BEFORE THE

ARKANSAS PUBLIC SERVICE COMMISSION

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IN THE MATTER OF THE FILING OF SOUTHWESTERN ELECTRIC POWER COMPANY'S CURRENTLY EFFECTIVE RESOURCE PLAN PURSUANT TO THE COMMISSION'S RESOURCE PLANNING GUIDELINES

Docket No. 07-011-U

REPORT OF THE STAKEHOLDER COMMITTEE ON SOUTHWESTERN ELECTRIC POWER COMPANY'S ARKANSAS 2024 INTEGRATED RESOURCE PLAN PROCESS

The Arkansas Advanced Energy Association, City of Fayetteville, National Audubon Society, Sierra Club, and Southern Renewable Energy Association the (collectively, "the Stakeholders") appreciate the opportunity to provide this Report of the Stakeholder Committee for filing with the 2024 Southwestern Electric Power Company ("SWEPCO" or "Company") Integrated Resource Plan ("IRP") pursuant to Section 4.8 of the Arkansas Public Service Commission ("Commission") Resource Planning Guidelines for Electric Utilities ("RPGs"). We have attended stakeholder meetings, including the presentations held by SWEPCO on June 6, September 30, and December 13 of 2024. We thank SWEPCO for providing timely responses to our Stakeholder questions and posting this information publicly on its IRP website.¹ The following Stakeholder Committee Report provides our recommendations for how SWEPCO may improve this IRP, consistent with the objectives set forth in Section 4.1 of the Commission's Resource Planning Guidelines.²

¹ See SWEPCO, 2024 Arkansas Integrated Resource Plan (IRP). Available at https://www.swepco.com/community/projects/arkansasirp/.

² Arkansas Public Service Commission, Resource Planning Guidelines, Section 4.1 ("The objectives of the Resource Plan include, but are not limited to, low cost, adequate and reliable mew services; economic efficiency; financial integrity of the utility; comparable consideration of demand and supply resources; mitigation of risks, consideration of demand impacts; and consistency with governmental regulations and policies.").

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I. SWEPCO should select the Enhanced Environmental Regulation portfolio as its preferred portfolio and should adjust its short-term action plan to focus on no-regrets renewable procurement.

Error! Reference source not found. shows SWEPCO's scenario framework for its IRP modeling. SWEPCO modeled a base case that represents business as usual and an Enhanced Environmental Regulation ("EER") case that examines the impacts of the 111 Rules. In addition, it modeled six scenarios that examine the impacts of high and low commodity prices and technology costs.

Error! Reference source not found. shows resource builds over the next decade for the eight scenarios that SWEPCO modeled. All portfolios add between 2.6 and 3.4 GW of gas capacity over the next decade. This includes the conversion of Welsh to gas (1.1 GW), which the model selected in all scenarios. The remaining gas capacity additions are a mix of new combined cycle units ("CC"), new combustion turbines ("CT"), and coal-to-gas conversions. In the base portfolio, the model adds 1.1 GW of new CCs and 960 MW of new CTs between 2025 and 2034. In the EER portfolio, the model converts Flint Creek and Turk to gas (in addition to Welsh) and builds a correspondingly smaller quantity of new CCs (760 MW). The base and EER scenarios have the same quantity of CTs.

Renewable additions over the next decade vary widely among the scenarios. In the base case, the model adds 600 MW of solar and no wind by 2034, while in the EER case the model adds 750 MW of solar and 600 MW of wind. None of the portfolios include any battery storage.

Portfolio	SWEPCO	Commodity	Environmental	Technology
	Load	Prices	Regulations	Cost
Base Case	Base	Base	Base	Base
Enhanced	Base	EER	Informed by 111	Base
Environmental			Rules	
Regulations (EER)				
High Case	High	High	Base	Base
Low Case	Low	Low	Base	Base
High Commodity	Base	High	Base	Base
Sensitivity				
Low Commodity	Base	Low	Base	Base
Sensitivity				
High Technology	Base	Base	Base	Base + 25%
Cost Sensitivity				
Low Technology	Base	Base	Base	Base - 25%
Cost Sensitivity				

Table 1. SWEPCO scenario structure³

Table 2. Cumulative capacity additions 2025–2034 in the eight portfolios SWEPCO modeled⁴

