BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

WESTERN ZONE BENCH AT PUNE

ORIGINAL APPLICATION NO.109 OF 2023

IN THE MATTER OF:

PRALHAD TUKARAM GAWANDE AND OTHERS.....Applicant

Versus

STATE OF MAHARASHTRA AND OTHERS .....Respondents

ADDITIONAL AFFIDAVIT IN REPLY ON BEHALF OF RESPONDENT NO.3

I, Suraj Kisanrao Rathod, S/o Kisanrao Nimbaji Rathod. age 51 years, occ. Service as Executive Engineer, lower Penganga Project Division, Yavatmal, do hereby beg to state on solemn affirmation as under:

1. I say and submit that, on behalf of the Respondent no.3, I am filling this Affidavit in Reply to this Original Application filed by the Applicant. I say that, I have gone through the contents of Application filed by the Applicant and the records available in the office. I am well conversant with the facts of this case and able to depose the same on oath.

2. I state and submit that, Lower Penganga Project is located at village Tadsaoli, Taluka Ghatanji, District Yavatmal and it is a major irrigation project of state Maharashtra. also it is inter-state project between state of Maharashtra and Telangana. This project is beneficial for the development of Naxalite and Tribal area

3. I state and submit that, vide "the Minutes of 52nd meeting of the Expert Committee for River Valley and Hydroelectric projects held on 21 & 22 nd February, 2007 by Ministry of Environment and Forests, Government of India (IA-1 Division) in Paryavaran Bhavan, New Delhi" In this Minutes of Meeting Page.6, point no. 8 Committee admits that the committee has considered the proposal for granting E.C. as per EIA Notification 27.09.1994 for Lower Penganga Project Hereto annexed and marked as " Exhibit-VI" is the copy of said 52nd Minutes of Meeting dated 21 and 22 February 2007.

4. I state and submit that, admittedly vide "the Minutes of 53rd meeting of the Expert Committee for River Valley and Hydroelectric projects held on 21 & 22 nd March, 2007 by Ministry of Environment and Forests, Government of India (IA-1 Division) in Paryavaran Bhavan, New Delhi", the Ministry of Environment and Forest clarified that, in continuation of earlier meeting dated 21and 22 February, 2007 the Committee has considered the Proposal for granting Environment Clearance Certificate for Maharashtra Portion as per the 27.09.1994 EIA Notification. Hereto to annexed and marked as and as "Exhibit-VII" is the copy the Minutes of 53 Meeting dated 21 and 22 March,2007.

5. I state and submit that, the contents of Environmental Clearance Certificate dated 17.05.2007 that, "E.C. is granted as per EIA Notification, 2006" does not find place anywhere in Minutes of Meeting, of 52nd & 53rd meeting of Expert Appraisal Committee, which was specially held for issuing Environment Clearance Certificate to "Lower Penganga Project". Admittedly the Committee recommended Clearance for the Maharashtra Portion only, as public hearing for Andhra pradesh Portion has not been done. Therefore, it's merely a typographical error in the Environment Clearance Certificate dated 17.05.2007 issued for Maharashtra Portion of Lower Penganga Irrigation Project and hence the Corrigendum dated 27.09.2013 is not applicable to this Project.

6. I most respectfully pray that, it is causing huge loss to public exchequer and delays in benefits of drinking water and irrigation to deprived Arid Regions. In the light of above submissions and the relevant documents submitted before this Hon'ble court be pleased to dismiss the present Application with heavy cost.

Deponent

(S.K.Rathod)
Executive Engineer
Lower Penganga Project Division
Yavatmal

Place: Yavatmal

Date: 03.02.2025

1466

VERIFICATION

I, Suraj Kisanrao Rathod, S/o Kisanrao Nimbaji Rathod. age 51 years, occ. Service as Executive Engineer, lower Penganga Project Division, Yavatmal, do hereby state on solemn affirmation that whatever stated herein above is based upon the information derived from the official records, which I believe to be true and correct. The present reply is drafted as per my instructions.

Deponent

(S.K.Rathod)
Executive Engineer
Lower Penganga Project Division
Yavatmal

Advocate
Solemnly affirmed at Yavatmal
This day of 03/02/2025)

Shakuntala Wadekar
Advocate

NOTARY
Advocate
Suraj N. Jaisingpure
Area Yavatmal Dist.
Reg.No. 15578
Exp.Dt.21/11/2029
GOVT. OF INDIA

N.R.S.No. 783/2025 Dt. 5/2/2025
Solemnly affirmed before me.
Shri. Suraj N. Jaisingpure
Advocate & Notary
At.Po.Dist. Yavatmal (M.S.) India
Dated 5/2/2025
Pages 4

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL
CANCELLED CANCELLED

Exhibit - VI

Government of India
Ministry of Environment and Forests
(IA-I Division)

Sub: Summary Record of discussion of the 52nd meeting of the Expert Committee for River Valley and Hydroelectric projects held on 21st & 22 nd February , 2007 in Paryavaran Bhavan, New Delhi.

The list of participants is appended.

Item No. 1

Confirmation of the minutes of the last EC meeting.

The minutes of the 51st meeting of Expert Committee for River Valley and Hydroelectric projects were confirmed as no comments were received from the members.

1. Sawara Kudda HE Project in Himachal Pradesh:

A brief presentation was given by Shri A.K. Awasthi, Managing Director of the Corporation. The committee noted that the proposal envisages construction of a 9 m high diversion barrage from river bed level across river Pabbar for generating 111 MW hydropower. The power house will be underground. A total of 97.62 ha land will be required. Out of that 53.21 ha is forest land and forest clearance has been obtained.

The committee also noted that the project authority has already prepared EIA & public hearing also conducted. The EIA was also found adequate. Except certain clarification, no further TOR is required. Therefore they decided to consider the project for environmental clearance as per clarification given by the Ministry vide circular dated 13.10.2006. After careful examination the committee desired the following information:

vii) No land use / land cover pattern of study area using overly mapping techniques viz. Geographic information systems presented in the report. False colour Composite (FCC) generated from satellite data to be submitted.

viii) Revised CAT Plan to be submitted, which must show the completion of implementation of CAT Plan before.

ix) A study of site specific earthquake design parameters is being conducted. The result of the study needs to be forwarded and approved by the NCSDP, CWC, New Delhi.

x) Details of tunnel driving such as for conventional controlled blasting the charge density, the amount of delay, schematic plan etc. needs to be provided.

xi) Soil analysis is incomplete. It needs to be redone.

xii) Land holding of the persons, whose land is being acquired should be given along with quantity of land acquired. If the percentage of land acquired is more than 70% then the land looser shall be treated as fully affected person.

3. Kotli Bhel HE Project in Uttarakhand:

It was brought to the notice of the project authority that a NGO named MATU has send representation to all the committee members as well as to the Ministry intimating that public hearing has not been conducted properly. The EIA report has not been prepared in Hindi language and not kept in designated places. To this the project authority informed that State Pollution Control Board has organized the public hearing, they have only provided the requisite number of copies of EIA/EMP and executive summary (in Hindi & English) to SPCB. There is no direction in the P H Notification that EIA to be prepared in Hindi.

The proposal was considered as per 1994 EIA Notification for according Environment Clearance as site clearance Stage-I and Stage-II were accorded on 20.10.03 & on 09.05.05 respectively. The consultant gave a presentation, highlighting the main findings of the EIA study and a brief of various EMPs. Further, several queries were raised by the committee members with reference to categorization of partially and fully affected families, drinking water supply, downstream discharges up to TRT discharge point, FRL & MDDL, etc. which were suitably replied by the consultant and the NHPC officials. Executive Director, NHPC informed the committee that the project has been accorded Techno-economic Clearance by CEA vide letter dt. 03.10.2006 and has been further recommended by PIB in its meeting held on 07.02.2007 After detailed discussion the committee desired to have the following information:

I) Listing of cryptogams including micro-flora present in the area.

ii) Clarifications as to, whether issue of any threat to the bathing ghat at Devprayag, had been considered or not.
iii) A flow diagram pertaining to treatment plan for drinking water.
iv) Soil quality analysis for parameters like N, P & K to be provided.
v) Accepted SYI values under CAT Plan to be mentioned and the Table 1.6 of EMP to be corrected accordingly.
vi) Status of the approval of National Committee on Seismic Design Parameters.
vii) Reasons for not including the biodiversity Conversation Plan under EMP.

3. **Kelo major irrigation project in Chattishgarh.**

Shri R.C. Dvivedi, Executive Engineer attended the meeting and delivered a brief presentation. The committee noted that this is a major irrigation project to irrigate 22800 ha. area (CCA is 24396 ha.). The project envisages construction of 24.22 m high masonary and earthen composite dam. The proposed irrigation system has 26.62 km main canal and 16.10 km branch canal. The project will need 230.13 ha of forest land. 91 families consisting of 619 persons likely to be affected.

After detailed discussion the committee proposed following change/addition of Terms of Reference (TOR):

1. Add sedimentation rate after sedimentation on page 75.
2.Baseline data (soil, air, ground and surface water, noise, flora and fauna) shall be collected for Study Duration, that is the duration of field observation and comprises of one year i.e. three seasons (pre monsoon, monsoon and post monsoon). The EIA report shall contain complete data of these three seasons.
3.Groundwater table in the command area needs to be reported.
4. SOx shall replaced by SO2 on page 76.
5.Add Compensatory Afforestation in Environmental management plan (EMP).
6.Add Reservoir Rim Treatment Plan in the EMP.
7. Physical and financial schedule of Catchment Area Treatment (CAT) Plan shall be provided. The works of CAT shall complete prior completion.

4. **Koyna (left bank) dam foot power house(2x40 MW) in Maharashtra.**

The proposal was considered for environment clearance as EIA report has already been prepared and public hearing completed. Er. V.V. Gaikwad, Secretary, WRD.GOM attended te meeting along with other officials and consultant. A brief presentation on the proposal was given by the consultant. The committee noted that the project envisages construction of a power house in the left bank at about 150m down stream of Koyna dam in Gadhavkop village in Satara district.

Under water lake tap is proposed to utilize water from the existing Shivaji Sagar lake (Koyna reservoir) for power generation.

The committee also noted that Rapid EIA was placed before the public during P.H. However, based on the suggestion during PH comprehensive EIA prepared and submitted for EC.

