MINUTES OF THE 31st MEETING OF THE EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 29TH JULY, 2022

The 31st Meeting of the EAC (River Valley and Hydroelectric Projects) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 29th July, 2022 through video conference under the Chairmanship of Dr. A. K. Malhotra. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No. 31.1:

Confirmation of the Minutes of the 29th EAC meeting

The Minutes of the 30th EAC (River Valley and Hydroelectric Projects) meeting held on 1st July, 2022 were confirmed.

Agenda Item No. 31.2:

Oju Hydroelectric Project of capacity 1878 MW at Village Reddi, Tehsil Limeking Circle, District Upper Subansiri, Arunachal Pradesh by M/s Oju Subansiri Hydro Power Corporation Pvt. Ltd. – Terms of Reference (TOR) - reg.

[Proposal No. IA/AR/RIV/236123/2021; F. No. J-12011/10/2022-IA.I (R)]

31.2.1 The proposal is for grant of Terms of Reference to the project for Oju Hydroelectric Project of capacity 1878 MW at Village Reddi, Tehsil Limeking Circle, District Upper Subansiri, Arunachal Pradesh by M/s Oju Subansiri Hydro Power Corporation Pvt Ltd.

31.2.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

(i) The proposal is for grant of Terms of Reference to the project for Oju Hydroelectric Project of capacity 1878 MW at Village Reddi, Tehsil Limeking Circle, District Upper Subansiri, Arunachal Pradesh by M/s Oju Subansiri Hydro Power Corporation Pvt. Ltd.

(ii) There is no National Park, Wildlife Sanctuary, Tiger/Elephant reserve, biosphere reserve etc in and around the project catchment.

(iii) The silent features of the project is as under:-

Name of the Proposal	Oju Hydroelectric Project (8x231.25) 1850 MW + (2x14) 28 MW at Village Reddi, District Upper Subansiri, Arunachal Pradesh
Location (Including coordinates)	The proposed Oju HEP dam site is located on Lower Subansiri River between Redi and Oju village. Diversion area is downstream of

	confluence point of Koyi Siko nallah with Lower Subansiri River. The powerhouse area is located upstream of the confluence of Tsari Chu nallah and Keru nallah with Si Ngit River. Dam: 28°25'51.6" N 93°21'23.71" E Powerhouse: 28°22'11.73" N 93°28'9.97" E
Inter- state issue involved	No
Seismic zone	The project is located in Zone-V as per seismic zoning Map of India (IS 1893: 2002).

Category details:

Category of the project	Category 'A', > 50 MW hydroelectric power generation
Provisions	
Capacity / Cultural command area (CCA)	(8x231.25) 1850 MW + (2x14) 28 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	-

Electricity generation capacity:

Powerhouse Installed Capacity	(8x231.25) 1850 MW + (2x14) 28 MW
Generation of Electricity Annually	8015 MU (7856+159)
No. of Units	8 + 2
Additional information (if any)	-

ToR/EC Details:

Cost of project	Rs. 17113.04 Crore
Total area of Project	The land to be acquired for the project is 760 ha. The details are given as below:

Description	Area (ha)
Submergence Area (excluding riverbed)	34.3
Riverbed on upstream of Dam Axis	8.9
Dam complex & utilities facility Area	77.3
Riverbed on downstream of Dam Axis	3.2
HRT up to surge shaft including Adits	38.9
Powerhouse complex including Pothead yar	115.7

	Store, work shop & Penstock fabrication yard	50.0
	Permanent Colony, Transit Camp & Guest House	60.0
	Labour Colony	20.0
	Quarry sites	100.0
	Muck disposal Areas	105.0
	Project Roads	122.5
	Explosive Magazine	2.5
	Total Land Requirement	758.3, say 760 ha
Height of Dam from River Bed (EL)	93 m	
Length of Tunnel/Channel	Diversion tunnel: DT-I: 1048 m, DT-II: 882 m HRT: 14171 m TRT: TRT-1=1148.8 m, TRT-2=1152.65 m	
Details of Submergence area	43.2 ha	
Types of Waste and quantity of generation during construction/ Operation	During construction phase, labour colonies are proposed to be located at dam site and power house site. Facility for solid waste management and liquid effluent shall be formulated for: • About 1500 labour and 500 technical staff during construction phase. The increase in population is expected to be of the order of 4000. • About 0.84 tonne/day solid waste @ 210 gm/day/person that is likely to be generated from labour camps. The sewage generated from construction staff colony shall be treated in a sewage treatment plant. Liquid effluent from community toilets @ 1 No. per 20 persons. The sewage from the community latrines shall be treated in a sewage treatment plant (STP) comprising of aerated lagoon and secondary settling tank. The effluent from the STP can be disposed in natural water body. The drinking water facilities and waste disposal sites will be located away from each other. Muck will be generated during construction phase. The quantum of muck generation along with reuse and disposal practices will be covered as part of the CEIA study. The muck generated	

<table>
<tr><td></td><td>during construction phase shall be disposed at designated disposal sites.

