

**Six Monthly Progress Report on Environmental Aspects of
Teesta-VI HE Project, Sikkim**

Progress for the period ending Sept. ' 2022

1.	Name of the Project	Teesta-VI Hydro-Electric Project (500 MW)															
2.	Type of the Project	Hydro-Electric Project (Run-of-the-river scheme)															
3.	Clearance Letter(s) OM No. & Date a) Environment Clearance b) Forest Clearance	<p>a) No. J-12011/55/2006-IA.I Dated 21.09.2006 and No. J-12011/55/2006-IA.I (R) Dated 14.08.2020.</p> <p>b) Forest Clearances:</p> <table border="1"> <thead> <tr> <th>Letter nos.</th><th>Date</th><th>Forest land (in ha)</th></tr> </thead> <tbody> <tr> <td>F.No.8-140/2006-FC</td><td>23.05.2008 & 12.03.2021</td><td>89.4266</td></tr> <tr> <td>No.5-WBB009/2007 – BHU in West Bengal</td><td>11.09.2007</td><td>0.6935</td></tr> <tr> <td>No.3-SKB 062/2008-SHI/2274-75 in Sikkim</td><td>27.10.2008</td><td>0.096</td></tr> <tr> <td>Total Forest land (ha)</td><td></td><td>90.2161</td></tr> </tbody> </table>	Letter nos.	Date	Forest land (in ha)	F.No.8-140/2006-FC	23.05.2008 & 12.03.2021	89.4266	No.5-WBB009/2007 – BHU in West Bengal	11.09.2007	0.6935	No.3-SKB 062/2008-SHI/2274-75 in Sikkim	27.10.2008	0.096	Total Forest land (ha)		90.2161
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Total Forest land (ha)		90.2161															
4.	Locations a) District(s) b) State(s) c) Latitude d) Longitude	<p>Gangtok and Namchi Sikkim 27°14'29.98"N (Barrage); 27°10'42" N (Power House) 88°28'35.39" E (Barrage); 88°30'40" E (Power House)</p>															
5.	Address for Correspondence a) Address of concerned Project Head (with pin code, telephone/fax nos.) b) Address of concerned HOD in Corporate Office (with pin code & telephone/fax no.)	<p>Chief Executive Officer Lanco Teesta Hydro Power Limited Teesta-VI HE Project Balutar, P. O. Singtam, East Sikkim- 737134 Phone: 03592 - 247221 (O)</p> <p>Executive Director Environment & Diversity Management Division NHPC Limited, NHPC Office Complex, Sector - 33, Faridabad, Haryana- 121 003 Phone: 0129-2278014</p>															
6.	Details of environmental management plans	As per Annexure-I .															
7.	Break-up of the Project area (land details) a) Submergence area Forest Non-forest b) Others	<p>36.00 ha forest land 0.448 ha non-forest land Total: 36.448ha</p> <p>1. 54.2161 ha forest land (including 21.9971 ha of underground forest land). 2. Private Land (about 34 ha) acquired by Sikkim Power Development Corporation (SPDC) and</p>															