After detailed discussion the committee desired to have the following information –

vii) On page 108 of EIA the statement recorded regarding earthquake has mixed up the intensity and magnitude of earthquake. This para needs to be changed.

viii) A study of site specific earthquake design parameters is necessary for safety and safe guard. The report of the site specific earthquake design parameters study shall be forwarded for approval to the NCSDP. The approved design earthquake parameters of NCSDP need to be used for final design.

ix) For ambient air quality(p-157) report for Co also.

x) Soil analysis is incomplete in the absence of organic carbon. Report N,PK in terms of available nutrient in Kg/ha.

xi) For post project monitoring of water quality include nitrate, floride, heavy metals like eu, Mn, Zn, cd, Pb etc. Also report what parameters of soil will be monitored.

xii) Details of tunnel driving.

7. **Thangchi-Lachung HEP in Sikkim**
8. **Bhimkyong HEP in Sikkim**
7. **Bop HEP in Sikkim**

The Committee noted that all the three projects are belong to are company and in vicinity of each other. Member Secretary brought it to the notice of the committee that the study on "Carrying capacity of Teesta basin in Sikkim" has identified above chungthan area as eco sensitive. The Ministry had issued site clearance to all these projects for investigation & survey. However, they have again submitted the proposal as per new EIA Notification 2006 as they felt, the EIA report can not be completed by 30th June 2007, cut of date announced by MOEF for consideration of EC under 1994 EIA notification.

The committee noted that all the three projects are ROR scheme and out of these three projects, Thangehl-lachung and Bhimkyong HEPs will be constructing small barrages and BOP HEP will be drawn water from collection gallery of Bhimkyong HEP.

After detailed discussion the following TORs were suggested in addition to the proposed TORs.

1)Physical-Chemical Environment shall also include

i. Physical geography, Topography, Stratigraphy, Regional Geology of the study area. Landslide zone or areas prone to landslide existing in the study area especially along the periphery of the reservoir need to be examined.
ii. Seismicity, tectonics, history of past earthquakes and design seismic parameters.
iii. Presence of important economic mineral deposit if any.
iv. Meteorology of the study area (*viz.* precipitation, temperature, relative humidity, wind speed/direction *etc.*)
v. Basin Characteristic
vi. Water availability, design flood for the project, sedimentation rate *etc.*
vii. Flow of water in the Lachung Chu between barrage (HRT for Bop HEP) and the confluence of TRC with the river. Disposal of sewage if any in this stretch of river needs to be reported. The study of comprehensive downstream impact shall address overall ecological impact in this stretch of river

2)Biological Environment shall also include

i. Characterisation of forest types in the study area.
ii. General vegetation pattern and floral diversity *viz.* trees, shrubs, grasses, herbs, significant microflora *etc.*
iii. Species frequency, density, abundance need to be detailed. Biodiversity index (Shannon–Weaver index) and Importance Value Index (IVI) of the species must be calculated. Methodology used for calculating the various diversity indices along with details of locations of quadrates, size of quadrates etc. must be reported.
iv. Economical important species viz. medicinal, timber, fuel wood *etc.*
v. Flora under RET need to be categorised using IUCN and Botanical Survey of India's Red Data list along with economic significance.
vi. Birds (resident, migratory), Land animals including reptiles, insects and fish species reported and surveyed in the study area need to be enlisted. Significant microflora must be enumerated.
vii. RET fauna species are to be classified in two ways *viz.* as per IUCN Red Data list and as per different schedule of Indian Wilde Life Protection Act, 1972.
viii. Report existence of barriers and corridors (if any) for wild animals. Habitat fragmentation and destruction of wild animal due to project.
ix. Effect on fish migration and habitat degradation due to project.
x. Existence of National Park, Sanctuary, Biosphere, Reserve Forest *etc.* in the study area if any, needs to be detailed.

xi Physical and budgetary year wise schedule of CAT plan need to be provided. The work of CAT plan shall be completed during construction period.

Xii Base line data on catch composition, fish density, fish standing crop are to be generated as a part of the EIA to ascertain the present status of fisheries and likely impact on fisheries.

xiii. Presence of migratory fish if any, study should include impact of the proposed dam construction on fish migration needs to be indicted and proper budget provisions is to be made for justified fisheries development and management in the reservoir.

8. Lower Penganga project in Maharashtra

The committee noted that this project was accorded environmental clearance during 1984. However, no construction work has been started till date. The project authority has prepared EIA report and public hearing completed. The proposal was considered for EC under EIA Notification 1994.

It was noted that the project envisages construction of 35.63 m high earthen dam with central gated masonary spillway at about 2 km upstream of Tadsali village in Yatmal district across Penganga river. The project will irrigate 1,40,818 ha in Maharashtra and 19,232 ha in Adilabad district of Andhra Pradesh. In addition to irrigation 4 MW power also likely to be generated. Total land requirement for the project is 18,826 ha which include 17184 ha private land, 998 ha. of forest land and 644 ha Government land. The project will affect 46 villages, out of which 32 villages will be fully affected and 14 villages partially affected. The number of project affected families is 8136.

After critically examining all the environment related issues the committee desired to have the following information –

i) 19,232 ha area in Andhra Pradesh will be getting water for irrigation. Private land likely to be acquird for laying canals. No information has been given about land loosers in A.P. and compensation. A letter from A.P. govt. in this regrd shall be submitted.

ii) Command Area Development Plan for both the states.

iii) In the proposed cropping pattern(page-7-Form 1) sugarcane and 'others' have been introduced without defining the 'others' and without specifying areas under them. Is there any mechanism to stop the farmers from cultivating sugarcane and rice after irrigation water is available and protect

iv) the vulnerable silty clay loan soil from turning useless in no time due to irrigation induced water logging and salinity?

v) The original river flow will not be maintained after construction of the dam and diversion of reservoir water for irrigation. What percentage of the undisturbed river flow will be maintained in the d/s of the dam in different months?

vi) Information under competing water users does not identify the d/s water users, their water requirements and water availability after impoundment and diversion of water for irrigation.

vii) 4 MW power to be generated. No technical information in this regard has been given.

viii) Pre& post monsoon ground water table at well distributed locations in the proposed command area for about preceding 10 years.

ix) The EIA provides a list of most commonly seen trees in the surroundings of project area. Biodiversity index viz shanon-weaver index, Importance value index(ivi) etc. of the species have not been reported.

x) It appears from public hearing proceeding that public hearing was abandoned. It may please be clarified whether P.H was completed or not and reason for low attendance.(only 47)

xi) Distance from canal to wildlife sanctuary may be intimated.

xii) Dam break analysis & disaster management plan.

xiii) Different figures have been given in the schedule-II form, in respect of land under submergence(15951 ha-page-2, 121694. 33 ha on p-33& 15951.10 on p-9) . Correct figure may be intimated.

xiv) 998 ha forest land will be affected by the project. Compensatory afforestation plan has not been included in the EMP.

xv) Tables of financial details of CAT plan is not complete. SYI values not given for prioritization of sub watershed.

xvi) Health Management plan not formulated.

9. **Gundia HEP (400 MW) in Karnataka.**

A brief presentation was given by the proponent on the proposal. The committee noted that the proposed scheme envisaged in two phases. The present proposal is for phase-I which involves construction of three weirs and two dams. The height of these weirs are 15 m, 8m and 32m to be built on stream yettinahole, kerihole and Hongadaballa. The height of the two dams are 62 m and 90m which are proposed to be constructed on Bettakumbri and Hongadahalla streams. The water will be transferred to main reservoir through inter connecting tunnel. Except weirs and reservoirs all other components such as water conductor systems and powerhouse are proposed to be located in underground locations.

After detailed discussion committee noted that under Form 1, instead of proposing TOR they have attached copy of rapid EIA which does not highlight the perceived environmental impacts due to the project and the corresponding management plans to mitigate the adverse impacts.

The committee proposed following TORs –

ix) Three seasons(pre monsoon, monsoon & post monsoon) data for all environmental baseline parameter should be considered.

x) Details of tunnel driving i.e. possibility of use of TBM, for conventional controlled blasting, the charge density, the amount of delay, schematic plan etc. need to be provided.

xi) Catchment area treatment plan based on silt yield index method(AISLUS) along with yearwise physical & financial target to be provided.

xii) Firest hand data collection on sediment outflow in all the tributaries that are planned to be tapped to be reported.

xiii) Rainfall-Runoff data to be reexamined(Prof. Bhattacharya's comment enclosed).

xiv) Bio-diversity index viz. shamon-weaver index, IVI etc. of species to be provided.

xv) Dam break analysis and disaster management plan.

xvi) The R&R package to be provided to the PAPs should not be less than the package mentioned under NPRR-2003.

The committee also recommended clearance for pre construction activities.

10. **Saheed Lakhan Nayak small HEP(25 MW) in Orissa.**

This proposal was considered by EAC at its last meeting held on 17th January, 2007. The clarification sought by the Committee was found satisfactory and recommended environmental clearance.

11. **Ken-Betwa River linking project.**

This proposal was not in agenda. However, on request from project authority chairman agreed to discus, as the project was earlier considered by the committee on 20.12.2006. Clearance for pre construction activity could not be recommended as the project involved areas of wildlife sanctuary. The project authority stated that they want to prepare DPR and for that TOR is to be finalized for environment chapter. The clarification sought by the committee at its earlier meeting was discussed at length and the committee was satisfied with the clarification. The project authority was requested to explore the TBM for tunneling.

12. **Rangit-IV HEP in Sikkim**

This proposal was considered by the EAC at its meeting held on 17th January 2007. The clarifications sought by the committee was submitted by the project authority and same was considered by the committee. The clarification was found satisfactory and project was recommended for environmental clearance with the condition that new list for green belt plantation to be furnished to the Ministry as some species prescribed for green belt re fit for planting only at higher altitude(e.g.-Betulia utilis), not in project area.

13. **Athirapally HEP(163 MW) in Kerala.**

Representation against this project forwarded by PMO was discussed at length and examined all the points raised in the representation. In view of the fresh facts(information) received, it was decided to supersede the earlier decision on recommendation of environment clearance to the project and take up a site visit of subgroup of the committee consisting of following member –

a. Prof.P.G. Sastry - Chairman

b. Prof. SPS Kushwaha
c. Prof. S. Chanda
d. Representative of CWC
e. Dr. S. Bhowmik - Member Secretary.

The committee noted that as per MOEF guidelines only three members are allowed for visit. However, as this project has created lot of concern among local people and environmentalists committee requested to allow the above mentioned members or special case.

14. **Malari Jhelam(55 MW) in Uttarakhand.**
15. **Jhelam-Tanak HEP(60 MW) in Uttarakhand.**

Except for project specific information most of the information for both the projects are similar. Brief presentation was delivered by the representative of PA. The committee noted that a concrete gravity dam of 24.5 height above river bed level is envisaged across river Dhauliganga ner malaria village in chamoli district. The site cloxated within buffer zone of Nandadevi bio sphere reserve. The project will require 9 years to complete, that include 2 years for preparation of detailed project report, 2 years or pre construction activity and 5 years for construction period.

