Before the Arizona Corporation Commission

COMMISSIONERS
TOM FORESE, CHAIRMAN
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IN THE MATTER OF RESOURCE PLANNING AND PROCUREMENT 2015 AND 2016	Docket No. E-00000V-15-0094

Sierra Club Reply to Staff's Comments and Proposed Order

1. INTRODUCTION

Sierra Club appreciates the opportunity to respond to Staff's recommendations on Arizona's 2017 Integrated Resource Plans (IRP). Staff has clearly reviewed comments from parties carefully. In the comments below, Sierra Club makes four additional recommendations for consideration by Staff and the Commission:

- Clarify the need for least-cost scenarios within Arizona's reasonable cost framework,
- Define the purpose of this IRP, like all resource planning documents, as solely advancing customer interests rather than factoring in stockholder or regulator interests,
- Adopt Staff's requirement that Public Service Electric Company (APS) extend its analysis to include "no growth" and "low growth" scenarios and provide intervenors and stakeholders the opportunity to submit comments and help set expectations for this additional scenario analysis effort, and
- Adopt Staff's proposal to extend the IRP process to a three-year cycle and require a defined comment schedule.

2. REASONABLE COST VERSUS LEAST COST

The Commission should not acknowledge a utility's IRP because it considered "reasonable costs," unless the company has compared its plan against a least-cost scenario. Sierra Club's initial comments on the Tucson Electric Power (TEP) IRP critique the utility for a failure to optimize portfolio planning, and the manual selection of resources. We concluded that "in failing to assess a reasonable range of alternatives and in the selection of subjective portfolios," TEP "fail[ed] to provide evidence that it achieves a reasonable long-term total cost."[1] Similarly, we showed that APS's load forecast sensitivities were unhelpful because "APS has not optimized or otherwise evaluated any portfolios that adjust to lower load expectations by building out less new capacity."[2] In both cases, by not seeking a least-cost portfolio, both TEP and APS failed to establish that their plans were reasonable.

Only TEP responded to our concerns, stating multiple times that the Commission's rules do not require the utilities to seek a least-cost solution, but only require that the Reference Case portfolio achieve an outcome of "reasonable long-term total cost."[3]

Staff noted this difference of opinion, but did not take a specific stance on whether "reasonable cost" is, for the purposes of resource planning, analogous with "least-cost." However, Staff does state it "believes the IRPs of APS, TEP, and UNSE meet the requirements of the Commission's IRP rules,"[4] which continues the open question of what constitutes a "reasonable cost."

The term "reasonable cost" implies the evaluation of a range – from a lower benchmark, below which further reduced costs cannot be obtained, and a higher benchmark, above which costs are "unreasonable." Sierra Club does not contest that plans with long-term costs above the lowest feasible cost could be considered reasonable and acknowledged by this Commission. We are concerned, however, by the notion that "reasonableness" can be established without respect to the least-cost benchmark. Without this benchmark, it is impossible to know what resources should be considered a reasonable cost. As an extreme example, we can imagine a plan in which every resource is simultaneously replaced, meeting reliability, safety and environmental criteria, but at an extraordinary – and likely unreasonable – cost. In TEP's case, the company seeks to invest in new resources by 2020 without a substantial test of whether these resources are least-cost – or anywhere close to least-cost. TEP argues that the Commission's rules do not require the utility to seek least cost, and thus it has no obligation to optimize. We disagree. The companies cannot establish that their plans are reasonable without reference to a least-cost benchmark.

[1] Sierra Club Comments on TEP IRP (September 27, 2017). Page 2.
[2] Sierra Club Comments APS IRP (September 27, 2017). Page 10.
[3] TEP Reply Comments (October 10, 2017). Page 4 at 4, page 5 at 7, page 6 at 8.
[4] Staff Comments and Recommendations (November 1, 2017). Page 38.

