KEARNS & WEST

Salt River Project (SRP)
Integrated System Plan Modeling Subgroup Meeting #6- Summary

Prepared by Kearns & West

KEARNS WEST

Modeling Subgroup – Meeting #6 Overview

Meeting Objectives

- Discuss Technical Q&A for the results from ISP analysis for resource planning, transmission planning, and affordability metrics

Topic: ISP Analysis Key Findings & ISP Draft Strategies
Date: May 19, 2023
Time: 12:30 p.m. – 2:30 p.m.
Location: PERA – Whitetail E&W Conference Room

Please see the appendix for the Advisory Group member roster and attendance information. The meeting agenda and presentation are included with the meeting materials for Advisory Group Meeting #12, held earlier on May 19 and are available at the Integrated System Plan portal.

Meeting Orientation

Joan Isaacson, facilitator from Kearns & West, welcomed Advisory Group members to this optional Modeling Subgroup meeting for the Integrated System Plan (ISP), commenting that most attendees had remained for this afternoon session. She described the meeting as an opportunity for Advisory Group members to ask technical questions and hear responses from subject matter experts from both SRP and E3.

Technical Q&A

Kyle Heckel, Senior Engineer for Integrated Planning at SRP, began by following up on a question about cost assumptions for carbon capture and storage from the earlier Advisory Group meeting. Heckel stated that in the Strong Climate Policy scenario, the ISP assumes carbon capture and storage is available in 2030 at a capital cost of approximately $2,500 per kW in 2022 dollars. Carbon capture and storage is assumed to be available in 2035 at a capital cost of approximately $2,600 per kW for the Current Trends and Desert Boom scenarios and $2,800 per kW for Desert Contraction.

The floor was then opened for questions. Advisory Group members posed questions on a wide variety of topics, including customer programs and communication, resource costs and strategies, modeling and technical considerations of the power system, and the ISP process itself.

Customer Programs and Communication

Advisory Group members asked about customer programs and time-of-use programs. Jed Cohen, Manager of Forecasting and Load Research at SRP; Dan Dreiling, Director of Customer Programs at SRP; and Adam Peterson, Director of Corporate Pricing at SRP responded to their questions. In response to a question on recommendations for pre-cooling and time-of-use, Cohen stated that the guidance from SRP over the past 10 years has been pre-cooling by 3 degrees Fahrenheit for 3 hours prior to the on-peak price period. Advisory Group members commented that one way to market from a sustainability perspective is to emphasize the use of carbon-free solar generation during the pre-cooling period, although it was noted that some customers don't have a choice in when to use their air conditioners. Another member suggested SRP consider shortening the time-of-use window, so more customers have the opportunity to pre-cool.

Other questions focused on the marketing and promotion of customer programs. Dreiling spoke about SRP's marketing efforts, how the internal marketing department promotes programs and how SRP partners with professional advertising agencies to create and test messaging. He also discussed the comprehensive customer segmentation tool that SRP uses to offer programs to specific customer classes and segments. Peterson discussed SRP's residential time-of-day pilots with shortened peak hours to test new price signals to align with future renewable generation. Another Advisory Group member suggested thinking about the possibilities for artificial intelligence with customer programs.

Resource Costs and Strategies

Another area of interest centered on resource costs, carbon-free generation, and the impacts of the Inflation Reduction Act. Bobby Olsen, Associate General Manager & Chief Strategy, Corporate Services & Sustainability Executive at SRP; Adam Peterson; Grant Smedley, Director of Resource Planning, Acquisition and Forecasting at SRP; Angie Bond-Simpson, Director of Integrated System Planning & Support at SRP; and Arne Olson and Joe Hooker from E3 took turns answering questions.

On natural gas pricing and hedging strategies, the SRP and E3 subject matter experts explained how SRP uses dollar cost averaging to manage fluctuations in prices. Olsen emphasized that SRP does not use hedging to save on costs but rather to address volatility and variability. Olson stated that this strategy of managing variability over time is common in the industry and added that resources like solar and wind act as a natural hedge. One factor Olsen noted is that in the 2035 timeline for the ISP, SRP must consider low gas utilization and determine how to hedge around a resource that is, thus, less predictable.

