussed the IRP's mission, its components, and touched on the regulatory process that accompanies it, while Akhil covered the development of the model and the resource adequacy study work that will inform the 2026 IRP. Additionally, Akhil shared that APS is transitioning to Plexos for its 2026 IRP modeling.

- **Question - RPAC Member:** How does APS consider the "where" of its forecasted load growth, and who will absorb the cost? How does APS consider this on an international scale, with a project like Sunzia?
  - **Response - Akhil Mandadi:** In resource planning, we evaluate load growth on a system-wide basis to determine what needs to be served. Our Transmission Planning team takes a more granular look to ensure that the "where" is accounted for.
  - **Response - Mike Eugenis:** Our planning efforts had previously been solely system based. That is an area that is changing rapidly. We are working closely with our Transmission Planning team to better understand deliverability from specific parts of our system, and the deliverability of our transmission system as a whole. For your example of Sunzia, the granularity of our tools is evolving to highlight resource characteristics like high capacity factor wind from New Mexico and recognize that it has different transmission constraints associated with it. We are also taking steps to better understand the pieces of Arizona's transmission system and its limitations. This is an evolving conversation.
- **Question - RPAC Member:** Are there any long-term regional transmission efforts underway in the Southwest that APS can participate in?
  - **Response - Mike Eugenis:** There are a number of ongoing efforts that our Transmission Planning team could provide more detail on. FERC Order 1000 established WestConnect and other efforts resulted in the creation of WestTEC to address regional transmission challenges. However, navigating the interests of multiple states and stakeholders that may not have an equal share of what is driving such projects has proven difficult.
- **Question - RPAC Member:** Can you share more on why APS made the decision to transition from Aurora to Plexos?
  - **Response - Akhil Mandadi:** For the 2023 IRP, we used Aurora as our modeling tool. As planning needs have evolved to include more complex constraints, such as natural gas supply and

transmission limitations, we explored the market and selected Plexos. The decision was based on Plexos's flexibility, widespread use, and strong industry support, which improves both usability and access to expertise.

- **Question - RPAC Member:** Does APS have the internal institutional knowledge to implement Plexos and use it effectively?
  - **Response - Akhil Mandadi:** We will be working with Energy Exemplar, the vendor for both Plexos and Aurora, to support the transition, and we believe we can take advantage of synergies between the two tools. Additionally, our team has extensive internal modeling experience, and we are confident that we have the core fundamental understanding to successfully transition.
  - **Response - Mike Eugenis:** In the past, Plexos has had a reputation for being a complex tool with a high learning curve. As we've benchmarked it with other modeling tools, we haven't found that to be the case. Usability has improved, and our junior modelers find it more intuitive than expected. We also believe that support for Plexos will be easier to find, both internally and for RPAC participants seeking external consultants to evaluate the 2026 IRP.
- **Question - RPAC Member:** Has APS completed its ELCC calculations for the 2026 IRP cycle, and will the RPAC be able to review the input assumptions that were used?
  - **Response - Akhil Mandadi:** We are currently working on the ELCC calculations for the 2026 and will keep the RPAC updated as this work progresses.
  - **Response - Mike Eugenis:** We will include this update as an agenda item for a future RPAC Meeting. We will cover several components, including the PRM, which serves as the foundation for the ELCCs, as well as the ELCC conversation itself.
- **Question - RPAC Member:** How does the retail market fit into the graph shown on Slide 20?
  - **Response - Akhil Mandadi:** For our IRP, we model APS as an islanded system. Our core foundation is that we will be adequate without leaning on any other entities. Any interactions with our neighbors on an energy basis are solely to ensure an optimized dispatch. From a capacity planning perspective, we do not lean on other entities because the dynamics of what others may provide are constantly changing.
- **Question - RPAC Member:** Did APS identify interactions with the retail market in its previous IRPs?
  - **Response - Akhil Mandadi:** We include access to the market from an energy perspective, but not from a capacity perspective.
  - **Response - Mike Eugenis:** There are two broad categories of benefit that you see from the market. First, is the capacity side, which is the reduced need to build into the future because you can rely on an already liquid market. And the second is a more efficient dispatch of the units you already have available. For example, instead of dispatching a turbine with a higher heat rate, APS can benefit from leveraging a neighboring entity's resource that is operating more efficiently. With APS moving towards the SPP Markets Plus structure, it is important we establish a baseline that allows us to accurately measure these benefits. We also work with industry experts to forecast market prices, which is aligned with our IRP process, except a consultant will put it together for the WECC region, breaking it into operating regions to forecast regional market prices.
- **Question - RPAC Member:** What impact will WRAP have on APS's capacity planning once APS joins SPP Markets Plus?
  - **Response - Akhil Mandadi:** WRAP is not a capacity market by itself but helps ensure a certain level of liquidity in the day ahead market for SPP Markets Plus. We are exploring ways to incorporate that into our planning. There is not a direct capacity equivalent market from WRAP, but there is going to be flow through in terms of overall improved regional adequacy, and then participating in Markets Plus. We will have a mechanism to account for this, and we are currently working on the details.
- **Question - RPAC Member:** Is the PRM going to change in the 2026 IRP?
  - **Response - Akhil Mandadi:** We are currently performing this study work. Early findings suggest that it will be very similar to the 2023 IRP PRM. We will keep the RPAC informed of any changes.
- **Question - RPAC Member:** Will the PRM be based on LOLE?
  - **Response - Akhil Mandadi:** Yes, the PRM will be based on the same 0.1 LOLE target as the 2023 IRP.

