

Tsunami versus Kudankulam plant: PMANE fires fresh salvo

by G Pramod Kumar Apr 12, 2012

[#Kudankulam nuclear plant](#) [#NewsTracker](#) [#PMANE](#) [#Tsunami](#)

[Email](#)

[Share](#)

1

Like

12

Share

2

[11 Comments](#)

The People's Movement Against Nuclear Energy has again raised questions about the safety aspect of the Kudankulam Nuclear Power plant particularly against tsunami in view of the scare on Wednesday when the massive 8.7 earthquake hit Indonesia and 27 other nations including India..

The PMANE in a press release has demanded a thorough scientific study of the safety parameters of the plant and has urged for cease of work at the plant till all sides are satisfied with the sturdiness of the plant.

Read the PMANE release below:

Tsunami warning issued by National Centre for Ocean Information Services (INCOIS) on 11 April 2012 afternoon has confirmed the extreme risks to which the nuclear reactors located on the east coast of India is prone to the tsunamis that get generated in the Indian Ocean. This warning has underlined the immediate necessity to study and prepare scientifically rigorous tsunami preparedness plans based on tsunami hazard studies for these sites. It has revealed how such preparedness plans based on scientific principles simply do not exist for the two reactor sites already in place in this coast.



SP Udayakumar. Firstpost

This is a second event triggering panic within the last five months. A similar warning was initially considered but later dropped by INCOIS on 19 November 2011. A submarine earthquake of magnitude 5.2 had occurred near the comorin ridge then. The epicenter of this quake was located at about 480 km from the Kudankulam nuclear reactor site. Dr.Sathish Sheno, the Director of INCOIS had wondered then that the seabed where the quake had occurred was not marked by a subduction zone where tectonic plates create periodic upheavals. He had observed that “It is unusual for quakes to occur in such areas”. Julie Dutton, a geophysicist with the U.S. Geological Survey has made a similar observation with regard to the 11 April 2012 submarine quake of 8.6 magnitude. “This quake is different from the one that had occurred on 26 December 2004 in the sense it had not occurred in a subduction zone, where one tectonic plate is diving beneath another. It has occurred in the middle of an oceanic plate, where the faults in the crust essentially moved from side to side instead of up and down. These sorts of events are called strike-slip earthquakes. It is unusual to see such powerful earthquakes in such a region.”

Submarine earthquakes of larger magnitudes occurring within the oceanic plates in the Indian Ocean are an issue of grave concern. The Indian Nuclear Establishment is simply ignorant of this and other issues related to tsunami risk. Till today, it has not approached the tsunami risk to these coastal sites using the best International safety codes available. One such safety code is by the United States Nuclear Regulatory Commission (USNRC) evolved in March 2009. It states that all the nuclear reactors located in coastal sites in the USA need to conduct a thorough Tsunami Hazard Study based on a certain set of scientific principles.

A thorough study of 1) the paleo tsunamis that had hit the region (over the past many thousand years), 2) the tsunamigenic sources of near and far field – specifically identifying and studying the three main sources of tsunami namely submarine volcanoes, structures capable of causing large scale submarine landslides and submarine earthquake zones, and 3) the possibility of dry intake that these reactors may suffer during and after the tsunamis is now made mandatory for the coastal reactors in the USA. It is based on the results of such Tsunami Hazard Studies, the Tsunami Preparedness Plan for each reactor site is designed.

When the practices followed in the Kalpakkam and Kudankulam reactor sites are evaluated based on the above principles one sees the appalling picture. Instead of conducting these studies and evolving site specific tsunami preparedness plans, the Indian Atomic Energy establishment is content with one single partial engineering solution namely locating the reactors above a certain hypothetical height above the sea level!

For the Kalpakkam site, this hypothetical height was 4.36 meters in the period 1981 to April 2011. This was the height proposed by Central Water and Power Research Station (CWPRS), Pune based on an evaluation of the storm surge produced by the November 1977 cyclone that had hit the Andhra Coast. This value was changed suddenly (not after the 2004 December Tsunami but) after the 2012 March 11th Fukushima disaster! It has been upped by the expert committee appointed to evaluate the tsunami hazard to the coastal reactors following the Fukushima disaster to 8.91 meters above sea level! A sudden increase of 4.55 meters! What was the basis of this increase? Did any specific study dictate this? The answer is a firm no. It was increased because the upcoming Prototype Fast Breeder Reactor is constructed at this level and one cannot possibly propose a further increase in height! That's all! Did the establishment evaluate the chances of tsunami waves going beyond this height? The answer is again a big no.

It was in this background, People's Movement Against Nuclear Energy (PMANE) (along with People's Movement for Nuclear Safety and Poovulagin Nanbargal) had requested in December 2011, two medical doctors who were following this issue since the 2004 December Tsunami, to prepare a scientific manual on the possible tsunami hazard risk for the Kalpakkam site based on the international tsunami hazard codes for coastal reactors. The manual, written in Tamil, was successfully completed using all the available, published scientific peer reviewed literature and was published with the title “Kalpakkam Nuclear Reactors and the Under Sea Volcano” in February 2012. The manual's prime author, Dr.V.Pugazhenth, met Dr.Prabhat Kumar, the Director of PFBR, in person on 28 February 2012 and handed over the manual to him. Again, the manual was handed in person by the second author, Dr.R.Ramesh, to the Chief Minister of Tamil Nadu when he was a part of the four member PMANE committee that met her on 29 February 2012. Both had promised to study it, but so far – after a span of 40 days – have failed responded to the contents of the manual. Meanwhile, it is learned that that IGCAR has completed its English language translation.

