TOKYO (Reuters) - Thousands of residents were evacuated from an area around a nuclear plant in quake-hit Japan after radiation levels rose in the reactor, but there was no word on whether there had actually been a leak.

Underscoring grave concerns about the Fukushima plant some 240 km (150 miles) north of Tokyo, U.S. Secretary of State Hillary Clinton said the U.S. air force had delivered coolant to avert a rise in the temperature of the facility's nuclear rods.
Tokyo Electric Power Co said pressure inside a reactor at its Fukushima-Daiichi plant rose after the cooling system was knocked out by the earthquake, the largest on record in Japan.

Kyodo news agency quoted the company as saying that the radiation level was rising in the turbine building and the pressure had risen to 1.5 times the designed capacity.

Experts said there could be leakage if water levels in the Fukushima reactor fell and the temperature of the nuclear rods rose, though this might not happen immediately.

"Even if fuel rods are exposed, it does not mean they would start melting right away," said Tomoko Murakami, leader of the nuclear energy group at Japan's Institute of Energy Economics.

"Even if fuel rods melt and the pressure inside the reactor builds up, radiation would not leak as long as the reactor container functions well."

TEPCO confirmed that water levels were falling but it was working to avert any exposure of the nuclear fuel rods.

"There is a falling trend (in water levels) but we have not confirmed an exposure of nuclear fuel rods," a TEPCO spokesman said.

Residents living within a 3 km (2 mile) radius of the plant were told to evacuate from the area, Chief Cabinet Secretary Yukio Edano told a news conference. "The government is making every effort to restore the cooling system," he said.

Kyodo news agency said 3,000 residents were being evacuated.

Reactors shut down due to the earthquake account for 18 percent of Japan's nuclear power generating capacity.

Nuclear power produces about 30 percent of the country's electricity. Many reactors are located in earthquake-prone zones such as Fukushima and Fukui on the coast.

TEPCO had been operating three out of six reactors at the Fukushima Daiichi nuclear plant at the time of the quake, all of which shut down.

The spokesman added that there were no concerns of a water leak for the remaining three reactors at the plant, which had been shut for planned maintenance.

(Additional reporting by Risa Maeda in Tokyo and Fredrik Dahl in Vienna; Writing by Edwina Gibbs; Editing by Edmund Klamann and John Chalmers)

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