A concrete gravity dam of some height has been proposed for Jhelam HEP also. The site is located near village Jelam . A similar true frame of malaria Jhelam HEP is proposed for project completion.

The committee noted that the proposed TOR does not specify and action vis-avis the project area being highly sensitive to earthquake and landslide. A study of site specific earthquake design parameters is necessary for these projects. The water availability of the project in the PFR is based on regional nodel and does not take into account snowfed and rainfed catchment. Moreover no rainfall-run off data was used.

After critically examining all the environment related issues the committee recommended clearance for pre construction activity with following additional TORs for both the projects.

8. Three seasons(pre monsoon, monsoon & post monsoon) data for environmental baseline parameter to be provided.

9. Snowfed and rainfed catchment to be demarcated. Rainfall-runoff data to be given.

10. Sedimentation rate to be estimated.

11. Lean season downstream release of water to be specified. The study of comprehensive downstream impact shall also include area up to 10 km downstream of the confluence of TRC with river and shall address overall ecological impact.

12. Use of TBM need to be explored. For conventional controlled blasting the charge density, amount of delay and schematic plan etc. need to be provided.

13. List of microflora(Cryptogram) to be provided.

14. False colour composite map to be provided.

16. **Tipaimukh HEP(1500 MW) in Manipur.**

This project was considered by the EAC at a special meeting held on 25th November, 2006. The clarification sought by the Committee was furnished by the PA. The same was considered by the committee. The committee also noted that comment on the representations received from a NGO and Shri Mani Charanamei, M P was sought from the State Government and NEEPCO. Though NEEPCO submitted their comment but State Government has not given any specific comment. They have simply forwarded the comments of Manipur Pollution Control Board.

It was noted that third season's data i.e. monsoon data has not been furnished, which is the longest season in North-East. The consultant could not clarify whether degraded catchment area is identified on the basis of AISLUS method or not. The project authority has not given bio-diversity indices and stated that 'measurement of species diversity with relevant indices like Shanon-weaver, simpson etc. is not possible at this stage.....the prevailing law and order situation do not warrant undertaking such a study due to time duration involved in such type of field work'.

This clarification was not accepted by the committee.

After detailed discussion and critically examining reply given by the PA, the committee desired information on the following issues –

i) Three seasons data on baseline environmental parameters should be given.

Only two seasons data have been given. Monsoon seasons data to be provided.

ii) Degraded catchment area should be identified on the basis of AISLUS method. Yearwise physical and financial break up of CAT plan to be furnished.

iii) It is reiterated that Bio-diversity plan should include all the relevant indices like Shanon –Wienner index.

The committee also noted that a PIL has been filed in Guwahati High Court on this project, but the Hon'ble High Court has not given any direction regarding consideration of the project by the Ministry.

The EAC decided to depute a sub group to visit the proposed site after receipt of above information.

17. <u>Rupsiabagar- Khasiabara HEP (260 MW) in Uttarakhand</u>.

Shri R. Baderia DGM, NTPC gave a brief presentation on the proposal. The committee noted that a dam of 60m height is proposed to be constructed across river Goriganga near Paton village, Pithoragarh district, Uttarakhand. The project costing is based on 2003 figure, only direct draining area has been considered for CAT. DG set may be used for construction power.

After detailed discussion the committee recommended clearance for pre construction activity with following additional TOR;

xii) Indirect draining area also to be considered for CAT plan.

xiii) Cost of the project should be brought up to the current(2007) price level.

xiv) Impact of DG set on surrounding environmental

xv) Complete listing of micro flora & micro fauna.

xvi) The flow in about 10.5 km between downstream of the dam and the confluence of tail race tunnel with river Goriganga needs to be specified.

xvii) The study of comprehensive downstream impact shall also include area upto 10 km downstream of the confluence of TRT river and shall address overall ecological impact.

xviii) For conventional proposed blasting, the details of charge density, the amount of delay, maximum diameter and depth of holes and schematic plan etc. need to be provided.

xix) Areas prone to land slide in the study area required be identified and the treatment if any for stabilization of slides need to be reported.

xx) Dam break analysis & DMP.

xxi) Base line data on catch composition, fish density, fish standing crop, fish population dynamics in and around project area.

xxii) Presence of migratory/ endangered fish if any, migration measures should include monitoring the impact of the proposed dam construction on the above parameters. The EMP should indicated proper budget provisions for justified fisheries development, management and conservation in the reservoir.

18. **Rangit –II Hydroelectric Project (60 MW) In Sikkim**

The project proponent gave a brief presentation on the proposal. The committee noted that the proposed project will utilize the water of Rimbi Khola River which is tributary to Rathong River with proposed installed capacity of 60 MW. The project involves the construction of 38 m high dam above deepest river bed, 5.18 km long HRT and power house of 2x 30 MW. The site of the dam is located at Village – Yang Thang in West Sikkim District. The construction period envisaged is 5 years and the cost of the project is Rs. 338.26 Crores. After careful scrutiny and examination taking all the environmental related issues into consideration, it was noted that the "Rimbi Khola is a perennial, rain fed and glacial fed river". The committee felt that the snowfed and rainfed regions in the catchment area need to be demarcated in the EIA report by the proponent.

The PFR reveals that the curve which gave the maximum value of regression coefficient has been chosen for calculating the derived discharge series of Rimbi which is unclear as to what is to be conveyed by giving this statement by the proponent. A more rational method of water availability, design floods and rate of sedimentation need to be presented in EIA report. The downstream discharge in about 3 km stretch between downstream of dam and confluence of Rimbi Khola with Rathong Chu needs to be specified.

The term of reference for preparation of EIA were considered by the committee. In addition to proposed, the Committee proposed the following TOR items

while preparing EIA report on the project:

a) Structure height [dam/barrage height]
b) Construction methodology/period
c) Design discharge & its RI [Recurrence interval]
s) Submergence area
t) Water body inundating forest area
u) Compensatory afforestation
v) Design earthquake parameter
w) Comprehensive EIA report should include three seasons data viz. pre-monsoon, monsoon & winter
x) Indicate distance from biosphere reserve on a map
y) For project affected families who are likely to loose land only, the following information are to be given
   - land available before acquisition
   - land taken from them and land remaining with the family
   - In case 70% of land of any family is taken, then that family should be counted as a fully affected family
k) Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil
n) Details on tunneling aspect, such as machines to be employed, for controlled blasting charge density etc.
aa) Comprehensive downstream impact. This shall include not only the area bypassed stretch of the river but also downstream of the power house. The issue is not only about quantities of minimum flows to be maintained in the bypassed reach but also about the overall ecological impacts within 10 km radius
bb) Dam break analysis & disaster management
cc) Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target
dd) Options assessment study to show what are the options available for fulfilling the needs of the people that the project hopes to deliver. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum
ee) Impact of DG sets on surrounding environment
ff) Snow-fed and rain-fed regions in the catchment area need to be demarcated

19. **Gohana Tal Hydroelectric Project (60 MW) in Uttarakhand**

The project proponent gave a brief presentation on the proposal. The

ii) Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target

jj) Options assessment study to show what are the options available for fulfilling the needs of the people that the project hopes to deliver. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum

kk) Impact of DG sets on surrounding environment

ll) Snow-fed and rain-fed regions in the catchment area need to be demarcated.

mm) Base line data on catch composition, Fish density, fish standing crop.

nn) Presence of migratory fish if any, mitigation measures should include monitoring the impact of the proposed dam construction on the above parameters.

20. <u>Tolong Hydroelectric Project (2 x 80 MW) in Arunachal Pradesh</u>

The project proponent gave a brief presentation on the proposal. The committee noted that the proposed project will utilize the water of Kameng River for generation of 2x 80 MW electricity. The project involves construction of 102 m high dam above deepest river bed. The site of the dam is located at Village – Pachi in Arunachal Pradesh. The construction period envisaged is 4 years and the cost of the project is Rs. 903.92 Crores. After careful scrutiny and examination taking all the environmental related issues into consideration, it was noted that the project is located in the zone V of the seismic zoning map of India and the site is situated in very sever seismic intensity area. The site specific earthquake design parameters needs to be approved by National Committee of Seismic Design Parameters (NCSDP), CWC, New Delhi. The catchment area of the proposed dam site is 28030 ha that includes 12500 ha of snowfed area. The committee felt that the snowfed and rainfed regions in the catchment area need to be demarcated in the EIA report using overlay mapping techniques (viz. GIS) by the proponent.

The proposed term of reference for preparation of EIA were considered by the committee. The Committee recommended clearance for the pre-construction activity with the following additional TOR items for preparing EIA report.

a) Structure height [dam/barrage height]
b) Construction methodology/period
c) Design discharge & its RI [Recurrence interval]
d) Submergence area
e) Water body inundating forest area

f)Compensatory afforestation
g)Design earthquake parameter
h)Comprehensive EIA report should include three seasons data viz. pre-monsoon, monsoon & winter
i)Indicate distance from biosphere reserve on a map

j)For project affected families who are likely to loose land only, the following information are to be given

- land available before acquisition
- land taken from them and land remaining with the family
- In case 70% of land of any family is taken, then that family should be counted as a fully affected family

k) Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil

l) Details on tunneling aspect, such as machines to be employed, for controlled blasting charge density etc.

m) Comprehensive downstream impact. This shall include not only the area bypassed stretch of the river but also downstream of the power house. The issue is not only about quantities of minimum flows to be maintained in the bypassed reach but also about the overall ecological impacts within 10 km radius

n) Dam break analysis & disaster management

o) Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target

p) Options assessment study to show what are the options available for fulfilling the needs of the people that the project hopes to deliver. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum

q) Impact of DG sets on surrounding environment

gg)Snow-fed and rain-fed regions in the catchment area need to be demarcated.

Grading of EIA report

1. Swara-Kuddu HEP – 60%
2. Kotli-Bhel Stage-IA - 70%
3. Koyna HEP - 55%
4. Lower penganaga -50%

Item No. 3

Any other item with permission of the chair.

i) The Member-Secretary brought it to the notice of the committee that Ministry's regional office Chandigarh has given some suggestions for stipulating the environmental clearance of Nimoo-Bazgo HEP in Ladak. The committee noted the suggestions and was of the opinion that fish ladder is not required. Regarding consolidation and compaction method for handling of muck, it is being an integral part of the project (muck dumping) the same was not specifically stipulated in the clearance letter.

iii) Another issue, on TOR was brought to the notice of the EAC. Tawan HEPs stage I & II of NHPC were considered by the EAC on 15.11.2006. NHPC represented vide letter dated 22.02.2007 for clarification & deletion regarding three TORs which were communicated to NHPC vide Ministry's letter dated 08.12.2006. These are regarding details on plant fossil, animal fossil, microfauna ; Benefits from carbon trading; and transmission & distribution losses. After critically examining the TORs the EAC agreed to delete the conditions No. n & o. Regarding collection of primary data and study of plant / animal fossil, microfauna and cryptogams the committee stated that "to the best of the ability listing up to species level to be done.

