

Worst case feared in early hours of Fukushima crisis

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The government assumed a worst-case scenario of “significant public exposure” to radiation when workers were struggling to bring a nuclear reactor under control at the Fukushima No. 1 power plant a day after the March 11 earthquake and tsunami, Kyodo News learned Tuesday.

The scenario assumed the containment vessel of the No. 1 reactor – the last line of defense to contain radioactive materials – would be damaged and people at the border of the plant’s compound would be exposed to several sieverts of radiation, a potentially lethal level, if the workers failed to reduce pressure within the containment vessel by venting steam, according to sources in the government, in Tokyo Electric Power Co. and documents.

Around 10 percent of people exposed to 1 sievert over a short time suffer nausea and tiredness, and half of those exposed to 4 sieverts die within 30 days.

Due to trouble with one of the two vents of the containment vessel at the Fukushima complex’s No. 1 reactor, it took 5½ hours for Tepco to successfully release steam from the vessel.

The Nuclear and Industrial Safety Agency assumed the failure to vent the steam could increase pressure inside the container to three times the design limit by 11 p.m. on March 12.

The high pressure would have burst the container and a huge amount of radioactive iodine, cesium and other substances would have been released into the atmosphere, posing “a risk of significant public exposure within 3 to 5 km from the power plant,” depending on weather conditions, the agency assumed.

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