

SUMMARY RECORD OF THE 16TH MEETING OF EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL APPRAISAL OF NUCLEAR POWER PROJECTS HELD ON 19TH NOVEMBER, 2013

The list of participants is annexed.

The Chairman welcomed the Members and, thereafter, Member Secretary informed about the project to be discussed in the meeting as per serratum. Shri R. Bhattacharya, AERB, Mumbai could not attend the meeting due to being abroad.

Item No. 16.01: Confirmation of Minutes of the 15th EAC (N) Meeting:

The minutes of the 15th meeting of the EAC (N) held on 22nd March, 2013 at Rawatbhata, Rajasthan were confirmed as circulated.

Item No. 16.02: Consideration of the Projects:

Item No. 16.03.01: Haryana Atomic Power Project, now, Gorakhpur Haryana Anu Vidyut Pariyojna (4x700 MWe) at Village Gorakhpur, District Fatehabad, Haryana by M/s Nuclear Power Corporation of India Ltd. (NPCIL) - EC.

The Committee was informed that the ToRs have been accorded by the Ministry vide letter dated 13th October, 2010. After incorporating issues of public hearing, the PAs submitted proposal to the Ministry, which was considered on 18th November, 2012 and asked to submit additional information lacking in EIA/EMP report. Site visit was performed on 18th November, 2012. The proposal was reconsidered during the EAC (N) meeting held during 22nd-23rd March, 2013 and observed that EIA/EMP report is deficient in following aspects:

- i. All corner coordinates of the project site, intake & discharge points.
- ii. Details of socio-economic survey of the area. R & R details for project affected persons including landless laborers.
- iii. Site plan for township.
- iv. Requirement of land for discharge channel.
- v. Copy of intake point permission from the Haryana Irrigation Department.
- vi. Wildlife Conservation Plan for Schedule-I animals duly authenticated by Chief Wildlife Warden (CWLW) of the State.
- vii. NSDF located very close to the exclusion zone boundary. Possibility be explored to shift NSDF slightly northwards to the extent possible and plant appropriately selected trees in the area between the exclusion zone boundary and NSDF. Details may be submitted.

The additional information submitted by the project proponent vide letter 13.06.2013 was placed before the Committee. The Committee noted that:

- i. All corner coordinates of the project site, intake & discharge points have been included in the EIA/EMP Report.

- ii. Details of socio-economic survey of the area, R & R details for project affected persons including landless laborers has also been included. It is informed that R&R policy, 2010 of Haryana Government will be adopted. However, Committee insisted that R&R policy of the Central Government may also be looked into and the better policy in terms of rehabilitation and resettlement of affected persons should be adopted.
- iii. Site plan for township is included.
- iv. 4 acre land for discharge channel from plant to out-fall point has been acquired.
- v. Permission for the drawl of 320 cusec water to NPP from the proposed intake point is obtained from the Haryana Irrigation Department vide letter dated 24th May, 2013.
- vi. Wildlife Conservation Plan for Schedule-I animals is yet to be prepared in consultation with Chief Wildlife Warden (CWLW), Haryana. It is informed that black bucks and chinkara are the Schedule-I species in the area. Population data of Schedule-I wildlife species is collected by the DFO, Fatehabad, Haryana. MoEF has also written a letter on 21st June, 2013 to the Wildlife Institute of India to assist the State Government of Haryana in preparing conservation plan for the black buck in the region. However, instead of assisting State Wildlife Chief Warden, Haryana, the Wildlife Institute of India (WLI) have concluded that:
 - a. The area is not recommended for ancillary developments of the nuclear power plant and it is recommended to retain the area as integral part of black buck habitat in the region.
 - b. Notify 187 acres of land (colony site) as a "Conservation Reserve".
 - c. 'Conservation Reserve' will act as protected area as per the Wildlife (Protection) Act, 1972.
 - d. The task of assisting formulation of Wildlife Conservation Plan for Schedule-I wildlife species likely to be impacted by the Project is deferred until the PAs confirm their commitment to protect this area from any further development associated with the project. It is also mentioned that PAs should make an immediate effort to identify an alternative site for the establishment of the colony. Conservation Plan for Schedule-I wild animals will be prepared in consultation with Wildlife Department, Government of Haryana only when this is agreed by the project proponents.
 - e. WLI has also mentioned that NPCIL should immediately remove their temporary construction office from the colony site. District administration should also control stray dogs posing threat from predation.

Project proponents informed that State Government of Haryana has studied the WLI report and has analysed its implications. The matter has been referred by the Haryana Government to the independent wildlife expert.

- vii. As suggested, Near Surface Disposal Facility (NSDF) is shifted away from the exclusion zone boundary. Plantation in the open spaces around the NSDF is also proposed.

The Committee was informed that Ministry has received a representation from Akhil Bharatiya Jeev Raksha Bishnoi Sabha for giving hearing to the applicants in reference to their grievances in respect of safe movement of wild animals at township site of NPCIL Atomic Power Plant at Fatehabad.