Does an examination of "reasonable cost" imply that a search for least-cost has been conducted? Other state IRP rules provide some guidance. Thirty-four (34) states and Puerto Rico require utilities to perform IRPs on a regular basis.[5] Sierra Club compiled twenty-nine (29) of the statutes, rules, or governing orders from these states to assess whether least cost planning is a common theme. The results of this survey are shown on the table in Appendix A. Twenty-two states set a clear requirement for either optimization, least-cost, or a minimization of ratepayer impacts as an explicit goal of IRP planning.[6] Three states (HI, MI, and MN) allude to a least-cost requirement, stating that the utilities should demonstrate an "optimal mix" of resources,[7] "keep customers' bills and rates as low as practicable,"[8] or demonstrate "competitive pricing."[9] Only Arizona, Nevada, Oklahoma, and Virginia have no specific requirement to reduce customer costs through effective planning.

Other IRP stakeholders also define the purpose of utility resource planning as meeting customer requirements while minimizing system costs. The guide "Best Practices in Electric Utility Integrated Resource Planning" from the Regulatory Assistance Project describes the purpose of IRP as follows:

> Integrated resource planning has many benefits to consumers and other positive impacts on the environment. **This is a planning process that, if correctly implemented, locates the lowest practical costs at which a utility can deliver reliable energy services to its customers.** IRP differs from traditional planning in that it requires utilities to use analytical tools that are capable of fairly evaluating and comparing the costs and benefits of both demand- and supply-side resources. The result is an opportunity to achieve lower overall costs than might result from considering only supply-side options.[10]

Sierra Club recommends that Arizona take up this common principle of planning and require that "reasonable cost" be benchmarked against least-cost scenarios. As such, utilities must demonstrate that they have considered the range of alternatives that would result in a minimization of customer costs, and thoroughly explain or assesses the deviation from that

[5] See 2015 Energy and Environment Guide to Action, US EPA (2015). Chapter 7.1, Table 7.1.2. Since the publication of this table, California, Michigan and Puerto Rico have adopted IRP requirements.
[6] Affirmative least cost planning states include AR, CA, CO, DE GA, ID, IN, KY, LA, MO, MT, NE, NH, NM, NC, OR, PR, SC, UT, VT, WA, and WY.
[7] Hawaii Docket 2012-0036, Decision 32052, Exhibit A.
[8] Minnesota Administrative Rules Chapter 7843. "Utility Resource Planning Process," Sub. 2 & 3.
[9] Michigan MCL 460.6t(8)(a)(iii).
[10] RAP, 2013. Best Practices in Electric Utility Integrated Resource Planning.

minimization to establish that the Reference Case portfolio and subsequent action plan is reasonable.

3. PRIORITIZING CUSTOMER INTERESTS

Sierra Club is concerned that Staff's defined purpose and basis of an IRP overemphasized the interests of stockholders and regulators. Staff states:

> An IRP is essentially the utility's plan to meet the future electric service needs of its customers in a way that considers environmental impacts along with the concerns of customers, regulators, stockholders and other stakeholders… The end result of an IRP is a schedule of demand-side and supply-side resources that will provide for the continued reliable delivery of electricity to all customers served by the LSEs in Arizona.

The list of concerned parties in Staff's characterization is problematic. The concerns of ratepayers are far more crucial than those of regulators and shareholders. Regulators are crucially important, but are not a "concerned" party. Rather, the IRP must conform to and account for existing rules and policies while also being robust to anticipated future requirements of state and federal regulators.

Finally, while a utility resource plan should not risk the financial health of shareholders, they are not typically an independent party to the planning process and typically represent economic interests in direct contrast to those of customers. Placing shareholders in the same clause as ratepayers implies that a plan can reasonably be weighted towards both set of interests. A monopoly company given permission to plan on behalf of shareholders rather than ratepayers is unbounded in making decisions to the detriment of its customers. Rather, the primary aim of any IRP effort should be to provide least-cost, least-risk resource procurement. We recommend that Staff and the Commission clarify that the IRP process is meant to provide the lowest cost of service to customers.

