

DO N. 14/13/92-CS
N. J-13011/54/86-1A-II

Handwritten signature

भारत सरकार सेवार्थ

ON INDIA GOVERNMENT SERVICE

बुखार : मलेरिया हो सकता है
क्लोरोक्विन की गोळियां लीजिये
FEVER : MAYBE MALARIA
TAKE CHLOROQUINE

DESPATCHE

के० पंजि० अनभान
C. R. Section
पर्यावरण एवं वन मंत्रालय
Ministry of Env. & Forests
पर्यावरण मन्त्र
Paryavaran Bhawan
के० ए० कॉ० परिसर लोदी रोड
SE-6 C. G. O. Complex, Lodi Road
New D. Eni 110003

To

3rd Dr. S. Deb Roy (Retd.)
B-4/V-24, Lodhi Road
Complex, New Delhi-3

IEM/I-11016/J-2/27/91-C&P dt. 10.1.92

31



भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

MOST IMMEDIATE

SPEED POST

दूरभाष : 4360478
Telephone No. :
तार :
Telegram : PARYAVARAN,
NEW DELHI

पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स,
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

10th February'1993.

No.J.11016/53/86-IA.I

To

Shri Deb Roy,
Retired Additional IGF
B-4/V-24,
Lodi Road Complex,
New Delhi.

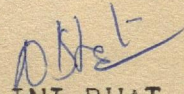
Subject:- Visit to Subhansiri and Dihang Projects .
Assam from 27th February to 3rd March,1993.

...

Dear Sir,

This has reference to our earlier communication of even number dated 7th December,1992 regarding the visit to two major power projects in the Brahmaputra Basin. Due to unavoidable circumstances the visit had to be postponed and it is now proposed to undertake the same from 27th February, to 3rd March,1993 (copy of the programme enclosed). Instead of six days proposed by the project authorities we are trying to condense this tour to five days only. You may like to contact General Manager, Brahmaputra Board, Basistha, Guwahati for informing your travel programme. His contact Telephone No. is 62527(Office) and 62890 (residence). A line in conformation will be highly appreciated.

Yours faithfully,


(NALINI BHAT)
JOINT DIRECTOR

349

The convenient place where members can be contacted address etc. A tentative programme is accordingly drawn as below :-

- Day No.1 Arrival Guwahati(Air port) from Delhi by IC 889
(8-30 Hours).
Leave Guwahati(Air port) for Nagaon by Road(150 KM)
8-45 Hours.
Arrival Nagaon(12-30 Hours) and lunch at Nagaon
(13-00 Hours).
Leave Nagaon for North Lakhimpur by Road (340 KM)
14-00 Hours.
Arrival North Lakhimpur(19-00 Hours) and halt.
- Day No.2. Leave North Lakhimpur for Gerukamukh(70 KM) by
Road(8-00 Hours).
Arrival Gerukamukh(12-30 Hours) and visit the dam
sites and submergence areas(Subansiri Project) by
Motor launch and back to Gerukamukh(13-00 Hours)
and lunch at Gerukamukh.
Leave Gerukamukh for North Lakhimpur(14-30 Hours)
and arrival North Lakhimpur(17-00 Hours) and halt.
- Day No.3. Leave Gerukamukh for Pasighat(8-00 Hours).
Arrival Pasighat(200 KM) by 12-45 Hours.
Lunch at Pasighat(13-00 Hours).
Leave Pasighat(14-00 Hours) for site visit(dam site
and other impact areas) of Dehang Project and halt
at Along(75 KM).
- Day No.4. Leave Along(8-00 Hours) for Pasighat.
Arrival Pasighat(13-00 Hours) and lunch at
Pasighat.
Leave Pasighat(14-00 Hours) for North Lakhimpur.
Arrival North Lakhimpur(18-30 Hours) and halt.
- Day No.5. Leave North Lakhimpur(8-00 Hours) for Nagaon.
Arrival Nagaon(12-30 Hours) and lunch(13-00 Hours)
there.
Leave Nagaon(14-00 Hours) for Guwahati.
Arrival Guwahati(17-00 Hours) and Halt.

DEHANG

Contd..2/

Day No.6. Discussions with the officials of the Brahmaputra Board at Brahmaputra Board Complex(8-30 Hours).

Leave Brahmaputra Board Complex(10-30 Hours) for Airport Borjhar for Belhi(12-30 Hours) by IC 890.

A map indicating North Lakhimpur, Gerukamukh, submergence areas of Subansiri Dam Project and Pasighat, Along and the submergence areas of Dehang Dam Project is placed at Sh. ^{116/12/23} ~~Sh. No. 1~~ for reference.

The convenient place : GUWAHATI
where the members can meet.

The contact address : GENERAL MANAGER,
BRAHMAPUTRA BOARD,
BASISTHA, GUWAHATI-28.

10/11/52

ON INDIA GOVERNMENT SERVICE

BY ~~POST~~ POST NO 14/13/93-IA-II

21/

To
Dr. S. Deb Roy (Retd.),
B-4/V-24, Lodi Road, Complex
NEW DELHI-110003

भारत सरकार सेवांक/010
जेष/De patche
पर्यावरण भवन मन्त्रालय
इकोलॉजी एवं वन विभाग
केन्द्र सरकार का-1
नई दिल्ली/New-Delhi

[Signature]

Ministry of Environment & Forests,
Department of Environment, Forests & Wildlife
Parvavaran Bhawan, CGO Complex,
Lodi Road, New Delhi-110003.





सत्यमेव जयते

(DR. A.K. TYAGI)
DY. DIRECTOR

D.O. No. 14/13/93-CS

- By hand -

तार :

Telegram : PARYAVARAN,
NEW DELHI

दूरभाष :

Telephone :

टेलिक्स (द्विभाषीय) :

Telex (bi-lingual) : W-66185 DOE IN

FAX : 4360678

भारत सरकार

पर्यावरण एवं वन मंत्रालय

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

पर्यावरण भवन, सी० जी० ओ० कॉम्प्लेक्स
PARYAVARAN BHAWAN. C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

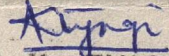
Dated : 20-4-1993.