While the project was under consideration in the Ministry, Shri Arvind Shah & Shri Vinod Karwasra of Akhil Bhartiya Jeev Raksha Bishnoi Sabha have filed a Court case (Application no. 163/2013) in NGT, New Delhi against Union of India. NGT, New Delhi passed an Order on 22nd July, 2013 to maintain status quo at the site in question till the environment clearance is granted. On 4th August 2013, the NGT, Principal Branch, New Delhi also issued an order giving direction that *“the applicant is, however, at liberty to make representation to MoEF and participate in the proceeding before the MoEF and be heard in person and through agent before grant or refusal of the EC.”*

In compliance of the above direction of the NGT, the Ministry invited Shri Arvind Shah & Shri Vinod Karwasra as applicants to participate in the discussion on the project to be held on 19th November, 2013. During deliberations Shri Arvind Shah, Shri Vinod Karwasra and Shri Amit Chaudhury representing Akhil Bharatiya Jeev Raksha Bishnoi Sabha informed to the Committee that NPCIL has proposed to set up a township (185 acre) located 6 km from project site, which is the habitat of black bucks and chinkara (500-600) besides neelgai and other wild animals. As per the authenticated record, 226 black bucks have died in the last few years. It is also informed that NPCIL should get wildlife clearance from the Standing Committee of the National Board of Wildlife. It is also informed that fencing done by the NPCIL is responsible for the death of the black bucks.

They also referred to the recommendations of Wildlife Institute of India, where it is mentioned to conserve the site for wild animals, identify an alternative site or the establishment of the colony, so that a comprehensive conservation plan to conserve schedule-I animals is prepared to develop conservation habitat. They also informed that no headcount of the black bucks, chinkaras and other wild animals is undertaken by the NPCIL in the EIA Report. Adverse effect on the existing wildlife is not covered in the EIA report. NPCIL has mentioned that no sanctuary or national park is located in the vicinity and no consideration is given to the existing wild animals. Black bucks cannot be shifted / relocated elsewhere. It is suggested to declare the area as wildlife park/sanctuary and township should be shifted somewhere else. NPCIL has proposed a deer park in village Badopai in 40-50 acre of land which is not acceptable

After deliberations, the Committee observed that wildlife issue should be dealt by the Wildlife Division of the Ministry and a specific condition should be stipulated for getting wildlife clearance including preparation of conservation plan for Schedule-I species, declaration of the area as wildlife park/sanctuary and shifting of township, if required. The Committee suggested that independent environment clearance should be sought for the township, if shifted from the present location due to change in surrounding environment. The proposal has been recommended for environmental clearance for the proposed Haryana nuclear power plant subject to following specific conditions:

- 1 Environmental clearance is subject to clearance from the Wildlife angle due to location of Schedule-I species of the animals in the close vicinity. As directed by the Ministry, conservation plan for Schedule-I species should be prepared in consultation with the State Chief Wildlife Warden, Wildlife Institute of India or Zoological Survey of India. In case the area is declared as wildlife park/sanctuary, necessary prior wildlife clearance should also be obtained from the Steering Committee of National Board of Wildlife. The proposal would be considered by the respective authorities on their merits and decision taken. The investment made in the project, if any, based on environment clearance so granted, in anticipation of the clearance from wildlife angle

should be entirely at the cost and risk of the project proponent and Ministry of Environment & Forests should not be responsible in this regard in any manner.

- 2 AERB clearance for the site should be obtained from starting any construction work and a copy of the same should be provided to the Ministry of Environment & Forests.
- 3 Regular monitoring of conventional gaseous pollutants, radioactive pollutants in the air as well as in the discharged water should be monitored regularly as per the AERB standards.
- 4 Regular monitoring of ambient air quality should be carried out in and around the power plant and records maintained. The location of the monitoring stations and frequency of monitoring should be decided in consultation with SPCB. Flue gases should pass through 2-stage water scrubber and scrubbed water after solidification/ embedment in cement should be disposed in RCC trenches. Periodic reports should be submitted to the Regional Office of this Ministry. Besides air quality, water, food samples and soil should also be monitored regularly for radioactive levels in the surrounding areas and records maintained.
- 5 Water requirement should not exceed 320 cusecs as per the permission accorded by the Irrigation Department, Haryana vide letter dated 03.01.2006. No groundwater should be used in the project either during construction phase or during operation phase.
- 6 Soil and groundwater samples should be tested to ascertain that there is no deterioration of groundwater quality by leaching heavy metals, radio nuclides and other toxic contaminants.
- 7 The non-radioactive waste water waste generated from the plant premises will be suitably treated in sewage treatment plant (STP) and the treated effluents should be recycled and reused within the plant premises for greenbelt etc. The radioactive liquid waste emanating from the plant should be treated and managed as per the guidelines of AERB/ICRP in this regard.
- 8 On-line continuous monitoring of the temperature of the discharged cooling water should be carried out at the discharge point. It should be ensured that the temperature differential of the discharged water w.r.t. the receiving water does not exceed 7° C at any given point of time.
- 9 The radioactive levels in the different matrices of environment including food chain, air, water and soil should be monitored regularly in the surrounding areas as per AERB standards and records maintained. The conventional pollutants should also be monitored and records maintained.
- 10 The radioactive waste should be managed as per the norms prescribed by AERB.
- 11 The radioactive dose apportionment from each unit should be as per the limits prescribed by AERB.
- 12 The necessary mitigation measures based on the drainage study should be undertaken to ensure that there is no impact due to water logging in the area including the agricultural crops.
- 13 Radioactive Solid Waste should be collected, segregated, treated at source and disposed off with the application of advanced technology as per AERB guidelines in

