BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

In the Matter of the 2022 Integrated Resource Plan Annual Update for Evergy Metro, Inc. d/b/a Evergy Missouri Metro	))))	File No. EO-2022-0201
In the Matter of the 2022 Integrated Resource Plan Annual Update for Evergy Missouri West, Inc. d/b/a Evergy Missouri West	))))	File No. EO-2022-0202

EVERGY MISSOURI METRO AND EVERGY MISSOURI WEST
RESPONSES TO INTERVENOR COMMENTS

COMES NOW, Evergy Metro, Inc. d/b/a Evergy Missouri Metro ("Evergy Missouri Metro") and Evergy Missouri West, Inc. ("Evergy Missouri West") (collectively, "Evergy" or the "Company")[1] and, hereby files its responses to the comments filed on August 15, 2022 by Staff of the Missouri Public Service Commission ("Staff"), the Council for the New Energy Economics ("NEE"), Renew Missouri Advocates d/b/a Renew Missouri ("Renew Missouri"), and Sierra Club, ("collectively, the "Intervenors"). The Company has reviewed the filed comments offered by the Intervenors and respectfully submits the following response to the Missouri Public Service Commission ("Commission") *Order Directing Response* issued on August 16, 2022. The Company explains below how it plans to incorporate these comments into the upcoming 2023 Annual Update and does not believe any additional Commission action is necessary in this docket regarding the 2022 Annual Update.

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[1] Effective October 7, 2019, Evergy Metro Inc. d/b/a Evergy Missouri Metro adopted the service territory and tariffs of Kansas City Power & Light Company ("KCP&L") and Evergy Missouri West, Inc. d/b/a Evergy Missouri West adopted the service territory and tariffs of KCP&L Greater Missouri Operations Company ("GMO").

RESPONSE TO STAFF

The Company's Annual Update Reports and the discussions at the workshop raised a Staff concern regarding how Evergy is using the PLEXOS capacity expansion model to evaluate its alternative resource plans ("ARPs"). As a result, Staff offers the following recommendations:

1. **Capacity Expansion Model Optimization.**

   Staff Recommendation: The Company should allow the capacity expansion model to develop an optimized resource plan by selecting from an inventory of resource options, including both supply-side and demand-side resources. The Company should provide further clarification of how the Plexos capacity expansion model is being used to both develop and test alternative resource plans ("ARPs"). If the Company is pre-determining Demand Side Management ("DSM") levels, retirements, and renewable additions it should identify which ARPs use pre-determined inputs and which ARPs were derived either wholly, or in part, through the Plexos capacity expansion optimization process. The Company should also provide this information in future Triennial Integrated Resource Plans ("IRPs") and IRP annual updates.

RESPONSE: The 2022 IRP Annual Update used a combination of discrete resource plan changes, which were tested incrementally starting from the 2021 Triennial Preferred Plan, and capacity expansion, which was primarily used to develop plans with optimal resource additions given the Company's execution changes, and to test various early retirements. The use of capacity expansion was helpful in reducing the number of plans that needed to be tested. As this was an annual update and not a triennial filing, the Company did not re-test all possibilities evaluated in the 2021 Triennial filing.

The Company first updated its implementation period 2022-2025 additions based on new information and issues that arose during the procurement process. Evergy reduced the expected additions of renewables and shifted the timing of wind and solar based on the availability of high-value projects. These changes were tested through discrete ARPs. Other supply-side resources tested and used in the capacity expansion model were wind, solar, capacity-only purchased power agreements ("PPAs") and thermal resources (natural gas combined cycle and combustion turbines) as proxies for future carbon-free dispatchable resources. These supply-side resources are the same technologies that were tested in ARPs in the 2021 Triennial IRP. The 2021 Triennial IRP also tested the additions of battery or solar hybrid resources, which Evergy has agreed to add to its 2023 IRP Annual Update model.[2]

The Company did not reconsider the early (2023) retirement dates for coal resources, which were tested and selected from analysis of many ARPs in the Triennial IRP, because there were no material changes in assumptions that were likely to change those decisions. Modifications to the Lawrence resources owned by Evergy Kansas Central were tested and selected to account for short-term considerations and the value in maintaining capacity at the site. Four additional mid-period (2029-2030) retirements were tested in addition to the 2021 Preferred Plan retirements. The capacity expansion modeling demonstrated that Evergy could replace one additional early retirement economically with new resource additions.

