

Energy Policy Act 2005 PURPA Standards Fuel Sources

Staff Comments

Standard: FUEL SOURCES -- Each electric utility shall develop a plan to minimize dependence on one fuel source and to ensure that the electric energy it sells to consumers is generated using a diverse range of fuels and technologies, including renewable technologies.

Recommendation: TVA staff recommends adoption of the Fuel Sources standard as written. TVA will review its fuel diversity at least one time per year as it develops its Power Supply Plan.

Basis for the Recommendation: TVA's generating assets already have a very diverse fuel mix, and its existing yearly resource planning process meets this PURPA fuel sources standard and accordingly we recommend adopting this standard as written. TVA evaluates a variety of supply and demand side resources to achieve an optimal portfolio, which results in a diverse percentage of fuel-type resources, including renewable technologies, in the final resource mix.

Background: In 2005, domestic coal supplies produced approximately half of power output, and uranium and natural gas accounted for about 19 percent each. Hydro and oil fuel supplies account for about 7 percent and 3 percent respectively. The remaining 2 percent includes generation from renewable technologies such as wind, wood, solid waste, solar, etc. (Source: U.S. Department of Energy, Energy Information Administration (EIA), 2005 preliminary data). TVA agrees that a portfolio of diverse fuel resources for power generation reduces the fuel cost risk associated with relying on a minimum number of fuel types. Fuel diversification also reduces the chance that embargoes, strikes, transportation constraints, or other disruptions will interrupt power production.

TVA's generating assets have a very diverse fuel mix. These assets include 29 conventional hydroelectric plants and 1 pumped hydro storage plant which equate to about 16 percent of TVA's total winter dependable capacity. TVA's 11 coal-fired plants reflect about 41 percent and its 3 nuclear plants equate to about 20 percent of the total mix. Eight combustion turbine plants and 9 diesel generator units account for about 16 percent of the capacity. Purchase power contracts, including a long term lignite-fired plant, combined cycle tolling/lease agreements and a methane gas contract make up about 7 percent. The remaining percentage includes renewable assets of a digester gas plant, 3 wind

turbines, 16 solar photovoltaic sites, as well as demand-side management direct load control arrangements. (Source: TVA SEC 10-Q Quarterly Financial Report)

As stated above, TVA's existing yearly resource planning process is in compliance with this PURPA fuel diversity standard. TVA evaluates numerous supply and demand side resources to achieve an optimal portfolio, which results in a diverse mix of resources. In order to meet its growing load and reserve requirement, TVA must construct or acquire capacity. Numerous proven technologies and diverse fuel resources, including renewable technologies, are considered in TVA's capacity and generation expansion process. A detailed least-cost, risk adjusted operational and financial analysis is performed as part of this portfolio decision-making process. Fuel and technology diversity are also considered as well. Those resources that best meet these objectives and provide the best portfolio mix are selected for future capacity needs. As distributors begin to own generation, these resources will also be included in the capacity planning and energy portfolio fuel mix decision making process as well.

TVA will continue to examine the resource plan going forward, taking into account retirements, additions, and changes due to new regulations to ensure that it continues to maintain fuel diversity.