The next meeting will be held on 21st March, 2007

The meeting ended with thanks to the Chair.

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List of participants attended the 52nd meeting of Environmental Expert Committee for River Valley and Hydroelectric projects held on 21st February, 2007 in Paryavaran Bhawan.

Sl.No.	Name	
1.	Dr. P.G. Sastry	Chairman
2.	S.P.S. Kushwaha	Member
3.	Dr. A. Sarkar	"
4.	Prof. Susanta Basu	"
5.	Dr. A. K. Bhattacharya	"
6.	Dr. O. P. Sisodia	"
7.	R.K. Khanna,Director, CWC	"
8.	Bendre V.M.	
9..	Dr. S Bhowmik	Member Secretary MOEF
10.	P.V. Subarao	

Sawra Kuddu HEP In Himachal Pradesh

1.	Er. Awasthi	
2.	Sh. V.K. Tiwari	
3.	Er. P.K. Puri	

Kotli – Bhel HEP

1.	Sh. V.K. Kapoor	ED(Plg) NHPC
2.	Sh. BCK Mishra	CE NHPC
3..	Er. Usha Bhat	Chief(Env.),NHPC
4.	Sh. Vinod Bahuguna	"
5.	Prof. N.P. Todaria	HNB Garwal University
6.	Prof. M.S.S. Rawat	"
7.	Prof. J.P. Bhatt	"
8.	Dr. Poonam P. Semwal	"
9.	Anil Bhatnagar	CE NHPC
10.	Sh. Anil K. Tripathi	SM NHPC
11.	J.K. Yachu	Chief Geology
12.	Roli Pal	Sr. Sup(IT)
13.	Rajeev Ranjan	Asstt. Manager

Keolo Irrigation Project in Chhattisgarh

Rupsiabagar-Khasiabara HEP

1.	Sh. Rajesh K. Baderia	DGM/NTPC
2.	Deepak K. Gopalani	CDE
3.	Dr. A.K. Sharma	Dy.C.S. WAPCOS
4.	Dr. J.K.Soni	DGM(Env. Engg)
5.	Sh. Hemant Jain	AE

Rangit - II Project

1.	Sh.M.S.Bisht	CISMHE
2.	Dr.D.C.Nautiyal	CISMHE
3.	Dr. J.P.Bhatt	CISMHE
4.	Dr. A.K. Pattanayak	CISMHE
5.	Sh. Ashish Gupta	GZL
6.	Sh.D.Kl. Singhj	GZL

Tipaimukh HEP

1.	T.C. Borgohain	ED
2.	K. Devi	GM
3.	R.P. Singh	GM
4.	G.L. Singh	DGM
5.	B.K. Shome	SR.MGR©
6.	S.S. Adhikari	SR.MGR©
7.	Upadhaya	ED AFC

Malari Jhelam & Jhelam Tamak HEP

1.	S.K. Grover	AGM THDC
2.	Y.S.Rathore	Sr. Manager
3.	R.S. Penwar	Eng.
4.	Alka Singh	Sr. Manager
5.	D.C.Nautiyal	CISMHE
6.	M.S. Bisht	CISMHE
7.	J.P.Bhatt	CISMHE

2.	Sh S.S.Pattnayak	Consultant

Gundia HEP

1.	.Sh R.N. Jayanth	CE
2.	Sh S. Radha Krishna	SE
3.	Dr. T. Ananda Rao	Consultant
4.	Dr. Shyama Sunder	EE
5.	Sh Suryanarayana	DGH
6.	Sh M.F.Rahman	Fish & Fisheries
7.	Sh T.Sannappa	Resident Eng.

NWDA (Ken- Betwa Link

1.	Sh. M.K. Sinha	CE
2.	Sh. K.P. Gupta	SE
3.	Jabbar Ali	DD, NWDA

List of participants attended the 52nd meeting of Environmental Expert Committee for River Valley and Hydroelectric projects held on 22nd February, 2007 in Paryavaran Bhawan.

Sl.No.	Name	
1.	Dr. P.G. Sastry	Chairman
2.	Prof. Chanda	Member
3.	Prof. Susanta Basu	"
4..	S.P.S. Kushwaha	Member
5.	Dr. A. K. Bhattacharya	"
6.	.N. Mukherjee, CWC	"
7.	Dr. O. P. Sisodia	"
8.	Dr. C.P.Juyal	"
9..	Bendre V.M.	"
10..	Dr. S Bhowmik	Member Secretary
11.	P.V. Subarao	MOEF

Rangit - 4 Project

1.	Dr. Aman Sharma	ACE
2.	Dr. A.K. Sharma	Dy.C.S.

8.	Dr.S.K. Pattanayak	CISMHE

Tolong HEP

		Manager
1.	Vishal Srivastava	GM
2.	R.S.Rona	GM
3.	H. Manocha	AGM
4.	Rajib Mishra	ES
5.	Dr.A.K. Shyam	CISMHE
6.	D.C.Nautiyal	CISMHE
7.	S.K. Pattnayak	

Exhibit - VII

Government of India
Ministry of Environment and Forests
(IA-I Division)

Sub: Summary Record of discussion of the 53rd meeting of the Expert Committee for River Valley and Hydroelectric projects held on 21-22 March, 2007 in Paryavaran Bhavan, New Delhi.

The list of participants is appended.

Item No. 1

Confirmation of the minutes of the last EC meeting.

The minutes of the 52nd meeting of Expert Committee for River Valley and Hydroelectric projects were confirmed with the following corrections:
In respect of Thangchi-Lachung HEP, Bhimkyong HEp, Bop HEP, Gohana –Tal HEP and Rangit stage II HEP; - The EAC recommended clearance for pre construction activities to be added before proposed TORs.
In respect of Rupsiabagar – Khasiabara HEP Sl. No. of TORs may be read as (i), (ii) etc.Similar correction to be made in respect of Sawara kudu HEP & Koyna Dam Foot Power House.
Spelling mistake of Shanon –Wienner has appeared in Tipaimukh HEP & Tolong HEP. This may be read as Shannon – Weaver.
Prof. S. Chanda's name to be included in the list of attendance for 21.2.2007.

1. Jigaon Irrigation project in Maharashtra

Secretary (WR), Govt. of Maharashtra attended the meeting along with other officials and consultant (NEERI). The proposal was considered as per provisions of EIA Notification 1994. The committee noted that this proposal was considerd by the committee during 2001 without Public Hearing. Therefore, the project authority was asked to come again with the public hearing proceeding. As such the PH was conducted on 04th March 2006.
A brief presentation was given by Shri Gaekwad and Dr. Kelkar on the proposal. It was noted that the proposal envisages construction of an earthen dam about 7.68 km in length and 34.50 m height, with masonary gated central spillway across river Purna in Buldana district near village Jigaon to store 736.58Mm3 of water. The gross command area is 1,40,400 ha. C.C.A is 1,12,320 ha. The command area anticipated for irrigation is 84,249 ha. The anticipated area for irrigation may not be irrigated by gravity flow due to flat topography.

Hence lift cum canal flow irrigation has been proposed.The submergence area under the dam is 14,567 ha. Out of which 1055.64 ha. is forest land. 46 villages will be affected. Out of that, 31 is fully and 15 are partially consisting of 24,731 persons likely to be affected. Total cost of the project is Rs. 1221 Crores.and the construction period is 10 years.

After critically examining all the environment related issues the committee desired to have the following clrifications/additional information:-

1. The Maharashtra government / the project authority may consider establishing demonstration farms to enable the cultivators learn and subsequently practice the techniques of good water management practices on their irrigated lands which should also include - to partially switch over to water saving methods of irrigation by adopting pressurized irrigation systemThis will enable irrigating more area with the same quantity of water available and achieve better productivity without causing land degradation. Therefore, while developing demonstration farms for the benefit of the cultivators, this aspect may be kept in view.

2. The volume II Annexures (Revised) contains some apparent errors, which may be addressed for correcting them or if they are correct, they are to be discussed properly. These errors are:

a. Unit of salinity is missing in Table 7.

b. N, P, K etc are total or available and their unit are to be mentioned in Table 7.

c. The salinity 0 of Purna River water in Table 9 is unbelievable and is in contrast to the information given in Fig. 4.

d. Pages 86 to 96 are redundant in view of the corresponding Tables.

e. The saturated hydraulic conductivity values, as reported in Table 6 of Vol II are nowhere near the values reported on Page 009 of Application Form. These must be reconciled.

f. The information on long term groundwater table data are appreciated. However, there are several discrepancies in the data. The discrepancies are: (i) post-monsoon water table is deeper than the pre-monsoon water table; (ii) the post-monsoon and the pre-monsoon water tables are identical and (iii) post-monsoon water table depth is at ground surface whereas, the pre-monsoon water table was very deep.

g. Annual energy (Power) requirement for irrigation to be submitted.

h. A study of site specific earthquake design parameters to be conducted. The result needs to be approved by the NCSDP for large dams.

i. Census data of 1991 has been used for R & R. Revised R & R to be submitted using 2001 census data.

j. Dam Break analysis for Disaster management to be furnished.

k. Discharge data of Purna river is of 1996. Recent discharge data may be provided.

The questions raised by EAC relate mainly to command area development and R&R based on 1991 census data. It was, therefore, resolved to put up the clarification from the project proponents to Dr. A. K. Bhatacharya and Dr. O. P. Sisodia. After their acceptance of the clarifications, the Ministry may Process for Environmental Clearance of the Project without once again placing before the EAC.

2. **Jamrani Dam – Multi Purpose Project in Uttarakhand.**

A brief presentation was given by Shri P.C.Pant EE , The committee noted that the proposal envisages construction of a 130.6 m high (from river bed level) Roller Compactor Gravity Dam near Jamrani village across river Gola in District Nainital, This project will irrigate150302 ha culturable command area (CCA), to supply domestic water of 52.93 Mm^3 and to generate power of maximum capacity 30 MW. The catchment area at the dam site is 45,000 hectares. Total cost of the project projected as Rs. 927.93 crores. A total of 1832 persons will be displaced. The project will be completed in a time span of 5 years.

