



Minutes of the 98th SEAC Meeting held on 27th November 2017

<p>98-01</p> <p>F.6428</p>	<p>Proposal seeking Environment Clearance for India based Neutrino Observatory at S.F.No.4/1, Pottipuram Village, Uthamapalayam Taluk, Theni District, Tamil Nadu by M/s. Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai - 400005- The Project Proponent has applied for Environmental Clearance under Activity 8(a) & Category "B2"- Building & Construction Projects - Environmental Clearance- Regarding</p>
	<p>M/s. Tata Institute of Fundamental Research, Mumbai has applied for Environmental Clearance on 25.07.2017 for the proposed project "India based Neutrino Observatory" at S.F.No.4/1, Pottipuram Village, Uthamapalayam Taluk, Theni District, Tamil Nadu under the item No. 8 (a) of the Schedule of EIA Notification 2006.</p> <ol style="list-style-type: none"> 1) The Salient features of the project are as follows: <ol style="list-style-type: none"> i) The India based Neutrino observatory (INO) will be the unique of its kind in the country and among the few in the world for neutrino physics research. ii) The project consists of underground facility of 20552 sq.m (laboratory caverns and tunnels) and over ground facility of 10762 sq.m (utility block, administrative building, surface laboratory, detector assembly area, guest house/hostel and housing upto 1+2 floors) with a total built up area of 31314 Sq.m. iii) The Project involves construction of underground laboratory for experiments of the cutting edge of neutrino physics and building of a large magnetized iron calorimeter detector in it and also in long run, the lab may include experiments in other fields in physics, Biology & Geology. iv) About 340 KLD water will be pumped from the Mullaperiyar River. v) During the construction about 52000 tonnes of material (steel plates) and about 600000 tonnes of tunnel debris will be handled. vi) Surrounding features of the project area: <ol style="list-style-type: none"> a) Kerala state boundary is located about 2 km away from the INO tunnel portal. b) A small temple is located about 2 km from the INO site. c) Mathikettan Shola National Park in Kerala is about 4.9km from


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the INO site.

d) The Mullaiperiyar Dam is located about 49 km from the INO site.

e) INO caverns and tunnels will be in the Bodi west hill reserve forest.

2) Previous Environmental Clearance:

The project proponent has already obtained Environmental Clearance for the above said (project on India based Neutrino Observatory project at S.F.No.4/1, Pottipuram Village, Uthamapalayam Taluk, Theni District) project in the name of M/s. The Institute of Mathematical Science vide the Ministry of Environment & Forests, GoI F.No. 21-67/2010-I.A.III dated: 01.06.2011.

3) Court cases:

a) A PIL was filed by Thiru Vaiko in the month of February 2015 in the Madurai Bench of the Hon'ble Madras High Court in the W.P. (MD).No. 733 of 2015. The Hon'ble High Court has passed the interim order that restrains INO from commencement of any research work without PCB clearance.

b) Thiru G. Sundarrajan filed an application in the Hon'ble NGT (SZ) against the said Environmental Clearance issued for the project. The Hon'ble NGT (SZ) Chennai in the above said Appeal No.6 of 2015, issued orders on 20.03.2017 as follows

"Mathikettan Shola National Park in Idukki District, Kerala is situated within 4.9 Km from the site for which EC was granted. As per the General Conditions attached to EIA Notification, 2006 in cases where the project is located in whole or in part within 10 Km from the boundary of (i) Protected Areas notified under the Wild Life (Protection) Act, 1972 (ii) Critically Polluted Areas, as identified by the Central Pollution Control Board from time to time (iii) Eco Sensitive Areas as notified under Sub Section (2) of Section 3 of the Environment (Protection) Act, 1986 and (iv) Inter-State boundaries and International boundaries even if the project or activity is covered under Category – B, such project or activity is directed


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to be treated as Category – A. The 10 Km limit has been subsequently reduced to 5 Km by an amendment dated 25th June, 2014 carried out to the EIA Notification, 2006. The document produced before this Tribunal by Mr. Radhakrishnan also shows that the distance is 4.9 Km and in such view of the matter, not only the project in question should be treated as Category –A project but also clearance under the Wild Life (Protection) Act, 1972 is to be obtained from the National Board for Wild Life. Admittedly, such permission has not been obtained on the facts of this case.