The Preferred Plan DSM level, Realistic Achievable Potential ("RAP") for Metro and Missouri West, was not re-tested. The expected load reductions from each program were consistent with the levels in the 2021 Triennial IRP because the same potential study data was used. The Company is in the process of completing a new potential study and will test all portfolio levels arising from that study in the 2023 IRP Annual Update. Evergy will try to use capacity expansion to select a program, but due to software limitations may need to evaluate the programs through scenarios and comparison of ARP results.

In the 2022 Annual Update filings, Evergy provided an explanation of the ARP development process and naming convention tables which identify the use of capacity expansion

[2] See, *Joint Filing*, ps. 5 and 9, dated December 10, 2021; Docket Nos: EO-2021-0035 and EO-2021-0036.

in the second and third letters of the plan names. In future IRPs, the Company will work to better describe which resource options were selected through discrete testing versus allowing capacity expansion to choose.

RESPONSE TO NEE

NEE engaged Energy Futures Group ("EFG") to evaluate Evergy's 2022 Annual Report. Based on this evaluation of the Company's 2022 Annual Report, nine recommendations were offered for future IRP Annual Updates.

1. **Provide the Company's PLEXOS modeling files with future IRPs and IRP Updates to facilitate transparency and stakeholder review.**

Response: The Company has responded to all data requests in these proceedings and can provide data as requested in the future. The PLEXOS modeling files are voluminous and would be impractical to attach with the IRPs.

2. **Loosen build constraints for new renewables.**

RESPONSE: Build constraints were incorporated in the model to allow Evergy to develop or procure renewables at a reasonable pace considering capital constraints, project availability, and the capacity of the team to assess, negotiate, and execute projects. The capacity expansion limit of 450 MW per year of new renewables was similar to the 500 MW additions per year tested manually in the 2021 Triennial IRP.

Evergy will reassess these limits for the 2023 IRP Annual Update. In addition to the considerations mentioned, Evergy may have new knowledge on relevant factors such as supply chain and interconnection constraints and may weigh the possible benefits to customers of adding higher levels of new resources considering expected changes to renewable incentives and Southwest Power Pool ("SPP") reserve margin requirements.

3. **<u>Explore earlier retirement dates and broaden the combination of retirements evaluated</u>.**

<u>RESPONSE</u>: The retirement dates modeled were consistent with the preferred plan from the 2021 Triennial IRP. Also, Evergy tested four additional early retirement scenarios. Generally, as a resource nears retirement, capital spending is reduced relative to what it would have been with a longer expected in-service time. The retirement dates were chosen in 2029 and 2030 to avoid large capital spends which were forecasted around the middle of the planning horizon. Forecasted spending reductions were not calculated for other retirement years. For the 2023 IRP Annual Update, Evergy will assess whether there are other dates that make sense based on opportunities for capital savings. EFG is correct that modeling software limitations make it more complicated for the capacity expansion tool to pick retirement dates. Evergy is still experimenting with ways to improve that functionality.

4. **<u>Explore the impacts of securitization on those plans that advance coal retirement dates</u>.**

<u>RESPONSE</u>: Securitization is a tool that substitutes balance-sheet financing for a customer-backed bond. The bond is very low risk, and thus carries a AAA rating, with a corresponding low interest rate. Securitization makes the cost of financing an asset cheaper because the low interest rate is lower than the company's cost of capital.