Resource	Base	EER	High	Low	High Commodit	Low Commodit	High	Low
туре	Case	Case	Case	Case	Commoan	Commodit	recn	recn
					У	У		
Gas capacity	3,113	3,421	3,213	2,633	2,733	3,113	3,113	2,733
Coal to gas conversions	1,053	1,701	1,053	1,053	1,053	1,053	1,053	1,053
New CC	1,100	760	-	1,100	-	1,100	1,100	-
New CT	960	960	2,160	480	1,680	960	960	1,680
Renewables	600	1,350	1,200	-	1,450	-	450	1,900
Solar	600	750	-	-	450	_	450	900
Wind	-	600	1,200	-	1,000	-	-	1,000
Energy Efficiency	97	98	87	178	96	112	257	81

 ³ SWEPCO December 13, 2024 stakeholder meeting slide deck at 14 and 16. Available at <u>https://www.swepco.com/lib/docs/community/projects/SWEPCO_2024_IRP_Stakeholder%20Meeting_2B_Dec13_2024-R2.pdf</u>.
⁴ SWEPCO IRP Workpapers: "2024 SWEPCO IRP Capacity Additions Summary Stakeholder Work Paper.xlsx."

SWEPCO selected the base portfolio as its preferred portfolio, citing its low energy market risk, higher quantity of dispatchable resources, and portfolio diversity benefits.⁵ However, the base and EER portfolios have very similar net present value rate of returns ("NPVRRs"): \$17.1 billion for the base portfolio compared to \$17.2 billion for the EER portfolio,⁶ suggesting that SWEPCO should pursue whichever strategy will best shield ratepayers from risk going forward.

SWEPCO's selection of the base portfolio ignores regulatory risk. SWEPCO will likely face at least some level of climate regulation over the next two decades. The EER portfolio more accurately reflects the likely future regulatory environment than the base portfolio. Error! Reference source not found. shows carbon dioxide ("CO₂") emissions in the base and EER portfolios. In the base case, emissions fall in the near-term but then rise rapidly after 2029 due to the large number of gas CC additions. By 2033, emissions are 31 percent higher than today's levels, and they remain elevated through the end of the study period. The base portfolio would therefore expose ratepayers to a high level of risk associated with future climate regulations – SWEPCO could incur large costs to retrofit its gas CC and other fossil fuel units to comply with greenhouse gas regulations, potentially increasing the NPVRR of this portfolio substantially above what SWEPCO modeled in its IRP.

⁵ SWEPCO December 13, 2024 stakeholder meeting slide deck at 37.

⁶ *Id.* at 35.



Figure 1. Carbon dioxide emissions in the base and EER portfolios⁷

In the EER portfolio, emissions fall through 2031 as the Company's coal units retire, reaching a low of 1.0 million metric tons ("MMT") CO₂ in 2031 (79 percent lower than today's emissions). Emissions then begin to increase as CC buildouts replace purchased energy in SWEPCO's energy mix. While the EER portfolio will not completely shield ratepayers from regulatory risk, it represents a significant improvement over the base case, especially in the near term.

The CC builds in the base case will lock SWEPCO into paying for costly assets that are not resilient to future climate regulation or to increases in fuel prices. SWEPCO's modeling shows that in scenarios with high commodity prices, new CCs are not economic – the model selected no CCs between 2025 and 2034 in the High Case and High Commodity Sensitivity (**Error! Reference source not found.**). This underscores the risks associated with relying on new CCs as energy resources. If gas prices rise, ratepayers will be locked into paying off the large capital investment in the CCs as well as paying high fuel costs for generation from the

⁷ SWEPCO Response to Stakeholder Question 1B (January 2025),

[&]quot;SWEPCO_2024_AR_IRP_StakeholderMtg2B_Responses_Attachment 1-1 Stakeholder Question 1B.xlsx."

units. Coal-to-gas conversions generally involve smaller capital investments than construction of new CCs, but SWEPCO should be similarly cautious about investing in gas pipeline to serve converted coal units, as these investments in gas infrastructure pose similar risks to building new gas plants.

