

No. J-12011/63/2006-IA.I

Government of India
Ministry of Environment and Forests
Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003

Dated: 24.10.2008

Chairman & Managing Director
North Eastern Electric Power Corporation Ltd.
NEEPCO Bhawan
R.G.B. Road
Guwahati: 05

Sub: Tipaimukh Multipurpose HEP Project (1500 MW) in Manipur & Mizoram States ?
Environmental Clearance - regarding.

Sir,

This has reference to your letter No. NEEPCO/ND/F-64/2006/2147 dated 24.11.2006 and subsequent letters of 14.9.2007, 23.11.2007, 10.3.2008, 3.4.2008 and 27.8.2008 on the above mentioned subject.

2. The Tipaimukh Project envisages construction of 162.8 h high rockfill dam at about 500 m downstream of the confluence of river Barak with Tuivai. The main objective of the project is to generate 1500 MW hydropower and flood control on 2039 Sq. km. The total land requirement for the project is about 31,950 ha. Out of which 26237 ha. is forest land; private land is 5713 ha.; Total submergence is about 29150 ha (27550 ha in Manipur & 1600 ha in Mizoram). The submergence of forest land in Manipur is 21952.64 ha. & non-forest land is 5597.36 ha. The submergence of forest land in Mizoram is 1489 ha. 557 households consisting of 2027 persons likely to be affected due to this project in Manipur. In addition to that 77 villages will be affected due to land acquisition, No villages will be submerged in Mizoram. Only land of 13 villages will be affected in Mizoram. The total estimated cost is about Rs.6979.44 Crores and the project is to be completed in 87 months.

3. The above referred proposal was considered by the Expert Appraisal Committee for River Valley & Hydroelectric projects in its meeting held on 25.11.2006, 22.2.2007, 15.10.2007, 12.4.2008 and 18.9.2008.

4. The Ministry of Environment and Forests hereby accords environmental clearance as per the provisions of Environmental Impact Assessment Notification 1994 & 2006, subject to strict compliance of the terms and conditions as follows:

Part A: Specific Conditions

- (i) (a). Catchment Area Treatment Plan (Manipur) as has been proposed should be completed in five years. The plan is given below:

Treatment Measures	Year I	Year II	Year III	Year IV	Year V	Total
(A) Biological Measures						
Afforestation (ha)	1850	1850	1850	1850	1850	7900
Horticultural strips Plantations (ha)	250	250	250	250	144	1144
Fodder Trees + Pasture Development (ha)	350	350	350	350	316	1716
Staggered Trenches (ha)	14	14	14	14	13.46	69.46
Vegetative hedge (ha)	7	7	7	7	5.7	33.70
(B) Engineering Measures						
Gully Control Structure						
· Area to be protected (ha)	1830	1830	1830	1830	1830	8150
· Loose Boulder Check Dam (Nos)	4	4	4	4	6	22
· Double Row Post Brush Dam (Nos)	9	9	9	9	9	45
Bench terracing (ha)	15	15	15	15	15	75

(b) Catchment Area Treatment Plan (Mizoram) as has been proposed should be completed in five years. The plan is given below:

Treatment Measures	Year I	Year II	Year III	Year IV	Year V	Total
(A) Biological Measures						
Afforestation (ha)	100	100	100	100	100	500
Horticultural strips Plantations (ha)	15	15	15	15	8	68
Fodder Trees + Pasture Development (ha)	20	20	20	20	21	101
Staggered Trenches (ha)	0.8	0.8	0.8	0.8	0.8	4
Vegetative hedge (ha)	0.4	0.4	0.4	0.4	0.36	1.96
(B) Engineering Measures						
Gully Control Structures						
· Area to be protected (ha)	530	530	530	530	530	2650
· Loose Boulder Check Dam (Nos)	2	2	2	2	2	10
· Double Row Post Brush Dam (Nos)	4	4	4	3	3	18
Bench terracing (ha)	1	1	1	1	1	5

(ii) The NRRP 2007 R&R package, as well as Governments of Manipur & Mizoram R&R Policy should be followed for R&R of project affected persons. Adequate publicity of the compensation package of NRRP-2007 should be circulated in the affected persons.

(iii) Any common property resources like grazing lands, cremation grounds, religious structures/ places etc. or any existing facilities such as irrigation, water supply, road, electricity, communication system, path etc. be adversely affected due to execution of the project, remedial measures should be taken and incorporated in the project specific R&R Plan. The extent of such measures shall be decided in consultation with the stakeholders.