Securitization is not limited to plant retirements and can be applied to any type of debt or future cash flow, depending on state legislation and associated Commission actions. Any resource plan that employs securitization on any asset will appear more cost-effective than that same resource plan with balance-sheet financing.

Evergy does not believe it is appropriate to include coal plant securitization in the economic evaluation of resource plans. Because securitization reduces the financing cost on anything that is securitized, it also follows that the bigger the asset, the more savings that can be gained. Thus, the coal plant with the biggest net book value, would produce the most savings if securitized. This type of result is misleading, because net book value is a sunk cost, and securitization of any sunk costs of the same size would lead to the same result. Evergy believes that the correct economic analysis focuses on minimizing going forward costs.

5. **Evaluate seasonal cycling of thermal generators.**

RESPONSE: Evergy agrees that seasonal cycling may be appropriate under certain conditions to reduce costs for resources that are not expected to economically operate in the spring and fall when loads and prices are generally lower. Seasonal operation may allow Evergy to defer maintenance and associated expenses. Evergy may consider this operational strategy in the future based on expectations of market prices and production costs, including CO_2 taxes.

For the 2022 IRP Annual Update, Evergy did not incorporate seasonal cycling in the resource plan, dispatch, or fixed O&M forecast. It is possible that for a given resource plan, the economics of seasonal cycling may vary by critical factor scenario (market price, natural gas price, CO_2 tax level). Evergy will assess whether it is practical to consider these possible savings within the IRP model, particularly for scenarios such as a high carbon tax, in which coal resources are expected to operate infrequently.

6. **Model renewable and storage assets under owned and contracted ownership assumptions.**

RESPONSE: As previously stated by the Company in its 2021 Triennial Compliance Filings, docket No. EO-2021-0035 and EO-2021-0036, Evergy and NEE disagree on whether PPAs should be modeled as discrete resource options. The Chapter 22 IRP rules do call out either bilateral or market purchases of capacity or energy as supply-side resource options which can be evaluated, but the Company's position is that the purpose of the IRP is to evaluate generic new resource options and not to determine ownership or financial structure. With that in mind, the Company believes ownership of new resources is the appropriate "default" option to represent new resources which are being evaluated.[3]

In its March 29, 2022 order concerning this matter (*Order Approving 2021 Triennial Integrated Resource Plan)* the Commission found:

> The Commission agrees with Evergy and will not require any further response by the Companies to the concern of whether PPA should be modeled as discrete resource options.[4]

7. **Model all the available tax credits for renewable and storage assets.**

RESPONSE: The Company continues to disagree with EFG's position on monetization of the Investment Tax Credit ("ITC").[5] However, Evergy will consider relevant incentives in the Inflation Reduction Act ("IRA") in future modeling.

8. **Explore reusing injection rights of retiring generators.**

RESPONSE: Evergy agrees that reusing interconnection rights may facilitate resource additions, due to the highly backlogged SPP Interconnection Queue. Evergy considers this in its planning and resource procurement.

9. **Allow increasing levels of DSM to defer or avoid capacity as well as energy.**

RESPONSE: Evergy is currently undergoing a new potential study and we intend to incorporate into the 2023 IRP Annual Update. The new potential study will include a scenario with a higher level of DSM in the Maximum Achievable Scenario.

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[3] See, *Evergy Missouri Metro and Evergy Missouri West Response to Alleged Deficiencies and Concerns*, dated December 10, 2021; Docket Nos. EO-2021-0035 and EO-2021-0036.
[4] See, *Order Approving 2022 Triennial Integrated Resource Plan*, dated March 29, 2022; Docket Nos. EO-2021-0035 and EO-2021-0036.
[5] See, *Evergy Missouri Metro and Evergy Missouri West Response to Alleged Deficiencies and Concerns*, dated December 10, 2021; Docket Nos. EO-2021-0035 and EO-2021-0036.

RESPONSE TO RENEW MISSOURI

Renew Missouri identified several concerns regarding the robustness of Evergy's resource planning as it relates to renewable acquisitions, DSM, plant closures, battery storage, and investments in new combined cycle natural gas ("CCNG") generation and offered the following recommendations.

