

AGENDA ITEM NO. 2

Sub: Diversion of 44.8595 ha of forest land in favor of National Thermal Power Corporation of India (NTPC) for the construction of Koldam HEP under the jurisdiction of DFO Wild Life Division, Shimla, in the State of Himachal Pradesh –regarding. (F. No. 8-48/2014-FC)

1. The State Government of Himachal Pradesh vide their letter no. Ft.48-2732/2014 (FCA) dated 15.05.2014 submitted the above mentioned proposal seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980.
2. It is pertinent to mention here that this Ministry vide its no. no. 8-277/1987-FC dated 11.06.1990 has already accorded approval under the Forest (Conservation) Act, 1980 for diversion of 954.69 ha of forest land for construction of Koldam HEP in HP.
3. The State Government has informed that proposal for diversion of 124.0541 ha of forest land (involving 44.8595 ha of current proposal) in Majathal Wildlife Sanctuary has been approved by the Hon'ble Supreme Court of India under vide its order dated 9.12.2013. Out of the 124.0541 ha of forest land, an area of 79.1946 ha of forest land falling in the Majathal Wildlife Sanctuary already stands diverted in favor of the NTPC under the Forest (Conservation) Act, 1980, as a part of initial diversion proposal which was approved by the Government of India for diversion of 954.69 ha of forest land for construction of Koldam HEP in HP vide letter no. 8-277/1987-FC dated 11.06.1990. Now the remaining area measuring 44.8595 ha of forest land falling in the Majathal Wildlife Sanctuary has been proposed to be diverted under the Forest (Conservation) Act, 1980.
4. The proposal envisages diversion of forest land in the Majathal Wildlife Sanctuary. The proposal has been recommended by the Standing Committee of the NBWL and Hon'ble Supreme Court of India vide its order dated 9.12.2013 has approved the recommendation of the Standing Committee of NBWL subject to the conditions as given under:
 - i. For use of forest land falling within the sanctuary approval under the Forest (Conservation) Act, 1980 will be obtained and the NPV at the rates decided by this Hon'ble Court for use of forest land falling within the Wildlife Sanctuary (5 times) of the normal rates of the NPV) will be deposited in the Compensatory Afforestation Fund;
 - ii. The conditions on which the project has been cleared by the Standing Committee of the National Board for Wildlife will be strictly complied with. This will inter alia imply that the impounding of the reservoir and consequent submergence of 124.054 ha of forest land falling within the Sanctuary will be permissible only after about 500 ha of Cheer permissible only after about 500 ha of Cheer pheasant habitat is purchased/acquired, handed over to the State government and notified as Sanctuary;
 - iii. Any other condition (s) stipulated by the Chief Wildlife Warden, Himachal Pradesh Forest Department will be complied with.
 - iv. 5% of the approved project cost of Rs. 4527 crore (i.e. Rs. 226.35 crore) will be deposited with the Compensatory Afforestation Fund for undertaking conservation and protection of the protected area in the State of Himachal Pradesh. The expenditure involved for purchasing/acquiring about 500 ha of area under Cheer pheasant habitat and carrying out habitat improvement works therein (as per the condition stipulated) by the Standing Committee of the National Board for Wildlife and as recommended by the Wildlife Institute of

India) will be met out of the above mentioned amount. For this purpose over and above the amounts being released in the normal course, additional amount will be released by eh Ad CAMPA to the State CAMPA.

5. In compliance with the condition NO. (iv) of the Hon'ble Supreme Court, the project proponent has deposited Rs. 226.35 crores in the account of Ad-hoc CAMPA on 24.12.2013 on account of cost of acquiring 500 ha of area to be brought under Cheer Pheasant habitat, cost of carrying out habitat improvement works therein, and cost of carrying out conservation works in the other protected areas of the State.
6. Compensatory afforestation has been proposed over 90.0 ha of degraded forest land i.e. double in extent to the area being diverted.
7. Certificate issued by the Chief Secretary, Government of Himachal Pradesh regarding non-availability of suitable non-forest land for raising the compensatory afforestation has been submitted (Pg /c).
8. Facts related to the proposal as contained in the State Government's letter dated 15.05.2014 are presented below in the form of factsheet:

