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(भारत सरकार का उद्यम)
**NUCLEAR POWER CORPORATION
OF INDIA LIMITED**
(A Govt. of India Enterprise)

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Press Release

Seismicity Considerations for Jaitapur NPP

There have been reports in sections of the press of a US seismologist suggesting that a high intensity earthquake may occur at Jaitapur. The reports quote Dr. Roger Bilham's media briefing of his paper co-authored with Dr. V.K.Gaur in a press conference organized by Greenpeace on January 12, 2012

In this regard, the following facts are brought out:

The seismo-tectonic studies of the Jaitapur site were taken up during the site selection stage itself i.e. from 2003 to 2005, much before the site was accorded 'in principle' approval by the Government of India in 2005

Many studies were conducted by various expert agencies (national institutes) at Jaitapur. These include: (i) Satellite imagery based lineament map by Geological Survey of India (GSI), (ii) Field check of the lineament to confirm they being active or otherwise by GSI, (iii) Arriving at sub-surface faults by drilling bore holes from 30 to 80m in depth by GSI, (iv) Resistivity study to delineate sub-surface fault by GSI, (v) Gravity anomaly map study to arrive at sub-surface fault by Agricultural Meteorology Division (AMD) of Indian Meteorological Department (vi) Deep seismic sounding study data collected from Keshava Deva Malaviya Institute of Petroleum Exploration, Dehradun (KDVMPE) for faults in the sea, (vii) Delineation of faults in the sea by shallow seismic sounding studies by National Institute of Ocean Technology, Chennai (NIOT), (viii) Microearthquake (MEQ) studies by Koyna Bandhakam Vibhag from 1970 onwards

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reveal that all the events are in Koyna Warna Region towards North East of the plant, (ix) MEQ study by National Geophysical Research Institute (NGRI) from 2004 onwards in which the nearest event was of October 10, 2008 of 3.1 magnitude at 44.9 km distance.

Opinions of geological & seismological experts in the country like Dr. J.R. Kayal, former Deputy Director General GSI, Dr. S.K.Biswas, former Director, KDVMIPe and Dr. B.K. Rastogi, Director General, Institute of Seismological Research (ISR) was also taken while arriving at the design basis earthquake.

The information from above studies and the process of providing design margins has also been discussed with Dr. V.K. Gaur (one of the authors).

As there are no Micro Earthquake (MEQ) events within 44 km of the site, based on expert opinions, assumption of subsurface faults at 0.5 to 50 km for magnitude and depth of focus, such that ground motion at the NPP site gives a spectral shape, which will have a peak ground acceleration (pga) of 0.125 g to 0.3 g for low, moderate, moderate to high seismicity has been made to arrive at the design ground motion at Jaitapur.

In short, NPCIL had approached seismicity in a comprehensive way – from historical seismic data point-of-view to specifying and building reactors on conservative basis with ample design margins above what is considered possible risk. The conservative approach used by NPCIL to arrive at the ground motion at Jaitapur very well accommodates even higher-impact possible events with comfortable margins. Seismic aspects of site have adequately been addressed in Indian Nuclear Power Plants, including at Jaitapur.


(N. Nagaich) 17.01.2012