		<p>further leased to LTHPL for 35 years lease period from commercial operate date for permanent works, muck dumping, road, construction facility, and</p> <p>3. Private Land (about 10.7657 ha) taken on short term lease with periods of 4/4.5/5/6/7 years directly by LTHPL.</p>														
8.	<p>Break-up of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units and agricultural land and landless labourers/artisans.</p> <p>(a) SC/ST/Adivasis</p> <p>(b) Others</p>	<p>Teesta-VI HEP is located in an area of low population density. Population of about 400 to 500 belonging to 111 families has been affected due to acquisition of some portion of land. The caste details of PAFs as per EIA, is as under:</p> <table><tr><th>Caste Category</th><th>Number</th></tr><tr><td>(a) Scheduled Tribes (STs)</td><td>41</td></tr><tr><td>(b) Scheduled Castes (SCs)</td><td>6</td></tr><tr><td>(c) Most Backward Classes (MBCs)</td><td>8</td></tr><tr><td>(d) Other Backward Classes (OBCs)</td><td>55</td></tr><tr><td>(e) Others</td><td>1</td></tr><tr><td>Total</td><td>111</td></tr></table> <ul style="list-style-type: none">• Only part of their private land has come under acquisition, no family has become land less. No structure is involved in the land acquisition hence no Rehabilitation & Resettlement plan was proposed.• No archaeological, cultural, or historic resources on site, or within the area that will be adversely affected by the construction.	Caste Category	Number	(a) Scheduled Tribes (STs)	41	(b) Scheduled Castes (SCs)	6	(c) Most Backward Classes (MBCs)	8	(d) Other Backward Classes (OBCs)	55	(e) Others	1	Total	111
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Total	111															
9.	<p>Financial details</p> <p>a) Project cost as originally planned and subsequent revised estimates and the years of price reference.</p> <p>b) Actual expenditure incurred on the Project so far.</p> <p>c) Allocations made for the Environmental Management Plan (Rs. Lakh)</p> <p>d) Actual expenditure incurred on the Environmental Management so far.</p>	<p>Rs. 5,748.04 crore at July 2018 PL including IDC & FC of Rs. 977.09 crore and the bid amount of Rs. 907 crore (As per Investment Approval).</p> <p>Rs. 1878.45 crore (as on 30.09.2022). This amount pertains to expenditure incurred by LTHPL (A wholly owned subsidiary of NHPC Ltd.) from the date of acquisition of erstwhile LTHPL i.e. from 09.10.2019.</p> <p>Rs. 3547.44 lakh (as per EMP & subsequent revision)</p> <p>Rs. 3079.23 lakh (<i>Annexure-I for details</i>)</p>														

10.	Forest Land requirements Status of approval for diversion of forest land for non-forestry use.	i. MoEF&CC accorded diversion of 89.4266 ha of forest land (67.4295ha surface land and 21.9971ha underground land) on 23.05.2008. After acquisition of LTHPL by NHPC Ltd. w.e.f. 09.10.2019, the Forest Clearance transferred in favour of LTHPL (A wholly owned subsidiary of NHPC Ltd.) vide MoEF&CC's letter dated 12.03.2021. ii. MoEF&CC, Eastern Regional Office, Bhubaneswar vide letter dated 11.09.2007 approved diversion of 0.6935 ha of forest land for link road and bridge at Tarkhola. Transfer of Forest Clearance for 0.6935 ha forest land in favour of LTHPL (A wholly owned subsidiary of NHPC Ltd.) is under consideration of Integrated Regional Office, MoEF&CC, Kolkata. iii. MoEF&CC, RO, Shillong vide letter dated 27.10.2008 approved diversion of 0.096 ha of forest land for laying of water supply pipe line to the colony and other locations of Teesta-VI HE Project. Transfer of Forest Clearance for 0.096 ha Forest Land in favour of LTHPL (A wholly owned subsidiary of NHPC Ltd.) is under consideration of Integrated Regional Office, MoEF&CC, Kolkata.
11.	Status of construction a) Date of commencement (Actual and / or planned) b) Date of completion (actual and / or planned)	a) March 2007 by Lanco Energy Pvt. Ltd. and date of restart: 08.03.2019 by Lanco Teesta Hydro Power Ltd. (A wholly owned subsidiary of NHPC Ltd.) i.e. date of Investment Approval by Govt. of India. b) Planned: March 2024 (i.e. 60 months from Investment Approval).
12.	Reasons for the delay, if the project is yet to be started	<ul style="list-style-type: none"> Project was started by LTHPL in March 2007. However, the construction of the Project stuck up since 2012 and subsequent to approval of Resolution Plan by Hon'ble National Company Law Tribunal, NHPC Ltd. has acquired the LTHPL w.e.f. 09.10.2019. The pending construction works of Project is being carried out by Lanco Teesta Hydro Power Ltd. (A wholly owned subsidiary of NHPC Ltd.).
13.	Details of site visit a) By Monitoring Committee b) By Regional Office	<ul style="list-style-type: none"> A monitoring committee constituted by Additional Director (IA), MoEF&CC, New Delhi vide letter dated 03.09.2009. Some meetings had been conducted by LTHPL. However, due to stuck up of the project, further meetings could not be conducted. The monitoring committee re-constituted vide MoEF&CC letter no. F.No. J-12011/35/2006-IA.1(R) Pt1 dated 25.05.2022.
14.	Brief Note on the Status of compliance of the conditions stipulated by MOEF&CC.	Enclosed as <i>Annexure-II</i>