Near Surface Disposal Facility (NSDF) which should be fenced and dose rate should not exceed 0.01 mGy/h. Spent fuel removed from the reactor should be stored in spent fuel storage bay (SFSB) till it cools down to dry storage levels (about 5 yrs.) and should be disposed as per the guidelines and procedures prescribed by the AERB in this regard. The solid radioactive waste should be stored above the ground elevation as per the standard EPR design after it is duly reviewed by AERB and in compliance with their requirements.

- 14 It should be ensured that the noise levels in the work zone both during construction and operation phase are within permissible limits. For people working in high noise area, requisite personal protective equipment like earplugs/ear muffs etc. should be provided. Installation and operation of DG sets should comply with notified guidelines.
- 15 The project proponent should obtain prior Consent to Establish and Consent to Operate from the Haryana State Pollution Control Board and effectively implement all the conditions stipulated therein.
- 16 Greenbelt should be developed in 35 % area around the project boundary with the native species of adequate density and width. In addition, plantation will be raised in other vacant areas within the plant site.
- 17 A Disaster Management Plan and Emergency Preparedness Plan should be prepared and put up in place as per the norms of AERB. Regular mock drills should be undertaken and based on the same, any modification required, if any, should also be incorporated.
- 18 Provision should be made for the housing of construction labour with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project and should be within project area.
- 19 Periodic health survey of the population residing within 5 km around the proposed plant site should be undertaken and the report of the survey should be submitted to the AERB and to the Ministry of Environment and Forests and its Regional office at Chandigarh.
- 20 A separate environment management cell with qualified staff should be set up for implementation of the stipulated environmental safeguards.
- 21 Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These costs should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Regional Office of the Ministry at Chandigarh.
- 22 All the issues raised during public hearing/consultation and commitments made to the public should be ensured.

Item No. 16.02.02: Setting up a 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 165 TPY Zircaloy Fabrication facility (ZFF) along with township at Nuclear Fuel Complex, Kota, Near Rawatbhata Village, District

**Chittaurgarh, Rajasthan of M/s Nuclear Fuel Complex, Department
of Atomic Energy, Hyderabad, A.P. – EC.**

The proposal was considered by the Committee and the project proponent made a presentation before the Committee for consideration of the proposal for according environmental clearance. NEERI, Nagpur, was not allowed for presentation being non-accredited consultant. All Nuclear power projects and projects for processing of nuclear fuel are listed at S. No. 1(e) under EIA notification 2006. The TORs were prescribed on 14th March, 2011. The Committee was informed that the proposal was earlier considered in the EAC (N) meeting held during 29th–30th January, 2013 and ToRs were awarded on 14th March, 2013 for undertaking EIA study.

During deliberations, project authorities informed that proposal is for 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 165 TPY Zircaloy Fabrication facilities (ZFF) with township project. Township is located at a distance of 5 km. Due to change in the capacity of ZFF from 65 to 165 TPY (final capacity), a revised pre-feasibility report, Form-I is submitted. The public hearing was held on 11th July, 2012. Now, the EIA/EMP report is combined for plant as well as township.

Project proponent informed that distance between Bhainsrorgarh Wildlife Sanctuary and Jawahar Sagar Wildlife Sanctuary is 1.5 and 3.05 kms respectively from project site. Mukundra Hill Tiger Reserves is at 3 km. Chambal Sanctuary is located at 37 kms. It is further informed that necessary documents for clearance under the Wildlife Act, 1972, have been submitted to the Rajasthan State Wildlife Department. Wildlife Conservation Plan for Schedule-I animals is under preparation in collaboration with Zoological Survey of India.

Regarding site clearance, it is informed that first level of three-tier review for siting clearance by AERB has already been completed. The fuel required for Rajasthan Atomic Power Projects (7 and 8 unit) and, Kakrapar Atomic Power Project (3rd and 4th Unit) is to be supplied by the NFC, Kota.

Regarding safety measures, it is proposed that release of radio-activity during extreme events like explosion of furnaces may be minimized by providing secondary ventilation system along with pre-filters and HEPA filters (not less 99.5%) in process areas of PFFF including furnace areas and exhaust systems, which will become operational in case of alarms.