(iv) Activities would be undertaken for socio economic upliftment for the affected population. This may include special efforts for education like providing scholarships, special efforts and educational facilities for girl child, rural sports, medical camps, other medical benefits as applicable to the PAPs like subsidized treatment at project hospitals etc. depending upon the need and requirement. Such activities would be finalized in consultation and participation of the PAPs/.

(v) Educational activities in and around the project area shall be given special focus during the preparation of the PAP. The needs and requirements would be finalized in consultation with stakeholders and may include providing scholarships including those during higher/vocational educational courses like ITI etc organizing training programmes for developing special skills/modern trends in education like computer training, coaching for higher education etc, assistance for nutritional/midday meals etc in addition to infrastructural facilities.

(vi) Efforts would be made for improvement in health facilities to the PAPs. This may include conduction of health surveys, awareness campaigns, assistance to run dispensaries in villages, promotion of alternative and traditional systems of medicines, promotion of national programmes, organizing immunization programmes and other medical camps with focus on marginalised and special groups like SC/ST, women, physically challenged etc.

(vii) In addition to the subsidized treatment being provided to PAPs and their dependants at Project hospitals. Project Authority would also facilitate tying up with the local insurance companies to cover the PAPs through a rural health insurance scheme, for which 50% of the premium of such scheme would be borne by the Project Authority and the balance by the PAPs coming forward to enroll themselves under the scheme.

(viii) Project Authority may also explore adoption of village(s) in the vicinity of the project area to develop them as a Model Village. The facilities could also be developed on the Provision of Urban Amenities in Rural Area (PURA) concept as detailed by the GOI.

(ix) The commitment made during the public hearing should be fulfilled.

(x) Peak flood estimation by frequency method, utilising a short series of 16 years (1966-1981), when the observed peak is 9100 cumec will lead to a significant increase 1 in 100 year flood estimated as 4931 cumec only. Flood frequency study has to be carried out utilising the data from 1966 to 2007 and got vetted by CWC.

(xi) The inundation map consequent to dam break has to be given due importance in the disaster preparedness and management plan. The project is provided with a spillway capacity much lower than the design flood, because of routing effect. But the earth and rockfill dam has to be safe against over topping. The dam break flood has been estimated to submerge all densely populated villages and large towns like Silchar going under 3 to 10m deep water. Real time telemetry stations must be established in all important towns linked with the central control station at the dam to be alerted at least 6 to 12 hours prior to the apprehended dam breach. Further arrangement for evacuation be planned out with a flood zoning area and documents kept with district administration. Necessary provision for these activities must be made in the project estimate.

(xii) A special Monitoring Committee including a local NGO should be constituted by MoEF for monitoring the proper implementation of the environmental conditions.

(xiii) An Environmental Cell should be opened within the organisation of NEEPCO to look after the safeguards of Environment Protection of the project.

(xiv) Biodiversity & Wildlife Conservation Plan should be prepared for each RET species separately for rehabilitating them in similar ecological niches and the area should be protected at least for 5 years.

(xv) A detailed Wildlife Management Plan should be prepared in consultation with the State Forest Department considering the fact a large stretch of reservoir will be formed affecting the movement pattern/ corridors.

(xvi) A Monitoring Committee for R & R should be constituted which must include representatives of project-affected persons from SC/ST category and a woman beneficiary.

(xvii) Consolidation and compilation of the muck should be carried-out in the muck dumping sites and the dumping sites should be above high flood level. The proposed plan for 13.61 M cumec of muck disposal i.e. about 2.88 M cum is proposed to be utilized for the construction material and other filling purposes (Rockfill/Coffer Dams, Diversion tunnels, Power House, HRT, Surge Shats, Tailrace, Switch Yard etc.) The remaining 10.73 M cum of muck will be dumped in the 3 designated dumping areas at Sipikawn Saddle Borrow Area, Ronglui Nala-II & Ronglui Nala-III should be strictly implemented.

(xviii) Compensatory afforestation should be done in double the degraded forest area i.e. 51644 ha. in Manipur (51644.28 ha) + Mizoram (3298.20 ha) at Souther Forest Division & Jiribam Forest Division, Churachandpur and Western Forest Division, Tamenglong should be strictly implemented. For compensatory afforestation plan appropriate multipurpose tree species suitably for the area should be selected in consultation with the Forest Department. Gap planting in the degraded area should be done after ascertaining the crown density (not arbitrary). The allocated amount of Rs.13915 lakhs should be utilized for the purpose.