1. **Renewables.**

Renew Missouri recommendation: Renew Missouri encourages Evergy to consider the report prepared by EFG on behalf of NEE.

a. Parties should work to achieve a middle ground approach in which Evergy incorporates a higher level of renewable buildout in its IRP modeling.

b. Renew Missouri encourages Evergy to conduct a thorough investigation into pathways in which it can "monetize" rather than "normalize" ITC, as suggested by NEE in the 2021 IRP and comments filed concurrently in this proceeding.

c. Renew Missouri urges Evergy to thoroughly review solar provisions in the solar provisions in the IRA and model their impact in its triennial filing next year.

RESPONSE: The constraints considered in the renewable buildout and future considerations are discussed in NEE Response 2. Evergy has not fully analyzed the impacts of the IRA yet, however it appears that the Clean Production Tax Credit may provide new solar with effective incentives while avoiding the complications of the Investment Tax Credit normalization. Evergy plans to incorporate a more complete analysis of the IRA and model the effects of the incentives in the 2023 IRP Annual Update.

2. **Battery Storage.**

Renew Missouri recommendation: Evergy's thorough modeling of battery and solar hybrid resources is critical to its plans to transition away from fossil fuel generation to cleaner sources of energy. Renew Missouri supports the analysis of EFG/NEE that Evergy should especially consider the tax benefits solar hybrid resources provide, as batteries exclusively charged by solar resources for the first five years after construction qualify for the newly enhanced ITC.

RESPONSE: Evergy agreed to incorporate battery and solar hybrid resources in the 2023 IRP Annual Update as part of an agreement from the 2021 Triennial IRP.[6] Evergy will consider relevant incentives including those in the IRA.

3. **Demand Side Management.**

> *Renew Missouri recommendation:* Evergy should incorporate this higher level of DSM modeling into its ongoing Market Potential Study ("MPS"), which will inform not only the next MEEIA filing, but also the next Triennial IRP.
>
> a. Renew Missouri urges Evergy to model more residential savings, rather than its current heavy focus on commercial and industrial programs.
>
> b. Renew Missouri encourages Evergy to incorporate distributed demand response and battery incentives into its MPS modeling.

RESPONSE: Evergy has modeled higher level of DSM with the Maximum Achievable Potential (MAP) scenarios. But the MAP scenarios, with the higher level of savings, resulted in higher NPVRR. Regarding the level of residential savings, the potential is expected to decrease due to the recent enactment of the Energy Independence and Security Act ("EISA") standard.

RESPONSE TO SIERRA CLUB

Sierra Club has requested that the Commission order Evergy to address the below-listed alleged deficiencies in the Company's forthcoming 2023 IRP Annual Update filings.

1. **Evergy should update its modeling to reflect federal law on energy tax credits.**

RESPONSE: Evergy does not agree that this is a deficiency. The Inflation Reduction Act was signed into law a day after Sierra Club submitted these comments to the record, and more than two months after Evergy filed its 2022 IRP Annual Update. Evergy is planning assess changes to the law affecting its resource plan and include relevant incentives in its 2023 IRP Annual Update.

[6] See, *Joint Response,* December 10, 2021; Docket No: EO-2021-0035 and EO-2021-0036

2. **<u>Evergy has several lower-cost plans that retire units earlier than the preferred plan</u>.**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. Evergy does not have to select the lowest cost plan and explained its rationale in balancing cost minimization and other considerations as consistent with 20 CSR 4240-22.010(2)(C).