4. LOW GROWTH AND NO GROWTH SCENARIO PLANNING

Staff critiqued APS' forecast load growth and customer growth, stating that the utility's projections "appear[] to be too aggressive given the information contained in the 2017 IRP and

prior IRPs."[11] As a result, Staff recommended that APS file a supplemental report in this docket justifying its load growth projections and analyzing both "no growth" and "low growth" scenarios to examine "the resultant implications on APS's resource selections under each scenario" and following action plans.[12] Staff asked that the report be filed within 90 days of the Commission decision, approximately early spring 2018.

Sierra Club fully supports Staff's recommendation, and respectfully requests consideration of key issues in this supplemental report.

First, Staff's desire to understand the "resultant implications on APS's resource selections" is a critical purpose of examining alternative load growth scenarios. However, as Sierra Club noted, APS's portfolios in the current IRP do not appear to be sensitive to load growth expectations. We had commented that "APS has evidently not optimized or otherwise evaluated any portfolios that adjust to lower load expectations by building out less new capacity. This lack of evaluation makes it difficult to assess how APS's plan would change were it to adopt a lower, more realistic load forecast."[13] Sierra Club is concerned that Staff's request, as interpreted through the analytical frame adopted by APS, will result in a largely similar – if not identical – set of portfolios, just with substantial excess capacity. This type of result would be counterproductive to Staff's interest and the purpose of this supplemental analysis.

We ask that the Commission clarify that such an incremental analysis must be optimized to result in no more capacity than is cost effective, and that APS seek to create the "no growth" and "low growth" plans on the basis of system cost minimization.

Second, Sierra Club recommends that APS's supplemental analysis be subject to the same level of review as the "aggressive" reference case forecast used in its filed IRP. As such, we ask that stakeholders be provided an opportunity to review and comment on the supplemental analysis, and that these comments be filed in this docket. The Commission should also require that APS and Staff hold a technical conference—with opportunity for stakeholder comment—prior to any incremental modeling so that all parties can understand the parameters of the supplemental study and to ensure that APS's resulting analyses are productive and informative.

Finally, Sierra Club asks that the Commission reserve the opportunity to fully assess any supplemental analysis and provide or revise guidance to the utilities based on its findings. Specifically, we ask that that if the outcome of the "no growth" and "low growth" scenarios indicates that certain resources in the Action Plan are not part of an optimal future resource portfolio, the Commission should not acknowledge APS's three-year action plan.

[11] Staff Comments and Recommendations (November 1, 2017). Page 38.
[12] Staff Comments and Recommendations (November 1, 2017). Page 41.
[13] Sierra Club Comments APS IRP (September 27, 2017). Page 10.

5. THREE-YEAR IRP CYCLE

Staff recommended that the IRP process should be expanded to a three-year cycle, with the requirement for preliminary IRPs and a change to the existing IRP rules. Sierra Club supports a more meaningful and engaged IRP process and does not object to a three-year cycle. We look forward to engaging with Staff, the utilities, and other stakeholders to help generate productive updated IRP rules that provide: guidance on the Commission's priorities and the purpose of an IRP; a meaningful and efficient process of data sharing between the utilities and parties; and the reflection of public concerns in the development of scenarios, portfolios, and assessment criteria. We see value in a process that allows for stakeholder development, reasonable discovery, the evaluation of work papers, and the submission of comments containing utility-confidential information, if required.

6. DEFINED STAKEHOLDER COMMENT PERIOD

Finally, we note Staff's request to establish a defined comment period after the date of filing of the final IRP to allow Staff sufficient time to evaluate comments prior to the preparation of the proposed order.[14] Sierra Club appreciates the substantial effort undertaken by Staff to incorporate, characterize, and reflect stakeholder comments on the IRP in an extraordinarily short time period, and Sierra Club supports Staff's recommendation, with additional suggestions for a streamlined process. We recommend a uniform filing deadline for stakeholders, an established deadline for utility response comments (and potentially a stakeholder reply deadline), and a sufficient window to allow Staff to review and characterize comments. Some states also provide the opportunity for a public meeting where stakeholders, companies, and staff can parse specific concerns in an open and interactive meeting. While such a meeting does not necessarily result in consensus, it does allow parties to eliminate or focus concerns otherwise left unclear through the formal IRP document and comment exchange.