Dear Dr. Roy,

I am enclosing herewith a copy of the minutes of Environmental Appraisal Committee (T) meeting held on 10th and 11th March, 1993 for your kind perusal.

With regards,

Yours faithfully,


(DR. A.K. TYAGI)
DY. DIRECTOR

Encl. As above

Dr. S. Dab Roy (Retd.)
B-4/V-24, Lodhi Road
Complex, New Delhi -3.

(For restricted internal use of
EAC(T) and MOEF)

SUMMARY RECORD OF THE DISCUSSION OF THE MEETING OF
ENVIRONMENTAL APPRAISAL COMMITTEE FOR THERMAL POWER
PROJECTS HELD ON 10th and 11th MARCH 1993 AT PARYAVARAN
BHAVAN, NEW DELHI

A list of participants is attached.

Chairman welcomed the members with greetings for the Holi festival and also mentioned about the recent statement by Shri Kamal Nath, Minister of Environment and Forests at an international forum in regard to the global concern for environment and urgent need for participation of international community in this regard.

Confirmation of the minutes of the last meeting.

AGENDA ITEM NO. 1:

There were some minor corrections as under proposed in the draft minutes.

- i) Para 3.3, line number 4, insert 'Project authorities were' between the words 'and' and 'asked'.
- ii) In the same para 3.3, insert 'within six months' at the end of sub-para-1. Further insert 'of' at the end of 4th line in sub-para-2.
- iii) In para 3.4 the 4th line and 5th may be corrected as under:

In para iii - (b) add after 'atleast 500 metres' 'preferably one kilometre or more'.
- iv) Para 3.6 insert the word 'only' in 5th line between the words 'meeting' and 'as'. In the same para in sub para 2 insert 'any reasons' after the word given in the line number 3.

With these amendments the minutes of the meeting were confirmed.

In regard to the record minutes of the site visit Committee, the following amendments were proposed to the recorded minutes.

- i) Page-4 Sub-para (d) in line number 3 insert 'and bricks' after the word 'cement'.
- ii) In Sub para (e) add at the end the following sentence:

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They should also explore the possibility of providing dry collection system in existing units and submit a report to the Ministry on all the aspects within six months.

In item 7 (a) insert the word Tungabhadra in line number 2 before the word "Right Bank".

At page 7 in Sub para (d), replace the word 'with' in line number 2 by 'within'.

With these amendments the recorded minutes of the site visiting Committee were approved.

Agenda Item No. 2 : ACTION TAKEN ON PREVIOUS MINUTES

Dr. Pandey advised the Committee about the action taken on the various items.

In regard to the project of Maithon Thermal Power Station, as the project authorities did not still submit the information required, they have been advised to come up afresh when they are ready with the information. In the meantime the Ministry has closed the file.

Item 3.1: Godavari gas based power plant - 600 MW NTPC.

Shri Sunderajan, Director NTPC along with his consultants and officers presented in brief outlines of the project.

During the discussions, following clarifications were made by the Project Authorities and the consultants:-

1. No alternative sites are available. The two sites suggested earlier by the Committee were also examined and not found suitable. A report had been sent to the Ministry.
2. The thermal power station will use cooling towers. There will, therefore, be no discharge of hot water.
3. Andhra Pradesh Government's clearance has been obtained and that the NOx emissions from the power station (ultimately capacity) can reach concentration of 20 ug/m³ in the ambient air, leaving cushion of only 6 ug/m³ for other NOx emitting industries in the area.
4. The present ground level concentration of NOx in the ambient air is 4 ug/m³.
5. The plant will emit negligible SO₂.

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6. As per the consultants, the concentration of NOx in the ambient air due to a 200 MW unit would not exceed 12.5 ug/m³ within a range of 15 to 40 kms. from the plant.
7. Capacity addition would be restricted to a level that the ambient air concentration of NOx due to the TPS does not exceed 20 ug/m³.
8. Gas is likely to be available for 200 MW capacity only as at present.

Based on the above clarifications and the presentation of the Environmental Impact Assessment Report from the Consultants, the Committee recommended the approval of the project for setting up Stage-I units upto 200 MW capacity subject to the following conditions:

The Committee desired confirmation letter on the above points especially item (3) above. Besides the above, the Committee desired the following :-

1. Confirmation from the State Government to the effect that further growth of industries would be so controlled so as to ensure that the ambient levels of NOx do not exceed the limit of 30 ug/m³ including the emissions from the proposed gas based power station including the expansion, if any.
2. Specific opinion from the Wild life Wing of the Ministry whether any further studies are required in this area to find environmental impact.
3. The project authorities should carry out a study at two or three locations in and around Coringa sanctuary to establish whether the concentration of NOx in the ambient air is 4 ug/m³. The earlier data needs confirmation. This study should be submitted to the Ministry within 6 months.
4. Stack height for Gas Turbines and Steam Turbines will not be less than 35 and 75 mts. respectively. Project authorities should carry out continuous monitoring of NOx at the plant site to find level of emissions.
5. Project authorities should establish a system to monitor & assess the impact of emissions on the sanctuary both in respect of animal and plant life.
6. The Unit protection system should incorporate an interlocking system so that if the NOx emission exceeds 50 ppm, the generating unit would be shut down.

7. It may be ensured that the fuel wood requirement of the construction labourers are arranged by the project authorities so as to prevent felling of mangroves and other trees in the area.
8. As a part of the social responsibility, the project proponent and the State Government should jointly work out such programmes involving the local population for protection of environment and conservation and regeneration of mangroves in the area.
9. The Committee noted the findings at para 1.3.11 (extracted below) page 1.4 of the Consultants report regarding the controlled growth of the city and recommends that the State Government should take effective steps to implement the same.