The committee also noted that the project was sanctioned by the Planning Commission in 1975 at a cost of Rs. 61.25 crores with some very pertinent observations, which are valid even today. The foundation stone was laid in 1976. The developments in the interregnum have not been clarified. The project with some revision is again put up 30 years later, in 2007, for scoping and now the estimated project cost is Rs. 927.93 crores, i.e., a price escalation of Rs. 866.68 crores in 30 years that the nation has to bear. It is a policy of the government to abolish posts that lie vacant for a long time. If the project was found important in 1975 when it was sanctioned and then the initial rituals were completed and life is still going on for 30 years without the project, the natural question would be is It necessary to consider the project now? And the next pertinent question would be, subject to environmental clearance, will the project take off? This case is similar to the Krishna-Koyna Lift Irrigation project in Maharashtra. The above observations are made to put on record the degree of seriousness (actually, the lack of it) in developmental projects.

After critically examining the environment related issues the committee felt that in the Form 1 and in the DPR, there should have been a starting page describing why the revision was made and what the revision features are. While the financial returns are negative even after full development of irrigation, yet the B:C ratio is 3.27 and this is not clear. The Table under item (vi) on page 6 does not give the information desired. Reply to item E (i) on Page 6 goes against the Planning Commission's express directive at item (d) on Page 310. Phase I of the project is stated to have been completed and the Phase II work is yet to be started. It would have been more comprehensible if the 'completed' and 'to be started' activities were briefly mentioned. It is noted that the river bed level did not change at al from 1975 up to 2005 (Item III ii a on Page 10). Is this a fact? Does it imply a 'no erosion' and 'no silting' situation? With respect ti Item VI on Page 13, how the presently irrigated area is 78,786 ha out of a CCA of 60,000 ha? And how with increased irrigated area to 1, 39, 386 ha from the existing

78,786 ha (Page 13) the irrigation water requirement has come down drastically from 911 Mm^3 to 417.19 Mm^3 (Page 14)? The net revenue is negative, yet the IRR is high and positive, how?

The project is located in zone IV of the seismic zoning map.

The EAC recommended clearance for Pre-construction activity and in addition to the proposed TORs, the Committee proposed the following TOR items while preparing EIA report on the project

A. Comprehensive EIA with three seasons data.
B. Physico-chemical environment

i. Physical geography, topography, stratigraphy, regional geology of the catchment area.
ii. Tectonics and seismicity of the study area.
iii. Presence of important economic mineral deposit, if any.
iv. Meteorology of the study area
v. Ambient air quality parameters (SPM, RSPM, SO_2, NO_x and CO of the study area.
vi. Existing noise levels and traffic density in the area.
vii. Soil classification, physical parameters
viii. Identification of free draining/directly draining catchment.
ix. Generation of thematic maps.
x. Delineation of sub and micro watershed environment. Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target
xi. Run off, discharge, water availability for the project.
xii. Physico-chemical parameters of surface and ground water quality.
xiii. Downstream water use and its impact.

C. Biological environment

i. Characterization of forest types – general vegetation pattern and floral diversity in the study area.
ii. Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil.
iii. Economically important species (medicinal, timber, fuelwood, etc.).
iv. Categorisation of flora and fauna.
v. Report existence of barriers and corridors for wild animals, habitat fragmentation and destruction of wild animals due to project and effect on fish migration and habitat degradation due to project.

vi. Existence of National Park, Sanctuary, Biosphere, Reserve Forest, Etc. in the study area, if any, needs to be detailed.

D. Present cropping pattern, yields and cost need to be reported. The EIA report must contain proposed cropping pattern, estimated yields and returns.

E. Environmental Management Plan should comprise of

i. For project affected families who are likely to loose land only, the following information is to be given - land available before acquisition; land taken from them and land remaining with the family. In case 70% of land of any family is taken, then that family should be counted as a fully affected family.
ii. Muck Disposal Plan.
iii. CAT Plan should be prepared micro watershed-wise.
iv. Compensatory Afforestation Program.
v. Layout map showing land slide/landslip zone around the reservoir periphery need to be prepared.
vi. Suitable species of plants for the proposed green belt along the periphery of the reservoir (Reservoir rim treatment plan)
vii. Biodiversity Conservation Plan
viii. Method of tunneling to be detailed. Use of Tunnel Boring Machine needs to be explored.
ix. Dam Break Analysis for Disaster Management.
x. Flow diagram for water treatment.
xi. Flow diagram for solid waste generated from colony.

3. Dikchu HEP in North and East Districts of Sikkim (J-12011/14/07-IA-I)

A brief presentation was given by Shri. B. Murali Mohan Reddy, MD, Sneha Kinetic Power Projects Ltd., Hyderabad. He informed the committee that while allotting the project ,the Sikkim Government has made it mandatory that EIA report must be prepared through the Forest department of Govt. of Sikkim. As such the work is being done by the forest department and collection of data has been started since April 2006. Shri Reddy could not clarify(due to his ignorance) why forest department started collecting data without taking site clearance for investigation & survey which was pre requisite as per EIA Notification 1994. He also informed that monsoon & post monsoon data have already been collected. The committee permitted to use the collected data for preparation of EIA/EMP report.The committee noted that the proposal envisages construction of power project on River Dikchu, tributary to River Teesta between villages Dikchu and Lingdok in North and East Districts of Sikkim State for

generating 96 MW (3 x 32MW) hydropower. The height of the dam is 35 m with underground power station. The project will have a HRT length of 5.7 km and a tailrace tunnel of 1.2 km The total requirement of land is 28 hectares out of which 12 hectares is forest land. Total cost of the project projected as Rs. 550.88 crores.. The project will be completed in a time span of 4 years.

After carefully examining all the environment related issues the committee recommended clearance for pre construction activity and In addition to the proposed TORs, the Committee proposed the following additional TOR items for preparing EIA report on the project:

a) Construction methodology/period
b) Design discharge & its RI [Recurrence interval].
c) Sedimentation rate.
d) Submergence area
e) Water body inundating forest area
f) Compensatory afforestation
g) Design earthquake parameter
h) Comprehensive EIA report should include three seasons data viz. pre-monsoon, monsoon & winter
i) For project affected families who are likely to loose land only, the following information are to be given
   - land available before acquisition
   - land taken from them and land remaining with the family
   - In case 70% of land of any family is taken, then that family should be counted as a fully affected family
j) Shannon Wiener diversity index, plant fossil, phytoplankton as well as
k) micro-fauna, avifauna, animal fossil
l) Details on tunneling aspect, such as machines to be employed, for
m) controlled blasting charge density etc.
n) 15% water flow in lean season should be maintained.
o) Dam break analysis & disaster management
p) Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target
q) Impact of DG sets on surrounding environment
r) Flow diagram for water treatment and solid waste generated from colony.

4. <u>Umngot HEP (2 x 139 MW) in Meghalaya</u>

Mr. L.S. Tariang, Chief Engineer delivered a brief presentation on the proposal. The committee noted that the scheme envisages construction of a concrete gravity dam of about 107 mt. high from deepest foundation level across river Umngot. The proposed site is located in Khasi Hills district.

The committee noted that under item 7 of Form 1, contamination risk due to sewage disposal is stated to be 'No' but it is not clarified if the sewage generated from the project colony and labour colony will be treated before disposal. The replies under 9.1 and 9.2 are 'No' and hence, the 'Yes' reply to 9.4 is confusing. In the proposed TOR, the first item is EMP, which can be prepared only after a comprehensive EIA is done. The CAT is to be planned after identifying and prioritizing sub-catchments with respect to their erosion severity by following the SYI method of AISLUS. The 'Meteorological Management' of item 9 of TOR is not clear. EIA must be based on at least three seasons' data. The map appended at the end of Form 1 is incomplete and of inferior quality. It is not clear if substantial population exists near the reservoir site but the above-ground power house seems to be close to some inhabited area. In view of this a drinking water component may be an important component and a service to the society. There is no mention of availability of safe drinking water and the reason for not considering a drinking water component in the project.

After critically examining all the environment related issues the committee recommended clearance for pre construction activity along with the following additional TORs.

1)Physical-Chemical Environment

i. Physical geography, Topography, Stratigraphy, Regional Geology of the catchment area. Landslide zone or areas prone to landslide existing in the study area especially along the periphery of the reservoir need to be examined.

ii. Tectonics and seismicity of the study area.

iii. Presence of important economic mineral deposit if any.

iv. Meteorology of the study area (*viz.* precipitation, temperature, relative humidity,wind speed/direction etc.)

v. Ambient air quality with parameters, *viz.* suspended particulate matter (SPM),respirable particulate matter (RPM) *i.e.* suspended particulate materials < 10 microns, sulphur dioxide (SO2), oxides of nitrogen (NOx) and carbon monoxide(CO) for the study area.

vi Existing noise levels and traffic density in the area.

vii. Soil classification, physical parameters (*viz.* texture, moisture content, porosity,bulk density and water holding capacity) and chemical characteristics (*viz.* pH,electrical conductivity, sodium, potassium, calcium, magnesium, nitrogen, total nitrogen, exchangeable sodium percentage (ESP), Sodium adsorption ratio (SAR),organic matter, sulphur, manganese, phosphorous, silica *etc.*) for the study area.

viii. Identification of free draining/directly draining catchment.

ix. Generation of thematic maps *viz.* slope map, drainage map, soil map, land use/land cover map *etc.* Based on these thematic maps, an erosion Intensity map need to be prepared.

x. Delineation of sub and micro watershed, their location and extent based on All India Soil and Land use Survey (AISLUS), Deptt. of Agriculture, Govt. of India.Erosion levels in each micro-watershed and prioritisation of micro-watersheds through Sediment Yield Index (SYI) method of AISLUS.

xi. Basin Characteristic

xii. Run off, discharge, water availability for the project, sedimentation rate *etc.*

xiii. Physical, Chemical and Bacteriological parameters of surface water quality.Physical parameters include temperature, pH, electrical conductivity, total dissolved solids (TDS), DO, turbidity. Chemical parameters are salinity, alkalinity,Ca, Mg and total hardness, chlorides, iron, manganese, arsenic, fluorides, nitrogen (organic, ammonia, nitrite and nitrate), phosphate, sulphates, sulphides, heavy metals (mercury, lead, chromium, cadmium and zinc), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC) and total oxygen demand (TOD) and Bacteriological parameters that comprises of fecal and total coliform.

xiv. Downstream water use and its impact. Disposal of sewage if any in the downstream needs to be reported.

