**Fukushima reactor water leak risks delaying crisis plan**



TOKYO (Reuters) – Japan's crippled Fukushima nuclear power plant is leaking water from the center of the reactor seen as the closest to stabilizing, its operator said on Thursday, risking a delay in its plan to resolve the worst nuclear disaster since Chernobyl.

The discovery of the leak, through a hole in the container that houses the reactor core, provides new insight into the sequence of events that triggered a partial meltdown of the uranium fuel in the No. 1 reactor at Fukushima after the plant was struck by a massive earthquake and tsunami on March 11, officials said.

The battle to bring Fukushima under control has been complicated by repeated leaks of radioactive water, threatening both the nearby Pacific Ocean and nearby groundwater.

Workers at the Fukushima Daiichi nuclear plant have been pumping water into four of the six reactors on the site to bring their nuclear fuel rods to a "cold shutdown" state by January.

But after repairing a gauge in the No. 1 reactor earlier this week, Tokyo Electric Power Co discovered that the water level in the pressure vessel that contains its uranium fuel rods had dropped about 5 meters (16 ft) below the targeted level to cover the fuel under normal operating conditions.

"There must be a large leak," Junichi Matsumoto, a general manager at the utility also known as TEPCO, told a news conference.

"The fuel pellets likely melted and fell, and in the process may have damaged ... the pressure vessel itself and created a hole," he added.

Since the surface temperature of the pressure vessel has been holding steady between 100 and 120 degrees Celsius, Matsumoto said the effort to cool the melted uranium fuel by pumping in water was working and would continue.

Based on the amount of water that is remaining around the partially melted and collapsed fuel, Matsumoto estimated that the pressure vessel had developed a hole of several centimeters in diameter.

The finding makes it likely that at one point in the immediate wake of the disaster the 4-meter-high stack of uranium-rich rods at the core of the reactor had been entirely exposed to the air, he said. Boiling water reactors like those at Fukushima rely on water as both a coolant and a barrier to radiation.

Matsumoto said the utility would study whether to increase the amount of water it was injecting to overcome the leak and raise the level of water covering the fuel, at the risk of allowing more radioactive water to leak out of the facility.

Nearly 10,400 metric tons of water has been pumped into the reactor so far, but it is unclear where the leaked water has been going. The high radiation levels makes it difficult for workers to check the site, Matsumoto said.

TEPCO announced a timetable last month for addressing the crisis, saying it aimed to cool reactors to a stable level and reduce the leakage of radiation within the first three months, then bring the reactors to a cold shutdown in another three to six months.

TEPCO is set to review its timetable for stabilizing Fukushima on May 17 and officials indicated that the initial progress targets could slip.

Officials had planned to use the same set of steps to stabilize reactors No. 2 and No. 3 that are under way at No. 1, which workers re-entered last week for the first time since the earthquake.

But Matsumoto said it was likely that the pressure vessels in the other two reactors could be leaking as well if fuel rods had collapsed and melted after the earthquake and tsunami.

"It is necessary to make a reassessment of the condition of the nuclear reactor," Chief Cabinet Secretary Yukio Edano told a news conference.

On Wednesday, TEPCO sealed a fresh leak of contaminated water found near the No. 3 reactor that may have seeped into the Pacific Ocean from the coastal plant. A previous ocean leak sparked international concern about the impact of the disaster on the environment.

Traces of radioactive cesium were detected in sewage treatment centers in Ibaraki and Kanagawa prefectures, both to the south of Fukushima, Japanese media reported on Thursday.