Annexure – I

Details of Environmental Management Plans of Teesta-VI HE Project (500 MW)

S. No.	Plans	Cost of EMP #	Expenditure Incurred	Utilization received
		(Rs. lakh)	(Rs. lakh)	(Rs. lakh)
1	Public Health and Solid Waste Management Plan	179	0	0
2	Catchment Area Treatment Plan (Revised)	2410.18*	2410.18	1091.27
3	Compensatory Afforestation Plan	114.65	114.65	114.65
4	Biodiversity Conservation Plan	119.12*	119.12	95.34
5	Fish Management Plan	170*	170.00	0
6	Soil Conservation & Forest Protection Plan	183.53*	183.53	0
7	Free Fuel Provision	98.85	0	0
8	Restoration plan for spoil tips	81.61	0	0
9	Restoration Plan for Quarry Sites	35.97	0	0
10	Landscape Plan	48.91	0	0
11	Green Belt around the Project Area	13.58	0	0
12	Environmental Monitoring Programme	13.25	2.96	2.96
13	Crop Compensation	78.79	78.79	78.79
Total		3547.44	3079.23	1383.01
<i>The cost does not include NPV (Rs. 568 lakh) & cost of land taken on lease.</i>				

#As per Environment Management Plan Report approved by MoEF&CC and subsequent revision by State Government.

*Funds have been deposited by LTHPL with Sikkim CAMPA, Forest & Environment Deptt., Govt. of Sikkim, Directorate of Fisheries, Govt. of Sikkim, respectively.

Brief Note on the Status of compliance of the conditions stipulated by MoEF&CC

S.No.	PART - A: Specific Conditions	Compliance Status
i.	Biodiversity conservation plan as proposed in the EMP should be implemented in toto in the identified locations.	<ul style="list-style-type: none"> As per EMP, the allocated amount of Biodiversity Conservation Plan Rs. 169.12 lakh including Rs. 50 lakh for Fish Management Plan was deposited with the nodal agency i.e. Forest & Environment Department, Govt. of Sikkim on 14.11.2009. As per EMP, the allocated amount of Soil Conservation & Forest Protection Plan of Rs. 183.53 lakh was deposited to Forest & Environment Department, Govt. of Sikkim on 14.11.2009. State Forest Department vide letter dated 22.03.2021 has submitted the Utilization Certificate of Rs. 95.34 lakh towards Rs. 119.12 lakh under Biodiversity Conservation Plan till 31.03.2020. A check post at Pamphok village has been installed by the Forest Deptt. to check trespassers. Demarcation and fencing of diverted forest land were done to avoid damage to nearby area not diverted for the purpose. However, the Soil Conservation & Forest Protection Plan has not yet incorporated in APO by State Forest Department.
ii.	For propagation of migratory fishes, a fish farm/hatchery shall be developed as proposed vide letter dated 18th August 2006. As breeding of Mahseer fish is difficult in captivity, procedure to be adopted for propagation of Mahseer in hatchery should be submitted within six months from the date of issue of this letter.	<ul style="list-style-type: none"> Consultancy work for fish farm/ hatchery for propagation of migratory fish species was awarded to Directorate of Coldwater Fisheries Research (DCFR, Bhimtal (Formerly National Research Centre on Cold Water Fisheries (NRCCWF). Scientists from DCFR, Bhimtal visited the area and identified the site for development of Fish Farm. Rs. 50 lakh deposited to State Forest Department for Fish Management under Biodiversity Management Plan. Project vide letter dated 11.01.2020 requested the State Forest Department for submission of status of Fish Management Plan. Director (Fisheries), Govt. of Sikkim vide letter dated 10.08.2021 submitted afresh proposal for implementation of fish farm and hatchery and river ranching of indigenous species based on latest Sikkim Schedule of Rates, 2021 with revised budget estimate of about Rs. 170 lakh and raised a demand note for additional fund of about Rs. 120 lakh. For ascertaining the suitability of land for establishment of Fish Farm-cum-hatchery Unit, a joint inspection of officials of LTHPL and Fisheries Department, Govt. of Sikkim was carried out on 08.12.2021. An alternative

