Dear Members of the TVA Board,

As the Executive Director of the Southern Alliance for Clean Energy (SACE), I submit this letter to ask you to send the Integrated Resource Plan (IRP) back to TVA staff for three key changes before it can be approved. SACE has over 22,000 members across TVA's states and has been pushing for clean and equitable energy options for communities in the Southeast since 1985.

1. TVA staff should redo analysis of energy efficiency before final IRP can be approved.

TVA's IRP is leaving valuable energy on the table and its customers footing higher bills because it ineffectively evaluated the least cost energy resource: energy efficiency. Analysis from a national laboratory shows the amount of cost-effective energy efficiency in Tennessee is hundreds of times more than the amount TVA includes the IRP.[1]

TVA's investment in energy efficiency is in decline, which means bills will continue to rise even if TVA stops its annual increases to base rates. TVA staff have attempted to justify the abandonment of energy efficiency by claiming that energy efficiency will occur "naturally" or be driven solely by energy efficiency standards promulgated by the US Department of Energy (DOE) and by building codes promulgated by local and state governments. But this ignores the difference between energy savings gained from code and standards, and energy savings gained from utility investment in energy efficiency programs.

When efficiency standards are updated, existing models do not automatically upgrade. If the DOE passes a new standard on HVACs, my HVAC at home does not automatically become more efficient. The same goes for codes. If Tennessee passes a stricter code, my home does not automatically meet that code. Codes and standards serve to make the least-efficient new appliance or new home more efficient. However, relying solely on codes and standards for energy efficiency leaves a lot of potential low-cost savings on the table.

Relying solely on codes and standards for energy savings exacerbates the disparity between energy burdens of low-income and high-income families. Energy burden is the portion of income a household spends on energy. Who do you think is more likely to replace household appliances more often? Who renovates homes more often, at which point they are more likely to meet the latest codes? Wealthier homes are more

[1] US National Renewable Energy Laboratory ResStock factsheet for Tennessee, accessed August 20, 2019, available at: https://resstock.nrel.gov/factsheets/TN.

likely to benefit from relying solely on codes and standards to provide energy efficiency, and the burden of energy costs on low-income, minority, and elderly households will only get worse.

Tennessee customers paid the 12th highest energy bills in the nation in 2017. Low-income households in TVA's service territory spend, on average, 13% of their income on energy costs. This is their energy burden. An energy burden above 6% is considered high. While TVA does include some low-income energy efficiency in its IRP, the level committed to in the plan pales compared to the need. The TVA Act states that TVA's electric power projects should be "primarily as for the benefit of the people... particularly the domestic and rural consumers."[2] Please use your role as TVA's regulator to make sure its holding up its end of the bargain to help domestic (i.e. residential) and rural customers.

2. This IRP ignores the bad future economics and risks of coal.

TVA staff do not appear to have effectively evaluated the economics of continuing to operate a significant coal fleet through at least 2038. The risks of higher costs to operate coal plants increase each year, as already-old coal plants age and as pressure builds to put a price on CO_2 emissions. Additionally, each year TVA continues to generate power from coal is another year TVA generates coal ash, and the more coal ash TVA stores the greater the risk of another coal ash disaster.

TVA did not appear to include environmental regulations in its stochastic analysis of IRP portfolios except to evaluate the potential for future CO_2 prices. However, TVA staff did not provide the range of CO_2 prices evaluated, so judging from the values used in the Decarbonization Scenario and Double Decarbonization Scenario Sensitivity, the values were likely too low.

TVA evaluated CO_2 prices that are lower that prices in currently proposed federal legislation, usually by half. Even the "more stringent" sensitivity had CO_2 prices rise to $80/ton in 2038, while proposed legislation would rise as high as $225/ton in 2038. Given this discrepancy in the IRP we think TVA would be woefully unprepared to face a future with any kind of meaningful CO_2 price.

3. TVA should remove unreasonable limits on solar in IRP model.

TVA staff capped annual solar editions in the IRP model based, as we understand it, primarily on the capacity of the current utility staff to bring the projects online. Solar is currently the lowest cost energy generation source, and the latest advances in module and inverter technology make solar operate more like a dispatchable resources and provides ancillary services on the grid, all while generating low cost power at the times when TVA customers are using the most energy.

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[2] See Sec. 11 on p. 13 of the TVA Act, https://www.tva.gov/file_source/TVA/Site%20Content/About%20TVA/TVA_Act.pdf.

The TVA IRP model was limited to adding 500 MW of solar per year. Florida Power & Light, a nearby utility of similar size to TVA, added 300 MW in 2017 and plans to add over 750 MW this year.[3]

TVA staff should not set unreasonable caps based primarily on the resistance to hiring more staff to evaluate, integrate, or build these solar projects that will save TVA and its customers money.

The TVA IRP does not reflect what customers want.

And finally we ask that you ensure TVA has meaningful public involvement in the IRP process. Only 3 of the 1,200 comments TVA staff received on the IRP were in favor of continuing to use fossil fuels, yet the plan calls for nearly 40% of all generation in 2038 come from fossil fuels.

This IRP is misleading.

The reason a utility does an IRP is to drive annual utility decisions with a long-term road map. The reason IRPs are approved by regulators (yourself in this case, though elsewhere it is usually a state Public Service Commission) is so that the regulators can ensure utilities are balancing long-term financial health with near-term decision-making.

This IRP does not choose a single portfolio or even a reasonable range of expected future resource options, but instead lumps all the portfolios analyzed over the entire process. This allows for misleading conclusions like TVA is planning to add "up to 14 GW of solar" over 20 years when the reality is closer to 5 GW of solar, well below regional peer utilities. The wide range is designed to mislead the public, and the regulators, by "cherry picking" sounds bites out of context, when the reality is that TVA staff are advancing a narrow, regressive energy plan for the Tennessee Valley.

Sincerely,

Dr. Stephen A. Smith
Executive Director
Southern Alliance for Clean Energy
Knoxville, Tennessee

[3] FPL Ten Year Power Plant Site Plan, Submitted to Florida Public Service Commission in April 2019, Available at: http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/TenYearSitePlans/2019/Florida%20Power%20and%20 Light.pdf.