2 Biological Environment

i. Characterisation of forest types in the study area.

ii. General vegetation pattern and floral diversity *viz.* trees, shrubs, grasses, herbs,significant microflora *etc.*

ii. Species frequency, density, abundance need to be detailed. Biodiversity index (Shannon–Weaver index) and Importance Value Index (IVI) of the species must be calculated. Methodology used for calculating the various diversity indices along with details of locations of quadrats, size of quadrats *etc.* must be reported.

iv. Economical important species *viz.* medicinal, timber, fuel wood *etc.*

v. Flora under REET need to be categorised using World Conservation Union or International Union for the Conservation of Nature and Natural Resources(IUCN) and Botanical Survey of India's Red Data list along with economic
significance.

vi. Cropping and Horticulture pattern and practices in the study area.

Vii Birds (resident, migratory), Land animals including reptiles, insects and fish species reported and surveyed in the study area need to be enlisted. Significant microflora must be enumerated.

Viii. REET fauna species are to be classified in two ways *viz.* as per IUCN Red Datalist and as per different schedule of Indian Wilde Life Protection Act, 1972.

ix. Report existence of barriers and corridors (if any) for wild animals. Habitat fragmentation and destruction of wild animal due to project.

x. Effect on fish migration and habitat degradation due to project.

xi. Existence of National Park, Sanctuary, Biosphere, Reserve Forest *etc.* in the study area if any, needs to be detailed.

3) EMP comprising of

i. Resettlement and Rehabilitation (R&R) plan need to be prepared with due consultation with Project Affected Families (PAFs). It shall include community development strategies and a list containing name of PAFs, age, educational qualification, family size, sex, religion, caste, source of income, house with type and amount of land holding, house/land to be acquired, any other property, possession of cattle *etc.* The information of percentage of land left after land acquisition with the family needs to be furnished for PAFs likely to lose land. A PAF is a Total Affected Family (TAF) if 70% or more land holding of the family is acquired. The provision of the prepared R&R plan must be at per or better than National Policy of Resettlement and Rehabilitation of PAF (NPRR – 2003).Detailed budgetary estimates must be provided.

ii. Muck Disposal Plan

iii. CAT plan shall be prepared micro-watershed wise. Areas falling under 'very severe' and 'severe' erosion categories are required to be treated. Both biological and engineering measures need to be proposed in consultation with State Forest Department. Year wise schedule of work and monetary allocation shall be provided. CAT plan shall be completed prior reservoir impoundment.

iv. Layout map showing land slide/land slip zones if any, around the reservoir periphery needs to be prepared. Suitable engineering and biological measures for the identified land slip zones treatment must be provided with physical and financial schedule.

v. Method of tunneling needs to be detailed. Use of Tunnel Boring Machine (TBM)needs to be explored. For conventional controlled blasting the charge density, the amount of delay and schematic plan *etc.* need to be provided.

vi. Public Health Management Plan

vii. Compensatory Afforestation in lieu of the forest land required for the project needs to be proposed. Choice of plants must be prepared in consultation with State Forest Department.

viii. Suitable species of plants for the proposed green belt along periphery of reservoir (Reservoir Rim Treatment Plan), colonies, approach road, canals *etc.*must be suggested. Complete plan with physical and financial details and layout of the proposed sites of green belt development must be included.

Ix. Suitable Biodiversity conservation plan in consultation with State Forest Department must be included.

x. Wild Life Conservation Plan

xi. Fishery Management Plan including base line data on catch composition, fish density, fish standing crop, fish population dynamics in and around project area, presence of migratory/endangered fish if any to be checked and mitigation measures should include monitoring the impact of of the proposed construction on the fish resources.

xii. Dam Break Analysis for Disaster Management.

xiii. Various maps providing salient features of the project need to be depicted in proper scale map of at least 1:15,000 like

1.The location map of the proposed project.

2.The project layout shall be superimposed on a contour map of ground elevation showing main project features (*viz.* location of dam, head works, main canal, branch canals, quarrying *etc.*) shall be depicted in a scaled map.

3.Drainage map of the catchment up to the project site.

4.Soil map of the study area.

5.Geological and seismotectonic maps of the study area showing main project features.

6.Remote sensing studies, interpretation of satellite imagery, topographic sheets along with ground verification shall be used to develop the land use/land cover

pattern of study area using overlay mapping techniques *viz.* Geographic Information Systems(GISs). False colour composite (FCC) generated from satellite data of study area shall be presented.

5. **Sawara Kuddu HEP in Himachal Pradesh.**

This project was earlier considered by the EAC at its last meeting held on 21st February 2007. The clarification sought by the committee was presented. The EAC expressed their satisfaction with the submitted clarification and recommended environment clearance to the project.

6. **Jangi-Thopan-Powari Hydroelectric Power Project (960 MW) in Himachal Pradesh**

A brief presentation was given by Shri Arun Sharma, Brakel Kinnaur Power Private Limited, Shimla. The committee noted that the proposal is a run of the river development on river Satluj in District Kinnaur of Himachal Pradesh to generate 960 MW (Jangi Thopan -480 MW and Thopan Powari -480 MW) hydropower. The height of the dam is 65 m with an underground power station. About 250 hectares of land is required. No resettlement is anticipated due to this project. Total projected cost of the project is Rs. 3052 crores. The project will be completed in a time span of 5 years.

The project is located in zone V of the seismic zoning map.

The term of reference for preparation of EIA were considered by the committee. In addition to proposed, the Committee proposed the following TOR items while preparing EIA report on the project:

a.Structure height [dam/barrage height]
b) Construction methodology/period
c) Design discharge & its RI [Recurrence interval]
d) Submergence area
e) Water body inundating forest area
f) Compensatory afforestation
g) Design earthquake parameter
h) Comprehensive EIA report should include three seasons data viz. pre-monsoon, monsoon & winter
i) Indicate distance from biosphere reserve on a map
j) For project affected families who are likely to loose land only, the following information are to be given
- land available before acquisition
- land taken from them and land remaining with the family

- In case 70% of land of any family is taken, then that family should be counted as a fully affected family

k) Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil

l) Details on tunneling aspect, such as machines to be employed, for controlled blasting charge density etc.

m) Comprehensive downstream impact. This shall include not only the area bypassed stretch of the river but also downstream of the power house. The issue is not only about quantities of minimum flows to be maintained in the bypassed reach but also about the overall ecological impacts within 10 km radius

n)Dam break analysis & disaster management

o) Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target

p) Options assessment study to show what are the options available for fulfilling the needs of the people that the project hopes to deliver. This section should also show if and how the proposed project is the least cost option and also include reducing the transmission and distribution losses to the minimum

q) Impact of DG sets on surrounding environment

r)Snow-fed and rain-fed regions in the catchment area need to be demarcated

7. <u>Teesta II HEP (4 x 120 MW) in Sikkim (J-12011/16/07-IA-I)</u>

A brief presentation was given by Shri S. Sengupta and Dr Bist on the proposal. The committee noted that the proposal envisages construction of power project on River Lachen Chu, in Sikkim State for generating 480 MW (4 x 120 MW) hydropower. The height of the dam is 83 m. The project will have a HRT length of 10.71 km and a tailrace tunnel of 1595.5 m. Total cost of the project projected as Rs. 3023.69 crores. Kanchendzanga Wild life Sanctuary is at a distance of 5 km. The project will be completed in a time span of ---- years.
On a querry from the members the project authority informed that there was no agreement with them for getting the EIA report prepared by the forest department of Govt. of Sikkim.

It was brought to the notice of the Committee that the project is located above Chungthang area of North Sikkim, which is identified in the Carrying Capacity Study of Teesta Basin as ecologically sensitive area.

After discussing carefully all the environment related issues the committee recommended clearance for pre construction activities along with following additional TORs.

1500

i) Justification for execution of the project above Chungthang area which is identified as ecological sensitive area under the Carrying Capacity Study of Teesta Basin.

ii) Construction methodology should include Tunnel driving.

iii) The catchment area at the dam site is 1772 km2. Snow fed and rain fed areas should be demarcatedfor a realistic estimate of water availability.

iv) Sedimentation rate in the Lachen Chu needs to be estimated.

v) F C C to be supplied.

vi) Kanchendzangha Wild life sanctuary is only five km away. Comment of Chief Wild life Warden on impact on the sanctuary due to construction work to be submitted.

vii) A study of site specific earthquake design parameters to be done. The result of the site specific earthquake design parameters needs to be approved by the NCSDP (National Committee of Seismic Design Parameters, Central Water Commission, New Delhi) foe large dams.

viii) The lean season flow in down stream to be specified. Any discharge of untreated sewage and waste water The study of comprehensive down stream shall include area up to 10 km down stream of the confluence of TRT with river and shall address overall ecological impact.

ix) Rehabilitation & Resettlement package should not be less than NPRR-2003. In respect of families whose land is only acquired, information on percentage of land left after land acquisition with the family needs to be furnished. If 70% or more land is acquired the family should be counted as fully affected faily.

x) Dam Break analysis & Disaster Management Plan.

8. **Parwan Major Irrigation cum Drinking Water Supply Project (J- 12011/25/07-IA-I)**

A brief presentation was given by Shri A. K. Chaursiya, S E Water Resource Department, Rajasthan. The committee noted that the proposal envisages construction of a 38 m high (from foundation level) masonry dam with a Reservoir of Gross Storage capacity as 490 m.cum on river Parwan near

Akawad Kalan village of Tehsil Khanpur, District Jhalawar. This project across Parwan river will irrigate 138239 ha culturable command area (CCA), to supply domestic water of 450 Mm^3. The catchment area at the dam site is 8242 sq.km. The project is located in zone IV of the seismic zoning map. Total cost of the project projected as Rs. 1114 crores.

The committee after critically examining the environmental issues noted that the large document shows many repetitions of statements, even at places where they are not pertinent. Page 1-18 gives the provision for drainage as Rs. 700 lakhs, calculated @ Rs. 1000/- per hectare. I do not know from where this rate was obtained but the figure is too little.

For an irrigation project, OFD work is most important and this is not mentioned. Rajasthan has the examples of excellent OFD works in the Chambal command area in and around Kota. It is suggested that cost figures for OFD, including drainage may be decided upon consultation with RLDC. Black cotton soil may be generally good for agriculture but it is not so for unrestricted flow irrigation. Particular notice is drawn to the very compact soil as indicated by the bulk density values in Table 2.1. This will inhibit infiltration of applied irrigation water, will make the clay soil unworkable due to prolonged wet condition and cause substantial delay in maintaining timeliness of agricultural operations, thereby negating the beneficial effects of irrigation and turning the land saline/alkali in the long run. This inevitable process must be foreseen, as there are ample examples of it in India and a scientific OFD work needs to be planned and implemented before starting the release of irrigation water to the arable land. Ignoring this requirement may prove to be disastrous to the soil health and agriculture. Soil characteristics as limiting factors in the entire command area are also highlighted in irrigability classes of Table 2.5.