In short, we support Staff's request for an orderly submission of comments in the IRP process and hope to make the process increasingly meaningful.

[14] Staff Comments and Recommendations (November 1, 2017). Page 40.

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Respectfully submitted,

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APPENDIX A: IRP RULES AND GUIDANCE BY US STATE

State	Least Cost Required?	Least Cost Source	Planning Objective / Least Cost Statement
Arizona	**No**	Docket RE-00000A-09-0249, Decision 71722	A load-serving entity shall, by April 1 of each even year, file with Docket Control a 15-year resource plan that will achieve a **reasonable long-term total cost...**
Arkansas	**Yes**	Docket 06-028-R, Order No. 6 Docket 06-028-R, Order No. 6	"The Arkansas Public Service Commission ("APSC" or "Commission") initiated this rulemaking proceeding by its Order No. I, issued February 8, 2006. The docket was initiated to achieve the following purposes: (I) to recognize the changes which have occurred in the electric industry over the last ten years, including the **growing need to consider, plan, and optimize the cost efficiency of generation and transmission services** in a manner that captures the benefits of a growing wholesale electricity market and enhanced regional transmission planning efforts;" ...it is this Commission's responsibility to require that the Arkansas utilities perform these functions in the most prudent manner possible, and to thereby promulgate Guidelines to ensure that the utilities conduct these activities in ways that will **minimize costs, and maximize benefits, to ratepayers**.
California	**Yes**	California Code, Public Utilities Code - PUC § 9621	The governing board of the local publicly owned electric utility may authorize all source procurement that includes various resource types, including demand-side resources, supply side resources, and resources that may be either demand-side resources or supply side resources, to ensure that the local publicly owned electric utility **procures the optimum resource mix** that meets the objectives of subdivision (b).
Colorado	**Yes**	Decision C10-111, Docket 10R-214E	It is the policy of the state of Colorado that a primary goal of electric utility resource planning is to **minimize the net present value of revenue requirements**. It is also the policy of the state of Colorado that the Commission gives the fullest possible consideration to the **cost-effective implementation of new clean energy and energy-efficient technologies.**
Delaware	**Yes**	Delaware Code Title 26, Chapter 10, Sec. 1002	"It is the policy of the State that electric distribution companies subject to the oversight of the Commission and as part of their obligation to be standard offer service suppliers shall engage in integrated resource planning for the purpose of evaluating and diversifying their electric supply options, efficiently and **at the lowest cost to their customers**."
Georgia	**Yes**	GPSC Rule 515-3-4-.05	Each utility shall develop a base case integrated resource plan based on **the most economic and reliable combination of potential demand and supply-side resources**, to meet the needs identified by the base case demand forecast scenario. The overall objective of the plan should be based on current Commission policy concerning minimizing customer bills, minimizing overall rates and maximizing net societal benefit.
Hawaii	**Partial**	Docket 2012-0036, Decision 32052, Exhibit A	Future resource plans for each island grid need to **demonstrate the optimal mix of existing and new resources** to meet operational needs efficiently and cost-effectively.
Idaho	**Yes**	Docket U-1500-165, Order 22299 (1989) Docket IPC-E-15-19, Order 33441 (2015)	"...parties recommended that utilities be required to submit a **"Least Cost Plan" or an "Integrated Resource Plan"** to demonstrate that they are considering conservation in their planning process. These terms appear to be interchangeable and are vaguely defined." "...an IRP is a status report on the utility's ongoing, changing plans to adequately and reliably service its customers at the **lowest system cost** and least risk over the next 20 years."
Indiana	**Yes**	170 IAC 4-7-8	Demonstrate that the **most economical source of supply-side resources** has been included in the integrated resource plan

