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Regulatory treatment of uneconomic power plants

John P. Hughes

Electricity Consumers Resource Council (ELCON), WA DC, United States

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ABSTRACT

A variety of factors, some intended, some not, are increasingly putting the useful economic life of electric generating units at risk. Many of these units are large baseloaded coal-fired and nuclear plants that historically have been the crown jewels of utilities' resource portfolios. Their premature retirement and abandonment is challenging state regulators and policymakers who must deal with the potentially adverse economic consequences, including ratepayer impacts. This position paper recommends the appropriate regulatory treatment (including cost recovery) of the retirement and abandonment of uneconomic power plants. It also addresses how regulators should determine whether or not any plants are indeed uneconomic on a long-term, forward-cost basis.

There are potentially three types of generating assets at issue: (1) existing "legacy" assets that were rate-based by a traditionally regulated electric utility; (2) existing assets of unregulated merchant affiliates of regulated utilities; and (3) existing assets of unregulated merchant generating companies unaffiliated with regulated utilities. Generating plants that are still under construction is a variation of these three types. Regardless of ownership, generating units that are expected to be uneconomic on a long-term, forward-cost basis should generally be retired and abandoned. The decision to retire and abandon a plant should not be based solely on short-term market conditions. If such plants are uneconomic based on short-term market conditions, the applicable state may choose to balance the rate impact on consumers with the need to temporarily subsidize these plants until short-term market distortions or uncertainties have been resolved. On the other hand, for assets that are deemed uneconomic on a long-term, forward-cost basis, states should not allow continued, subsidized operation because of localized job and other economic factors. Such efforts will likely induce greater economic harm to local businesses and manufacturers dependent on affordable electricity, and delay the planning and operation of lower cost resources.

Unregulated, merchant generation that is unaffiliated with a regulated utility is not entitled to any form of regulatory relief that results from changing market conditions or environmental regulations.

Regardless of ownership, the retirement and abandonment of certain uneconomic power plants may be temporarily delayed if such units have been independently verified as necessary for the reliable operation of the bulk power system.

The unamortized book value of existing assets of affiliate merchant entities that are deemed uneconomic or unprofitable should not be afforded any opportunity for cost recovery unless such action significantly impairs the credit rating of the regulated affiliate. Regulators should take actions such as ring fencing to prevent this spillover effect. The uneconomic legacy assets of traditionally regulated utilities should be afforded some degree of cost recovery to balance the rate impact on consumers with the financial impact on the utility. Utilities should be denied full recovery of such costs to provide incentives for efficiency in reducing those costs in the first place.

In determining the appropriateness of allowing pass-through of abandonment costs, commissions should adhere to certain principles:

- Decisions must be made on a case-by-case basis and depend on the facts of the case, and consider the potential for the decision to be precedent setting. In addition, state statutes and previous commission and court actions will influence the decision.

E-mail address: jhughes@elcon.org (J.P. Hughes).

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- Only prudently incurred costs should be recovered from ratepayers. Ratemaking decisions that absolve utility management and investors of their responsibilities are inappropriate. Allowed cost recovery should be net of any salvage value, past stranded cost allowances, the value of any assets with market values above book value, and income tax reductions.
- The amortization period should be as long as possible consistent with maintaining the utility's financial viability and reducing the rate impact on customers. Securitization – in the form of ratepayer obligation charges or ROC bonds – is an appropriate long-term financial solution for dealing with prudently incurred unamortized balances and other abandonment costs. But not all states allow securitization.
- Utilities should not be allowed to earn a return on the unamortized balance or other abandonment costs.
- Prudently incurred costs represent a fixed investment by the utility incurred to meet anticipated growth in system peak demand. Recovery of these costs from ratepayers, if appropriate, should be accomplished on the basis of each customer class's contribution to system peak demand(s).
- Uneconomic power plants should not be allowed to continue operation by forcing utility customers to subsidize the plants' owners with out-of-market contracts.