		<p>site at Chittrey, Borong-Phamtam GPU, Near Ravangla, District Namchi for establishment of Fish Farm-cum-Hatchery Unit has been proposed by State Fisheries Department as the land (area 0.1460 ha) available at this site belongs to State Fisheries Department.</p> <ul style="list-style-type: none"> • Project vide letter dated 14.12.2021 requested State Fisheries Department for submission of revised proposal along with the revised demand note and mandate form. • Additional Director (Fisheries) vide letter dated 20.12.2021 submitted the revised proposal for establishment of Fish Farm-cum-Hatchery Unit at Chittrey village, Namchi District with revised budget estimate of Rs. 1,69,99,987/- and raised Demand Note for additional fund of Rs. 1,19,99,987/- • Balance amount of Rs. 120 lakh out of Rs. 170 lakh deposited in the account of Directorate of Fisheries, Govt. of Sikkim on 30.03.2022. • State Fisheries Department has initiated the process for awarding the work for construction of Fish Farm-cum-Hatchery Unit.
iii.	The Catchment Area Treatment Plan as has been proposed should be completed in four years. The plan is attached as Annex-III:	<ul style="list-style-type: none"> • Amount of Rs. 981.73 lakh towards CAT plan was deposited by LTHPL in Sikkim CAMPA. • State Forest Department revised the cost of CAT plan on account of increase in wages rates and submitted revised cost of Rs. 1831.95 lakh vide letter dated 02.06.2012. Thus, difference of Rs. 850.22 lakh in CAT plan cost was required to be paid in Sikkim CAMPA. • First instalment of Rs. 141.00 lakh paid by LTHPL on 08.08.2012 in favour of PCCF-cum-Secretary, Deptt. of Forests through letter dated 11.08.2012. Balance payment of Rs. 709.22 lakh had not been deposited by erstwhile LTHPL due to stuck up of the project work. • State Forest Department vide letter dated 22.03.2021 submitted the Utilization Certificate of fund utilized of Rs. 1091.27 lakh for different Management Plans out of Rs. 1122.73 lakh deposited by LTHPL, have been utilized in implementation of CAT Plan till 31.03.2020. • Project vide letters dated 09.04.2020 and 11.06.2021 requested State Forest Department for submitting the demand note for balance payment of Rs. 709.22 lakh. • However, APCCF-cum-Nodal Officer (FCA), Forest & Environment Department, Govt. of Sikkim raised the demand of Rs. 12,87,44,747/- on 11.03.2022 for deposition in Sikkim CAMPA as balance cost of revised CAT Plant. • Balance revised amount of Rs.12,87,44,747/- deposited by LTHPL (A wholly owned subsidiary of NHPC Limited) to State CAMPA through NEFT on 26.04.2022.