Ambient air quality data presented indicated PM₁₀ (46-156ug/m³), PM_{2.5} (22-38ug/m³), SO₂ (BDL-2ug/m³), NO_x (BDL-5 ug/m³), NH₃ (11-58ug/m³) and are within the permissible limit. The tritium concentrations have been found to be in the range of 0.13 Bq/m³-240 Bq/m³ which are below the tritium Derived Air Concentrations (DACs) specified for the members of public. The annual external radiation dose in ambient air during 2009 and 2010 are submitted indicating values between 36–170 x 10⁻² mGy.

Project authorities further informed that ash (37.5 TPY) produced from burning of zircaloy process rejects and used abrasive belts (2.5 TPY) will be sent to land fill site, in accordance with the Hazardous Waste (Management and Handling) Rules.

Permission for the drawl of 1.43 cusec water from Gandhi Sagar dam has been accorded by the State Irrigation Department vide letter dated 7th August, 2012. Although, project proponent informed the Committee that they will maintain zero effluent discharge but the Committee was not convinced with the zero discharge and asked to follow AERB guidelines in this regard. Rs. 240 crores and Rs.39 crores are earmarked towards capital and recurring cost of the project to implement proposed EMP measures. It is also informed

that activities related to Corporate social responsibility will be taken up as per the Central Government guidelines and Department of Atomic Energy.

At the end, the issues raised during the public hearing like employment, CSR activities, pollution in Krishna Nagar, etc. were discussed. Project proponent informed about the clarifications and commitments made by them.

After deliberations, the Committee recommended the proposal for environmental clearance subject to following specific conditions :

- i. Necessary wildlife clearance should be obtained from the Steering Committee of National Board of Wildlife due to location of Bhainsrorgarh Wildlife Sanctuary and Jawahar Sagar Wildlife Sanctuary at 1.5 and 3.05 kms respectively from project site. Mukundra Hill Tiger Reserves is located at 3 km. Necessary Wildlife Conservation Plan for Schedule-I animals should be prepared in consultation with Rajasthan State Wildlife Department in collaboration with Zoological Survey of India. The proposal would be considered by the respective authorities on their merits and decision taken. The investment made in the project, if any, based on environment clearance so granted, in anticipation of the clearance from wildlife angle should be entirely at the cost and risk of the project proponent and Ministry of Environment & Forests should not be responsible in this regard in any manner.
 - ii. Construction procedures adopted for the plant like rock-blasting should not impact existing nuclear power plants and heavy water plants in the site.
 - iii. AERB clearance for the site should be obtained for starting any construction work and a copy of the same should be provided to the Ministry of Environment & Forests.
 - iv. Regular monitoring of conventional gaseous pollutants, radioactive pollutants in the air as well as in the discharged water should be monitored regularly as per the AERB standards.
- 2 Regular monitoring of ambient air quality should be carried out in and around the plant and records maintained. The location of the monitoring stations and frequency of monitoring should be decided in consultation with SPCB. Periodic reports should be submitted to the Regional Office of this Ministry. Besides air quality, water, food samples and soil should also be monitored regularly for radioactive levels in the surrounding areas and records maintained.
 - 3 Water requirement should not exceed 1.43 cusec water from Gandhi Sagar dam as per the permission accorded by the State Irrigation Department vide letter dated 7th August, 201. No groundwater should be used in the project either during construction phase or during operation phase.
 - 4 Soil and groundwater samples should be tested to ascertain that there is no deterioration of groundwater quality by leaching heavy metals, radio nuclides and other toxic contaminants.
 - 5 The non-radioactive waste water waste generated from the plant premises should be suitably treated in sewage treatment plant (STP) and the treated effluents should be recycled and reused within the plant premises for green belt etc. The radioactive liquid waste emanating from the plant should be treated in effluent treatment plant (ETP) before using the same for green belt development and

managed as per the guidelines of AERB in this regard. The recycled water should be of drinking water standard with respect to uranium concentration.

- 6 The process effluents containing ammonium nitrate should be sold only to recyclers authorized by State Pollution Control Boards. It should be ensured that the natural uranium content in the effluents sold to authorized agents should be less than the limits prescribed by AERB. Each batch of effluents should be monitored and certified by the plant Radiological Safety Officer (RSO) for uranium content before selling the same to authorized outside agencies.
- 7 The radioactive levels in the different matrices of environment including food chain, air, water and soil should be monitored regularly in the surrounding areas as per AERB standards and records maintained. The conventional pollutants should also be monitored and records maintained.
- 8 The radioactive waste should be managed as per the norms prescribed by AERB.
- 9 Adequate space should be made available in the plant layout for safe interim storage of reprocessable zircaloy turnings. Transportation of reprocessable zircaloy turnings to any other site should be as per the procedures approved by AERB.
- 10 The radioactive dose apportionment from each unit should be as per the limits prescribed by AERB.
- 11 The necessary mitigation measures based on the drainage study should be undertaken to ensure that there is no impact due to water logging in the area including the agricultural crops.
- 12 Radioactive Solid Waste should be collected, segregated, treated at source and disposed off as per AERB guidelines.
- 13 It should be ensured that the noise levels in the work zone both during construction and operation phase are within permissible limits. For people working in high noise area, requisite personal protective equipment like earplugs/ear muffs etc. should be provided. Installation and operation of DG sets should comply with notified guidelines.
- 14 The project proponent should obtain prior Consent to Establish and Consent to Operate from the Rajasthan State Pollution Control Board and effectively implement all the conditions stipulated therein.
- 15 Green belt should be developed in 35 % area around the project boundary with the native species of adequate density and width. In addition, plantation will be raised in other vacant areas within the plant site.
- 16 A Disaster Management Plan and Emergency Preparedness Plan should be prepared and put up in place as per the AERB norms. Regular mock drills should be undertaken and based on the same, any modification required should also be incorporated.
- 17 Provision should be made for the housing of construction labour with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project and should be within project area.