FACT SHEET

1.	Name of the Proposal	Diversion of 44.8595 ha of forest land in favor of National Thermal Power Corporation of India (NTPC) for the construction of Koldam HEP under the jurisdiction of DFO Wild Life Division, Shimla, in the State of Himachal Pradesh
2.	Location (i) State (ii) District	Himachal Pradesh Shimla
3.	Particulars of Forests: (i) Name of Forest Division and Forest area involved. (ii) Legal status/Sy.No. (iii) Map	Wildlife Division Shimla 44.8595 ha UPF Madhrech, UPF Chilla, UPF Kiari & DPF Harsang and DPF Majathal A. SOI Toposheets -45/c B. DGPS Map – Not submitted. C. Forest Cover Map – Not submitted. D. Land use map – Not submitted.
4.	Topography of the area	-
5.	(iii) Geology (iv) Vulnerability to erosion	- No danger of erosion in the area proposed for diversion. Since the forest area to be diverted will submerge in the reservoir of Kol Dam, as such, there should not be much danger of erosion to the adjoining area.
6.	(i) Vegetation	Shisham, Tun, Khair, Jamun, Simble, Behra, Siras Simble, etc.

	(ii) Density	0.70
	(iii) No. of trees to be felled	51,262 (49662 trees + 1600 saplings)
7.	Whether area is significant from wildlife point of view	No
8.	Whether forms part of National park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve, Elephant Corridor, etc. (if so, details of the area and comments of the Chief Wildlife Warden	The proposed area forms a part of Majathal Wildlife Sanctuary.
9.	Whether any RET species of flora and fauna are found in the area. If so details thereof	No rare/endangered/unique species of flora and fauna have been found/recorded in the area.
10.	Approximate distance of the proposed site for diversion from boundary of forest.	The proposed area for diversion is located along the natural course of river Satluj on left bank in Majathal Wildlife Sanctuary which is the Northern boundary of the forest viz UPF Madhrech, UPF Chilla, UPF Kiari & DPF Harsang and DPF Majathal.
11.	Whether any protected archaeological/ heritage site/defence establishment or any other important monuments is located in the area.	No
12.	Whether any work of in violation of the Forest (Conservation) Act, 1980 has been carried out (Yes/ No). If yes details of the same including period of work done, action taken on erring officials. Whether work in violation is still in progress.	No
13.	Whether the requirement of forest land as proposed by the user agency in col. 2 of Part-I is unavoidable and barest minimum for the project, if no recommended area item-wise with details of alternatives examined.	Yes, the requirement of the forest land is unavoidable and barest minimum for project. The area shall come under submergence of the Koldam Project up to elevation 642 mts.
14.	Whether clearance under the Environment (protection) Act, 1986 is required?	Environmental Clearance accorded for Koldam project in August 1989. The same was transferred in favour of NTPC Limited in May 2000. Pg-108-110/c
15.	Compensatory Afforestation	

	(v) Details of non-forest area/degraded forest area identified for CA, its distance from adjoining forest, number of patches, size of each patches.	Compensatory afforestation has been proposed to be raised over 90.00 ha degraded forest land in UPF Kiari, D-12 Harsang & D-11 Majathal in an identified land banks. a. General details – 1100 plants per ha will be planted b. Spacing – 3 x 3 mts c. Species – Plantation of B.L. i.e. Daru, Amlu, Kainth, jamun, Khajoor, Paza, Kachnar, Beul etc d. Plantation method – Planting of polythene bags and naked root plants e. Soil and moisture conservation works - Nil f. Protection – (fencing, watchman, peoples’ participation etc). barbed wire fencing, involvement of villagers for protection in addition to Department protection. g. Proposed Monitoring Mechanism – Monitoring by RO, DFO and CF
	(vii) Map showing non-forest/degraded forest area identified for CA and adjoining forest boundaries.	Not enclosed.
	(viii) Detailed CA scheme including species to be planted, implementing agency, time schedule, cost structure, etc.	Pg-70/c
	(ix) Total financial outlay for CA	Rs. 1,09,52,550/- (Pg-71/c)
	(x) Certificate from the competent authority regarding suitability of the area identified for CA and from management point of view.	Pg-72/c
16.	Catchment Area Treatment	The plan is under implementation from the year 2003-04 at a cost of Rs. 65.23 crore. It aims to ensure the soil and water conservation in the catchment area of the reservoir, covering 34,000 hectares approx.
17.	Rehabilitation of Oustees d) No of families involved e) Category of families f) Details of rehabilitation plan	Current proposal do not involve project affected families. However, earlier proposal involves 477 project affected families and R&R Plan is under implementation.