The direction of growth of the city needs to be steered towards the Samalkota Road and Rail link (Fig. 8.1), and maintain a 2 km wide exclusive zone between the industrial sites and settlements to avoid interfacial conflict between malfunctioning of industry and settlements. This is possible as most of this 2 km wide belt is either under afforestation programme or marshy land.

10. It was noted from page 1.3 Item 1.3.7 of the consultants report that there would be no discharge of liquid effluents other than the blow down from the cooling tower and DM plant. The point of discharge of treated effluent conforming to the regulatory standards should be atleast 10 kms away from the outer boundary of the Coringa sanctuary and actual point of discharge should be decided in consultation with the State Pollution Control Board. Efforts should be made to recycle the liquid effluents to the maximum extent possible.

3.2: Hissar Thermal Power Station - 2x250 MW.

The Superintending Engineer (HSEB) along with his consultants and officers made a presentation arising out of the observations made after the site visit made by the Committee. It was indicated by them that all the sanctions required in connection with this project had been obtained. Clearance from the Air Port Authority has already been received for 220 metre stack height and discussions are going on for the clearance for the 275 metre stack height. They hope to get this clearance (for 275 Mt.) shortly. They had already provided for dry ash collection system and accordingly proposed to acquire less land.

They stated that the siting of the colony has been taken on the other side of the road as suggested by the Committee during the site visit. Taking into account the

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presentation done by the project authority and the Environmental Impact Report of the Consultants, the committee recommended the project for clearance subject to the following conditions:

1. The stack height should be 275 metres having bi-flues because it is a predominantly agricultural area.
2. Liquid effluents emanating from the various plants including the ash pond area should be properly treated to conform to the stipulated standards of the State Pollution Control Board.
3. Efforts should be made to recycle/reuse the treated effluent to the maximum extent possible.
4. No effluents should be discharged into the Western Yamuna Canal.
5. The project should provide for a research study to find out any adverse impact on the adjoining crops due to the emissions from the power station vis-a-vis preventive and control measures to be adopted.

3.3 Ib Valley TPS 2x500 MW - Stage-II.

First stage units (4x210 MW) were accorded clearance earlier by the Ministry. It was mentioned by the project authorities that the first unit will be commissioned by March, 1994. Stage-II units will be comprising of 2x500 MW. A brief presentation was made by Shri I.C. Das, Managing Director, Orissa Power Corporation and their consultants. The following points raised by the committee could not be clarified:

1. Plant characteristic and stack emissions data in respect of Stage-I Units should be given.
2. The Plant characteristic data particularly flue gas exit velocity and stack diameter at the top need to be rechecked and confirmed. The calculations should be made preferably with exit velocity of 20-22 metres per second.
3. In view of the Marry go round system for the coal transportation, it may be examined whether fly ash could be put back to the abandoned mines and feasibility report in this regard may be prepared and submitted. Similar recommendation was made with respect to NTPC project in Ib valley. As such project authorities may like to coordinate with NTPC in examining the feasibility.

4. Emissions of NOx should be checked and calculations of GLC should be made accordingly based on the realistic emissions of NOx from the proposed units.
5. Dry ash collection system should be provided for its utilisation in Stage-I and Stage-II units.

The project authority invited the Committee for a site visit which could be made after the requisite information/clarifications, as mentioned above, are furnished by the project authority.

3.4 Gouripur TPS (2x67.5 MW), West Bengal

The project was represented by Shri N.M. Basu of Birla Technical Services (BTS) who made the presentation in regard to the project. The Committee appreciated the proposal of setting up of fluidised bed boilers (circulating type) and utilising the rejects from the coal washeries and the main feed stock. The emissions of NOx from the fluidised bed boilers will be comparatively less as the temperature will be about 850 to 900°C. The project authorities stated that if required the lime injection could be made to reduce the emissions of SO2. The efficiency of ESPs proposed to be provided will be of the order of 99.8 per cent having 2 streams and 6 fields. Closed cooling system should be adopted. No additional land will be acquired. The land already available with the existing closed plant as also available with the closed Jute mills will be made use of for the proposed power station.

They stated that they are already adopting a dry ash disposal system.

The ambient air quality data was based on two days' observation i.e. 23rd February and 4th March, 1993 which cannot be considered as representative data of the area. Besides, the SO2 levels were indicated to be on the lower side i.e. 0.75 ug/m³ whereas the minimum detectable limit is about 6 ug/m³. In view of this, the Committee advised project authorities to recheck the ambient air quality for atleast one month and submit the background level concentrations of SPM, SO2 and NOx. The heavy metal contents of the washery rejects may also be assessed and levels reported.

After the receipt of the above information, the project could be reconsidered by the Committee. The project authority invited the Committee for a site visit which will be advised to them separately.

3.5 Sagardighi TPS-Stage-II 2x250 MW

The project authority was represented by Shri P. Banerjee, West Bengal Power Development Corporation along with his consultants and officers. The first stage of

the project was already cleared in September, 1989 for either 5 x 210 MW or 2x500 MW. The project has not yet started. The project authority clarified that they consider now a total project of 4x500 MW (2000 MW) and were soliciting clearance for the total project. During discussions, it came out that EIA report was still based on the earlier considerations of 5 units of 210 MW with 220 metre stack height which needs a review in view of the revised decision of the project authority. Similarly, most of the basic data furnished in the earlier EIA report would need a review. Various guidelines in this regard were mutually discussed so that the revised report could be useful to the Committee. The project authority ~~has~~^{has} requested to come afresh with the revised proposals taking into account the impact of the Stage-I Units as well. The Committee felt that as the revised EIA may take considerable time, the Ministry may consider closing the file till the revised EIA is received.

3.6: Chandrapur TPS Unit-7 (1x500 MW) -
Review of the Condition regarding FGD.

The Ministry withdrew the note and will come afresh after seeking certain more clarifications from the project authorities.

3.7: Nagothane Combined Cycle gas turbine - 820 MW.

Shri S.R. Deshmukh, S.E., MSEB along with his consultants and officers made the presentation.