- 18 Periodic health survey of the population residing within 5 km around the proposed plant site should be undertaken and the report of the survey should be submitted to the AERB and to the Ministry of Environment and Forests and its Regional office at Lucknow, U.P.
- 19 A separate environment management cell with qualified staff should be set up for implementation of the stipulated environmental safeguards.
- 20 Rs. 240 crores and Rs.39 crores earmarked towards capital and recurring cost of the project to implement proposed EMP measures should not be diverted for any other purpose but exclusively used for implementing environment protection measures and year-wise expenditure should be reported to the Regional Office of the Ministry at Lucknow, U.P.
- 21 All the issues raised during public hearing/consultation and commitments made to the public should be ensured.

Any Other Item 16.03:

Item No. 16.03.01: Kudankulam Nuclear Power Project (KKNPP), Expansion Unit (3-4) (2x1000 MW) at Kudankulam, Tamil Nadu by M/s Nuclear Power Corporation of India Ltd. (NPCIL) - Extension of EC validity.

The Committee was informed that environmental clearance was accorded to Kudankulam Nuclear Power Project (KKNPP), Expansion Unit (3-4; 2x1000 MW) at Kudankulam, Tamil Nadu by M/s Nuclear Power Corporation of India Ltd. (NPCIL) vide Ministry's letter no. J-14011/1/2007-IA.II(T) dated 23.09.2008. Now, NPCIL vide their letter dated 08.05.2013 has requested that the validity of EC is expiring on 22.09.2013 and requested that validity of the environment clearance may be extended for another five years i.e. 22.9.2018. The NPCIL has submitted updated Form-I and Prefeasibility Report for unit 3-4 for 2x1000 MWe.

The matter was placed before the Expert Appraisal Committee (N) and observed that the EC granted in 2008 is valid till 22.9.2013, and if extension is required, it may be considered as per procedure prescribed in EIA Notification, 2006. As per the EIA Notification, 2006, request for extension should be made to the Ministry about six months prior to the expiry of the validity of EC evidenced by demonstrable progress by 2013 as mentioned below:

Under the provisions of EIA Notification, 2006, extension of environmental clearance validity may be considered under clause 9 of the Notification, 2006 which says that "*This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1. In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be*".

M/s NPCIL informed the Committee that construction work at the site is in progress. It is also informed that 1053 ha. land has already been acquired and no additional land is required. Boundary wall has been constructed. The pre-project activities like grading and levelling of the site, construction of infrastructure facilities like office buildings, approach roads, project fencing, residential house construction etc has already been completed and some of the activities related to infrastructure development are in advanced stage of

completion. In the design front also, lot of activities like Early design (First priority design) works of Russian scope, plant layout, Seismic studies, Geotechnical investigation and basic design work related to Indian scope of works etc. has been completed. Tendering work for main plant excavation, construction of hydro-technical structures etc. has been initiated and the work will commence on receipt of consent to establish from TNPCB. So far, Rs. 386.75 crores are spent towards various activities at the site for the units 3-6. Project authority also confirmed that there will be no change in technology, design model and capacity of the proposed units. There will be no deviation or alteration in the proposal submitted earlier to the MoEF for Environmental clearance. It is also informed that terrestrial and Marine EIA report has also be prepaid for the CRZ clearance in 2011 and submitted to MoEF. Siting clearance for Kudankulam Nuclear Power Projects (3 to 6, 4x1000 MWe VVERs) has been accorded by the Atomic Energy Regulatory Board vide their letter dated 9th February, 2011. CRZ clearance for the KKNPP (3 and 4) has also been accorded by the Ministry vide letter No. 11-25/2010-I.A III dated 25.7.2012. Tamil Nadu Forest Department has also informed that the distance between the site and Gulf of Mannar Marine National Park is about 87 kms. and the site lies on the shore about 20 to 50 mtrs. away from Gulf of Mannar biosphere Reserve Boundary. There is no objection from forestry point of view for extension programme of Kudankulam Nuclear Power Projects subject to certain conditions vide their letter dated 24th June, 2008.