18.	Compliance of Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	The District Collector, Solan has certified that no claims under the Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 exists or pending in respect of forest land to be diverted in favor of Koldam HEP. The compliance is in accordance with the MoEF's Guidelines dated 20.09.2012. However, a view may be taken whether Guidelines issued by the MoEF on 5.07.2013 will suppress the Guidelines dated 20.09.2012 and will be applicable in the State of Himachal Pradesh
19.	Cost Benefit Ratio	Indicated as not applicable. However, HEP projects are not in the array of proposals exempted from the CBA analysis.
20.	Total Cost of the Project	4527 Crore (Approved cost)
21.	Recommendation i. DFO ii. CCF iii. Nodal Officer iv SG	Pg-33-35/c Pg-36/c Pg-37/c Pg-38/c
22.	District Profile (i) Total Geographical area of the district (ii) Total Forest area/ Divisional Forest area (iii) Total area diverted since 1980 (iv) Total CA stipulated since 1980 (Forest land) a. Forest land including penal CA b. Non Forest Land (v) Progress of Compensatory Afforestation	Shimla District - 5131 Sq. Kms Solan District - 5131 Sq. Kms Shimla District - 3418 Sq. Kms Solan District - 5131 Sq. Kms Under Wildlife Division, Shimla Shimla District – 30.1495 ha (Koldam) Solan District – 49.0451 ha (Koldam) 0.45 ha (Widening of Pajeena-Banyali Path) 0.812 ha (Water lifting scheme of Ambuja Cements) No compensatory afforestation has been carried out in Wildlife Division, Shimla. Nil Nil Nil
23.	Recommendation of the DCF	Proposal for diversion of 44.8595 ha area in Majathal Wildlife Sanctuary has been approved by the Hon'ble Supreme Court of India. In view of the above, the

	proposal is recommended for acceptance and approval under the Forest (Conservation) Act, 1980.
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9. Brief details of the project

- i. A tripartite agreement has been signed on 26th February 2000 between Government of Himachal Pradesh (GoHP), Himachal Pradesh State Electricity Board (HPSEB) and NTPC Limited for the execution of Koldam Hydro Power Project (4 X 200 MW) by NTPC Limited on River Sutlej in Distt. Bilaspur, Himachal Pradesh.
- ii. Koldam Hydro Power Project was initially identified during mid - sixties as a major hydroelectric power development scheme on the river Satluj just upstream of Bhakra reservoir. Investigations on various possible sites had been in progress since 1966. The first project report was submitted to Central Electricity Authority (CEA) in 1976, having rock fill dam and underground power house with a capacity of 600 MW. This scheme had a limited storage area and reservoir life span of 18 years only. Due to this limitation, concept of the project was changed from storage scheme to the run-of-the-river scheme.
- iii. This project was then taken up by the Himachal Pradesh State Electricity Board (HPSEB) for implementation with a modified proposal and Revised Detailed Project Report (DPR) with an installed capacity 800 MW was submitted to Central Electricity Authority (CEA) in May 1987. Accordingly, the Techno-Economic Clearance (TEC) was accorded by Central Electricity Authority (CEA) during August 1988. Thereafter Environment Clearance was accorded in August 1989 and Forest clearance in June 1990.
- iv. As per the provisions of Clause 1.3.2 of the Tripartite Agreement the Environmental and Forest clearance for the Project were transferred in favour of NTPC Limited on 10th May 2000 and 23rd November 2000 respectively.

BRIEF DESCRIPTION OF THE KOLDAM PROJECT

- i. The Koldam Hydro Power Project (4x200 MW) is located on Satluj River, 4 km upstream of Dehar Power Station of Beas - Satluj Link (BSL) project. The project will harness a head of about 140 meters by constructing a 163 meter high Rock fill dam with a surface power house at the toe of the dam. The installed capacity will be 800 MW and it will provide an annual energy generation of 3054 Million Units on 90% dependable basis.
- ii. The reservoir of the project will extend to about 40 kms upstream of dam axis covering about 1486 hectares of land in four districts viz, Bilaspur, Solan Shimla on the left bank and district Mandi on the right bank of river Satluj.
- iii. This project has been basically designed as a run-of-the-river hydro power development project with an advantage of additional storage for the first 30 years.