		<ul style="list-style-type: none"> As such, total amount of Rs. 2410.18 lakh deposited towards CAT plan of Teesta-VI out of which utilization of Rs. 1091.27 lakh has been submitted by Govt. of Sikkim.
iv.	Considering the landslide prone areas, the tunnelling should be done, with great care under close supervision.	For landslide prone area, tunnelling is being carried out with proper controlled blasting or by mechanical means and by providing adequate support system.
v.	A monitoring committee should be constituted which must include representatives of project affected persons from SC/ST Category and a women beneficiary.	<ul style="list-style-type: none"> The monitoring committee constituted by Additional Director (IA), MoEF&CC, New Delhi vide letter dated 03.09.2009. Some meetings had been conducted. However, due to stuck up of the project further monitoring committee meetings could not be conducted. MoEF&CC vide letter dated 25.05.2022 has re-constituted the Multidisciplinary Monitoring Committee. Project vide letter dated 28.09.2022 requested CCF (HQ), Forest & Environment Department, Govt. of Sikkim for taking necessary action for conductance of first meeting of re-constituted Multidisciplinary Monitoring Committee for Teesta-VI HE Project.
vi.	All the assurances/ commitments given by the project authority in the public hearing must be honoured in letter and spirit.	The same is being complied.
vii.	Forest Clearance should be obtained for acquiring 67.43 Hectare forest land & submitted.	<ul style="list-style-type: none"> Forest Clearance (Stage-II) accorded by MoEF&CC vide letter dated 23.05.2008 for 89.4266 ha forest land (67.4295ha surface land and 21.9971ha underground land). Lanco Teesta Hydro Power Limited (LTHPL) became a wholly owned subsidiary of NHPC Limited w.e.f. 09.10.2019. After that the change of name of User Agency from LTHPL (A wholly owned subsidiary of NHPC Limited) has been accepted by MoEF&CC, New Delhi vide letter dated 12.03.2021.
viii.	During the lean season 10% of available water (82.5 cumecs) should be released downstream of the dam for sustenance of aquatic life.	In view of Hon'ble NGT orders on E-Flow dated 07.09.2020, State Pollution Control Board - Sikkim vide letter dated 01.10.2022 finalized the quantity of 15 % minimum environmental flow (e-flow) of 16.60 cumecs during lean season (December-March) for Teesta-VI HEP. Suitable provision is being kept in the design of barrage so that minimum e-flow of 16.60 cumecs could be released downstream after commissioning of the project for sustenance of aquatic life.
ix.	Any other clearance from any other organization if required should be obtained.	All required clearances are obtained as per requirement.

	PART - B: General Conditions	
i.	Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.	Presently, mess facility is being provided by the Contractor to the engaged manpower.
ii.	Fuel depot may be opened at the site to provide the fuel (kerosene/wood). Medical facilities as well as recreational facilities should also be provided to the labourers.	<ul style="list-style-type: none"> Fuel (LPG & Kerosene) is being procured by the Contractors from the local market as and when required. Contractors' camps are being equipped with recreation facilities etc. Medical facilities are provided by the Contractors to the labourers.
iii.	All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.	<ul style="list-style-type: none"> Health screening and check-ups of labourers are carried out before engaging them in works. Medical facility is being provided to the labourers. Free vaccination of the labourers for COVID-19 carried out by LTHPL / Contractors.
iv.	Restoration of construction area including dumping site of excavated materials should be ensured by levelling, filling up of burrow pits, landscaping etc. The area should be properly treated with suitable plantation.	<ul style="list-style-type: none"> Environment friendly measures are undertaken for dumping of Muck at designated dump yards. Dumping areas are being provided with adequate retaining structures such as crate walls, RRM walls, etc. as per requirement. After dumping the areas are being levelled. Since the works have commenced recently, the nallahs and river sections as per site requirement are being provided with adequate protection measures such as crate wall and concrete plugs. All precautionary measures are being taken as per the statutory requirements with progress of works.
v.	Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.	<p>Pursuant to award of works to the contractors, mobilization and initial preparation of works along with execution at certain work fronts have been taken up by the contractors. Brief details are as under:</p> <ul style="list-style-type: none"> Posters and slogans will be used extensively to spread awareness among the labourers about importance of safety. Safety instructions are given to labourers and staff regularly for each and every activity which includes tunnelling. Regular safety trainings and Tool box meetings are being organized for staffs. Accident investigations and Analysis are immediately communicated to the all concerned to ensure corrective and preventive action (CAPA). Periodic evaluation of the status of legal requirements is being carried out. Emergency response plan is being prepared for different emergencies. Training and mock drill will be conducted.