The EC to the project was accorded on 23.09.2008 and the request has been made by the Project Proponent vide their letter dated 8.05.2013, prior to the expiry of EC dated 23.09.2008 on 22.09.2013.

The Committee, after considering the physical and financial progress made on the project and reasons for seeking extension of validity of EC recommended for the extension of validity of EC for another five years upto 23.09.2018 after submission of six monthly compliance report on the status of conditions stipulated in the EC letter no. J-14011/1/2007-IA.II(T) dated 23.09.2008, which has been submitted on 2.12.2013.

Item No. 16.03.02: Kudankulam Nuclear Power Project (KKNPP) Expansion Unit (5-6) (2x1000 MW) by M/s Nuclear Power Corporation of India Ltd. (NPCIL) - Extension of EC validity.

The Committee was informed that environmental clearance was accorded Kudankulam Nuclear Power Project (KKNPP) Expansion Unit (5-6) (2x1000 MW) by M/s Nuclear Power Corporation of India Ltd. (NPCIL) vide Ministry's letter no. J- 14011/1/2007-IA.II(T) dated to 31.12.2009. Now, NPCIL vide their letter dated 08.05.2013 has requested that the EC was valid upto 30.12.2014 and have requested that validity of the environment clearance may be extended for another five years upto 30.12.2019. The NPCIL has submitted updated Form-I and Prefeasibility Report for unit 5-6 for 2x1000 MWe

The matter was paced before the Expert Appraisal Committee (N) and observed that EC was accorded to units 5 & 6 on 31.12.2009 and is valid till 30.12.2014, and if extension is required, it may be considered as per procedure prescribed in EIA Notification, 2006. As per the EIA Notification, 2006, request for extension should be made to the Ministry about six months prior to the expiry of the validity of EC evidenced by demonstrable progress by 2013 as mentioned below:

Under the provisions of EIA Notification, 2006, extension of environmental clearance validity may be considered under clause 9 of the Notification, 2006 which says that "*This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1. In this regard the*

regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be”.

M/s NPCIL informed the Committee that construction work at the site is in progress. It is also informed that 1053 ha. land has already been acquired and no additional land is required. Boundary wall has been constructed. The pre project activities like grading and levelling of the site, construction of infrastructure facilities like office buildings, approach roads, project fencing, residential house construction etc has already been completed and some of the activities related to infrastructure development are in advanced stage of completion. In the design front also, lot of activities like Early design (First priority design) works of Russian scope, plant layout, Seismic studies, Geotechnical investigation and basic design work related to Indian scope of works etc. has been completed. Tendering work for main plant excavation, construction of hydro-technical structures etc. has been initiated and the work will commence on receipt of consent to establish from TNPCB. Details of the work done so far and amount spent for units 3-6 is submitted. So far Rs. 386.75 crores are spent towards various activities at the site for the units 3-6. Project authority also confirmed that there will be no change in technology, design model and capacity of the proposed units. There will be no deviation or alteration in the proposal submitted earlier to the MoEF for Environmental clearance. It is also informed that terrestrial and Marine EIA report has also been prepaid for the CRZ clearance in 2011 and submitted to MoEF. Siting concern for Kudankulam Nuclear Power Projects 3 to 6, 4x1000 MWE VVERs has been accorded by the Atomic Energy Regulatory Board vide their letter dated 9th February, 2011. CRZ clearance for the KKNPP (3 and 4) has also been accorded by the Ministry vide letter No. 11-25/2010-I.A.III dated 25.7.2012. Tamil Nadu Forest Department has also informed that the distance between the site and Gulf of Mannar Marine National Park is about 87 kms. and the site lies on the shore about 20 to 50 mtrs. away from Gulf of Mannar biosphere Reserve Boundary. There is no objection from forestry point of view for extension programme of Kudankulam Nuclear Power Projects subject to certain conditions vide their letter dated 24th June, 2008.

The Committee, after considering the physical and financial progress made on the project and reasons for seeking extension of validity of EC recommended for the extension of validity of EC for another five years upto 31.12.2019 after submission of six monthly compliance report on the status of conditions stipulated in the EC letter no. J- 14011/1/2007-IA.II(T) dated to 31.12.2009, which has been submitted on 2.12.2013.

Item No. 16.03.03: Jaitapur Nuclear Power Park (6x 1650 MWe) at Village Madban, Taluka Rajapur, District Ratnagiri, Maharashtra by M/s Nuclear Power Corporation of India Ltd. (NPCIL) - Extension of time for compliance of conditions.

The MOEF has granted environmental clearance to Jaitapur Nuclear Power Project (JNPP) on 26.11.2010 with certain environmental safeguards. Project proponents have submitted six-monthly report on implementation of stipulated environment conditions for the period April to September, 2013 vide their letter dated 15th October, 2013. As per the condition no. 2 regarding submission of additional details, following is the current status:

- (i) Project proponent informed that Bio-diversity Conservation Plan (BCP) for Jaitapur Region has been prepared in consultation with BNHS and College of Forestry, Dapoli and submitted to the Ministry on 30th September, 2013. The BCP includes bio-diversity of terrestrial as well as inter-tidal zone around Jaitapur Region, Maharashtra. This work was to be completed within 12 months of EC issued on 26.11.2010.

