

**Ministry of Environment & Forests
(IA Division)**

**SUMMARY RECORD OF THE 15th MEETING OF EXPERT APPRAISAL COMMITTEE
ON ENVIRONMENTAL APPRAISAL OF NUCLEAR POWER PROJECTS.**

The 15th meeting of the Expert Appraisal Committee for Environmental Appraisal of Nuclear Power Projects was held on 22-23 March, 2013 at Rawatbhata, Rajasthan. The list of participants is annexed.

The Chairman welcomed the Members and thereafter, each of the projects was taken up for consideration seriatim.

Item No. 15.01: Confirmation of Minutes of the 14th EAC (N) Meeting:

The minutes of the 14th meeting of the EAC (N) held on 18.11.2012 were confirmed as circulated.

Item No. 15.02: Consideration of Projects:

Item No. 15.02.01: Setting up a 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 65 TPY Zircaloy Fabrication facility (ZFF) with township at Nuclear Fuel Complex, Kota, Near Rawatbhata Village, District Chittaurgarh, Rajasthan of M/s Nuclear Fuel Complex, Hyderabad, A.P.

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. 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 for undertaking EIA study for 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 65 TPY Zircaloy Fabrication facilities (ZFF) with township project. The public hearing was held on 11.7.2012.

The proposal is for setting up of a 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 65 TPY Zircaloy Fabrication facility (ZFF) with township for about 1700 families. The EIA study done for 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 65 TPY Zircaloy Fabrication Facility (ZFF) in 1st phase and 2nd phase will comprise of 100 TPY Zircaloy Fabrication Facility (ZFF). The meeting was preceded by a visit to the site by the Committee. It was observed that the project site area is 250 ha which belongs to NPCIL/DAE and land is mostly barren with sparse thorny vegetation. The Site Selection Committee has evaluated various sites for this project. The committee short listed four locations for development of nuclear fuel fabrication facilities viz. Rawatbhata, Visakhapatnam, Pazhayakayal and Thummalapalle. Among these Rawatbhata is chosen for proposed project in view of existing and upcoming PHWRs at the site and availability of water resource, DAE owned land etc. The project site location falls within 24^o 53' 05" N, 75^o 36' 54" E coordinates. There are 2 major nallas and 3 minor nallas at the project site which join RPS reservoir. It was told that these nallas will be diverted. There was pipeline for H₂S gas monitoring and criss cross power lines on the project site. It was reported that these power lines will not be diverted

and the plant will come up at the vacant land. The site is on the right bank of Rana Pratap Sagar (RPS) reservoir in Chittaurgarh district of Rajasthan and this reservoir will be source of water. The project land area is abutting RPS reservoir and there is no boundary on the RPS side and also no demarcation of HFL of RPS reservoir and 500 m distance from the HFL. Presently site shows signs of grazing by stray cattles. It was told that the animals enter the area for grazing as there is no boundary fencing as of now all along the project area.

The proposed NFC Township will be an independent township adjacent to existing NPCIL/DAE Township 'Anutara' and reported about 6 km away from the proposed nuclear fuel project site. About 25 ha vacant barren land owned by DAE/NPCIL is for township allocated by NPCIL to Nuclear Fuel Complex (NFC) project. The proposed township site is in the fringe area of Rawatbhata municipality and is reportedly bounded within. The total cost of proposed township is estimated about Rs. 245.00 Crore including residential accommodation and amenities. The proposal has, therefore, been considered as an integrated proposal involving nuclear fuel facility and township. No R&R is reportedly involved as the land belongs to NPCIL/DAE. There is upscale slope on one side of the township land and water from that will get drained from this Township site, the nala carrying this water will be maintained.

There are two notified Wildlife Sanctuaries viz. Bhainsrorgarh Wildlife Sanctuary and Jawahar Sagar Wildlife sanctuary within 10 km radius of project site. The distance between project boundary and Bhainsrorgarh WLS seems to be around 1 km and this distance is not authenticated by CWLW of the state. It was reported that the application for requisite permission /clearance from the Standing Committee of National Board for Wildlife (NBWL) has been submitted on 11.09.2012 to the appropriate authority. Some schedule-I animals are reported in these sanctuaries. The area also provides breeding grounds for most endangered species of Vultures. The major surface water bodies in study area are Chambal river, Rana Pratap Sagar hydroelectric dam and reservoir as well as Brahmani river and Baisakhi nadi, which are tributaries to Chambal River. The Chambal Crocodile sanctuary is reported beyond 10 km. Total cost of the project will be Rs. 1695.71 Crores, Rs. 240.00 Crores and Rs. 39.00 Crores are earmarked towards capital cost & recurring cost for environmental pollution control measures.