Maharashtra State Electricity Board representatives made the following clarifications:

1. It is currently planned to install 2 x 130 MW gas turbines plus 1 x 150 MW waste heat recovery unit.
2. Out of the commitment of 4.5 million cubic meter (MMCD) per day of gas to the Uran gas turbine project, 1.4 MMCD would be released for the proposed units at Nagathane. The present consumption of gas at Uran is about 2.8 to 3 MMCD.
3. The site is about 4.5 kms from the river bank.
4. Fresh water requirement of 15 million m³ per annum will be met from the water released by the Bhira Tail Reservoir (water is now flowing to the sea). H.E. Power House operates throughout the year. Availability of this quantity of water had been confirmed by the state Irrigation Department.
5. a) The land requirement is about 45 hectares and involves no displacement of people.

- b) No resistance is expected from the owners during the land acquisition.
 - c) No tribal lands are involved.
 - d) The land is rain fed which is not very productive agriculturally.
6. While calculating the concentrations of the various pollutants, the local topographical features had been taken into account in the model used.
 7. The safety aspects ^{and} disaster management plan would be dealt with in the detailed project report/EIA to be submitted to the Ministry for approval.
 8. The green belt details would also be furnished in the detailed project report/EIA to be submitted to the Ministry for approval.
 9. The liquid effluent will be discharged into a nallah which drains into Amba river.

The Committee on the basis of this presentation and EIA report made the following observations:

1. The Development Control Regulations for FSI etc. and the land use stipulations in the Regional Plan for Raigarh district (already approved and gazetted by Maharashtra Government) must be adhered to.
2. A plan for obtaining fill material & rehabilitation of quarried sites must be submitted to the Ministry for approval along with EIA report.
3. The safety aspects of the gas pipeline to be laid for this project need to be taken care of.
4. The clarifications as sought by India Meteorological Department (IMD) vide their letter of 26th February, 1993 should be furnished by the project authority (the points were already explained to the project authority during the meeting).

A confirmation from the Ministry of Petroleum and Natural Gas be obtained in regard to the release arrangement of 1.4 MCMD of gas from Uran gas turbine project. Similarly, a copy of the letter issued by Uran Gas Turbine Project may also be sent along with the EIA report.

Clarifications as sought above along with the EIA report should be asked from the project authority.

Item.4.1): Site visit reports of Raichur and Vijaynagar TPS of Karnataka Electricity Board.

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Site visit report of Raichur and Vijaynagar TPS were examined by the Committee and agreed with the recommendations made by the site visiting Committee. The Committee recommended the Raichur TPS Stage II for clearance from Environment Angle.

Item.4 ii. Date for Raigarh and Korba TPS site visit.

The tentative dates for the visit of Raigarh and Korba projects were decided starting Delhi on 6th April and returning back to Delhi 10 April, 1993. It was suggested that from Bilaspur the Committee would be benefitted by a visit to National Environmental Engineering Research Institute (NEERI) at Nagpur and to see the research work being done there. Dr. Badrinath invited the Committee and will look after the local hospitality. The Committee will consist of Shri M.G. Jain, D.K. Mittra, R.K. Jain, Shyam Chainani, C. Paul, P.Batt. etc.

Item.4.iii. Site visit of Gouripur TPS would be from 28th April to 30th April. The team will comprise of S/Shri S.C.Sharma, Shayam Chainani, C. Paul, R.K. Jain, M.G. Jain, B.Sengupta etc.

Item 5. Any other item with permission of the Chair.

i. The project of National Power Grid Corporation on load despatch Centre for Southern region and DESU's establishment of supervisory control and automatic data acquisition project were discussed in the meeting of 21st January, 1993 and were reviewed in the light of fresh information submitted. In view of the decision of the Ministry that such projects would also be dealt with by this Committee, the Committee considered these projects. After examining the various related aspects, the Committee recommended the two projects for clearance subject to the condition that a research study should be initiated to findout the impact of the non ionising radiations on the human beings, animals and birds.

ii. TISCO's captive power plant : Dr. Pandey brought before the Committee the TISCO's letter dated 25th February, 1993 regarding 67.5 MW Captive Power Plant at Jojobera Complex of TISCO, Jamshedpur requesting to clear their project as the plant site was located 7 - 8 kms Eastward from TISCO and the predominant wind direction is South to North, South-East - North-West and the present and future activities in the main works would have hardly any impact on the environment. The above project ~~while~~ discussed in the meeting held on 19th October 1992 and the Committee had felt that an integrated EIA report is necessary to have the overall implications of the existing plants and the proposed new power plant. There were also additional observations in this

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regard which were conveyed by the ministry in their letter dated 4.11.1992. The Committee re-iterated its earlier stand that an integrated EIA report is essential to find out the overall impact due to the existing plant and the current project including the Captive mines.

It was also noted that TISCO have taken more than three months' time to respond to the Ministry's letter.

111. Bhakreswar TPS - Review of stack height.

Shri M.G. Jain brought to the notice of the Committee that the issue of techno-economic clearance is held up in Central Electricity Authority (CEA) for want of relaxation regarding stack height from 275 metres to 220 metres in regard to a reference made by them. It was clarified that the matter is being dealt with in consultation with IMD. Additionally it was decided in the meeting of November, 1992 that height may be reviewed based on the revised calculations to be submitted by the project authorities which have not been submitted to the Ministry.

iv. Research studies

It was felt that certain research studies are necessary to establish the sanctity of certain guidelines at present being observed by the Committee. The following areas were identified for discussion in the Committee.

1. Guidelines in regard to provision of 500 meter distance from State/National High-way, green belt of 500 metres.
2. The need of FGD plant as prescribed at present.
3. The stack height as related to various units of 210/250 and 500 MW capacity, including the aspects of multi-flue.

Shri Shyam Chainani, Shri M.G. Jain and Shri Sharma were requested to make a working paper on Item 1, 2 and 3 respectively so that they could be discussed in detail to enable the Committee to make recommendations to the Ministry.

v. Standard conditions.