The Committee observed that Bio-Diversity Conservation Plan (BCP) prepared and submitted to the MoEF on 30.09.2013, has not been sent to all the Members of the EAC (N)

for their comments.. Therefore, it was requested project proponent to send the same to all the members for their comments. Decision regarding approval of the BCP will be taken after getting comments and discussing BCP in the next EAC meeting.

- (ii) A Monitoring Committee comprising of outside experts and institutions (including BNHS, College of Fisheries, Ratnagiri and Bala Saheb Sawant, Konkan Krishi Vidyapeeth, Dapoli) is yet to be constituted after approval of the Bio-diversity Conservation Plan (BCP) by the MoEF. This work was to be completed within 12 months of EC issued on 26.11.2010.

The Monitoring Committee has not been constituted so far due to belated submission of Bio-diversity Conservation Plan which is just submitted and is yet to be appraised by the expert members.

- (iii) Project proponent also informed that study regarding no effect on fishes in the sea adjoining Ambolgaad is in progress at College of Fisheries, Ratnagiri and Central Institute for Fisheries' Research Education, and is likely to be completed by August, 2014 and have asked for the extension of time till September, 2014. This work was to be completed within 12 months of EC issued on 26.11.2010.

The Committee after reviewing the current status asked project proponent to submit the report on special plan for fisheries by September, 2014 positively.

- (iv) Project proponent also informed that a report on 3-D Model Study for the discharge of condenser cooling water is under progress at CWPRS, Pune for which extension till 31.01.2014 has been asked. It is informed that draft report is already submitted by the CWPRS and presently being reviewed by NPCIL. This work was to be completed within 12 months of EC issued on 26.11.2010.

Since the report has already been submitted by the CWPRS and is under examination, the Committee agreed for submission of report by January, 2014.

- (v) NPCIL's on-going environmental programme regarding sustainability and strengthening with a focus on the Western Ghats since three of its power generating complexes - Tarapur, Kaiga and now Jaitapur located in ecological sensitive region is in progress.

The Committee informed the project proponent that Ministry has approved the Report of Western Ghat Ecology Expert Panel recently and asked to evaluate the same in the light of said report and submit a report on the implication of the project in reference to the above mentioned report.

After deliberations, the Committee desired that timely submission of report as mentioned above may kindly be ensured. No further extension should be granted since sufficient extension time has been granted. Decision regarding approval of Bio-diversity Conservation Plan (BCP) will be taken only after submission of the comments by the expert members.

Item No. 16.03.04: Prototype Fast Breeder Reactor (PFBR), 500 MW at Kalpakkam, Kancheepuram District, Tamil Nadu by Bharatiya Navbhikiya Vidyut Nigam Ltd. (BHAVINI), Department of Atomic Energy - Extension of EC validity.

Project proponent vide their letter dated 20.4.2013 and 10.10.2013 have informed that environmental clearance to Prototype Fast Breeder Reactor (PFBR; 500 MW) at

Kalpakkam, District Kancheepuram, Tamil Nadu was accorded to Indira Gandhi Centre for Atomic Research, Deptt. of Atomic Energy vide Ministry's letter No. K-14011/3/2001-IA.II (N) on 17th April, 2003. Now, Bharatiya Navbhikiya Vidyut Nigam Ltd. (BHAVINI), Department of Atomic Energy, Kalpakkam, Kancheepuram, Tamil Nadu has requested for the extension of validity of EC dated 17th April, 2013 vide letter dated 20.4.2013 and 10.10.2013. The PAs has submitted updated Form-I and Prefeasibility Report for Prototype Fast Breeder Reactor (PFBR) for 500 MWe.

Project proponent informed the Committee that construction work at the site started in October, 2003. However, due to tsunami at site on 26th Dec., 2004, construction work at the site was hampered tremendously. As on today, out of total cost of the project of Rs. 5,677 crores, Rs. 4,310 crores is spent. 96% work is almost completed. Air and water consent have been accorded by the Tamil Nadu Pollution Control Board on 18.02.2013. Project Authorities further informed that erection of reactor components have been completed except a few minor components. Auxiliary boiler has been commissioned. Turbo-Generator system is under testing. 90% of the ventilation system equipments have been erected. 100% chillers have been commissioned. Remaining work is likely to be completed by December, 2013. As per Government approval, criticality of the project is fixed for September, 2014 and commercial operation likely to start by March, 2015. At present, the project is at commissioning stage and likely to start by 2014.

The Committee was informed that under the provisions of EIA Notification, 2006, extension of environmental clearance validity may be considered under clause 9 of the Notification, 2006 which says that "*This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1. In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be*".