EIA study area for conventional pollutants is taken as 10 km and that for radioactive pollutants as 30 km. Ambient air quality within the study area has been observed within permissible limits except PM₁₀ values which are exceeding the limits as per NAAQs. The total water requirement for the project including township has been estimated as 3270 m³/day which will be sourced from RPS reservoir and an allocation letter from NPCIL is submitted. Stacks for the project 2 each for wet section and 2 each for dry section and one for pickling and one for incinerator are proposed. Stack height would be 30 m for wet section and 50 m for dry section and rest 30 m each.

Domestic solid waste generation is estimated as 4.25 TPD. The active waste required to be retained at project site shall be safely stored as per AERB guidelines. No contamination will reach to the adjoining RAPS. There will be no use of any fossils fuel in the process. An incinerator will also be set up to reduce volume of contaminated solid waste (cotton rags, gloves, uniforms etc). It was reported that dose apportionment of 70 uSv/year is recommended by AERB Task Force for the proposed project.

Green belt will be developed over an area of 50 ha. Rain water harvesting will be carried out in township only. Public hearing meeting was held on 11th July, 2012 and the various issues raised which inter-alia included reasons for setting up project at Rawatbhata,

employment, ground water quality. The issues raised during public hearing were discussed with project proponent at length and found to be satisfactory.

Based on the presentation made and discussion held, the Committee sought following information:

- i. Reasons for preparing two EIA reports, one for the Plant and another for the Township, when township is an integral component of the project.
- ii. Terms of Reference (TORs) for the project prescribed on 14th March, 2011 were for undertaking EIA study for 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 65 TPY Zircaloy Fabrication facilities (ZFF) with township project. The EIA report has been prepared for 500 TPY PHWR Fuel Fabrication Facility (PFFF) and 165 TPY Zircaloy Fabrication facilities (ZFF) without getting prior approval from the MOEF for enhanced capacity. Reasons should be provided for the same.
- iii. Distance in meters/km of Bhainsrorgarh Wildlife Sanctuary and Jawahar Sagar Wildlife Sanctuary from project site as well as from township site with coordinates of these points should be authenticated by State Chief Wildlife Warden (CWLW) and superimposed the same on the map clearly showing project site and township site as well as Wildlife Sanctuaries should be provided.
- iv. Status of permission/clearance from Standing Committee for NBWL in respect of both the sanctuaries.
- v. It may also be got certified from CWLW that National Chambal Crocodile Sanctuary is not within 10 km radius from project as well as township site.
- vi. Wildlife Conservation Plan for schedule-I animals, found in the study area, should be prepared and duly approved by CWLW of the State.
- vii. The site ground elevation of the project site as well as township site should be given alongwith safe grade elevation for project and township.
- viii. Seismicity zoning of the project site as well as township site on map.
- ix. Present project site elevation in relation to HFL of the reservoir in msl. The HFL of the reservoir duly authenticated by State Flood Control Department and/or Irrigation Department alongwith 500 m distance demarcation from HFL should also be provided on topographical map of the site area.
- x. Is there any plan to raise the present level of the project site? If yes, level to be raised in meters and quantity of filling material with source of filling material be provided.
- xi. Cumulative discharge of radioactive waste in the environment during project's life span.
- xii. Additional safety measures proposed to reduce release during event like explosion of different furnaces in PFFF.
- xiii. Frequency of pit falls in existing plant at Hyderabad, A.P.

- xiv. PM₁₀ values in the baseline data is higher, reasons and mitigating measures for the same be provided.
- xv. Details of material balance figures arrived at in the EIA report.
- xvi. Impact of toxic material on existing power station as well as impact of existing power station on the proposed project.
- xvii. Details of Hazardous waste to be sent to landfill area/site.
- xviii. Details of demographic structure in the project area including township area.
- xix. Public hearing issues raised by the public, response of the project proponent (PP) with action plan and time schedule with financial allocation details.
- xx. Distance of Gandhi Sagar from the project boundary on the map.
- xxi. Reasons for not developing any green belt at the project site so far.
- xxii. Copy of water allocation from the State Irrigation Department for the project (NFC project) specifically including township requirement separately be provided.
- xxiii. Water balance details.
- xxiv. Whether EIA report was made in the local language also as mandated in the EIA report, if yes, a copy of the same be submitted.
- xxv. Correct names of the plants which are in the study area of the project in tabular form.
- xxvi. An undertaking from PP regarding owning of EIA report data.
- xxvii. Details of PM₁₀ and PM_{2.5} predicted during construction phase and their mitigation measures.
- xxviii. A note on impact of the NFC plant on other surrounding plants and other plants on NFC plant.
- xxix. Copy of advertisements given in two newspapers for conducting public hearing.
- xxx. Status of site clearance for the project from AERB.
- xxxi. Details of total cost of the project and EMP cost for the proposed project including township. Details of CSR cost should also be provided.
- xxxii. Details of Corporate Environment Responsibility of the NFC.