PROJECT COMPONENTS ROCK FILL DAM:

A 163 meters high and 500 meters wide rock and gravel fill dam across river Satluj with impervious central clay core with top of dam at 648 meters elevation. This dam will be one of the highest rock fill dams in India. The main features are as below:

- i. Type : Rock and gravel fill with impervious central clay core
- ii. Crest of Dam -E1.648m
- iii. Height of dam – 163 m
- iv. Crest length – 500 m
- v. Crest Width – 14 m
- vi. Number of Units – 4 x 200 MW

SPILLWAY

A 420 meters Long chute spillway is envisaged on the left bank of river Satluj which shall pass a Probable Maximum Flood (PMF) of 16,500 Cumecs.

DIVERSION TUNNELS

The river flow during construction period has been diverted through 2 Nos. 14 meters finished diameter horse shoe tunnels, having a length of 900 meters & 933 meters. The discharge carrying capacity is 6,500 Cumecs.

DE - SILTING ARRANGEMENT

A covered de-silting arrangement in the approach channel of the power intake of the reservoir has been envisaged to eliminate all sediments of size 0.25 mm and above.

POWER HOUSE

A surface power house is envisaged located at the toe of the dam and having 4 nos. vertical Francis turbine generating units of 200 MW each.

PEN STOCKS

Generating units will be fed by independent 6.45 meter diameter steel lined underground penstocks each having a carrying capacity of 196 cumecs.

SWITCHYARD

400 KV switchyard located on the left bank of river Satluj at about elevation 700 meters is envisaged. It will house 400 KV termination bays, control room building and other auxiliary equipments.

PROJECT BENEFITS

- i. This main objective of this project is to provide much needed peaking capacity to the Northern Grid and will generate 3054 Million Units of electricity during a year on 90% dependable basis. Himachal Pradesh would get 29.75% of the total generation (12% free of cost, 15% on the bus bar tariff and 2.75% grid allocation). Balance shall be shared with State Electricity Boards of Northern region as per the Power Purchase Agreement.
- ii. Since the project is on the upstream side of Bhakra Dam on river satluj, the life of the reservoir of Bhakra Dam will enhance by about 18 years as most of the silt / sediments will get trapped in Koldam reservoir. NTPC, is therefore, contributing in a big way towards national development.

Environment & Ecology

- i. Catchment Area Treatment Plan is the management plan for the treatment of the erosion prone areas in the catchment area of the project. The plan is under

implementation from the year 2003-04 at a cost of Rs. 65.23 crore. It aims to ensure the soil and water conservation in the catchment area of the reservoir, covering 34,000 hectares approx.

- ii. Compensatory Afforestation is being done in 2000 hectares of forest land in lieu of diversion of 954.69 hectares of Forest land.
- iii. Under Rim Plantation scheme, plantation along 100 to 200 meter strip of the rim of reservoir is under implementation by the State Forest Department. Rs. 9.15 crore have already been deposited with the State Forest Department.

RESETTLEMENT & REHABILITATION

- i. A separate scheme for the Resettlement and Rehabilitation of Koldam Oustees has been formulated and is illustrated in the tripartite agreement. The scheme covers various aspects of R&R such as provision of plots to the houseless families, houseless grant, landless grant, eligible family grant, regular employment, secondary employment, schools, dispensary etc. Accordingly, Relief and Rehabilitation works for the welfare of the Project Affected Families are in progress in all the four districts surrounding Koldam project.
- ii. There are 477 Project Affected Families of Koldam project, which are to be resettled. These families are being allotted plots in 6 resettlement colonies for their resettlement. All the 477 families have been resettled in resettlement colonies.
- iii. An amount of Rs. 55 crore has been earmarked for the development of the resettlement colonies. Besides, an amount of Rs. 6.18 crore has also been disbursed as Grants to the eligible Houseless and Landless families through the concerned District Commissioners.

CORPORATE SOCIAL RESPONSIBILITY :

- i. As a commitment to Corporate Social Responsibility various community development works are being undertaken in the four districts, after detailed Socio-Economic Survey. Community Centers, Panchayat Ghars, Dispensaries and Health Centers, Aanganwaris and Balwaris, School buildings, Hand Pumps and village Ponds/Wells, Cremation Grounds, Rain Shelters etc are being developed under the scheme. Overall an amount of Rs. 7.46 crore has been allocated on Community development works so far. These works are planned with Participatory Rural Appraisal. The schedule and modalities are worked out in the Village Development Advisory Committee meetings held periodically.
10. The project proponent has submitted undertaking to bear the cost of CA and NPV.
11. The State Government has recommended the proposal without any specific condition.

In view of the above, if approved, the proposal may be submitted to the FAC for its consideration in its forthcoming meeting.