However, the Committee observed that the five year validity period is already over as early as on 16.04.2008 and Project proponent have not applied six months prior to the expiry of EC as per EIA Notification, 2006. Besides it is also observed that EC was accorded to Indira Gandhi Centre for Atomic Research, Deptt. of Atomic Energy but now M/s. Bharatiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI), Department of Atomic Energy have applied for the extension of EC. The Committee asked Project Proponent to submit application for the change in the name of project proponent first. Only then the proposal will be considered for the extension of validity period. The proposal is deferred.

The meeting ended with a vote of thanks to the Chair.

List of Participants

A. From Expert Appraisal Committee (Nuclear):

- | | | |
|---------------------------|---|------------------------|
| 1. Dr. A.R. Reddy | - | Chairman |
| 2. Shri A.R. Sundararajan | - | Member & Vice-Chairman |
| 3. Prof. C.K. Varshney | - | Member |
| 4. Shri R.K. Garg | - | Member |
| 5. Shri U.N. Gaitonde | - | Member |
| 6. Dr. R.S. Dhaliwal | - | Member |

B. From Ministry of Environment & Forests, New Delhi

- | | | |
|---|---|------------------|
| 7. Dr. P.B. Rastogi, Director, MoEF | - | Member Secretary |
| 8. Shri Y.P. Singh, Deputy Director, MoEF | | |

C. From Haryana Atomic Power Project, Haryana by NPCIL.

14. Shri S.K. Sharma, ACECC, NPCIL, Mumbai
15. Shri S. Singha Rai, PD, JNPP, NPCIL
16. Shri T.R. Arora, PD, GHAVP, NPCIL
17. Dr. S.K. Singh, M E, Mecone Ltd.
18. Shri T. Shard, EE (ES), NPCIL
19. Shri Jitiender Singh, CE (ES), NPCIL
20. Shri N.R.K. Mohanty, CE, NPCIL
21. Shri Gautam Mukhrjee, Senior Manager, (NPCIL)
22. Shri U.C Muktibodh, Executive Director, (NPCIL)
23. Shri S.K. Tapkir, EX. Director (R&R), NPCIL
24. Shri R. Banerjee, Ex. Director (P) , NPCIL
25. Mukesh Kumar, Asst. Commissioner, Dept. of Rural Development.

D. Representatives of Akhil Bharatiya Jeevrakasha Bishnoi Sabha

26. Shri Dharamvir, Advocate, Fatehabad (Haryana)
27. Shri Vinod Karwasra
28. Shri Amit Chaudhery, Hon. Animal Welfare Board of India, President People for Animals.

E. From Nuclear Fuel Complex, Rawatbhata by Department of Atomic Energy

29. Shri P.B. Ojha, Technical Admin, NFC
30. Shri RVRL Visweswara Rao , SO/G
31. Smt P. Padma, OIC, HPU NFC
32. Shri M. Gangadhar, GM, NFC
33. Shri G. Supreetha, Project Asst. III, NEERS, Hyderabad
34. Shri P.A Pratap, Project Manager , NFC-Kota
35. Dr. DS surya Narayana
36. Shri R.K. Sharma, Engineers India Ltd.
37. Shri R.N. Jayaraj, Raja Ramanna Fellow and Former Chief Ex. , NFC
38. Shri GVS Hemantha Rao, DCE (ZAF &S), NFC
39. Shri C.V.R. Sakam, D/CE (NFC-K)
40. Shri N. Saibaba, Chief Ex. , NFC

41. Shri S. Pentu Saheb, NEERP-HZL, Hyderabad
42. Dr. Gopinathan Maheswaran, Sci-C, Zoological Survey of India, Kolkata

G. From Kudankulam Nuclear Power Project, Tamil Nadu by NPCIL

44. Shri R.S. Sundar, Site Director, KKNPP
45. Shri P.A Pillai, CCE, KKNPP
46. Shri Rajesh Y, ACE, KKNPP
47. Shri S. Venkatesh, ACE, KKNPP

H. From Jaitapur Nuclear Power Project by NPCIL

48. Shri S.K. Sharma, ACECC, NPCIL, Mumbai
49. Shri S. Singha Rai, PD, JNPP, NPCIL
50. Shri T.R. Arora, PD, GHAVP, NPCIL
51. Dr. S.K. Singh, M E, MECON Ltd.
52. Shri T. Shard, EE (ES), NPCIL
53. Shri Jitiender Singh, CE (ES), NPCIL
54. Shri N.R.K. Mohanty, CE, NPCIL
55. Shri Gautam Mukherjee, Senior Manager, (NPCIL)
55. Shri U.C Muktibodh, Executive Director, (NPCIL)
56. Shri S.K. Tapkir, EX. Director (R&R), NPCIL
57. Shri R. Banerjee, Ex. Director (P) , NPCIL
58. Mukesh Kumar, Asst. Commissioner, Deptt. of Rural Development

I. Prototype Fast Breeder Project, Kalpakkam, T.N. by Bhavini NPCIL

59. Smt Bhavani Sathiavel, AM (HR)
60. Shri R. Ramaanjaneyalu
61. Smt. N. Kanagalakshmi