It was decided that project proponent may be asked to incorporate above listed issues in the final EIA/EMP and submit to the Ministry for the consideration by the Expert Committee.

Item No. 15.03.01: Haryana Atomic Power Project (4x700 MWe) at Village Gorakhpur, District Fatehabad, Haryana by M/s Nuclear Power Corporation of India Ltd. (NPCIL) - Reconsideration of EC.

The proposal was earlier considered by the Expert Appraisal Committee during its meeting held on 18th November, 2012 wherein the Committee had sought additional information/clarifications on various related issues. Based on the additional information/clarifications submitted by the proponent, the proposal was considered further.

The project proponent has submitted desired additional information/clarifications sought by the EAC (N) in the EIA report and updated the same. A presentation was also made by the project proponent on each point asked by the EAC. It was reported that the flood level is 219.3 m and plant level will be 220.3 m. Drainage of the project site will go to the wetland area which will be deepened further to hold the accumulated water quantity. EMP prepared for the construction phase found to be satisfactory. Project proponent informed that they have applied for the site clearance to AERB and is under process. Water permission has been obtained for the project from the State Department. Natural and induced cooling towers will be installed. Ozone values have been rechecked and corrected and updated. Health Survey for the project area inhabitants got done from Guru Jambheshwar University, Hissar. Filling material will be taken from reservoir area where 25 lakh m³ soil will be available and out of which 10 lakh m³ will be for plant leveling and 15 lakh m³ for other area.

After deliberations, the Committee observed that the following information is still deficient in following aspects and asked proponent to submit same at the earliest:

- 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.

It was decided that the proposal will be reconsidered by the Committee after the above mentioned requisite information, is submitted by the project proponent.

Item No. 15.04: Any Other Item:

Item No. 15.04.01: Jaitapur Nuclear Power Park (6X1650 MWe) at Village Madban, Taluka Rajapur, District Ratnagiri, Maharashtra by M/s Nuclear Power Corporation of India Ltd- Extension of time for compliance of condition – reg.

M/s Nuclear Power Corporation of India Ltd (NPCIL) has informed that, in line with specific condition (ii) of E.C. letter for Jaitapur NPP (JNPP) vide letter no. J-14011/1/2009-IA.II(N) dated 26.11.2010, for preparation of Biodiversity Conservation Plan (BCP) for Jaitapur Region, has constituted Monitoring Committee to oversee the effective implementation of BCP for JNPP. In line with recommendations of the Monitoring Committee, NPCIL has awarded work orders to BNHS, Mumbai, Dr. BSKKV College of Forestry, Dapoli, Dr. BSKKV College of Fisheries, Ratnagiri; Central Institute of Fisheries Education (CIFE), Mumbai; Central Marine Fisheries Research Institute (CMFRI), Mumbai.

Project Authority also informed that as on date, BNHS, Mumbai has completed two season monitoring and third season monitoring is in progress. First season monitoring of the Dr. BSKKV College of Forestry, Dapoli is in progress and other two institutes has completed preparatory work for field survey.

In view of the above, NPCIL has requested that time for preparation of Biodiversity Conservation Plan may be extended up to September, 2013.

The MOEF has granted environmental clearance to Jaitapur Nuclear Power Project (JNPP) on 26.11.2010 with certain environmental safeguards which inter-alia includes-

(i) Condition No. 4(ii)- The following additional details shall be submitted within 12 months :-

- A comprehensive biodiversity conservation plan shall be prepared for the Jaitapur within twelve months in consultation with the BNHS and the state forests and wildlife department. This plan will also deal with measures needed to maintain the health of the mangroves in the creek area outside the plant site. The total mangrove area according to the BNHS may be around 150 hectares.
- A monitoring committee comprising of outside experts and institutions (including the BNHS, College of Fisheries, Ratnagiri and the Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli) would be constituted by the NPCIL to oversee the implementation of environmental management measures stipulated as part of environmental clearance. The deliberations of the monitoring committee would be put on the website of the NPCIL on a regular basis.
- A special plan will be made to put in place appropriate safeguard measures to ensure that the fisheries in the sea adjoining Ambolgad are not affected adversely due to the project. BNHS and other agencies should be involved in this exercise. Kasheli is another critical area that needs to be safeguarded. A special plan for mitigating adverse impacts on fishing livelihoods in the region will also be implemented. Musakazi is an important fishing village and jetty which is less than a kilometre away from the project site. Access to fishing communities should be ensured at all times.