(xix) The proposed green belt within project area along the approach roads, residential areas, Office complex, trench weir and power house site should be implemented and allocated amount of Rs. 842.4 adhered strictly for the purpose.

(xx) The proposed Tipaimukh reservoir fishery in about 22300 ha @ 500 fingerlings per hectare should be adopted and implemented. A nursery proposed to raise the spawns and development of fish farm near project R&R colonies should strictly taken-up in consultation with CIFRI, Barrackpore & State Government so as to improve the fish production from the reservoir and for conserving the project affected fish, including Mahaseer, in the main river as well as upstream & downstream. The proposed amount of Rs. 541 lakhs adhered strictly for the purpose.

(xxi) The proposed 2 Botanical Gardens at Lungthulien village in Manipur and Vanbawng in Mizoram should be taken-up in consultation with State Forest Departments for preserving and protecting unique plants, including RET tree species, herbs, shrubs should be raised and planted in scientific manner following a taxonomic clarification with documentation/ booklet brought out for scientific research and education. endangered and important species.

(xxii) All the equipment which are likely to generate high noise levels are to be fully mollified (noise reduction measures).

(xxiii) Due to construction of the dam, downstream impacts of the project in the State of Assam should be studied.

(xxiv) Reservoirs in tropical countries are a major source of green house emissions. Since the Tipaimukh project involves a large submergence, a comprehensive study of the possible green house emissions from the project should be carried out.

Part-B: General Conditions

(i) Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling trees is prevented.

(ii) Fuel depot may be opened at the site to provide the fuel (Kerosene/wood/LPG). Medical facilities as well as recreational facilities should also be provided to the labourers.

(iii) All the labourers to be engaged for construction work should be thoroughly examined by health personnel and adequately treated before issuing them work permit.

(iv) Restoration of construction area including dumping site of excavated materials should be insured by leveling, filling up of burrow pits, landscaping etc. The area should be properly treated with suitable plantation.

(v) Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.

(vi) A multidisciplinary committee in consultation with the ministry should be constituted with Ecologist, Environmental Scientist, Conservationists and experienced administrators etc. to oversee the effective implementation of the suggested safeguard measures.

(vii) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Chandigarh for review.

5. Officials from regional Office MOEF, Shillong who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection.

6. The responsibility of implementation of environmental safeguards rests fully with the M/S. NEEPCO & Governments of Manipur & Mizoram.

7. In case of change in the scope of the project, project would require a fresh appraisal.

8. The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.

9. The total amount of Rs. 253.68 Crores kept in the budgetary provisions for implementation of environmental management plan should be strictly adhered and not to be diverted for any other purpose.

10. The clearance letter is valid for period of 10 years from the date of issue of this letter for commencement of construction work.

11. A copy of the clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been received while processing the proposal.

12. State Pollution Control Board / Committees should display a copy of the clearance letter at the Regional office, district industries Center and Collector's office/ Tehsildar's office for 30 days.

13. The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of letters are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <http://www.envfor.nic.in>

(Dr. S. Bhowmik)
Additional Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhavan, New Delhi-1
2. The Adviser (Energy) Planning Commission, Yojna Bhawan, New Delhi - 110001.
3. The Principal Secretary (Forests & Environment), Government of Manipur, Imphal ? 795 001
4. The Principal Secretary (Power), Government of Manipur, Imphal ? 795 001
5. The Secretary (Power & Electricity), Government of Mizoram, Aizwal -796 001
6. The Secretary (Environment & Forests), Government of Mizoram, Aizwal -796 001
7. The Member Secretary, Manipur Pollution Control Board, Lamphelpat, Near Imphal West D.C., Office Complex, Imphal ? 795 004
8. The Member Secretary, Mizoram Pollution Control Board, MG Road, Khatla, Aizwal - 796 001, Mizoram.
9. The Chief Engineer, Project Appraisal Directorate, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
10. The Regional Office, Ministry of Environment & Forests, Shillong, Meghalaya
11. EI- Division, Ministry of Environment & Forests, New Delhi-110003.
12. Guard file.

(Dr. S. Bhowmik)
Additional Director