

Public Utility Regulatory Policies Act
Fuel Source Diversity Standard 111(d)(12)
Evaluation by Energy Resources

The Energy Policy Act of 2005 amended the Public Utility Regulatory Policies Act (PURPA) by adding standard 12 (PURPA section 111(d)(12)), which requires the consideration of “Fuel Sources” or fuel diversity plans by utilities. The bill states:

“Each electric utility shall develop a plan to minimize dependence on 1 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.”

This statement implies that reliance on a single fuel source may not be the optimal way to supply electricity. While this may be true in some regions, it is not the case in others. A 2006 report entitled “Reference Manual and Procedures for Implementation of the PURPA standards in the Energy Policy Act of 2005” finds that there is no defined ideal fuel diversity mix for a region. Instead, each region should consider its particular assets and recognize that the optimal portfolio will likely change over time.

<http://www.blueridgeemc.com/documents/PURPA%20Reference%20Manual%20v14%2009-26-06.pdf>

The report’s authors indicate that a “state with significant hydro-based generation, for instance, may have different issues than one with a heavy reliance on natural gas-fired electricity generators.”¹ A cost benefit analysis would need to focus on the comparative costs of different generation resources and the incremental cost of increasing the diversity of a utility’s fuel resources. The goal of fuel diversity, according to the report, is to ensure price stability and fuel availability by reducing reliance on a single, or a small number, of fuel sources. Fuel source diversification can be beneficial to the extent that it mitigates price volatility or possible scarcity.

District Hydropower Resources

In the District’s case, fuel source diversification is not likely to mitigate either price volatility or scarcity. The District has more hydroelectric generation than it needs during median runoff conditions, so relying on low-cost hydro power to serve load still makes sense. Hydropower also has characteristics that make it highly desirable. It excels at following load and being able to provide reserves to the grid in a timely manner. The District avoids transmission availability issues by using the District’s hydropower generation, which is located in Chelan County, near the District’s retail load.

¹ Reference Manual and Procedures for Implementation of the “PURPA Standards” in the Energy Policy Act of 2005. March 22, 2006. Prepared by Kenneth Rose and Karl Meeusen.

Moreover, the District's hydropower generation has proven to be a reliable resource. In 2006, unit availability at the District's projects ranged from 96.2% to 99.9% and forced outages ranged from 0.2% to 0.3%. At times when the District does need power to serve its load, it purchases power from the market.

In short, hydropower generation has served the District's needs well for many years and will well into the future. As the District is already relying primarily on the lowest cost generation resource available in its region, adding to its fuel diversity is likely to increase the cost of its generation portfolio because it means acquiring higher cost resources. While fuel diversity may not seem important from a price volatility and scarcity perspective for the District, there are, however, other factors that could influence the District's decision about whether to adopt the PURPA fuel source diversity standard.

Regulatory Environment

When considering an investment in new generation, the District must consider its position under various market structures and how its fuel choice would be impacted by new regulatory standards. The Renewable Portfolio Standard (RPS) adopted by Washington State's Energy Independence Act of 2006 (RCW 19.285) may require the District to invest in generation technologies that it may not have otherwise selected, based on cost and reliability issues. While the District's hydropower projects are clean and renewable, existing hydropower does not qualify for the purposes of meeting the Washington State RPS. Therefore, it is likely that the District must meet the RPS with some mix of incremental hydropower resources and other renewable resources such as wind and solar. Compliance with the RPS, therefore, may lead the District to increase its fuel source diversity. The District is participating in the rulemaking process associated with Washington State's RPS. The outcome will influence to what degree the District will need to incorporate other, potentially higher-cost renewable generation resources into its portfolio in order to comply.

Also in 2006, HB 1010 (RCW 19.280) passed the Washington State legislature. It requires investor-owned and consumer-owned electric utilities with more than 25,000 customers to develop integrated resource plans (IRP) by September 1, 2008. Among other things, this IRP must include a range of load forecasts, assessments of commercially-available, utility scale renewable and nonrenewable generating technologies and a comparative evaluation of renewable and nonrenewable generating resources and conservation and efficiency resources. An IRP can be utilized to measure the cost effectiveness and reliability of utilizing various fuel sources to supply electricity.

Recommendation

Staff recommends that the District continue to utilize its low-cost hydropower generation, including incremental hydropower generation, as its major fuel source. However, over time, regulatory standards may spur District investment in other renewable resources. This trend will be illustrated in the District's integrated resource plan and method of complying with the Washington State RPS. Therefore, we recommend that the District

adopt a fuel source diversity plan, if appropriate, before 2011. Waiting until sometime in 2010 for a fuel source diversity plan would provide additional useful information based on the District's initial 2008 IRP and its subsequent two year progress report. In addition, it will still be one to two years before the District is required to meet 3% of its retail load with qualifying renewables under the RPS beginning in 2012, so having the fuel diversity plan in place at that time could help facilitate compliance with that law.