

NE-18-17634, Enabling System Technologies to Improve the Economics and Performance of Existing LWRs and Advanced BWR Plants: Improving Offgas System Performance

The U.S. boiling water reactor (BWR) fleet is facing significant cost pressures due to the market price of base-loaded electricity. Operations costs continue to rise and the market cost of base-loaded generation is declining. This cost pressure has resulted in the shutdown of several nuclear plants, significant staff reductions, and financial losses in base-load generation. The base-load power grid in some areas is experiencing stress due to loss of reliable generation. The BWR fleet is aggressively looking for ways to improve BWR systems performance with new and innovative/enabling technologies to help achieve improved economics.

It was recently determined that the BWR offgas systems were significantly oversized. The result is high costs and lack of available system parts to maintain this oversized performance margin. General Electric-Hitachi and Idaho National Laboratory will develop a new and cost effective offgas system design and provide improved operational guidance for the current and advanced BWR designs.