Advisory Group members also asked about wind resources and targets for carbon-free generation that SRP has set. Bond-Simpson explained that constraints with wind are geography-specific, and SRP would need access to transmission. Coal retirements may free up some transmission. She also described opportunities for solar and geothermal. Hooker added that a mix of resources is the most effective. Olsen and Smedley spoke to the long-term goal of a 90% reduction in carbon intensity by 2050 and noted the current trajectory of 50% carbon-free generation by 2025, expressing confidence despite some challenges with the solar industry.

On the Inflation Reduction Act, Olsen and Bond-Simpson responded to questions about incentives for domestic generation, saying that SRP will need diversification of suppliers and noting that SRP's ability to access tax credits requires a domestic supply chain. When asked if SRP plans to take a stance on potential repeal of the legislation, Smedley responded that he is not sure if SRP will make comments, noting, however, the significant benefits of SRP building its own resources and reducing prices through domestic supply.

Modeling and Technical Considerations

Advisory Group members also posed questions about modeling in the ISP and technical considerations, such as for load and distributed resources. Bond-Simpson, Cohen, and Dreiling from SRP and Olson from E3 provided answers.

Questions and suggestions for modeling included examining levelized costs, tweaking underlying assumptions, considering virtual power plants, and exploring ways to reduce the size of the future resource build. Members of the project team said they would bring some of those ideas back for consideration and described current efforts on distributed generation. Bond-Simpson commented that integration of customer programs and distribution is where the draft system strategies are intended to go.

Questions on parasitic load (e.g., equipment drawing power while not in use) and the power factor were answered by Cohen and Peterson. On parasitic — or phantom — load, Cohen said that this may be small compared to the peak when 60-70% of peak usage is for cooling. While some portion of power may be invisible to meters, the power factor is targeted at industrial customers and is handled more efficiently through capacitance.

Integrated System Plan Process

Toward the end of the meeting, questions arose about the ISP process. Bond-Simpson read Advisory Group member input about SRP imagining a role as a trailblazer to which she replied that the ISP is part of a trailblazing plan in how it considers the whole power system. She also cited efforts on emerging technology and being on the forefront of resource adequacy research, noting the room for growth around artificial intelligence.

When asked about reflection on the process for the ISP and how the study will be communicated more broadly, Bond-Simpson said a debrief with stakeholders is anticipated for the September meeting. She also asked for Advisory Group members' support in developing educational opportunities for customers.

Wrap Up

Bond-Simpson thanked the Advisory Group members, subject matter experts and project team members for their time and engagement in the process. She encouraged the Advisory Group to continue attending meetings, posing questions and engaging in the process.

Appendix

Meeting Attendance

Advisory Group Member Organizations (members in attendance on 5/19 are indicated in **bold**)

Arizona Hispanic Chamber of Commerce
A New Leaf
American Association of Retired Persons (AARP)
Arizona State University (ASU)
Arizona Public Interest Research Group (PIRG)
Building Owners and Managers Association (BOMA)
Chicanos Por La Causa
City of Phoenix
Common Spirit Health
CMC Steel Arizona
CyrusOne
Environmental Defense Fund (EDF)
Intel
Kroger
Local First
Mesa Public Schools
Pinal County
Profile Precision Extrusions
SRP Customer Utility Panel (CUP)
Salt River Pima-Maricopa Indian Community (SRPMIC)
Southwest Energy Efficiency Project (SWEEP)
United Dairymen of Arizona
Western Resource Advocates (WRA)
Wildfire

Key SRP Staff

Adam Peterson, Director of Corporate Pricing
Angie Bond-Simpson, Director of Integrated System Planning & Support
Bobby Olsen, Associate General Manager & Chief Planning, Strategy & Sustainability Executive at SRP
Dan Dreiling, Director of Customer Programs
Domonique Cohen, Senior Strategic Planner for Integrated Planning
Duncan Kraft, Planning Analyst for Integrated Planning
Grant Smedley, Director of Resource Planning, Acquisition and Forecasting
Jed Cohen, Manager of Forecasting and Load Research
Justin Lee, Manager of Transmission Planning
Kyle Heckel, Senior Engineer for Integrated Planning
Maria Naff, Manager of Integrated Planning
Maxwell Burger, Senior Predictive Analytics Analyst for Integrated Planning
Michael Reynolds, Manager of Resource Analysis and Planning

Key Facilitation Team

Arne Olson, E3
Joe Hooker, E3
Brisa Aviles, Kearns & West
Karen Lafferty, Kearns & West
Joan Isaacson, Kearns & West

SRP Board and Council Observer

Larry Rovey, SRP Board Member