		<ul style="list-style-type: none"> • Health, Safety & Environmental (HSE) Audit will be conducted on periodic basis. • Standard Operating Procedures (SOPs) for all critical activities are being prepared since the works are in initial stage of execution. • Hazard identification and risk assessment of all activities are being done and operational controls shall be designed accordingly. • Proper illumination and ventilation system are being installed and the same shall be maintained for tunnelling works. • National Safety Day (4th March) is celebrated to raise awareness and motivate workers on safety practice. • Safety Officers have been nominated and posted for effective monitoring and implementation of Safety related issues. • All labourers and staffs are provided with safety kits as per work requirement.
vi.	A Multidisciplinary committee should be constituted with representatives from various disciplines of forestry, ecology, wildlife, soil conservation, NGO etc. to oversee the effective implementation of the suggested safeguard measures.	<ul style="list-style-type: none"> • The monitoring committee constituted by Additional Director (IA), MoEF&CC vide letter dated 03.09.2009. Some meetings had been conducted. However, due to stuck up of the project further monitoring committee meetings could not be conducted. • MoEF&CC vide letter dated 25.05.2022 has re-constituted the Multidisciplinary Monitoring Committee. • Project vide letter dated 28.09.2022 requested CCF (HQ), Forest & Environment Department, Govt. of Sikkim for taking necessary action for conductance of first meeting of re-constituted Multidisciplinary Monitoring Committee for Teesta-VI HE Project.
vii.	Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Shillong for review.	Six-monthly monitoring reports are periodically submitted to Integrated Regional Offices of MoEF&CC along with MoEF&CC, New Delhi. The latest progress report submitted to Integrated Regional Offices of MoEF&CC vide letter dated 27.05.2022.
4.	Officials from Regional Office MOEF, Shillong/Kolkata who would be monitoring the implementation of environmental safeguard should be given full facilities and documents / data by the project proponents during their inspection.	The condition was complied by the erstwhile LTHPL/LEPL. The same shall also be complied by LTHPL (A wholly owned subsidiary of NHPC Ltd.).
5.	The responsibility of implementation of environmental safeguard rests fully with the M/s Lanco Energy Private Limited/Lanco Teesta Hydro Power Ltd. & Government of Sikkim.	Noted. LTHPL (A wholly owned subsidiary of NHPC Ltd.) will bear the responsibility of implementation of environmental safeguard.

The revised Catchment Area Treatment Plan as has been proposed should be completed in four years. The plan is reproduced below:

Five Year Catchment Area Treatment Action Plan Teesta Stage-VI HE Project								
S. No.	Items Of Works	Unit	1 st Yr	2 nd Yr	3 rd Yr	4 th Yr	5 th Yr	Total
I	Forest Land							
A	Biological Measures							
1	Aided Natural Regeneration	Ha	20	30	30			80
2	Aided Natural Regeneration	Ha	150	350	350	350		1200
3	Medicinal Plantation	Ha	50	50				100
4	Medicinal Plantation	Ha	50	50				100
5	Sowing and dribbing in land Slide areas	Ha				10	10	20
6	Artificial regeneration	Ha		300	400	400	400	1500
7	Silviculture Development	Ha		30	30	40		100
8	Bamboo (Pareng Plantation)	Ha		30	30	40		100
9	Barbed wire fencing	km	5	5				10
10	Maintenance of aided natural regeneration and other plantations	Ha	270	810	810	800	410	3100
11	Vegetative fencing with Jatropha in rows	km	15	10				25
B	ENGINEERING WORKS							
1	Jhora Training with sausage wall with drops	m ³	1000	700	300			2000
2	Dry Stone Wall	m ³	1200	600	200			2000
3	Catch Water Drains	m	1400	400	200			2000
4	Bally fencing	Ha	40	10				50
II	Agriculture Land							
A	Biological Measures							
1	Fodder Development	Ha			200	400	400	1000
2	Agroforestry (200 plants per ha)	Ha			200	400	400	1000
3	Jatropha Plantation (Uncultivable lower area)	Ha	100					100
B	ENGINEERING WORKS							
1	Jhora Training with sausage wall with drops	m ³	1400	400	200			2000
2	Dry Stone Wall	m ³	1400	400	200			2000
3	Catch Water Drains	m	1400	400	200			2000
4	Bally fencing	Ha	40	10				50