The Fluoride concentration in the surface water samples (Table 2.9) exceeds the permissible limit of drinking water, as stipulated by BIS, in three of the four cases. For the single case of Parwan River, it is close to the upper limit of the permissible range. Besides, concentration measured in November is not a good indicator. Water quality is to be measured in the dry and in the wet seasons (April/may and August, respectively). Surprisingly, however, the two unnumbered Tables following Table 2.9 do not show high Fluoride concentration except in two cases namely, at Unda and Piplaj. It is not clear if the water source, as reported in Table 2.9 is the same as reported in the following two Tables.

The logic given for not adopting surface drainage (or sparingly adopting it) in Page 5-8 is scientifically unacceptable in view of the soil characteristics and the flow irrigation to be practiced in the command area. Surface drainage must be an integral component of irrigation development and should be addressed accordingly. Bio-drainage is irrelevant for the command area as trees uptake

water from deeper soil zones, which are not posing any problem at present because the water table is deep enough. Besides, the effectiveness of bio-drainage in water table control has not been proved decisively and quantitatively in India. Further, the effect on water table is felt directly under the plantation area and not in the adjoining area to any significant extent. For an irrigation project, therefore, bio-drainage option is ruled out. The report should contain information on dry season and wet season groundwater table in the command area in selected villages and its trend over the past ten years. The report also does not mention the minimum flow to be maintained in the river downstream to the reservoir to meet the water requirement of the human and cattle and leaves this to the seepage from the dam in a non-quanti

The term of reference for preparation of EIA were considered by the committee. The Committee recommended clearance for pre-construction activities and In addition to proposed TORs, the Committee proposed the following TOR items for preparing EIA report on the project:

i. Thre seasons (pre monsoon, monsoon & post monsoon) data should be collected for environmental base line parameters.
ii. Ambient air quality parameters (SPM, RSPM, SO_2, NO_x and CO of the study area.
iii. Soil classification, physical parameters
iv. Identification of free draining/directly draining catchment.
v. Delineation of sub and micro watershed environment. Critically degraded catchment area should be identified as per AISLUS method year-wise physical and financial target
vi. Run off, discharge, water availability for the project.
vii. Surface drainage.
viii. Minimum flow to be maintained in the river down stream to the reservoir to meet the water requirement of the human and cattle.
ix. Characterization of forest types – general vegetation pattern and floral diversity in the study area.
x. Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil.
xi. Economically important species (medicinal, timber, fuelwood, etc.).
xii. Categorisation of flora and fauna.
xiii. Report existence of barriers and corridors for wild animals, habitat fragmentation and destruction of wild animals due to project and effect on fish migration and habitat degradation due to project.
xiv. Existence of National Park, Sanctuary, Biosphere, Reserve Forest, Etc. in the study area, if any, needs to be detailed.

xv. Present cropping pattern, yields and cost need to be reported. The EIA report must contain proposed cropping pattern, estimated yields and returns.

Environmental Management Plan should comprise of:

i. For project affected families who are likely to loose land only, the following information is to be given - land available before acquisition; land taken from them and land remaining with the family. In case 70% of land of any family is taken, then that family should be counted as a fully affected family.
ii. Muck Disposal Plan.
iii. CAT Plan should be prepared micro watershed-wise.
iv. Compensatory Afforestation Program.
v. Layout map showing land slide/landslip zone around the reservoir periphery need to be prepared.
vi. Suitable species of plants for the proposed green belt along the periphery of the reservoir (Reservoir rim treatment plan)
vii. Biodiversity Conservation Plan

ix. Dam Break Analysis for Disaster Management.

8. Jangi-Thopan-Powari Hydroelectric Power Project (960 MW) in Himachal Pradesh

Shri Arun Sharma Vice President of , Brakel Kinnaur Power Private Limited, Shimla attended the meeting along with other officials. A brief presentation was delivered on the proposal. The committee noted that the proposal is actually for two projects viz : Jangi Thopan HEP (480 MW) and Thopan Powari HEP (480 MW). These two projects have been combined into one scheme to avoid construction of a diversion dam at Thopan. The project envisages construction of a 65 m high (above river bed) concrete gravity dam on the river Satluj near village Jangi. The under ground power house is located at Powari. About 250 ha. of land are estimated to be required for the project. No resettlement of human population is anticipated. Total projected cost of the project is Rs. 3052 crores. The project will be completed in a time span of 5 years.

The committee noted that the proposed TORs do not indicate any steps for migration of fishes in the down stream; though PFR states "migration of fish

along Sutlej has already been prevented by the construction of Naptha Jhakri project down stream.

The committee recommended clearance for pre construction activity The term of reference for preparation of EIA were considered by the committee. In addition to proposed, the Committee proposed the following TOR items while preparing EIA report on the project:

i) For project affected families who are likely to loose land only, the following information are to be given
   - land available before acquisition
   - land taken from them and land remaining with the family
   - In case 70% of land of any family is taken, then that family should be counted as a fully affected family

ii) Shannon Wiener diversity index, plant fossil, phytoplankton as well as micro-fauna, avifauna, animal fossil

iii) Details on tunneling aspect, such as machines to be employed, for controlled blasting charge density etc.

iv) Comprehensive downstream impact. This shall include not only the area bypassed stretch of the river but also downstream of the power house. The issue is not only about quantities of minimum flows to be maintained in the bypassed reach but also about the overall ecological impacts within 10 km radius

v) Dam break analysis & disaster management

vi) Critically degraded catchment area should be identified as per AISLUS method. Action plan to be submitted with year-wise physical and financial target

vii) Remote sensing studies, interpretation of satellite imagery, topographic sheets along with ground verificationshall be used to develop the land use/land cover pattern of study area using overlay mapping techniques viz. Geographic information Systems.

viii) False Colour Composite (FCC) generated from Satellite data of study area shall be presented.

ix) Impact of DG sets on surrounding environment

x) The environmental base line data (water, air, noise and soil) to be collected within 10 km area from periphery of project area for one year i.e. three seasons (pre monsoon, monsoon, and post monsoon). The instruments used and methodology adopted for data collection shall be reported.

xi) Base line data on catch composition, Fish density, fish standing crop, fish population dynamics in and around project area to be collected. Presence of migratory / endangered fish if any to be checked and, mitigation measures should include monitoring the impact of the proposed construction on the fish resources. The EMP should include proper budget provisions for fisheries development, management and conservation.

22.3.2007

9. Lower Penganga Project in Maharashtra.

This project was considered by the EAC at its earlier meeting held on 21st February 2003. Clarification and additional information furnished by the proponent was considered by the committee. Sri Gackwad, Secretary, Govt. of Maharashtra attended the meeting with other officials and consultant.

After critically examining the clarifications and additional information the committee noted that there are some minor correction is needed such as regarding seismicity horizontal co-efficient always should be higher than vertical.

The committee recommended clearance for Maharashtra portion only; as Public hearing for Andhra Pradesh portion has not been done.

10. Kotlibhel stage-I A HEP in Uttarakhand by NHPC.

This project was considered earlier by the EAC at its meeting held on 21.2.2007. The clarification sought by the committee was presented before the EAC. The committee was satisfied with the clarification and recommended environmental clearance.

11. Kotlibhel stage-I B HEP (320 MW) in Uttarakhand by NHPC.

This proposal was considered as per clarification given by MOEF under 2.1 – (II) of MOEF Circular dated 13.10.07.The consultant of the project proiponent delivered a brief presentation on the environmental

aspects of the proposed project. The committee noted that the project is located in two districts. As per new EIA Notification PH is to be conducted district wise. However, public hearing has been conducted only in one district.

The project envisages construction of 70.5 m high concrete gravity dam across river Alaknanda, a surface power house with four units of 80 MW each on its right bank. An area of 550.619 ha will be required. Out of which 383.756 ha is civil forest land, 112.437 ha is reserve forest land and 54.426 ha is private land. 27 villages consisting of 1521 families are going to be affected. NPRR – 2003 as well as NHPC's R&R package will be followed for rehabilitating & resettlement of project affected persons. In all, fourteen (14) temples will be affected. NHPC has proposed to reconstruct all these temples. At suitable places in consultation with the local people. Twentyone cremation ghats also will be submerged which will be reconstructed at a cost of Rs. 21 /- lakh. For conservation of migratory fishes like Tor and Schizothorax Spp. creating of hatcheries have been proposed. Suitable sites for establishment of hatcheries will be identified in consultation with the State Fisheries and TEC Lonawala, Mumbai.

The committee also noted that due to submergence, the habitat of Lutra perspicillapa (Otter) may get partially affected. They have proposed to declare the area as restricted for conservation of Otter habitat. In addition to the above plasns, the proponent has prepared plans for, reservoir treatment, muck disposal, green belt development, health management, bio diversity conservation plan. DMP etc.

After critically examining all the environment related issues the EAC recommended environment clearance with the condition that CAT plan to be revised, so that the treatment work may be completed before filling up the reservoir and as per the provision of EIA notification public hearing in other district to be conducted. Ministry may process the proposal after receipt of the proceedings of said public hearing.

27 villages consisting of 1521 families are going to be affected. NPRR- 2003 as well as NITPC's R&R packagewill be followed for PAPs. In all fourteen (14) temples will be affected. PA has proposed to reconstruct all these temples at suitable places in consultation with the local people. 21 cremations ghats will be submerged which will be reconstructed at a cost of Rs.21 lakhs. For conservation of migratory fishes like Tor and Schizothorax species creating hatcheries has been proposed. Suitable site for establishment of hatchery will be identified in consultation with state fisheries and TEC Lonawala, Mumbai.

The committee also noted that due to submergence, the habitat of ***Lutra perspicillapa*** (Otter) may get partially affected. They have proposed to

declare the area as restricted for conservation of Otter habitat. In addition to the above plans, the PA has prepared plans for reservoir treatment, muck disposal, green belt development, health management, solid waste management, biodiversity conservation plan, DMP etc.

The committee recommended environmental clearance to the project subject to condition that as per provisions of EIA notification 2006, Public Hearing to be conducted in other districts also and CAT plan to be revised so that the treatment work may be completed before inundation.

12. Loktak Down stream HEP (66 MW) in Manipur

The committee noted that this project was earlier accorded environmental clearance for generation of 90 MW electricity. However, the earlier proposed project could not be implemented due to law & order problem and cost factor. Now, a revised proposal has been prepared and the project is now restructured from Dam to barrage with a capacity of 66 MW instead of 90MW as proposed earlier. FRC has also been reduced from EL 330 m to EL 307 m.