The provision in regard to dry ash collection system being adopted for all future thermal power projects should be made as a standard condition.

vi. Next meeting of the Committee will be held at Paryavaran Bhawan, New Delhi on 27th April, 1993.

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

List of Participants attended in the Meeting of EAC(T) held on 10.3.93 in Paryavaran Bhavan, New Delhi.

S.No.	Name	Organisation
1.	Shri P.K. Jain	Chairman
2.	Sh. Shyam Choudhary	Member
3.	Sh. C.K. Paul	Member
4.	Sh. S.C. Choudhary	Member
5.	Dr. B. Sengupta	Member
6.	Sh. S.D. Badrinath	Member
7.	Sh. H.G. Jain	Member
8.	Dr. I.V. Rao	Member
9.	Sh. Dilip K. Biswas	Member
10.	Sh. D. K. Mitra	Member
11.	Dr. G. K. Pandey	Member Secretary
12.	Dr. S. Bhowmik	M/o E & E

Project Authorities

Name & Organisation	Designation
1. NTPC/Consultants	
1. Sh. I.C. Das	M.D. OIGG
2. Sh. S.C. Das	Consultant, OIGG
3. Sh. K.K. Pande	Liaison Officer
4. Sh. Y.S. Hartv	Consultant NTPC
5. Sh. S.L. Kapur	DGM NTPC
6. Sh. B.J. Prasad	Manager, NTPC
7. Sh. P.R. Rao	Asst. Scientist NTPC
8. Sh. R. Sundar Rajan	Chief Engineer NTPC
9. Sh. D. Hazumdar	CDE NTPC
10. Sh. N. Chaudhuri	Consultant to NTPC
11. Sh. Mohan Rao	SEGL
12. Sh. V. Sundara Rajan	Director (Project) NTPC
13. Sh. H. Kishan Rao	SEGL
2. MSEB/Consultants	
1. Sh. J.L. Thakar	RE
2. Sh. S.E. Deshmukh	MSEB
3. Prof. S.K. Sarof	M/s. National Environ. Engrs.

Consultants

1.	Dr. J.P. Shrivastav	Desain Pvt. Ltd.
2.	Dr. N.H. Basu	Adviser IIC
3.	Sh. Gunday	Desain
4.	Sh. B. Hema Sundar	Desain Consulting Engineers

List of Participants attended in the meeting of EAC(T) held on
11.3.1993 in Faryavaran Bhawan, New Delhi.

S.No.	Namee & Designation
	S/Shri.
1.	R.K. Jain Chairman
2.	S.C. Sharma Member
3.	C.R. Paul Member
4.	Shyam Chainani Member
5.	D.K. Biswas Member
6.	M.G. Jain Member
7.	D.K. Mittra Member
8.	P.V. Rao Member
9.	S.D. Badrinath Member
10.	G.K. Pandey Member Secretary
11.	S. Bhowmik M/o R & F

WB PDCL/Consultants

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	S/Shri	
1.	P. Banerjee	WBEDCL
2.	D.K. Gaha Ray	WBPDCL
3.	S.C. Dasgupta	DCL
4.	T.K. Dutta	WBPDCL

HSEB/Consultant

	S/Shri	
1.	D. Ghosh	MECON
2.	A.K. Sharma	MECON
3.	M.L. Thareja	CE (TD) HSEB
4.	R.V. Sharma	SE (TD) HSEB
5.	D.K. Dua	AE HSEB

No J-13011/EACCT/93-JA II

भारत
INDIA

2. Dr. S. Deb Roy (Retd.),
B-4/V-24, Lodhi Road Complex,
New Delhi - 110 003.

DEPARTMENT
GOVT. OF INDIA
NEW DELHI

NEW DELHI
INDIA



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No. J-13011/EAC/93-IA-III
Government of India
Ministry of Environment & Forests

Paryavaran Bhavan,
CGO Complex,
Lodi Road,
New Delhi-110 003.

21st May, 1993

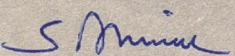
To

Dr. S. Deb Roy (Retd.),
B-4/V-24, Lodhi Road Complex,
New Delhi - 110 003.

Sir/Madam,

I am enclosing herewith the minutes of the meeting of
EAC(T), held on 27th April, 1993, for your kind information.

Yours faithfully,


(Dr. S. BHOWMIK)
Joint Director (Scientific)

**SUMMARY RECORD OF THE ENVIRONMENTAL APPRAISAL COMMITTEE
FOR THERMAL POWER PROJECTS HELD ON 27TH, APRIL, 1993 IN
PARYAVARAN BHAWAN.**

A list of Participants is appended.

The Chairman welcomed the members and congratulated Shri M.G. Jain on his promotion as the Chief Engineer in CEA.

AGENDA ITEM NO. 1: Confirmation of the minutes of the last meeting.

The minutes of the last meeting were confirmed subject to the following minor modifications:

- i) Page-6. Item 3.5: (SAGARDIGHI T.P.S.) The capacity should be 2x500 MW as against 2x250 MW mentioned in the minutes.
- ii) Page-9. First Para. (i.e. RAICHUR T.P.S.) Second sentence may be deleted.

AGENDA ITEM NO. 2: Decision taken on the last meeting:

A write-up on the action taken on the recommendations of the Committee was circulated to the members during the meeting. The Chairman pointed out that the write-up is not covering the action taken with respect to the presentations to be made by the Committee members. The presentations were not ready. It was decided that the presentations by the respective members could be made in the next meeting of the Committee. On a query from the Chairman, Member Secretary clarified that the condition of dry ash collection system has been included in the list of standard conditions.

AGENDA ITEM NO. 3: consideration of projects.

3.1 Raichur Thermal Power Project Stage-III (2x210 MW) of Karnataka Power Corporation.

The EIA report was considered by the Committee and the following observations were made:

- i) The quantity of the coal projected for 2x210 MW and 1x500 MW Units were indicated to be same (8000 tonnes per day) which appears to be incorrect. The exact quantity of coal required to be consumed by the proposed units should be indicated and accordingly the emissions of pollutants such as particulate matters, SO₂ and Oxides of Nitrogen should be recalculated and their impact on ambient air quality reworked.