- Design of cooling water discharge system will be finalised with demonstrably adequate provision for its extension into the marine area beyond 2.2 kms, if needed to minimise the adverse impact on biodiversity/coral reefs/aquatic fauna in the larger Jaitapur area.
- NPCIL's on-going environmental stewardship programme should be substantially strengthened with a focus on the Western Ghats since three of its power generating complexes—Tarapur, Kaiga and now Jaitapur—are located in this ecologically sensitive region. This programme must build a network of independent scholars and sentinels for nature conservation

In compliance of this condition no. 4 (ii) of EC letter, NPCIL has presented the progress made so far on all the above points. The Committee after considering the progress made in the matter agreed to grant extension of time for preparing and to submit Biodiversity Conservation Plan and a Special Plan to the MOEF upto September, 2013 for taking further necessary as per EC conditions.

Item No. 15.04.02: MP Atomic Power Project (2x700 MWe) at Village Chutka, District Mandla, Madhya Pradesh by M/s Nuclear Power Corporation of India Ltd.- Extension of TOR validity.

The proposal was earlier considered by the Committee during its meetings held on February 14, 2011 wherein the Committee had prescribed TOR for the project with capacity of 2x700 MWe. The TORs were prescribed on 11.3.2011. M/s NPCIL has requested for extension of TOR validity period by 1 year from 11.3.2013 to 11.3.2014.

The validity of the TORs prescribed to this project is valid up to 10.3.2013 as per MOEF OM No. J-11013/46/2006-IA.I dated 22.3.2010.

M/s NPCIL has informed to the Ministry that preparation of EIA report for the project has been done. The proposed project is located in Schedule-V area, wherein PESA Act is mandatory. Despite their consistent timely follow up of the statutory administrative procedures, unavoidable delays have resulted in finalization and submission of EIA report to the State Pollution Control Board. This has been viewed seriously by NPCIL and as per their estimate, draft EIA report is likely to be submitted to the SPCB by March, 2013 end for conducting public hearing for the proposed project.

The committee was informed that in view of the above reasons and justifications, NPCIL has requested for the extension of validity of TORs for NPP at Chutka, M.P. till March, 2014 for submission of EIA report to MOEF after public hearing.

The Committee, after considering the progress made on the EIA study and reasons for seeking more time to submit final EIA reports etc for obtaining environmental clearance, agreed to extend validity of TOR by one more year i.e. up to 10th March, 2014.

Item No. 15.04.03: Gujarat Nuclear Power Park, Village Chhaya Mithi Viridi, District Bhavnagar, Gujarat by M/s Nuclear Power Corporation of India Ltd. - Extension of TOR validity.

The proposal was earlier considered by the Committee during its meetings held on February 14, 2011 wherein the Committee had prescribed TOR for the project with capacity of 6x1000 MWe. The TORs were prescribed on 14.3.2011. The validity of the TORs prescribed to this project was valid upto 13.3.2013 as per MOEF OM No. J-11013/46/2006-IA.I dated 22.3.2010

M/s NPCIL has informed the Ministry that preparation of EIA study and CRZ survey for the project has been done. Initially, the conditions were not favourable at the site to carry out the required studies for completion of EIA report, therefore, it has taken more time to complete the draft report. It was also informed that public hearing for the project has been conducted on 5th March, 2013. As per MOEF O.M. dated 22.3.2010, the TORs validity will be expire on 13.3.2013. Incorporation of public hearing comments and NOC/ recommendation under CRZ Notification-2011 from SCZMA, Gujarat is required to be included in the EIA report before submission to MOEF.

M/s NPCIL, in view of the above reasons and justifications, has requested that the validity time of TORs for NPP at Mithivirdi, Gujarat may be extended till 10th March, 2014 for submission of EIA report to MOEF.

The Committee, after considering the progress made on the EIA study and reasons for seeking more time to submit final EIA reports etc. for obtaining environmental clearance, agreed to extend validity of TOR by one more year i.e. up to 10th March, 2014.