After carefully examining all the environment related issues the committee recommended clearance for pre construction activity and the following TORs in addition to the proposed by PA.

i. construction methodology including tunnel driving
ii. baseline data for all environmental parameters should be collected for three seasons
iii. sedimentation rate
iv. B:C ratio
v. Public hearing to be conducted near project site

13. Lower Jurala HEP (6 x 40 MW) in Andhra Pradesh by APGENCO

The Managing Director, A.P. Power Generation Corporation Ltd., attended the meeting with other officials and consultant. A brief presentation on the proposal was delivered. The committee noted that the proposal was considered by the EAC at its earlier meeting held on

20.12.2006 for Scopping. The proposed project is located in Mahabubnagar district, A.P. in Telangana region on river Krishna about 7-9 km downstream of the existing Priyadarshini Jurla project near Rekulapaaly village. A weir 1470 m in length and 5 m average height (11 m maximum) with a power house channel of 1.723 km long and a tail race channel of 1.55 km long to be constructed. There is no forest land to be acquired and no wildlife sanctuaries present in nearby area. There are no sites of archaeological importance and any industry in the nearby area. The land requirement of the proposed project is 50 hectares for construction of intone channel power house, tail race channel and colony. The submergence is restricted to river banks. The estimated cost of the project is about Rs.885.08 Crores.

After carefully examining all the environment related issues the EAC recommended environmental clearance for the project.

14. Bhasmey HEP (51 MW) in Sikkim by GATI Infrastructure

The project was considered by EAC at its meeting held on 20.12.2006 for Scoping. The final EIA report submitted incorporating the additional TORs proposed by the EAC. Shri. Avdesh Kumar, CEO of the company attended the meeting along with other officials and consultant. Prof. Dubey (consultant) gave a brief presentation on the proposal.

It was noted that the proposed site is located in East Sikkim district in the vicinity of Rongpu village. Construction of a symmetrical gravity dam with 33.2 m height from foundation level across river Rangpo has been proposed. 28 ha forest land and 19 ha private land will be required for the project. The committee noted that they have not done dam break analysis and disaster management plan though it was included in the proposed TOR on the plea that this is a run of the river project with small pondage. This was not accepted by the EAC. It was also noted that they have applied to Secretary-cum-Principal Chief Conservator of forests for issuing letter regarding impact of the project on wildlife which is still awaited. The bulk density of soil which is reported appears incorrect.

As this mistake can be corrected within a short period, the EAC recommended environmental clearance to the project with the condition that –

i. dam break analysis and disaster management plan should be prepared

ii. letter of CWLW/PCCF to be submitted

iii. improved soil analysis, correcting the mistakes regarding bulk density, water holding capacity, nutrients etc to be submitted

iv. an understanding to the extent that the design parameters given by NCSDP should be used for designing the dam

Dam break analysis and disaster management plan and soil analysis data need not be submitted to the EAC again. The same may be shown to Dr. Bhattacharya. After his approval of the documents, Ministry may process the proposal for environment clearance.

15. Sada-Mangder HEP (71 MW) in Sikkim – GATI Infrastructure

This project was considered as per provision of EIA notification 1994. The committee noted that Public hearing was conducted on 16.10.2004. The CEO of the company informed the committee due to financial closure, they could not submit the proposal immediately after the public hearing.

The committee noted that the project is located in west district of Sikkim. The project envisages a peaking power plant comprising two intakes each with a storage reservoir with a small surface area of 1.01 ha and 1.0 ha for Rangit and Ralli Chu respectively and a headrace tunnel each joining together to a common headrace tunnel an underground surge shaft, an underground power house with two units and an outdoor switchyard.

The total forest land requirement is 31.0756 hectares and private land is 18.5840 hectares.

The biodiversity conservation plan, fishery development in Rangit and Ralli Chu, muck disposal, solid waste management plan and other plans were critically examined by the EAC. The committee noted that the two dams are under category of big dam as they are 45.9 m and 47.3 m high respectively from foundation level but dam break analysis has not been done. The committee recommended environmental clearance to the project with the following conditions:

i) Dam-break analysis and disaster management plan to be prepared and submitted to the Ministry, and

ii) An undertaking to be given to the Ministry that the Design parameters given by NCSDP would be used for the design of the dam.
iii) Dam-break analysis and disaster management plan submitted by the Project proponent need not be placed before the EAC.
iv) The same would be placed before Dr. Bhattacharya.
v) After the approval, Ministry will process the proposal for EC.

16 Under Any Other Item:

i) The Chairman and the Committee members thanked the Member Secretary, Dr. S. Bhowmik, and wanted to place on record their appreciation for his hard work, integrity in pursuing the policies of the MOEF, and facilitation extended to the Committee to carry out the proceedings smoothly during the life of the present Committee.
ii) The Chairman extended his grateful thanks to all the Members for their co-operation and services rendered to the conservation of Environment and Ecosystems while promoting Irrigation and Hydropower Development during the life of the present Committee.
iii) All the members expressed their appreciation and conveyed their indebtedness to the Chairman for his erudition and Technical & Managerial skills in the smooth conduct of the proceedings during the life of the present Committee.

The next meeting will be held on18th April, 2007

The Minutes are confirmed by the Chairman.

P.G. Sastry
Chairman, EAC

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List of participants attended the 53rd meeting of Environmental Expert Committee for River Valley and Hydroelectric projects held on 21st March, 2007 in Paryavaran Bhawan.

Sl.No.	Name	
1.	Dr. P.G. Sastry	Chairman
2.	Dr. O. P. Sisodia	Member
3.	Sh. R.S.Bharthi	"
4..	Mrs.V.M. Bendre	"
5.	R.K. Khanna,Director, CWC	"
6.	Prof. Chanda	"
7.	Dr. A. K. Bhattacharya	"
8.	Prof. Susanta Basu	"
9..	Dr. C.P.Juyal	"
10..	Dr. S Bhowmik	Member Secretary

Jigaon Irrigation Project

1.	Sh. P.S. Kelkar	NEERI
2.	Sh. R.M. Landge	ED VIDC
3.	V.V.Gaikwad	Secy.(WR)
4.	M.V. Patil	CE(WR)
5.	Sh. Sharad Gawande	SE
6.	R.K. Dhawale	EE
7.	S.G. Umap	AE-I
8.	Dr. Anuradha Gadkari	NEERI(Retd.)
9.	V.K. Gadkari	SE-II
10.	P.C. Pant	EE
11.	K.Krishna	

Dikchu HEP

1.	R.B. Maniyam
2.	Ravinder
3.	B, Murali Mohan Reddy
4.	Ramajin

Umngot HEP (2X130 MW)

1.	L.S. Tariang	CE, MESBB
2.	A. Mahanta	SE
3.	A.K. Krishnan	EE

Jangi Thopan HEP

1.	Arun Sharma	Vice-President (Operation)
2.	Lan Bunton	Halwow
3.	Ashok Sharma	"
4.	Iftikhar Drabo	"
5.	B.R. Gautam	"

Sawara Kuddu HEP

1.	Er. A.K. Awasthi	MD PVPCL
2.	V.K. Tiwari	Conservator
3.	Er. P.K. Puri	Sr, Xen

Teesta – II HEP

1.	S. Singuptu	Sr. Manager
2.	Gogan AG	V.P
3.	K.V. Rao	V.P.
4.	M.S. Bisht	CISMHE, DU
5.	R.B. Singh	Unison Arice
6.	R.S.K. Nair	Liaison Officer
7.	Dr. Surya Prakash	Env. Engineer

Parwan Major Irrg - Drinking Water Project

1.	A.K. Chaurasia	Suptd.Engineer
2.	S.N. Gupta	Xen
3.	K.L. Ahuja	Consultant
4.	A.K. Seth	Consultant

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List of participants attended the 53rd meeting of Environmental Expert Committee for River Valley and Hydroelectric projects held on 22nd March, 2007 in Paryavaran Bhawan.

Sl.No.	Name	
1.	Dr. P.G. Sastry	Chairman
2.	Dr. A.K. Sarkar	Member
2.	Dr. O. P. Sisodia	"
3.	Sh. R.S.Bharthi	"
4..	Mrs.V.M. Bendre	"
5.	R.K. Khanna,	"
6.	Prof. S. Chanda	"
7.	Dr. A. K. Bhattacharya	"
8.	Prof. Susanta Basu	"
9..	Dr. C.P.Juyal	"
10..	N. Mukherjee, CWC	
11.	Dr. S Bhowmik	Member Secretary

Lower Penganga Irrigation Project

1..	Sh. R.M. Landge	ED VIDC
2.	V.V.Gaikwad	Secy.(WR)
3.	M.V. Patil	CE(WR)
4.	M.A.Matey	SE
5.	S.K. Singh	V.P. Bhgevathi A.L. Ltd
6.	Dr. B. N.Rao	Bhgevathi A.L. Ltd.
7.	A.P. Dandge	AE-II
8.	A.J. Sarage	Sect. Engr.
9.	S.A. Wani	ACE
10	R.N. Pise	Ex. Eng.

Kotli- Bhel stage I A & I B HEP

1.	S.S. Bist	Sr. M (Env)
1.	V.K. Kapur	ED, Planning Dn.
2.	B.R. Sarof	G.M. Planning Dn
3.	Dr. A.K. Tripathi	S.M.(Env.)
4.	Dr. Vinod K. Bohagh	Chief (Env)
5.	Imran Sayeed	Chief (Geology)
6.	Y.K. Chaubey	CE (Design)
7.	A.K. Rahut	Chief (Geo)

8.	P.K. Jain	SM (Design Civil)
9.	K.K. Shrivastav	CE
10.	Dr. N.P.Todaria	HNB
11.	J.P. Bhatt	HNB
12.	A.K. Roy	CE
13.	S.Dasgupta	Consultant
14.	Poonam P. Senwal	Consultant
15.	Dr. Shahid Ali Khan	Sr. Manager
16.	M. Lalmani Singh	CE

Lower Jurala HEP

1.	Ajay Jain, IAS	MP BPEENW
2.	U.G. Krishna Murthy	
3.	Dr. D.V.Ramana	GM
4.	P.D.V.L. Kumar	SE
5.	P.Sreeremi Reddy	EE
6.	G. Adiseshu	Director
7.	Prof. K.B. Reddy	Env. Scientist
8.	V.Ram Mohan Reddy	AE
9.	M.Dharuva Reddy	AFC
10.	K. Subramanyam	ADE

Bhasmey HEP & Sadamangder HEP

1.	Dr. C.S. Duvey
2.	A. Kumar\
3.	Manoj Kumar
4.	J.K. Thakur
5.	B.K. Khatram
6.	R.P. Sharma
7.	Ms. Jasmeet
8.	Avdesh Kumar