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- ii) The water requirement was also indicated to be the same for 2x210 MW and 1x500 MW units which is incorrect. The exact water requirement for the proposed units should be worked out and reflected in the EIA report.
- iii) Table 25 - SO₂ emissions as projected appear to be on the lower side which should be somewhere around 500 µg/m³ and not around 250 µg/m³ as projected in the report. Emission data as projected in Sheet No. 15 also needs to be rechecked. Similarly, stack emissions data given in Sheet No. 21/22 should be checked.
- iv) Item 8.1/8.2: The use of sand for construction purposes has been indicated. Possibility of using fly ash to the maximum extent possible should be explored as against the envisaged use of sand and other fill material to be quarried for construction purposes. In case the use of sand/fill material becomes inevitable, a detailed plan of its extraction indicating the areas of extraction along with their rehabilitation plan should be submitted.
- v) Ambient air quality data with respect to SO₂ and NO_x in certain locations were observed to be quite low (3 µg/m³) which appears to be doubtful as the sensitivity of the method used can't detect the levels below 5 µg/m³.
- vi) Fly ash utilisation plan is required as recommended in the site visit report page-4 (Item - e).
- vii) Action taken with respect to the implementation of the conditions imposed earlier by the Ministry should be furnished as mentioned in the site visit report (page-4, Item (g)).

The EIA report should be revised based on all the above observations of the Committee and resubmitted for consideration of the Committee. The EIA report prepared by the Consultants was found unsatisfactory on many account.

The information as sought by the Committee as per the site visit report especially with respect to Item (e) & (g) on page-4 should be furnished immediately by KPC to enable the Committee to consider the site project clearance.

3.2 Vijayanagar Thermal Power Station (1 x 500 MW):

The site visit report was considered by the Committee. Besides, presentation was given by the representations of Karnataka Power Corporation and their consultants. It was indicated that during the site visit the

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Committee was wrongly informed of two State Highways only one of these is State Highway. The following observations were made by the Committee:

- a) The site being located near the State Highway, the project authorities were advised to shift the site by 500 metres from the State Highway. However, the project authority indicated during the meeting that they would be able to shift it by 100 metres only from the State Highway as it is not possible to shift more than that metres due to constraints of land availability. The Committee felt that necessary clearance in this regard from the competent State Government authority may be obtained especially with reference for reduced distance of 100 metres from the State Highway which should be at least 100 metres. Alternatively, the KPC may acquire the land as proposed but should not use the first 100 mt from the High Way for any other purposes except for raising green belt is only to avoid encroachments.
- b) The information with respect to Item b to e as sought by the Committee as per the site visit report (page-6) should also be furnished.
- c) Details regarding the archaeological monuments and other historical places in the area especially within 25 kilometres from the site should be furnished.
- d) A green belt plan is to be submitted along with the proposal.
- e) A plan for obtaining fill material & rehabilitation of excavated sites, should also be prepared and submitted alongwith.
- f) Rehabilitation plan/package for the affected people should be prepared and submitted.
- g) The efficiency of ESPs was indicated to be 99.5 per cent. The project authority was requested to check whether they will be able to adhere to the stipulated limit of 150 mg/m³ with the proposed efficiency of ESPs which is of more importance.
- h) It was pointed out by the one of the Committee that it is now possible to reduce the evaporation losses to one per cent as against the indicated losses of about 1.5 per cent. While doing the detailed engineering, appropriate technology may be adopted to keep the evaporation losses upto one per cent.
- i) The committee felt that EIA report was poorly done and as such the committee desired submission of revised EIA report including the above observations.

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3.3 Duburi Thermal Power Station (2 x 250 MW).

At the outset Shri Ramachandran one of the directors of the Company informed the Committee that the proposed thermal power station is likely to be set up by North East Energy Company of USA. He stated that the project would be having a captive Mine for which a decision has already been taken by the Government of India. The Mine would be developed by the Company and facilities for coal washeries are also being provided so as to get beneficiated coal for the proposed power station. Mr. R.L. Jenks, Technical Officer of the Company attended the meeting and informed the Committee that the best available technology in the power production will be utilised so as to keep the emissions of pollutants to the minimum. He further stated that computer controlled system for reducing the pollution would be adopted. He opined that the major problems of concern in the area would be due to particulate emission which could be controlled by adopting ESPs. Bag filters may also be used if found feasible at the stage of the detailed engineering. He also mentioned that the boiler blow down will be used for cooling purposes besides the recycling of other liquid effluents to the maximum extent possible.

The following observations were made by the Committee:

- a) The ambient levels of SO₂ and NO_x near Nilamandipur Sasan were on the higher side for which clarifications are required.
- b) The quantity of coal projected appears to be on the lower side and needs to be clarified.
- c) The details of beneficiation of coal such as percentage removal of ash and sulphur contents should be specified. The quantity and characteristic of the liquid effluents generated by the proposed coal washeries should be given along with the details of its treatment and disposal.
- d) The area is experiencing major developmental activities due to the proposed Steel Plant, Refinery, Power Station and the coal mining activities and as such an integrated environmental impact assessment report taking into account the combined impact due to the various proposed developmental projects in the area would be necessary.
- e) The water losses indicated are of the order of 1.8 per cent whereas the same could be reduced to about one per cent.