		Draft Rule (2012)	From its candidate resource portfolios, a utility shall select a preferred resource portfolio and provide, at a minimum, the following information: Demonstrate how the preferred resource portfolio balances **cost minimization** with cost-effective risk and uncertainty reduction, including the following.
Kentucky	**Yes**	807 KAR 5:058, Section 8	Resource Assessment and Acquisition Plan. (1) The plan shall include the utility's resource assessment and acquisition plan for providing an adequate and reliable supply of electricity to meet forecasted electricity requirements at the **lowest possible cost.**
Louisiana	**Yes**	LPSC General Order, Docket R-30021 Section (2)(i)	Integrated Resource Planning or IRP is a type of utility planning process that develops long-range resource plans by **seeking the optimal combination of resources** (including demand, supply-side, and possibly other options) to meet forecasted load requirements at the **lowest reasonable total cost**, subject to various objectives and constraints.
		LPSC General Order, Docket R-30021 Section (3)(f)	An **optimization analysis** may be used to identify the least cost set of resource options that satisfy the utility's load requirements over the planning period and that meet all specified constraints (e.g. reliability, operational, environmental, etc.). Normally, the resource plan that meets all constraints, and has the **lowest net present value revenue requirement considering all relevant costs** (fuel, O&M, capital and environmental), is considered the initial reference resource plan at this stage of the analysis.
		LPSC General Order, Docket R-30021 Section (6)(f)	Optimization Analysis. The utility may perform an **optimization analysis to develop a recommended least-cost reference plan**. The optimization analysis may rely on an expansion planning model that automatically selects resources over the planning period to minimize costs, given a set of operating constraints such as the system planning reserve margin requirement, operating and fuel constraints, and any regulatory policy constraints in effect at the time the IRP is conducted (for example, environmental regulations).
Michigan	**Partial**	MCL 460.6t	(8) The commission shall approve the integrated resource plan under subsection (7) if the commission determines all of the following: (a) The proposed integrated resource plan represents the most reasonable and prudent means of meeting the electric utility's energy and capacity needs. To determine whether the integrated resource plan is the most reasonable and prudent means of meeting energy and capacity needs, the commission shall consider whether the plan appropriately balances all of the following factors: (i) Resource adequacy and capacity to serve anticipated peak electric load, applicable planning reserve margin, and local clearing requirement. (ii) Compliance with applicable state and federal environmental regulations. **(iii) Competitive pricing.** (iv) Reliability. (v) Commodity price risks. (vi) Diversity of generation supply.
Minnesota	**Partial**	MN Administrative Rules Chapter 7843. "Utility Resource Planning Process." 7843.0500(3)(B)	**Preferred plan.** If the commission concludes that a set of resource options would be optimal, considering the desirable attributes listed in subpart 3, it may identify that set of resource options as a preferred resource plan.... Resource options and resource plans must be evaluated on their ability to ... (B) **keep the customers' bills and the utility's rates as low as practicable**, given regulatory and other constraints;

