

Appendix G: TVA 2019 IRP Recommendations by Resource Type

Coal: Continue with announced plans to retire Paradise in 2020 and Bull Run in 2023. Evaluate retirements of up to 2,200 MW of additional coal capacity if cost-effective.

Hydro: All portfolios reflect continued investment in the hydro fleet to maintain capacity. Consider additional hydro capacity where feasible.

Energy Efficiency: Achieve savings of up to 1,800 MW by 2028 and up to 2,200 MW by 2038. Work with our local power company partners to expand programs for low-income residents and refine program designs and delivery mechanisms with the goal of lowering total cost.

Demand Response: Add up to 500 MW of demand response by 2038 depending on availability and cost of the resource.

Nuclear: Pursue option for second license renewal of Browns Ferry for an additional 20 years. Continue to evaluate emerging nuclear technologies including Small Modular Reactors as part of technology innovation efforts.

Wind: Existing wind contracts expire in the early 2030s. Consider the addition of up to 1,800 MW of wind by 2028 and up to 4,200 MW by 2038 if cost effective.

Storage: Add up to 2,400 MW of storage by 2028 and up to 5,300 MW by 2038. Additions may be a combination of utility and distributed scale. The trajectory and timing of additions will be highly dependent on the evolution of storage technologies.

Gas Combustion Turbine: Evaluate retirements of up to 2,000 MW of existing combustion turbines if cost effective. Add up to 5,200 MW of combustion turbines by 2028 and up to 8,600 MW by 2038 if a high level of load growth materializes. Future CT needs are driven by demand for electricity, solar penetration, and evolution of other peaking technologies.

Gas Combined Cycle: Add between 1,800 and 5,700 MW of combined cycle by 2028 and up to 9,800 MW by 2038 if a high level of load growth materializes. Future CC needs are driven by demand for electricity and gas prices, as well as by solar penetration that tends to drive CT instead of CC additions.

Solar: Add between 1,500 and 8,000 MW of solar by 2028 and up to 14,000 MW by 2038. Additions may be a combination of utility and distributed scale. Future solar needs are driven by pricing, customer demand, and demand for electricity.

Source: Tennessee Valley Authority, *Integrated Resource Plan* (2019), 9-3 and 9-4.