In contrast, the near-term solar and wind builds in the EER portfolio are no-regrets resource additions that will provide low-cost energy to ratepayers, regardless of the level of future climate regulation or increase in fuel prices. SWEPCO should therefore adjust its short-term action plan to focus on testing the market and procuring renewables, rather than locking itself into risky new gas assets. This approach will preserve SWEPCO's flexibility to respond to future regulatory and market developments. Critically, SWEPCO should not limit its procurement of renewables based on the limits it imposed in the model, but rather should attempt to procure as much as the market can economically supply.

II. The Northwest Arkansas load pocket remains a key stakeholder concern that SWEPCO should address in its IRP.

Sierra Club's September 2024 comment letter raised concerns about SWEPCO's continued delay in addressing the Northwest Arkansas load pocket. The load pocket currently presents a barrier to retiring the Flint Creek coal plant. The area inside the load pocket has limited transmission interconnection with the surrounding power system and depends on three critical facilities (two 345 kV transmission lines and Flint Creek) to maintain reliability.⁸ Past Company analysis has found that when Flint Creek retires, SWEPCO will need to construct an additional transmission line to maintain reliability in the area during high load periods, or else

⁸ Order No. 14, Arkansas Public Service Commission, Docket No. 12-008-U at 27 (July 10, 2013). Available at <u>https://apps.apsc.arkansas.gov/pdf/12/12-008-u 227 1.pdf</u>.

replace it with generation located within the load pocket.⁹ This transmission solution will be needed regardless of whether Flint Creek retires now or in the future.

Flint Creek began operating in 1978, and given the plant's age, the question is not so much *whether* a new transmission line will be necessary as *when* it will be necessary. The Company currently plans to wait until 2028 to begin planning for transmission solutions related to Flint Creek's retirement. This timeline is based on SPP's long-term planning process – which looks out ten years – and Flint Creek's scheduled retirement date of 2038.¹⁰ In our September 2024 letter, Sierra Club recommended that SWEPCO begin analyzing solutions to address the Northwest Arkansas load pocket now, including studying whether earlier construction of the transmission line would be economically beneficial to ratepayers. While the driver of the transmission line is the retirement of Flint Creek, the line could also provide value to the system by enabling access to lower-cost renewable energy development outside of the load pocket.

In its response to Sierra Club's September comment letter, the Company failed to engage with the substance of this recommendation, instead writing that, "SWEPCO disagrees with the assumption that the Northwest Arkansas Load Pocket presents a reliability issue. Currently, the Northwest Arkansas Load Pocket is reliably served, including by the operation of Flint Creek."¹¹ During the December stakeholder meeting, SWEPCO appeared similarly dismissive of stakeholder concerns about the load pocket, explaining that areas where load exceeds generation are common on the power system. Our concern is not with the presence of a load pocket, but rather SWEPCO's refusal to address it. Transmission into the area is limited, creating a barrier to

⁹ Id.

 ¹⁰ SWEPCO responses to initial stakeholder questions at 5. Available at <u>https://www.swepco.com/lib/docs/community/projects/SWEPCO_2024_IRP_Stakeholder_Committee_Initial_Quest</u> <u>ions_and_Requests_8-16-24.pdf</u>.
¹¹ SWEPCO response to Sierra Club pre-meeting suggestions at 3. Available at <u>https://www.swepco.com/lib/docs/community/projects/SWEPCO_2024_AR_IRP_</u>

SWPECO Responses to Sierra Club Pre-Meeting Suggestions.pdf.

retiring generation inside the load pocket – including coal units like Flint Creek that are otherwise facing significant economic pressure to retire.

SWEPCO's lack of serious engagement on this issue is particularly concerning given that the Arkansas Public Service Commission directed the Company to address the load pocket more than ten years ago. The Commission's decision to approve flue gas desulfurization ("FGD") scrubbers at Flint Creek in 2013 was contingent on SWEPCO and Arkansas Electric Cooperative Corporation ("AECC") continuing "to work with SPP to conduct an appropriate solutions study to timely address reliability issues in the Northwest Arkansas load pocket."¹² At the time, the Commission estimated that it could take SWEPCO seven years to implement a transmission solution to the load pocket,¹³ but over a decade later, SWEPCO still has not done so. Despite more recent stakeholder efforts to draw attention to the issue, including a June 2024 working group meeting convened by Commission Staff to discuss the load pocket, SWEPCO continues to delay addressing this problem.

III. When the availability of transmission impacts resource planning decisions, as it does in the Northwest Arkansas Load Pocket, SWEPCO should integrate transmission solutions and planning into its IRP.