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- f) The Civil Aviation Authorities has given clearance for 222.5 metres of stack height. Clearance for 275 metres stack should be obtained.
- g) Details of the tribals likely to be affected are required along with their rehabilitation plan/package including the other affected people.
- h) Details of stone/sand quarries from where the fill material is proposed to be obtained should be given along with the plan for their rehabilitation/reclamation.
- i) It was stated by the project authority that the land required has been identified by the Government of Orissa and given to the project authority for setting up the proposed power station. The committee desired details of the alternative sites considered.
- j) The State Government has already given commitment with respect to the availability of water for the proposed power station.
- k) It was informed by the Project Authority that the coal mines are yet to be linked and would be developed by them. The prospective mines are located at a distance of about 100 Km and the coal would be transported by rail to the power plant. Necessary clearance for the mines should be obtained from the Mining Committee of the Ministry. A copy of the feasibility report may also be submitted by the project authority.
- l) Forest clearance stated during the meeting to have been obtained, may be confirmed.
- m) A detailed plan for ash utilisation should be submitted.
- n) ESP should be designed for the worst quality of coal (project authority stated that they would be doing this)
- o) Interlocking device (if the system goes beyond limit) should be provided (project authority stated that they would be doing this)
- p) Green belt plan (including choice of species) should be submitted.

After receipt of the above information, the project will be reconsidered by the Committee. A site visit may also be necessary for on the spot assessment of the various related environmental issues.

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Item 3.4: Captive Power Plant of Manikgarh Cement 2x5 MW

The Committee recommended the project for clearance subject to the standard conditions:

Agenda Item No. 4: Consideration of site visit reports of Korba East TPS, Raigarh TPS & NTPC proposal for ash Disposal area.

The site visit report was circulated and considered by the Committee members.

4.1: Korba (East) TPS:

The replacement unit of 250 MW was recommended by the Committee subject to the conditions as mentioned in the site visit report (Page-4: Para-c).

The committee while appreciating the reclamation of the ash pond areas desired that a micro biological survey of the retained area may be done and report submitted. The Committee also desired that the project authority may inform about the results of the analysis of vegetables, cereals, fruits etc. grown in the reclaimed ash pond areas with respect to their fitness for human consumption.

The Chairman raised the issue of the need of providing dry ash collection system in the power station especially in view of the fact that even the wet ash could be utilised for cement manufacturing as is being done in Korba at present. He opined that in case the ash from ash pond area could be made use of by the cement manufacturers then the need for making provision for dry collection and disposal of fly ash may not be necessary. A considerable discussion took place in this regard; it was decided that the matter may be referred to Central Building Research Institute/ Cement Research Institute with respect to the quality of the fly ash (dry form/wet form) required for making pozollena cement without compromising with the quality of the cement.

4.2 Raigarh Thermal Power Plant 2 x 500 MW

The Committee recommended for site clearance as per the conditions mentioned in the site visit report (Page-3: Para-i). It was suggested that the empty wagons may be used for carrying ash back to the mines. The Committee desired that this should be examined by the Project authority in consultation with the mining authority.

4.3 Ash disposal area of NTPC in Korba

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Shri Dua, General Manager, NTPC Power Station, Korba informed the Committee that based on the recommendations and the inputs given by the Committee during their site visit, review of the ash pond area has been done to reduce acquisition of agricultural lands to the extent possible. He, further, stated that suitable access to the villagers to reach to the areas across the river Hasdeo would be provided. Besides, a green belt all around the ash disposal area especially covering areas near to the human settlements, will be provided so as to

control dust pollution problem which appears to be quite remote, as the ash pond will be kept in wet condition and the chances of fly ash becoming air borne will be minimum. He further stated that out of 1400 acres of land earlier proposed to be acquired, about 1100 acres will now be acquired after leaving behind the agricultural fields. The ash pond water will be recycled for transportation of fly ash. With these clarification and amendment the proposed acquisition of land for additional ash disposal is recommended for approval.

Agenda Item No. 5: Consideration of letters of Dr. P.Vemuri Rao, Member of EAC (Thermal)

The Committee took note of the 2 letters circulated by Dr. P.V. Rao, a Non official member of the Thermal Power Appraisal Committee, to all the Committee members; one dated 4.4.1993 along with enclosures and the other dated 17.3.1993. Committee was distressed to note that abusive and unparliamentary language has been used in these letters against certain members of the Committee besides some high dignitaries in the Ministry of Environment and Forests and CEA. The copies of the letters have also been circulated to various Govt. offices including that of Prime Minister. The Committee feels that this is unbecoming of a responsible member of this Committee. The Committee expressed profound regrets and the Ministry may like to take appropriate action in this regard.

Next date of the meeting

The next meeting will be held on 26th May, 1993, at Parvavaran Bhavan.

List of participants attended the meeting of Thermal
Power Appraisal Committee on 27th April, 1993

Sl.No.	Name & Organisation
	S/Shri
1.	R.K. Jain, Chairman EAC(T)
2.	C.R. Paul, Member
3.	S.D. Badrinath, Member
4.	Shyam Chainani, Member
5.	S.C. Sharma, Member
6.	M.G. Jain, Member
7.	Pitambhar Bhatt, Member
8.	T.K. Majumdar, Member
9.	D.K. Mittra, Member
10.	Dilip K. Biswas, Member
11.	G.K. Pandey, Member Secretary
12.	S. Bhowmik, MOE&F
13.	A.K. Tyagi, MOE&F
14.	G.K. Goval, MPEB
15.	M.K. Chatterjee, MPEB
16.	J.P. Srivastav, DESEIN
17.	P.R. Mallikarjuna, CE KPU
18.	K.S. Ramachandran, Kalinga Power Corporation
19.	R.L. Jenks, Kalinga Power Corporation
20.	G.C. Mahanty, ORITCO, Bhubaneswar
21.	V. Ravishankar, ORITCO, Bhubaneswar
22.	C. Vasudevan, DCDE (Civil) NTPC
23.	R.K. Gupta, CDE (Civil), NTPC, New Delhi
24.	S.L. Kapur, DGM I/C (ES), NTPC
25.	S.S. Dua, G.M. Korba STPP, NTPC.
26.	S.C. Gupta, MPEB.