Missouri	**Yes**	4 CSR 240-22.010	"The fundamental objective of the resource planning process at electric utilities shall be to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that serves the public interest and is consistent with state energy and environmental policies. The fundamental objective requires that utility shall: (B) Use **minimization of the present worth of long-run utility costs as the primary selection criterion** in choosing the preferred resource plan."
Montana	**Yes**	M.C. 69-3-1204 ARM 38.5.2001	The commission may adopt rules requiring a public utility to prepare and file a plan for meeting the requirements of its customers in the most cost-effective manner consistent with the public utility's obligation to serve. The goal of these integrated **least cost resource planning** guidelines is to encourage electric utilities to meet their customers' needs for adequate, reliable and efficient energy services at the **lowest total cost** while remaining financially sound.
Nebraska	**Yes**	NRS 66-1060	Public utilities in Nebraska shall practice integrated resource planning and include **least cost options** when evaluating alternatives for providing energy supply and managing energy demand in Nebraska.
Nevada	**No**	NRS 704.741(2)(b)	The Commission shall require the utility to include in its plan: ... A comparison of a diverse set of scenarios of the **best combination of sources** of supply to meet the demands or the best methods to reduce the demands.
New Hampshire	**Yes**	NH Title XXXIV 378:39	The commission shall review integrated **least-cost resource plans** in order to evaluate the consistency of each utility's plan with this subdivision, in an adjudicative proceeding. In
New Mexico	**Yes**	NMAC 17.7.3.7(J.)	**J. most cost effective resource portfolio** means those supply-side resources and demand-side resources that **minimize the net present value of revenue requirements** proposed by the utility to meet electric system demand during the planning period consistent with reliability and risk considerations"
North Carolina	**Yes**	R08-60	As part of its integrated resource planning process, each utility shall consider and compare a comprehensive set of potential resource options, including both demand-side and supply- side options, to determine an integrated resource plan that offers the **least cost combination** (on a long-term basis) of reliable resource options for meeting the anticipated needs of its system.
Oklahoma	**No**	OAC 165:35-37-1	The purpose of this Subchapter is to establish fair, just, and reasonable rules and procedures for Commission review of the resource plans of utilities. The
Oregon	**Yes**	Order 07-002 (Docket UM 1056)	The primary goal [of Integrated Resource Planning] is **least cost** to the utility and its ratepayers, consistent with the long-run public interest... The goal of the IRP is to help identify the **lowest realized cost over the planning horizon**. To accomplish this, risks must be considered, as one resource decision with the lowest expected cost might, due to associated risks, result in higher costs than other resource strategies.
Puerto Rico	**Yes**	PR Reg. 8594 (2015), Sec 2.04(B)(2)	PREPA shall use a Capacity Expansion Model to similar model structure to develop least cost resource plans that meet customer needs under the reference case scenario and various future scenarios. The capacity expansion model shall at a minimum seek to optimize the present value of revenue requirements over the planning period
South Carolina	**Yes**	Order 91-885 (Docket 87-223-E)	The objective of the IRP process is the development of a plan that results in the **minimization of the long run total costs** of the utility's overall system and produces the **least cost to the consumer** consistent with the availability of an adequate and reliable supply of electricity while maintaining system flexibility and considering environmental impacts.
Utah	**Yes**	Order, Docket 90-2035-01	The Commission will require PacifiCorp to **pursue the least cost alternative** for the provision of energy services to its present and future ratepayers that is consistent with safe and reliable service, the fiscal requirements of a financially healthy utility, and the long-run public interest.

Vermont	**Yes**	VT Statute Title 30.005.001 218c	A "least-cost integrated plan" for a regulated electric or gas utility is a plan for meeting the public's need for energy services, after safety concerns are addressed, at the **lowest present value life cycle cost,** including environmental and economic costs, through a strategy combining investments and expenditures on energy supply, transmission, and distribution capacity, transmission and distribution efficiency, and comprehensive energy efficiency programs.
Virginia	**No**	Virginia Code Title 56, Chapter 24 58-598	An IRP should: Integrate, over the planning period, the electric utility's forecast of demand for electric generation supply with recommended plans to meet that forecasted demand and assure adequate and sufficient reliability of service… [and] Identify a portfolio of electric generation supply resources… that … will consider low cost energy/capacity available from short-term or spot market transactions…
Washington	**Yes**	WAC 480-100-238	Each electric utility regulated by the commission has the responsibility to meet its system demand with a **least cost mix of energy supply resources and conservation**. In furtherance of that responsibility, each electric utility must develop an "integrated resource plan."
Wyoming	**Yes**	Commission Guidelines	"The IRP should discuss the utility's resource selection criteria …, expected deviations from **least-cost resources or resource combinations**, reasons for any deviations from least-cost resource acquisitions, relationship of resource selection to portfolio standards to which the utility is subject and **how optimum levels of different resources** are determined."

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Certificate of Service

I hereby certify that I have this day served the foregoing Sierra Club Comments on Arizona Public Service's 2017 Integrated Resource Plan via email or U.S. Mail to all parties of record in the proceeding listed below.

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