In its current IRP materials, the Company again notes that additional transmission may be necessary once Flint Creek retires but says that it will not model any transmission solutions as part of its IRP.¹⁴ SWEPCO's position is that transmission planning is outside the scope of its IRP and should take place exclusively through SPP's regional planning processes.¹⁵ SWEPCO

¹² Order No. 14, Arkansas Public Service Commission, Docket No. 12-008-U at 39 (July 10, 2013).

 $^{^{13}}$ Id. at 37.

¹⁴ SWEPCO responses to initial stakeholder questions at 4–5.

¹⁵ SWEPCO responses to initial stakeholder questions at 4–5 and 7.

reiterated this position in response to Sierra Club's September comments, pointing to the Arkansas Resource Planning Guidelines,¹⁶ which state that:

The transmission plan necessarily results from a separate planning process and is a separate plan; however, it should be integrated into the overall resource planning process, such that the analysis of generation options and demand response options can be synthesized and optimized. Transmission planning will be done by an independent entity and is regional in scope.¹⁷

It is true that SPP rather than SWEPCO is responsible for regional transmission planning, as the

Resource Planning Guideline describes. However, SPP's planning focuses on reliability and

other regional factors and would not necessarily identify if additional transmission would benefit

SWEPCO ratepayers in the context of a least-cost resource planning portfolio. Specifically,

SPP's 2024 Integrated Transmission Planning ("ITP") Assessment Report says the following

about the projects it identified:

The 2024 ITP portfolio is comprised of reliability, winter weather, economic, short circuit and operational projects that will mitigate 1,062 system issues. Reliability projects allow the region to meet compliance requirements and keep the lights on by providing loading relief, voltage support, and system protection. Winter weather projects address voltage and thermal overload violations that SPP observed during winter storm Elliott and a generically modeled winter storm based on aggregation of common stressors from multiple previous storms. Economic projects allow the region to lower energy costs through mitigation of transmission congestion.¹⁸

As resource economics issue, the load pocket does not fall into any of the areas of focus listed in the ITP. The Northwest Arkansas load pocket is internal to SWEPCO's service area and presents a long-term resource planning and resource economics issue. In cases such as this, where transmission constraints prevent the utility from effectively evaluating a least-cost a portfolio, transmission solutions should be considered as part of the planning exercise. Specifically,

 ¹⁷ Arkansas Public Service Commission. Resource Planning Guidelines for Electric Utilities. Available at: <u>https://www.sos.arkansas.gov/uploads/rulesRegs/Arkansas%20Register/2007/jun_2007/126.03.07-003.pdf</u>.
¹⁸ 2024 SPP Transmission Planning Assessment Report, January 24, 2025. Available at

¹⁶ SWEPCO responses to Sierra Club Pre-Meeting Suggestions at 2–3.

https://www.spp.org/documents/73086/2024%20itp%20assessment%20report%20v1.0.pdf.

SWEPCO should analyze transmission solutions to the load pocket as part of its IRP, and it should consider all the value streams provided by new transmission – including enabling access to lower-cost renewables – to determine whether transmission buildout prior to 2038 would be the lowest cost option for ratepayers.

IV. Modeling economic retirement of Flint Creek is within the scope of the IRP, and SWEPCO should model early retirement and replacement of Flint Creek in multiple portfolios to determine if this option can save ratepayers money.

SWEPCO hard-coded Flint Creek's retirement date at the end of 2038 into all scenarios except the EER case. EER is the only scenario that includes the 111 rules.¹⁹ In the EER case, SWEPCO modeled three options for Flint Creek: full conversion to gas by January 1, 2030; 40 percent gas co-firing by January 1, 2030; or retirement by January 1, 2032.²⁰ Continued operation on coal was not an option in this scenario. The model opted to convert Flint Creek fully to gas,²¹ but it is unclear what assumptions and costs the company included for gas pipeline infrastructure.

SWEPCO did not allow endogenous retirement of existing resources in any scenarios, and it did not test early retirement of Flint Creek in any context except compliance with the 111 Rules.²² SWEPCO argued that analyzing retirement of Flint Creek would be outside the scope of the IRP, because the "IRP process evaluates incremental variable production costs and fixed costs rather than a comprehensive assessment of all considerations of a retirement decision."²³ Notably, capital expenditures and new resource costs are exactly what the Company should be taking into account when deciding to retire a unit. If the forward-going, avoidable costs of an

¹⁹ SWEPCO responses to initial stakeholder questions at 6.

