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U.S. Nuclear Power Plants Achieved Near-Record Level of Electricity Production in 2008

WASHINGTON, D.C., Feb. 3, 2009—U.S. nuclear power plants last year continued their decade-long trend of reliable electricity generation, eclipsing all other electricity sources with an industry-average capacity factor of more than 90 percent, according to preliminary data on 2008 operations.



Nuclear power plants generated approximately 805.7 billion kilowatt-hours (kwh) of electricity last year, a mere one-tenth of one percent less than the record 806.5 billion kwh generated in 2007.

Sixteen of the nation's 104 reactors achieved capacity factors greater than 100 percent in 2008. The industry-average capacity factor was 91.1 percent, just shy of 2007's record of 91.8 percent, according to preliminary figures.

"As Congress and the new administration debate economic stimulus legislation and set their sights on measures to aggressively mitigate carbon emissions, the continued outstanding performance of nuclear power plants ought to remind policymakers of nuclear energy's unique ability to reliably provide bulk power without emitting carbon and other greenhouse gases," said Marvin Fertel, acting president and chief executive officer of the Nuclear Energy Institute.

"The struggling U.S. economy is receiving a tremendous boost in the form of thousands of new jobs associated with the new era of nuclear plant construction that is dawning," Fertel said.

Capacity factor, a measure of availability, is the ratio of electricity produced in a given time period to the maximum that could be produced in that period at full rated power. The rated power level is determined by summer conditions when plant cooling systems are least efficient. In cold weather, many steam-driven power plants can produce more electricity than their summer rating and, as a result, their capacity factor can top 100 percent.

Average capacity factors for coal-fired power plants are about 70 percent; 40 percent for natural gas-fired power plants; and 30 percent for wind power projects.

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Nuclear Industry Achieves Near-Record Production in 2008

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Among numerous companies achieving operational excellence in 2008 was Exelon Corp., which announced last month that its 17 reactors posted an average capacity factor of 93.9 percent. It was the sixth consecutive year that Exelon's nuclear plants recorded an average capacity factor exceeding 93 percent.

Pennsylvania-based PPL Corp. announced an electricity generation record at its Susquehanna power plant. Two reactors at the station generated more than 19 billion kwh of electricity in 2008, surpassing Susquehanna's previous record by more than four percent.

Progress Energy's five reactors in the Carolinas and Florida generated more than 35.1 billion kwh last year, surpassing the prior record set in 2003.

Nuclear energy supplies electricity to one of every five homes and businesses. About one-third of U.S. electricity production is generated by carbon-free sources, and nuclear energy supplies more than 70 percent of that clean electricity.

Ten reactors last year received approval from the Nuclear Regulatory Commission to implement a combined 726 megawatts of power "uprates," technical enhancements and modifications that increase the amount of electricity an existing power plant can generate.

When one considers the difference in capacity factors of the respective technologies, the 726 megawatts of nuclear plant uprates will produce as much electricity as nearly 2,000 megawatts of wind turbines. This equals almost one-fourth of the record level of wind capacity installed last year.

In 2008, the nuclear industry submitted to the NRC 13 new plant license applications for 19 reactors totaling almost 27,000 megawatts of potential new capacity.

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The Nuclear Energy Institute is the nuclear energy industry's policy organization. This news release and additional information about nuclear energy are available at <http://www.nei.org>