Item No. 15.04.04: Kakrapar Atomic Power Project unit 3 & 4 (KAPP 3&4) (2x700 MWe PHWRs) at Kakrapar near Surat, Gujarat by M/s NPCL- Extension of EC validity.

The EC was accorded to units 3 to 4 of 700 MWe each on 19.12.2006 under EIA Notification, 2006. In October, 2009, NPCIL had requested to revalidate the EC up to June, 2016. The request was examined in the Ministry and it observed that the EC granted in Dec, 2006 is valid till 18.12.2011 and, if extension is required, it may be considered as per procedure prescribed in EIA Notification, 2006. The request be made about six months prior to the expiry of the validity of EC in October, 2010 evidenced by demonstrable progress by June, 2011.

Now, NPCIL has requested that the EC validity may be extended up to June, 2016. The NPCIL has submitted updated Form-I for the same.

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 has submitted before the Committee that civil work in respect of unit 3 and 4 has been completed 80% and 60% respectively. Overall work has been completed around 35% and financial targets have been achieved around 50%. the delay on work have been caused due to obtaining sanction for unit 3 & 4 from the Govt. of India.

The Committee noted that substantive progress has been made on the project (Unit 3 & 4) and agreed for the extension of validity of EC for upto December, 2016.

Item No. 15.04.05: Rawatbhata APP (Unit 7&8) at Rawatbhata, Rajasthan of M/s NPCIL- Extension of EC validity.

The RAPS has 8 units i.e. unit 1 & 2, 3 & 4, 5 & 6 and Unit 7 & 8. The EC was accorded for units 5 to 8 of 500 MWe each on 15.1.1993. Subsequently, on the request of NPCIL, the unit size of units 5 & 6 was reduced from 500 MWe to 220 MWe by the Ministry on 1.3.2002. Further, on the request of NPCIL the unit size of Units 7 & 8 was enhanced from 500 MWe each to 700 MWe each, keeping total capacity of units 5 to 8 less than 2000 MWe, as on 2.4.2007.

Now, NPCIL has requested that the EC validity may be extended up to December, 2016. The NPCIL has submitted updated Form-I and also Govt. approval (Department of Atomic Energy) for unit 7 & 8 for 2x700 MWe with the first unit i.e unit 7 completion by June, 2016.

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".

The EC to the project unit 5 to 8, which include unit 7 & 8, was accorded on 15.1.1993 when there was no EIA Notification in force but the amendments in units capacity of 5 & 6 had been done in March, 2002 when EIA Notification, 1994 was in force and further capacity amendment in April, 2007 when EIA Notification, 2006 was in force.

M/s NPCIL informed the Committee that work in unit 7 is in progress and about 12% work has already been over and unit 8 is likely to start very soon. Substantive progress in construction activities was observed by the committee at the site also.

The Committee, after considering the progress made on the project (unit 7) and reasons for seeking extension of validity of EC for up to December, 2016, agreed for the extension of validity of EC upto December, 2016.

Item No. 15.04.06: Nuclear Power Park (6x1000 MWe), Village Kowada, District Srikakulam, Andhra Pradesh by M/s Nuclear Power Corporation of India Ltd. - Extension of EC validity.

TOR for the project with capacity of 6x1000 MWe were prescribed on 8th July, 2011. The TORs validity is up to 13.7.2013. NPCIL has requested to extend validity of TORs up to 12th July, 2014.

M/s NPCIL has submitted a request to enhance the capacity of the project from 6x1000 MWe to 6x1594 MWe and the same was considered in EAC(N) meeting held on 18.11.2012. The Committee had asked the NPCIL to submit a revised proposal with requisite documents to consider the request for enhancement in capacity of the project. But the NPCIL has not submitted the same so far.

In view of the above, the Committee deferred the consideration of the extension of validity till revised proposal for enhancement of capacity is submitted by the PP and considered by the Committee.

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

Annexure-1**List of Participants**

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|--|---|------------------------|
| 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 R. Bhattacharya, AERB, Mumbai | - | Member |
| 6. Shri U.N. Gaitonde | - | Member |
| 7. Dr. R.S. Dhaliwal | - | Member |
| 8. Dr. P.B. Rastogi, Director, MoEF | - | Member Secretary |
| 9. Shri Om Prakash, Deputy Director, MoEF | | |
| 10. Representatives of M/s Nuclear Fuel Complex, Hyderabad | | |
| 11. Representatives of M/s Nuclear Power Corporation of India Ltd. | | |
