

September 27, 2012

Unit Cycling Makes the Impossible the Ordinary, EUCG Members Say

By David Wagman

[Share on print](#)[Share on email](#)

Low natural gas prices and still-soft electricity demand are forcing low-load and cycling operations at traditionally baseloaded [coal](#) units across the country. The resulting challenges were top of mind at the Electric Utility Cost Group's (EUCG's) fall meeting in Denver last week. One member of the EUCG's fossil generation committee from an Ohio Valley utility said that cycling and low-load operations pose challenges for one of his company's 1,300-MW [coal](#)-fired plants that "two years ago we wouldn't have considered possible."

"We said 'no way,' and now we do it every night," he said, referring to the nearly nightly reduction in generating output to around 750 MW. The plant might be capable of shaving off another 100 MW of output, but operators are mindful of maintaining adequate temperatures to keep the plant's selective catalytic reduction equipment operating.

Starting with last fall's shoulder season, many coal operators across the country began cycling or turning down their units. The trend continued this past spring and seems likely to return this fall. In place of coal are must-run nuclear, must-take renewables, and price-favored natural gas units. For example, one Midwest gas-fired power plant set a record run of more than 50 days this summer, which meant the utility brought down its coal units to make room. Coal's reversal in fortune there and at other utilities demands flexibility on the part of operators. It also can lead to [maintenance](#) headaches involving everything from environmental controls to feed pumps to valves that were never intended to operate at other than baseload conditions.

"Holy smokes, where did that come from?" one Great Lakes utility committee member recalled saying in response to an unexpected [maintenance](#) item caused by cycling. "Any time you put a boiler through a cycle, it's going to cost money," another committee member said.

Cycling affects not only front-end systems, but back end operations such as flue gas velocities and ash settling. Adopting effective risk [management](#) strategies has grown

in importance as cycling and unit turndown become the norm. Typical of the questions being asked is what happens, for example, if an economical but cycling baseload coal unit suffers a feedwater pump failure and can't come back to meet the morning load ramp? The issue becomes one of how much risk a utility is willing to bear to cycle its biggest and traditionally most cost-effective coal units.

Replacement power costs can influence the risk equation, EUCG fossil committee members said. Lower demand and a relative glut of generating capacity in many parts of the country this summer meant depressed prices for standby capacity services. The Great Lakes utility committee member said that in previous years his company paid millions of dollars for standby capacity. This past summer, he said, the combination of "no load and all sorts of generation" available meant that capacity services were priced almost at zero. That dynamic offered operators some breathing room to manage cycling risk and its associated operational challenges.

For more on handling the operational challenges of cycling plants, see these stories in *POWER*'s archives: "[Make Your Plant Ready for Cycling Operations](#)," "[O&M and Human Stresses Caused by Low Gas Prices](#)," and "[Mitigating the Effects of Flexible Operation on Coal-Fired Power Plants](#)."

—David Wagman is *POWER*'s executive editor (@EPContentDirect)