²⁰ SWEPCO December 13, 2024 stakeholder meeting slide deck at 15.

²¹ SWEPCO December 13, 2024 stakeholder meeting slide deck at 15 and 24.

²² SWEPCO responses to Sierra Club Pre-Meeting Suggestions at 1.

²³ *Id.* at 1.

existing generating unit are greater than the all-in cost of replacement resources, the existing unit should be retired. This decision can and should be informed by the modeling that SWEPCO is completing for its IRP. An IRP is a resource planning, not a resource operations, exercise.

Similarly, it is unclear why SWEPCO argues that considerations such as "the cost of replacement resources," "potential reliability impact of the retirement," and the Company's "capacity and energy" needs, are "not within the scope of the IRP"²⁴ – these are the key considerations that a resource plan is designed to examine.

Modeling economic retirement of Flint Creek is clearly within the scope of SWEPCO's IRP. In fact, SWEPCO has completed this type of analysis in prior IRPs. For example, in its 2015 Arkansas IRP, SWEPCO modeled two "sensitivity" portfolios that considered power plant retirements, namely 1) an accelerated gas-steam unit retirement scenario, and 2) an early solid-fuel unit retirement scenario.²⁵ The Company modeled retiring "all gas-steam units five years earlier than initially planned" in the former scenario, and modeled retiring Pirkey unit 1 "[nineteen] years earlier than planned" in the latter scenario.²⁶ As part of its current IRP, SWEPCO should similarly model several portfolios with early retirement of Flint Creek, to test if this option would be economically beneficial to ratepayers. In addition, it is best practice in integrated resource planning to evaluate the economics of existing resources by modeling all avoidable forward-going resource costs and allowing the model to endogenously retire resources based on their economics.²⁷ SWEPCO should allow the model to endogenously retire coal units based on their economics in all scenarios.

²⁴ Id.

²⁵ SWEPCO, 2015 Integrated Resource Planning Report at 108-109.

²⁶ Id.

²⁷ Synapse Energy Economics and Lawrence Berkley National Lab. 2024. *Best Practices in Integrated Resource Planning*, available at: <u>https://eta-publications.lbl.gov/sites/default/files/2024-</u>12/irp best practices 2024 synapse lbnl 24-061 0.pdf.

V. SWEPCO has not adequately addressed stakeholder concerns that its assumptions about solar, wind, and battery storage costs and availability bias its model towards building conventional fossil resources.

In the September 2024 comment letter, Sierra Club presented concerns that SWEPCO's methodology for modeling new resources, which we believe biases the model towards building gas over renewables. SWEPCO has not adequately addressed these concerns, and as a result, its modeling continues to build more gas and fewer renewables than is likely to be economic for ratepayers in reality.

SWEPCO's capital cost assumptions for renewable resources are substantially higher than other industry sources. <u>Figure</u>, <u>Figure</u>, and <u>Figure</u> compare SWEPCO's long-term estimates (now through 2044) for the overnight capital costs of wind, solar, and 4-hour battery storage to other industry forecasts. SWEPCO's forecasts for solar PV and wind are the highest, or among the highest, for all utilities we reviewed. Its 4-hour battery costs start in the middle of the range of the projections we reviewed, but decline less rapidly than the other projections.

SWEPCO bases its current resource costs on request for proposal ("RFP") responses.²⁸ While these initial costs likely represent the actual market conditions for resources currently available to SWEPCO (or available at the time it received the bids), the Company's reliance on conservative learning curve assumptions (discussed below) cause the Company's costs to remain substantially higher than industry standard projections and other utility projections for the entire study period.

As justification for its high resource costs, SWEPCO again stated that it based its estimates on "market intelligence received by the Company from proposals received in its RFP processes."²⁹ As we explained in our first comment letter, it is reasonable to use starting costs

²⁸ SWEPCO responses to initial stakeholder questions at 16.

²⁹ SWEPCO responses to Sierra Club Pre-Meeting Suggestions at 3.

that reflect the results of recent RFPs. However, SWEPCO's response does not address the reason that the Company's cost projections *remain* so far above industry projections, which is that SWEPCO is using very conservative learning rate assumptions, as we discuss next.