- **Question – RPAC Member:** Is APS performing its PRM study work in-house or leveraging consultants?
  - **Response – Akhil Mandadi:** The study work is being performed by PowerGEM, the same consultants that performed the study for our 2023 IRP under their previous name, Astrape.
- **Question – RPAC Member:** Was the 2023 IRP ELCC study work also performed by PowerGEM? Are they performing the ELCC study work for the 2026 IRP as well?
  - **Response – Akhil Mandadi:** Yes, the 2023 IRP ELCC study work was performed by PowerGEM, and they will be performing the ELCC study work for the 2026 IRP.
- **Comment – RPAC Member:** I would appreciate a more detailed discussion as PowerGEM's study work progresses.
  - **Response – Akhil Mandadi:** We will consider how we can better share what we've seen from their work.
- **Question – RPAC Member:** Does APS have an annual retail sales model? How does that impact production costs?
  - **Response – Akhil Mandadi:** We do not account for additional sales outside the APS system in the resource planning space.
- **Question – RPAC Member:** As the cost of capital rises, does that impact how APS sells to customers outside of APS?
  - **Response – Akhil Mandadi:** It does have an impact, but only on the operational side. We have another team that performs similar production cost modeling, but with the ability to sell to the market. Our traders do this as well.
- **Question – RPAC Member:** With the tremendous amount of capital investment APS is going to need to make to the grid, how does APS allocate that capital investment to customers?
  - **Response – Mike Eugenis:** In the IRP process, we are one step before that. We aim to identify which components of this capital investment are the least cost. The question of how those costs are allocated come later in the rate making process. The IRP doesn't necessarily focus on how the cost is allocated. Instead, the IRP focuses on how to reliably make the incremental cost as low as possible for the subsequent process of allocating the cost.
- **Question – RPAC Member:** With unprecedented levels of forecasted growth, is APS considering using external resources to help meet capital needs? Is outside of APS pricing on the table?
  - **Response – Mike Eugenis:** Through the ASRFP process, we leverage Power Purchase Agreements through external developers. They bring forward projects, contract with us, and we get the advantage of the generation, while the capital remains on their books and they operate those assets.
- **Question – RPAC Member:** Is APS performing its own resource adequacy modeling in addition to the PowerGEM study? Is APS modeling the system with and without Distributed Generation (DG), or is it only based on APS DG projections?
  - **Response – Akhil Mandadi:** While we do have the capability to run our own resource adequacy models, we've primarily been validating PowerGEM's work rather than running parallel studies. The idea is that we would lean on PowerGEM for some of the more extensive work, from a computation perspective. DG is treated as a resource in the resource adequacy model. It is accounted for by grossing up the load and including both embedded and incremental DG, so that its full variability is reflected.
- **Question – RPAC Member:** Does APS do any modeling that assumes no DG is present?
  - **Response – Akhil Mandadi:** No, we do not model our plan without DG for the IRP.
- **Question – RPAC Member:** How does APS forecast its system growth?
  - **Response – Mike Eugenis:** We leverage a consultant to put together the load forecast.
- **Question – RPAC Member:** Will there be an updated load forecast for the 2026 IRP?
  - **Response – Mike Eugenis:** We update all components of our load forecast for the IRP, though it is not confirmed whether EV will be updated. DG, DR, and DSM will all be updated.
- **Question – RPAC Member:** What consultant does APS leverage to update its load forecast?

- Response - Mike Eugenis: For the 2023 IRP, APS leveraged Guidehouse for the DE, EE, and Electric vehicle forecasts. All other parts of the load forecast were developed in-house (e.g. customer, sales, and peak forecasts for all retail customer classes).

- Question - RPAC Member: When will the 2026 IRP load forecast be ready?
  - Response - Mike Eugenis: We anticipate we will have the 2026 IRP load forecast by the end of September and expect to use it to inform our base case study work. We will discuss the specifics of the 2026 IRP load forecast at a future RPAC meeting.
- Question - RPAC Member: With APS's zonal modeling approach, how will transmission planning play into the 2026 IRP?
  - Response - Akhil Mandadi: We are currently expecting to use a zonal model with the co-optimization of new build transmission, similar to what we did in the 2023 IRP. We are working with our Transmission Planning team to identify potential subzones we can explore. We won't create a nodal representation by building in congestion, but will focus large transmission projects that unlock deliverability, then the model has the opportunity to choose between these projects and the resources sitting behind them.
- Question - RPAC Member: Can APS provide a timeline for when the RPAC can expect to receive updates on major deliverables throughout the 2026 IRP process?
  - Response - Mike Eugenis: Yes, we will include that in our presentation materials at a later RPAC meeting.
- Comment - RPAC Member: There were some timing constraints for RPAC engagement during the 2023 IRP process. I'm hopeful the pacing will be more balanced this time.
  - Response - Akhil Mandadi: We are hopeful of this as well.

Adam Constable | APS/Consultant, Federal/State Regulatory | Next Steps & Closing Remarks

- Comment - RPAC Member: Will APS provide an update on the 2024 ASRFP at the next RPAC meeting?
  - Response - Mike Eugenis: Yes, we anticipate an ASRFP update.
- Comment - RPAC Member: Will APS hold a stakeholder meeting for the Rate Case?
  - Response - Melissa Krueger: The current plan is to hold a technical conference related to the Rate Case sometime this fall.