सत्यमेव जयते

DR. G. K. PANDEY
ADDITIONAL DIRECTOR

D.O.No. 14/13/93-CS

तार :

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Telephone : 4360467/4360783

टेलिक्स (द्विभाषीय) :

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भारत सरकार

पर्यावरण एवं वन मंत्रालय

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

पर्यावरण भवन, सी० जी० ओ० कॉम्प्लेक्स
PARYAVARAN BHAWAN. C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

26th July, 1993

Dear Dr. Roy,

The meeting of Environment Appraisal Committee (T) scheduled to be held on 29th July, 1993 has been postponed to 5th August, 1993 at 10.00 a.m. in Conference Room No. 402. You are requested to make it convenient to attend the meeting.

/ and will be held

Inconvenience caused is regretted.

With regards,

Yours sincerely,

(G. K. PANDEY)

Dr. S. Deb Roy (Retd.)
B-4/V-24, Lodhi Road Complex,
New Delhi-110 003.

No: J-15012/28/93-IA-I / 1

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भारत सरकार

पर्यावरण एवं वन मंत्रालय

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT & FORESTS

पर्यावरण भवन, सी.जी.ओ. कॉम्प्लेक्स

PARYAVARAN BHAWAN, C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003

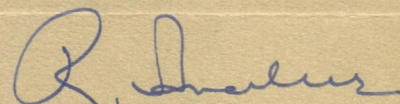
LODI ROAD, NEW DELHI-110003

May 31, 1994

OFFICE MEMORANDUM

Sub:- Study to develop siting criteria for gas based thermal power plant in ecologically sensitive areas. - Meeting on 27.5.1994 - Summary Record of discussions.

Enclosed please find a copy of the above for information/necessary action.



(R. ANANDAKUMAR)
ADDITIONAL DIRECTOR(S)

1. Dr. A.K.Ghosh, Director, Zoological Survey of India, M-Block, New Alipore, Calcutta-700001.
2. Shri S.C.Sharma, Member Secretary, Central Zoo Authority(Ministry of Environment & Forests), Bikaner House, Shahjahan Road, New Delhi-110012.
3. Shri V.N.Pradhan, Deptt. of Forest, Government of Rajasthan, Jaipur.
4. ✓ Shri S.Deb Roy, Formerly Additional Inspector General of Forests, B-4/V-24, Lodi Road Complex, New Delhi-110003.
5. Dr. R.K. Pachauri, Director, Tata Energy Research Institute, Darbari Seth Block, India Habitats Centre, Lodi Road, New Delhi-110003.
6. Shri O.N.Kaul, Tata Energy Research Institute, Darbari Seth Block, India Habitat Centre, Lodi Road, New Delhi-110003.
7. Shri Atul Kansal, Tata Energy Research Institute, Darbari Seth Block, India Habitat Centre, Lodi Road, New Delhi-110003.

Copy to: P.S. to Adviser, JD. Dr.(Mrs.)Nalini Bhat.

J-15012/28/93-IA-I
GOVERNMENT OF INDIA
MINISTRY OF ENVIRIONMENT & FORESTS

Sub:- Study to develop siting criteria for gas based thermal power plant in ecologically sensitive areas.-Meeting on 27.5.1994 - Summary Record of discussions.

Present: List appended.

At the outset it was explained that this project has been formulated by Tata Energy Research Institute at the instance of the Ministry in order to arrive at acceptable distance criteria for siting of Gas based thermal power plants (GBTPS) in the neighbourhood of ecologically sensitive areas. In view of lack of details and information, the methodology could not be detailed. It was also noted that the studies presently available are limited to evaluation of impact on fauna due to loss of habitat only. It was generally agreed that there are significant impacts on flora and fauna both during construction and operational phases. ^{There} One time and one location study is not considered sufficient for arriving at siting criteria, the considered views of the expert was that the present study is both desirable and necessity and is a step in the right direction for the scientific evaluation of distance criteria.

II. It was stressed that pre- operational data, as well as information on contiguous areas beyond 25 KM from the site, is necessary to evolve suitable criterias. Considerations of such parameters such as demand for fire wood due to influx of population arising out of new development activity, possibility of gas supply, higher incidence of poaching, monitoiring of poaching, illicit felling etc. need to be considered.

It was noted that any impact on mammalian population would be discernible only after a long time say 5 to 7 years when either they are endangered or disappear from the scene. It was suggested that long term monitoring should become a part of the study and hence, the study period may be extended by adding a second phase.

III. It was finally agreed that:
- In the first phase of the programme secondary data on methodology from similar studies in

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India and abroad may be collected and examined and on the basis of the same a suitable methodology be detailed.

- The Environmental quality will be studied for two years in Phase-I.
- Simulation studies will be considered and attempted to correlate the ~~the~~ effects of pollutants on species in the impact zone.
- Study the habitat not merely within 25 Km radius but also the contiguous area where needed with the aim of establishing impact on resources and habitat.

The Director ZSI suggested that ZSI Jodhpur unit may /be approached for necessary advise /consultation if any. It was also suggested that an Expert Committee may be constituted by the Ministry to oversee the project and advise the proponents.

IV. Subject to the above the project was recommended for financial assistance.

APPENDIX

STUDY TO DEVELOP SITING CRITERIA FOR GAS BASED THERMAL POWER PLANTS IN ECOLOGICALLY SENSITIVE AREAS -MEETING ON 27.5.94 AT 15.00 HOURS, IN PARYAVARAN BHAVAN, NEW DELHI - LIST OF PERSONS PRESENT.

MINISTRY OF ENVIRONMENT & FORESTS

1. Dr. S. Maudgal, Adviser In Chair
2. Shri R. Anandakumar, Additional Director
3. Dr.(Mrs) Nalini Bhat, Jt. Director

ZOOLOGICAL SURVEY OF INDIA

Dr. A.K. Ghosh, Director

CENTRAL ZOO AUTHORITY

Shri S.C.Sharma, Member Secretary

GOVERNMENT OF RAJASTHAN

Shri V.N. Pradhan

W.L.EXPERTS.

Shri S. Deb Roy.

TATA ENERGY RESEARCH INSTITUTE

1. Dr. R.K.Pachauri, Director.
2. Shri. O.N. Kaul
3. Shri Atul Kansal.