³⁰ SWEPCO 024 IRP Stakeholder Meeting #1, June 6, 2024 at 33; NREL ATB 2024; EIA Capital Cost and Performance Characteristics for Utility-Scale Electric Generating Power Technologies, January 2024; Lazard LCOE 2024; Entergy Response to Stakeholder Question 4, Set 5; TEP 2023 IRP; PacifiCorp's 2023 IRP; Duke Energy Indiana IRP Stakeholder Meeting 2, April 29, 2024.



Figure 3. Wind cost trajectories for SWEPCO compared to other utilities and industry sources³¹

*Figure 4. Four-hour battery cost trajectories for SWEPCO compared to other utilities and industry sources*³²



³¹ SWEPCO 2024 IRP Stakeholder Meeting #1, June 6, 2024 at 33; NREL ATB 2024; EIA Capital Cost and Performance Characteristics for Utility-Scale Electric Generating Power Technologies, January 2024; Lazard LCOE 2024; Entergy Response to Stakeholder Question 4, Set 5; TEP 2023 IRP; PacifiCorp's 2023 IRP; Duke Energy Indiana IRP Stakeholder Meeting 2, April 29, 2024.

³² SWEPCO 2024 IRP Stakeholder Meeting #1, June 6, 2024 at 33; NREL ATB 2024; EIA Capital Cost and Performance Characteristics for Utility-Scale Electric Generating Power Technologies, January 2024; Lazard LCOE

SWEPCO models near-term cost declines, but then assumes solar and storage costs flatten out in the early- to mid-2030s, while wind costs actually rise around the same time (Figure). By 2044, wind costs are the same (in real dollars) as today – in other words, SWEPCO assumes that there will be *zero* decrease in wind costs over the next two decades. This does not match widespread industry expectations, and the source of SWEPCO's assumption is unclear. The Company includes a slide on NREL ATB cost decline trajectories in its stakeholder meeting materials,³³ but those do not match what it displays in its technology cost projections.³⁴ SWEPCO did not provide any additional explanation of these learning rates in its response to our letter.³⁵

SWEPCO's conservative learning rates will bias the modeling results towards gas resources. Gas resources are generally considered mature technologies with limited room for technological or process improvement that will drive down costs. Solar and wind, on the other hand, are still developing as an industry and have substantial room for efficiency improvements on both hard costs (technology) and soft costs (procurement, permitting, etc.).

³³ 2024 IRP Stakeholder Meeting #1, June 6, 2024 at 32.

^{2024;} Entergy Response to Stakeholder Question 4, Set 5; TEP 2023 IRP; PacifiCorp's 2023 IRP; Duke Energy Indiana IRP Stakeholder Meeting 2, April 29, 2024.

³⁴ *Id.* at 33.

³⁵ SWEPCO responded to our analysis by objecting to our conversion of its results from nominal to real dollars, saying this "do[es] not accurately represent SWPECO's 2024 IRP resource cost trajectories." This objection is confusing, given that we merely converted SWEPCO's results to a different a unit. In this letter, we continue to present the cost trajectories in real dollars to isolate the effects of learning curve assumptions from the effect of inflation.

*Figure 5. Comparison of SWEPCO renewable learning curve assumptions (red) to the ATB moderate case (blue)*³⁶ (\$2023)



In addition to using artificially high resource cost estimates, SWEPCO includes annual and cumulative build limits in its modeling as shown in **Error! Reference source not found.**. While annual build limits may be justified in the near-term based on actual market constraints, it is not reasonable to assume that this will continue indefinitely into the future. The limits on battery storage in particular are low at only 50 MW/year of 4-hour storage and 20–100 MW per year of the longer durations. Even more concerning is the cumulative build limits on BESS, which range between 200 MW and 500 MW over the entire study period. This is in contrast with new CTs, which have a cumulative limit that is an order of magnitude higher at 4,560 MW While the build limits are not binding in SWEPCO's current modeling results – meaning the model never reaches the build limit for any of its resources – they have the potential to become binding if SWEPCO adjusts its resource costs as we described above and adopts more defensible technology cost decline trajectories.

³⁶ NREL ATB 2024; SWEPCO 2024 IRP Stakeholder Meeting #1, June 6, 2024 at 33.

