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Utility delays restart

Nuclear plant looks at damaged turbine

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Comanche Peak Nuclear Power Plant officials are searching for the cause of damage to a steam turbine, delaying the reopening of the plant, which has been closed since the discovery of a water leak in March. The plant was to have begun operation Friday after a six-week maintenance shutdown, but the start-up may be postponed several days or weeks depending on the extent of damage, a TU Electric official said yesterday.

Since the plant opened in April 1990, it has shut down 19 times for repairs, said TU Electric spokesman George Hedrick; eleven of those involved the nuclear portion of the plant, he said. None of the problems posed a hazard, he said.

Plant officials and a spokesman for the regional Nuclear Regulatory Commission office in Arlington said problems at the Glen Rose facility have been average for a plant just getting started.

The latest problem involves the non-nuclear portion of the plant and is not considered dangerous to the public, Hedrick and a spokesman for the Nuclear Regulatory Commission regional office said yesterday.

The plant initially was closed March 22 after a water leak was discovered in the turbine housing. Officials moved up a planned maintenance shutdown to coincide with the repairs.

The leak, which officials said had been repaired, was caused by a metal support falling onto a pipe, Hedrick said.

The latest turbine damage was discovered April 21 when an attempt was made to turn the giant fan using a hand-operated system, Hedrick said. When the turbine would not move, it was taken apart. Officials found damage to the blades and grooves in the housing within which the turbine spins at 1,800 revolutions a minute when operational.

A team of officials from the plant and Siemens, manufacturer of the turbine, is trying to determine whether the shaft that holds the blades is warped, Hedrick said.

Replacement parts are available at the site for repair once the problem is determined, Hedrick said. He added that TU has plenty of reserve electricity to cover the time the plant is down.

Steam created in the nuclear portion of the plant is piped to the turbine - essentially a shaft with fan blades attached. The steam causes the fan blades to rotate, which operates a generator where electricity is created.

Steam turbines normally have a 20- to 30-year lifespan, said John Vance, interim director of the turbo machinery laboratory at Texas A&M University.

Although Vance said he knows nothing of the Comanche Peak problem, he said a bent shaft - called a bowed rotor - in a turbine could be caused by mechanical or thermal problems. If the shaft bent because of uneven temperatures in the turbine, it will straighten automatically by making temperatures uniform, he said.

If the problem is mechanical, the shaft may need to be replaced, he said.

Last month, the Ralph Nader watchdog group Public Citizen called Comanche Peak a "nuclear lemon" because of numerous safety violations before and after the plant opened. On March 29, while the plant was shut down for maintenance, droppings from vultures accumulated on high voltage transmission lines, causing a short circuit, Hedrick said. Electricity was off less than one second before emergency generators came on. But the interruption caused pumps that send cooling water over the nuclear reactor to shut down about 10 minutes, allowing temperatures in the 160-degree core to rise about 10 degrees. The problem never posed a danger, Hedrick said.

Comanche Peak nuclear power plant