3. **<u>Evergy's treatment of uncertainty is one-sided and biased in favor of keeping coal on-line.</u>**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. Sierra Club's assessment of Evergy's resource plan and decision-making rationale is misleading. Evergy did consider the cost savings of early retirements as described in the filing and evidenced by the ARPs for four early retirement cases. The Preferred Plan, CDAAA allows Evergy to undertake an economic retirement in the 2029-2030 time horizon. Based on the planning assumptions, Evergy will need to add resources before that time to avoid going capacity short with an additional retirement. Evergy is unsure of what Sierra Club is trying to demonstrate with the assertion that retiring three coal plants, while also building 1,250 MW wind and 1,840 MW of solar, would not cause a capacity shortfall until 2031. Evergy must maintain reliability and meet SPP requirements over the entire planning horizon and planning for capacity shortfalls would not meet the requirements of 20 CSR 4240-22.010(2).

4. **<u>Evergy should have considered more coal retirement options in its modeling</u>.**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. The rule Sierra Club cites, 20 CSR 4240-22.060(3)(C), provides that "(t)he utility shall include in its development of alternative resource plans the impact of—1. The potential retirement or life extension of existing generation plants…" Evergy considered four additional early retirements and life extensions of two resources. Evergy is not required to consider every possible retirement (or life extension) of every resource in every planning year. Also, contrary to Sierra Club's assertions, Evergy modeling did consider going-forward costs of coal units. With coal resources already slated for retirement in 2024, 2030, and 2032, it becomes infeasible to retire more than one additional resource and replace that volume of capacity with non-emitting resources. Evergy will continue to update its assumptions as more replacement options become viable in the future.

5. **<u>Evergy does not present an economically optimal plan because it pre-selected portfolios to model</u>.**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. Evergy modeled potential retirement dates based on the timing of large capital spends which could be avoided by retirement. While the capacity expansion model was not employed to choose a retirement, Evergy ran each potential retirement as a scenario to determine the optimal new additions to replace the retiring capacity, using the capacity expansion capability, to develop an ARP. The expected net present value revenue requirements of these ARPs can be compared to determine the lowest cost options.

6. **[redacted]**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. **[redacted]**

7. **<u>Evergy should model Purchase Power Agreements ("PPAs"), not assume self-build</u>.**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. See response to NEE recommendation 6.

8. **<u>Evergy must justify its premium on solar PV costs</u>.**

<u>RESPONSE</u>: Evergy does not agree that this is a deficiency. Evergy estimated solar capital costs using market intelligence gathered through issuing RFPs for solar projects, negotiation with developers and self-development efforts. **[redacted]**

9. **Evergy did not model battery storage or solar-battery hybrids.**

RESPONSE: Evergy does not agree that this is a deficiency. Evergy agreed to incorporate battery and solar hybrid resources in the 2023 IRP Annual Update as part of an agreement from the 2021 Triennial IRP[7].

10. **Evergy failed to evaluate the public health impacts of its ARPs.**

RESPONSE: Evergy does not agree that this is a deficiency in meeting the requirements outlined in the Chapter 22 IRP rule. As stated previously, Evergy's position is that public health impacts are assessed when environmental regulations are established. Each alternative resource plan considered by the Company is based on resources that comply with environmental regulations. As such, no additional public health assessment is needed to evaluate alternative plans. A similar request by Sierra Club was rejected by the Commission for inclusion as a special contemporary issue in both the Company's 2021 Triennial IRP and 2022 Annual Update. Furthermore, the Commission determined in its *Order Approving 2021 Triennial Integrated Resource Plan*,

> The Commission agrees with Evergy and will not require any further response by the Companies to the concern that Evergy failed to evaluate the public health impacts of its ARPs.[8]

[7] Id.
[8] See, *Order Approving 2022 Triennial Integrated Resource Plan*, dated March 29, 2022; Docket Nos. EO-2021-0035 and EO-2021-0036.

WHEREFORE, the Company respectfully submits its responses to comments by Staff, NEE, Renew Missouri and Sierra Club.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been mailed or hand delivered, transmitted by facsimile or by electronic mail to all counsel of record on this 15th day of September 2022.

/s/ Roger W. Steiner

Attorney for Evergy Missouri Metro and Evergy Missouri West