The study had presented some very important, hitherto publicly unknown findings. On the question of the tsunamigenic sources for the Indian Coast, the Indian nuclear establishment has repeatedly claimed till date that there are no near field tsunamigenic sources. However, the PMANE's study had proved otherwise. It had given clinching research evidences that show the presence of a sub marine volcano that had erupted in 1757, located just 100 kilo meters south east of the Kalpakkam site and has the potential to be a near field tsunamigenic source. It

had also presented the research evidences of submarine canyons located within 100 kilometers south of Kalpakkam in the continental shelf and are capable of influencing the wave height and speed of the tsunami attacking the Kalpakkam site. It had compiled all the research papers related to the 2004 December 26 tsunami's interaction with the site as well as all the researches so far published on the paleo tsunamis for the region. The study had concluded, based on the recommendations of the 2011 May IAEA manual on Volcanic Hazards and the 2009 USNRC manual on Tsunami Hazard Study and the evidences presented, that a thorough Tsunami and Volcanic Hazard study for the site should be undertaken by the Indian nuclear establishment immediately. The nuclear establishment has so far not come forward to discuss the contents of the PMANE federation manual on Kalpakkam volcano, paleo tsunamis or the submarine canyons capable of influencing the tsunamis affecting the site; instead, it is contented with giving public relations media briefings that the site is capable of meeting any external eventuality. It seems that it is more concerned with its image rather than the site's safety.

The story of Kalpakkam site is repeated at the Kudankulam site. PMANE has published in January 2012, a technical manual in Tamil, dealing in detail with all the safety issues related to the Kudankulam site. Volcanism, Near Field Tsunami, the possibility of dry intake due to sea water recession even in times of no tsunami warning in the Indian Ocean, (In Kudankulam, sea has to recede beyond 330 meters) the possibility of the KKNPP site to be a Karst Terrain, Shoreline stability, fresh water availability were the issues dealt in this manual. A summary of these findings have been presented in English language in the PMANE expert group reports submitted to NPCIL and the Governments of Tamil Nadu and India on 15 December 2011 and 25 February 2012.

For the first time, PMANE manual on KKNPP site safety, had presented to the public the research evidence on the presence of two large submarine slumps located 100 Km from the KKNPP site in the Gulf of Mannar. The manual basing itself on the observations of a peer reviewed research article published in 2010 in a reputed international journal had stated that these slumps are capable of undergoing large scale submarine landslides that have the capacity produce mega tsunamis. In addition to this, the PMANE study has given evidences about sea water recession occurring almost three times a year since the 2004 December tsunami. The sea water recession had been occurring for about 100 – 500 meters from the shoreline even during times when earthquakes had not occurred in the Indian Ocean; the recession was 2000-4000 meters for the region during the December 2004 tsunami. Evidences of volcanic vents in the Gulf of Mannar's sea bed, thinning of the crust, active faults like Indrani Faults crossing these slumps were the additional materials presented. Based on all these evidences, and based on the Tsunami Hazard Study codes presented in the USNRC 2009 manual, PMANE had demanded the Governments of India and Tamil Nadu to direct the nuclear establishment to complete a thorough tsunami hazard study before any decision is taken on commissioning the reactors. Instead of taking up such a study, the expert committee appointed by the Government of India chose to downplay the facts presented and closed the whole issue by stating that these slumps are not capable of causing tsunamis in just a few sentences.

The nuclear establishment is yet to answer PMANE's demand that Tsunami, Volcanic, Karst, Shore Line Stability and fresh water sustenance studies have to be conducted for the KKNPP site before a decision is taken on commissioning the reactors. Similarly the establishment has ignored the demand that Tsunami, Volcanic Hazard Study need to be undertaken for the Kalpakkam site.

The establishment is yet to give its reasons for not taking up these internationally mandatory safety studies. Atomic Energy Regulatory Commission is either not prepared or does not have the power to make AEC to provide answers to these questions. The Government of India and Tamil Nadu too, are not prepared to order the nuclear establishment to provide these answers.

Such an attitude by the nuclear establishment, State and the Central Governments may lead to unfortunate accidents like the ones witnessed at Chernobyl and Fukushima in the past.

In the day following a significant tsunami warning from INCOIS, PMANE once again demands the Governments of India and Tamil Nadu to order the nuclear establishment to give its reasons for not taking up Tsunami, Volcanic, Karst, and Water Sustenance Studies for the Kudankulam and the Kalpakkam sites.

PMANE strongly believes that this is the first basic step that will instill confidence in the minds of the people on our democracy.

[Email](#)

[Share](#)
[See more](#)

1

Like 12

Share 1 11 Comments

#NewsTracker

- [Syrian ceasefire first step of Annan's plan: Clinton](#)
- [Odisha hostage crisis: Abducted MLA Hikaka's wife appeals to Maoists](#)
- [No arm transfer to Afghanistan via Pak: Parl Panel](#)
- [Obama holds video conference with Sarkozy on Iran, Syria](#)