Technology	First Year Available	Block Size (MW)	Annual Limit (MW)	Cumulative Technology Total [MW]	
NGCC H-Class Single-Shaft	2032	418	836	4598	
NGCC H-Class Multi-Shaft	2032	1100	1100	4400	
NGCC F-Class Multi-Shaft	2032	760	760	4560	
NGCC H-Class Single-shaft with 90% Carbon Capture	2032	390	780	4290	
NGCT F-Class 240 MW	2031	240	720	4560	
100 MW Aeroderivative	2031	105	210	945	
20 MW Reciprocating Engines	2031	21	105	900	
4-Hour Duration Lithium-Ion Battery	2029	50	50	250	
6-Hour Duration Lithium-Ion Battery	2029	50	100	500	
8-Hour Duration Lithium-Ion Battery	2029	50	100	500	
10-Hour Duration Lithium-Ion Battery	2029	50	50	250	
100-Hour Duration Storage	2029	20	20	200	
Utility-scale Onshore Wind Tier 1	2029	75	300	2000	
Utility-scale Onshore Wind Tier 2	2029	75	300	3000	
Utility-scale Solar Photovoltaic Tier 1	2029	50	600	4500	
Utility-scale Solar Photovoltaic Tier 2	2029	50	600		
Utility-scale Solar + Storage (3:1)	2029	150	300	1500	
Small Modular Reactor	2036	300	600	4,500	
Short Term Market Purchases	2024	1	200	400	

Figure 6. SWEPCO annual build limit assumptions³⁷

VI. SWEPCO should include a metric measuring exposure to fuel price volatility on its scorecard and assess resource diversity using a more transparent methodology.

SWEPCO's scorecard emphasizes certain aspects of risk over others, again biasing the Company's results towards fossil resources and against renewables. The Company currently includes energy market exposure on its portfolio scorecard,³⁸ and it qualitatively considers the risk associated with portfolios that "include a high reliance on production tax credits and market sales revenues to offset capital investment costs" such as the EER portfolio.³⁹ But SWEPCO totally ignores fossil fuel price volatility and the risk to ratepayers posed by portfolios with high reliance on fossil resources. Portfolios with higher levels of fossil generation leave ratepayers exposed to volatile fuel prices, negatively impacting rate stability. To account for this risk, SWEPCO should include a metric for fuel price exposure on its scorecard.

³⁷ SWEPCO 2024 IRP Stakeholder Meeting #1, June 6, 2024 at 35.

³⁸ SWEPCO December 13, 2024 stakeholder meeting slide deck at 32.

³⁹ *Id.* at 36.

Relatedly, SWEPCO measures resource diversity using the Shannon-Weiner Diversity Index,⁴⁰ which is most commonly used in academic settings. For transparency and ease of stakeholder interpretation, we recommend that SWEPCO present data on resource diversity using a methodology that is simpler and more transparent, for example by showing the percentage of capacity and generation from each resource type, or else that it provide additional context for the index values, including a justification for how a higher Shannon-Weiner Index translates into tangible advantages from a utility resource planning perspective.

VII. SWEPCO's action plan should include a description of and timeline associated with its competitive bidding process, including a new all-source request for proposals

Section 4.6 of the Commission's Resource Planning Guidelines states that "[t]he action plan shall include a description of and timeline associated with the utility's competitive bidding process." However, the "Overview of Proposed Action Plan" provided on slide 38 of SWEPCO's December 2024 presentation does not include any description or timeline associated with SWEPCO's competitive bidding process. ⁴¹ Instead, it simply says "[s]eek additional capacity as needed; timing and amount will be impacted by all of the above." This language is very vague and therefore does not comply with the Commission's Resource Planning Guidelines. Additionally, slide 7 notes that SWEPCO conducted RFPs in 2024, but does not have an additional RFP planned. To address this ambiguity, the action plan in SWEPCO's filed IRP should provide more details about its procurement plans, even though they may be impacted by other aspects of the action plan.

⁴⁰ *Id.* at 9.

⁴¹ 2025 Arkansas IRP Stakeholder Meeting: IRP Modeling Analysis & Results, December 13, 2024, <u>https://www.swepco.com/lib/docs/community/projects/SWEPCO_2024_IRP_Stakeholder%20Meeting_2B_Dec13_2024.pdf</u>.