In view of the same, we are of the considered view that without going into any other aspect which are raised in this appeal, the matter must be resolved so as to enable the project proponent to make a fresh proposal in appropriate form under EIA Notification, 2006 to enable the statutory authorities to consider such proposal in accordance with law. This is with the consent of both the counsel appearing for the appellant as well as the respondent – Mr. G.R. Swaminathan, Assistant Solicitor General appearing for the project proponent.

Accordingly, the impugned EC is kept in abeyance so as to enable the 5th respondent project proponent or any other legal person to make proper application in Form – I or in any other manner known to law. If such application is made, it is for the Regulatory Authority to consider the same on merits and in accordance with law as expeditiously as possible”.

- 4) In response to the application dated: 25.07.2017, the Project proponent was requested vide letter No. SEIAA-TN/F.No. 6428/2017 dated: 31.07.2017 to approach the MoEF & CC, New Delhi in appropriate form under EIA Notification, 2006 for the issue of Environmental Clearance, for the above said project.
- 5) MoEF&CC, GOI, informed through letter F. No. 21-67/2010-IA-III (pt) dated: 13.11.2017 that the above project is to be considered as a 8(a) project.
- 6) The Project Proponent has resubmitted the hard copy of the proposal on 15.11.2017 to SEIAA. In this connection, the SEIAA through Letter


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No.6428/2017 letter dated 16.11.2017 informed MoEF & CC, Gol, detailing the justification for treating the project under category A. in reply, MoEF&CC have reiterated their stand vide letter dated 17.11.2017.

The proposal was placed in the 98th SEAC meeting held on 27.11.2017. After a presentation by the project proponent, the members of the SEAC interacted with the project proponent regarding the project details. The salient features of the interaction are as follows:

- i) During discussion the project proponent was requested to clarify the Environmental Clearance already issued by the MoEF & CC, GOI F.No.21-67/2010-I.A.III dated: 01.06.2011, without mentioning the category and item no of the schedule of EIA notification 2006. The project proponent replied that the proposed project has been applied under 8 (a) Building and Construction considering only the built up area of the site.
- ii) The project proponent was requested to give the reasons for selecting the current site to implement the project. The proponent has also indicated that the quality of the rock in which the laboratory is proposed, can exhibit the radiation of 1mV or less neutrinos and it is found to be within the acceptable limit of their experimentation requirements. The proponent has also added that the quality of existing rock will provide shielding effects to the cosmic rays received from the atmosphere, which is another reason for selecting this site for construction of laboratory.
- iii) To the query raised over the basic experiments proposed in the laboratory, the proponent has explained that the main objective of the proposed project is to study the fundamental properties of neutrino which are considered to be weakly interactive particle received from the atmosphere. For achieving this, it is planned to install a detector weighing 50,000 tonnes in one of the proposed caverns connecting through tunnel of 2 km length from the village site.
- iv) When a query was raised over the significance of the proposed project, the proponent replied that the proposed research work will provide break-through technology for future and will play a crucial role in developing

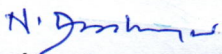

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mechanical and electrical engineering fields and enhancing the security facilities.

