



Report hints at problems with nuclear plant control rods at Monticello

Submitted by NUCBIZ on February 20, 2011 - 09:33

Quote.com (<http://www.quote.com/news/story.action?id=KRO049e8692>)

Minneapolis-based Xcel Energy will replace four control rod blades at its Monticello Nuclear Power Plant next month after a major nuclear industry manufacturer reported a potential "substantial safety hazard" with control rods at more than two dozen nuclear reactors around the country.

GE Hitachi Nuclear Energy sent the warning Tuesday to all the affected plants, including Monticello.

Coincidentally, the Minnesota House, voting 81-50, approved a bill Thursday repealing a 1994 moratorium on new nuclear plants. The bill must be reconciled with the Senate version before it is sent to Gov. Mark Dayton.

GE Hitachi first notified federal regulators in October that it discovered extensive cracking and "material distortion" in control rods in an unidentified overseas boiling-water reactor and would recommend that foreign and U.S. boiling-water reactors that use its Marathon control rod blades replace them more frequently than they had been previously instructed.

The cracking and distortion could prevent the cross-shaped rod blades, which typically are 12 feet to 14 feet long, from inserting into the core when plant operators want to reduce power or shut down a plant, said Ken Riemer, chief of reactor programs for the Nuclear Regulatory Commission regional office outside Chicago.

"They may get stuck and not move in and out of the core," he said.

The blades contain boron that absorbs neutrons that heat the reactor water, and cracked tubes could result in the loss of energy-absorbing boron, the GE-Hitachi report said.

Riemer, who is in charge of on-site NRC inspectors at Monticello, said the NRC is not aware of any cracked control rod blades at Monticello.

The potential hazard does not affect Xcel's twin-reactor Prairie Island Nuclear Power Plant near Red Wing. Prairie Island uses pressurized steam reactors, different from the older boiling-water technology at Monticello.

Xcel Energy spokeswoman Mary Sandok said Thursday that four of the reactor's 121 control rod blades are affected by the GE Hitachi warning, and they will be replaced along with four other blades during a scheduled refueling outage in early March.

The 600-megawatt plant has not had any problems with the control rod blade design, and it had planned to replace eight control rods blades anyway, Sandok said. The plant typically replaces blades between the ages of eight and 20 years, and the four affected blades are 12 years old, she said.

The lifespan of the control rod blades can vary, Riemer said.

Plant operators typically shuffle control rods around in the core during refueling, putting the newer rods in the center of the core and moving the older ones farther out until they are replaced altogether, the NRC chief said.

The lifespan of a control rod would depend on its location, the power of the reactor and the length of time a reactor has operated, he said.