In particular, SWEPCO's action plan should provide details regarding procurement process and timing for the near-term "Preferred Plan Capacity Additions" outlined on slide 37 from the December presentation. This slide indicates that SWEPCO will add a 480 MW new CT in 2029/30 and 2031/32, as well as 300 MWs of new solar in 2030/31 and 2031/32 respectively. SWEPCO's 2024 RFPs for solar include a commercial operations date of no later than 2028,⁴² so the Stakeholders expect that SWEPCO would need to issue a new RFP for these resources. In response to Stakeholder questions regarding SWEPCO's procurement plans for these resources, SWEPCO stated the following:

SWEPCO will follow the same process required by the [Louisiana Public Service Commission] that it has used for other recent RFPs including the 2024 RFP which ultimately led to the resources selected and presented to the APSC in Docket Nos. 24-044-U and 24-052-U. As to additional resources, SWEPCO is contemplating both the need for and timing of any actions at this point in time.

The Stakeholders recommend that SWEPCO include a new all-source RFP procurement process as part of its action plan, specify the timeframe when it plans to issue any new RFPs, and include a description of the RFP process that it will follow (pursuant to the Louisiana Commission's rules). The Stakeholders likewise recommend that SWEPCO plan to issue a new all-source RFP that is appropriately tailored to meet its projected capacity needs following the conclusion of the IRP process and prior to moving forward with the development of any particular generation resource or contract execution (with the exception of resources that were that were selected as part of previously issued RFPs, including its 2024 RFPs).⁴³ Having a procurement plan is required by the RPGs,⁴⁴ and issuing an all-source RFP before acquiring new

⁴² SWEPCO, 2024 Wind, Solar, Storage & Natural Gas Energy Resource RFPS. Available at <u>https://www.swepco.com/business/b2b/energy-rfps/2024-Energy-RFP</u>.

⁴³ John Wilson, Mike O'Boyle, Ron Lehr, Mark Detsky, *Making the Most of the Power Plant Market: Best Practices for All-Source Electric Generation Procurement* (April 2020) at 1, available at <u>https://energyinnovation.org/wp-content/uploads/2020/04/All-Source-Utility-Electricity-Generation-Procurement-Best-Practices.pdf.</u>

⁴⁴ Section 4.6 of the RPGs states that "The action plan shall include a description of and timeline associated with the utilities competitive bidding process."

generation resources is consistent with best resource planning practices.⁴⁵ At the conclusion of an IRP process, it has become industry standard to issue an RFP for renewable energy resources. Obtaining real market data directly from project developers via RFPs is the most accurate way to develop present-day cost expectations for most resources, particularly since the costs to procure new resources change constantly.⁴⁶ RFPs allow utilities to test the market against IRP assumptions and use competition to act in ratepayers' best interests. RFPs should be flexible, enabling renewable energy developers to bid in many different project sizes, locations, technologies, and contractual types.⁴⁷ Issuing RFPs is a zero-risk action item that should be included with every IRP, including this one.

The Stakeholders appreciate the opportunity to participate in SWEPCO's IRP process pursuant to Section 4.8 of the Commission's Resource Planning Guidelines. The Stakeholders respectfully request that SWEPCO incorporate the recommendations provided in this Report into its 2024 IRP. The Stakeholders submit that their recommendations will be particularly helpful to aid SWEPCO in identifying a preferred Resource Plan pursuant to Section 4.5 of the Resource Planning Guidelines, as well as developing and finalizing an action plan pursuant to Section 4.6. The Stakeholders reserve their rights to file subsequent comments regarding the IRP process and results pursuant to Section 4.8 of the Commission's Resource Planning Guidelines.

⁴⁵ See Synapse Energy Economics, Best Practices in Integrated Resource Planning: A guide for planners developing the electricity resource mix of the future, November 2024 (Revised December 6, 2024) at 31, available at https://www.synapseenergy.com/sites/default/files/IRP_Best_Practices_2024_Synapse_LBNL_24-061_1.pdf ("The most accurate way to develop present-day cost expectations for most resources is through real market data obtained directly from project developers or through competitive, all-source requests for proposals.").

⁴⁷ See Wilson et. al., *supra* note 43 at 31 (Model Process and For Bid Evaluation).

Respectfully Submitted,

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