- v) The proponent has detailed the participation of research institutions and Universities in the proposed research activities pertaining to the neutrino laboratory and pointed out that each institute is assigned with the work which is related to their area of expertise. However, it is observed that only IIT Madras and Institute of Mathematical Science Chennai are included in the list of aforesaid 25 research institutions and Universities and no other institutions located in the state of Tamil Nadu was considered for the proposed research work to be carried out in Tamil Nadu.
- vi) The proponent was requested to justify the location of the site in the Greenfield environment of Theni District for carrying out research activities. But the proponent has informed that the part of Theni District which is nearer to the State boundary is dry in nature compared to the part existing in the neighbouring Kerala state and it was suggested by the Forest Department. The proponent also added that the existing land in Pottipuram village for installing the laboratory and related office facilities was given at the free of cost by the Government of Tamil Nadu. The proponent has pointed out the site preparation including the formation of approach road and erection of boundary, etc is carried out exclusively by the Tamil Nadu state government. The Project Feasibility Report was also prepared by the state owned TANGEDCO.
- vii) The proponent has informed that the proposed construction involves construction of four caverns of different dimensions as indicated in the report at a vertical covering depth of 1000 m from the surface.
- viii) The proponent informed pre-constructional, constructional, post-constructional activities and operational activities.
- ix) It is also observed that the validity period of 5 years, issued by MoEF&CC, Gol in letter dated. 27.10.2010 for the diversion of 6.12 ha of forest land, to the above project, has already lapsed. The proponent has replied that the requisition for extending the aforesaid validity is made to the MoEF & CC


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on 03.04.2017.

From the presentation made by the proponent, available document and the interactions with the proponent, the Committee decided that the project cannot be appraised under “ 8 (a) Building and construction projects” for the following reasons:

1. The tunnelling work involves carrying out blasting in hard and composite rockmass and requires huge quantity of high strength explosives to break it. Blasting hard rock will produce noise, dust, flash and vibrations. These factors will cause disruptions to the wildlife in the area affecting their movement and habitat dwelling. When the blasting activities are being carried out at 2 km length of tunnel, it is important to look into the presence of any sensitive structures and ecological conditions within the danger zone of 500 m. As per the data provided in the report, the state boundary of Kerala also will be brought into the picture. Then it becomes a project for inter-state scrutiny. Besides tunnelling, the work involves the excavation of 6 lakh cu.m of charnockite rock from the mountain.
2. The tunnel and caverns will be at the depth of 1000 metres from the top of the mountain. At a depth of 1000 metres, rock would be under tremendous pressure and the vertical stress is expected to be greater than 270 kg per m². This will create problems like rock burst and roof collapse. The proposals of the proponent regarding the safeguards will have to be scrutinized using the Geotechnical studies.
3. The SEAC in general is of the view that the western Ghats is a global biodiversity hotspot and a “treasure trove of biological diversity”. It harbours many endemic species of flowering plants, endemic fishes, amphibians, reptiles, birds, mammals and invertebrates and it also an important centre of evolution of economically important domesticated plant species. Also the proposed site forms part of the catchment of various streams and streams let and ultimately contribute to the Vaigai watershed (4A2A6a) which forms the life support and livelihood of the

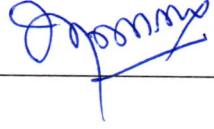
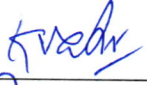
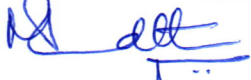
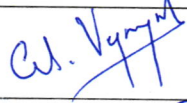


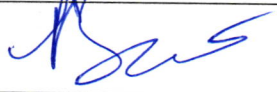

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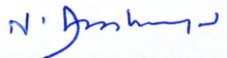

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dependent communities by providing water for drinking and agricultural needs in five districts of Tamil Nadu.

In summary, as explained in the preceding paragraphs, it is the considered decision of the members of the SEAC that this proposal cannot be appraised under "8 (a) – Building and construction project", as it involves many technical features other than a mere construction.

S.No	Name	Designation	Signature
1	Dr. K. Thanasekaran	Member	
2	Dr. A. Navaneetha Gopalakrishnan	Member	
3	Dr.K.Valivittan	Member	
4	Dr.Indumathi M. Nambi	Member	
5	Dr. G. S. Vijayalakshmi	Member	
6	Dr. M. Jayaprakash	Member	
7	Shri V. Sivasubramanian	Member	
8	Shri V. Shanmugasundaram	Member	
9	Shri B. Sugirtharaj Koilpillai	Member	
10	Shri. P. Balamadeswaran	Co-opt Member	
11	Shri. M.S. Jayaram	Co-opt Member	


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