1. Background

During most of the long history of the U.S. electric industry, generation was owned almost exclusively by regulated electric utilities. Except for isolated cases, independently owned, non-utility or customer-owned generation was only made feasible by the enactment of the Public Utility Regulatory Policies Act of 1978 (PURPA). The restructuring of the U.S. electric industry that began in the mid-1990s included the restructuring of generation ownership. In 1997, only 1.6% of U.S. generation was produced by independent, merchant generators. Many states that restructured their jurisdictional utilities mandated the divestiture of generation. By 2002, 25% of generation was owned by merchant companies (including utility affiliates). By 2012, it was over one-third. The share of nuclear generation owned by merchant companies increased from zero in 1997 to almost 50% in 2012.[1] One of the core objectives of restructuring was to shift the ownership and operational risk of power plants away from retail customers. In exchange, the owners of the assets were able to sell power at market-based prices and not rates based on cost-of-service.

A combination of factors has rendered many existing coal-fired and nuclear power plants uneconomic and at risk of early retirement or abandonment. Most notable are market conditions such as low natural gas prices and environmental regulations that have increased the cost of coal-fired generation. Another, perhaps more significant factor, is federally subsidized wind and solar energy resources. In organized markets such as MISO or PJM, these factors can interact with the short-term-oriented market design and provide little in the way of long-term price support for baseloaded generation.

The utility owners of power plants generally make the decision to retire them when their expected costs exceed their expected revenues over the remaining life of the plants. Historically low prices for natural gas is only one driver that is reducing the potential revenues earned by these plants because gas-fired generation is now setting marginal wholesale prices in many regions. Many utilities are also facing reduced demand for their product. And more importantly a rash of new environmental requirements have also sharply increased costs and when and if CO_2-related regulations are implemented such costs will be even more significant. Together these factors have accelerated the need to retire the unprofitable plants and the amount of capacity potentially at risk is considerable. For example, the Energy Information Administration (EIA) projects that 40–101 GW of coal-fired generation and 46–62 GW of natural gas/oil-fired generation are at risk of retirement through 2040 depending on how (and if) the Clean Power Plan is implemented. In addition, the North American Electric Reliability Corporation (NERC) in its assessment of the Clean Power Plan places 31 GW of nuclear capacity at risk of retirement by 2030.

ELCON is concerned with three aspects of this situation. First, the impact on rates resulting from the cost recovery of the unamortized book value of the assets. In addition to asset cost recovery, there are expenses associated with retiring coal units related to asbestos removal, ash pond closure, and other mitigation efforts such as closing water intake tunnels to the plants. Nuclear plants have similar asset retirement obligations associated with the safe decommissioning of the plant. The asset owners of these plants must make maximum use of decommissioning funds that were accumulated over the useful life of the plant.

Second, there needs to be a process for identifying truly uneconomic assets that may be subject to special regulatory treatment. This is necessary because recent decisions to retire and abandon coal-fired and nuclear plants have been based on short-term market anomalies in wholesale power markets.[2] This is particularly true of plants that sell power into the so-called organized markets, which have struggled to provide stable long-term price support for investments in long-life assets.

Finally, there are increasing attempts to maintain the profitability of some plants with ratepayer-funded subsidies. This shifts the business risk from the utility—where it can be managed—to the utility's customers.[3] To the extent these plants are otherwise deemed uneconomic, this also delays the planning and operation of more cost-effective resources that can be both profitable to the utility and lower cost to its customers. But if these plants are uneconomic based on short-term market conditions, the applicable state may choose to balance the rate impact on consumers with the need to temporarily subsidize these plants until certain short-term market distortions or uncertainties have been resolved. This might require, for example, the redesign of the organized markets or the resolution of litigation associated with new environmental regulations.

Once retired and abandoned, the plants cease to produce electricity and are no longer "used and useful." Traditional ratemaking principles deny further cost recovery in rates. However, disallowing pass-through of unamortized balances and other abandonment costs may result in higher utility financing costs. In such circumstances, the PUC must balance the rate impact on consumers with the financial impact on the utility.

2. ELCON's position and recommendations

Utility regulation is often viewed as a substitute for market competition. In a competitive market, a company's investment in

[1] Severin Borenstein and James Bushnell, *The US Electricity Industry after 20 Years of Restructuring*, Energy Institute at Haas Working Paper WP 252R, Revised May 2015.

[2] "Short-term" is relative to the lifespan of such plants.

[3] Some jurisdictions are attempting to sustain these plants with non-bypassable ratepayer subsidies. The justification for such actions may vary from state to state but usually are one of the following: (1) coal-fired and nuclear plants are baseload and are needed to maintain reliability; (2) nuclear plants are "low carbon" and are needed to help states meet carbon policy objectives; and (3) jobs and the local economy are dependent on these plants.