Construction waste shall be suitably collected and disposed. The details of the same shall be covered in the CEIA report.</td></tr>
<tr><td>E-Flows for the Project</td><td>It is recommended to maintain a minimum flow to ensure survival and propagation of invertebrates and fish. Based on the current norms of MoEF, at this stage, minimum environmental flow releases have been proposed as 20% of average of four months of lean period and 25% of flow during non-lean non-monsoon period corresponding to 90% Dependable year. The cumulative flow releases including spillage during monsoon period has been proposed as 30% of the cumulative inflows during the monsoon period corresponding to 90% dependable year. However, The exact quantum of environmental flow during monsoon, non-lean non-monsoon and lean months would be arrived at based on the site specific study to be carried out as a part of EIA and as per recommendations of Basin Study For Subansiri carried out by the CWC/MoEF.</td></tr>
<tr><td>Is Projects earlier studies in Cumulative Impact assessment & Carrying Capacity studies (CIA&CC) for River in which project located. If yes, then
a) E-flow with TOR /Recommendation by EAC as per CIA&CC study of River Basin.

b) If not the E-Flows maintain criteria for sustaining river ecosystem.</td><td>As per CIA & CCS of Subansiri Basin in Arunachal Pradesh

<table>
<tr><td rowspan="2">Name</td><td colspan="2">Lean EFR</td><td colspan="2">Pre and post monsoon EFR</td><td colspan="2">Monsoon EFR</td></tr>
<tr><td>EFR in %</td><td>EFR in cumec</td><td>EFR in %</td><td>EFR in cumec</td><td>EFR in %</td><td>EFR in cumec</td></tr>
<tr><td>Oju-I</td><td>20</td><td>10.55</td><td>20</td><td>37.51</td><td>20</td><td>93.34</td></tr>
<tr><td>Oju-II</td><td>20</td><td>10.77</td><td>20</td><td>38.29</td><td>20</td><td>95.27</td></tr>
</table>
</td></tr>
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Muck Management Details:

No. of proposed disposal area/(type of land- Forest/Pvt. land)	105 ha, Forest Land
Muck Management Plan	The quantum of muck generation along with reuse and disposal practices will be covered as part of the CEIA study. The muck generated during construction phase shall be disposed at designated disposal sites.

	The details of the muck management plan shall be suggested as a part of the CEIA Study.
Monitoring mechanism for Muck Disposal	Monitoring mechanism for Muck Disposal shall be suggested as a part of the CEIA Study.

Land Area Breakup:

Private land	Nil
Government land/Forest Land	760 ha
Submergence area/Reservoir area	43.2 ha
Land required for project components	716.8 ha
Additional information (if any)	-

Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	Yes/No	Details of Certificate/letter/Remarks
Reserve Forest/Protected Forest Land	No	
National Park	No	
Wildlife Sanctuary	No	

Court case details:

Court Case	Nil
Additional information (if any)	-

Affidavit/Undertaking details:

Affidavit/Undertaking	NA
Additional information (if any)	-

Previous EC compliance and necessary approvals:

Particulars	**Letter no. and date**
Certified EC compliance report (if applicable)	NA
Status of Stage- I FC	Applied
Additional detail (If any)	
Is FRA (2006) done for FC-I	

Miscellaneous

Particulars	**Details**
Details of Consultant	WAPCOS Limited, Govt. of India undertaking under Ministry of Jal Shakti
Project Benefits	Implementation of the Oju hydroelectric project with a capacity of

<table>
<tr><td></td><td>1878 MW would contribute substantially to meeting the power demand in the country. The project was acknowledged as one of the attractive projects in the ranking studies carried out by CEA and techno-economic viability of the project has been further established in the present Feasibility Study Report.

The construction of the proposed project would invariably create a large number of direct and indirect employment opportunities in the area.

Various types of businesses establishment such as shops, food-stalls, tea stalls, restaurants, workshops, etc. would come-up. Local entrepreneur will come up for such business.

The improved road access will bring an improvement of food security situation and overall economic and social stability.

Improvement in the education centers, health post, market etc will take place during construction phase. It is likely that some economic activities will continue or be further promoted in these areas because of the relatively good accessibility to cities and urban areas.</td></tr>
<tr><td>Status of other statutory clearances</td><td><table>
<tr><th>S. No.</th><th>Activity</th><th>Status</th></tr>
<tr><td>1.</td><td>Oju Single Stage Scheme</td><td>Cleared</td></tr>
<tr><td>2.</td><td>Hydrological Studies (Clearance from CWC)</td><td>Cleared</td></tr>
<tr><td>3.</td><td>Power Potential Studies (Clearance from CEA)</td><td>Cleared</td></tr>
<tr><td>4.</td><td>General Layout (partly) of the project (Clearance from</td><td>Cleared</td></tr>
</table></td></tr>
</table>

		CWC & CEA)	
	5.	Inter-state matters (Clearance from CWC)	Cleared
	6.	GLOF Studies	Cleared
	7.	Detailed civil design conceptual document	Submitted to CWC
	8.	Forest Clearance	Form-1 submitted
R&R details	About 760 ha of land is to be acquired for various project appurtenances. Based on the present level of investigations, quantum of private land to be acquire, the number of project affected families is not available. The number of families likely to lose land will be finalized as a part of the CEIA study. In addition, information of any family losing homestead or other private properties shall also be ascertained. Socio-economic survey for the Project Affected Families (PAFs) will be conducted. Based on the findings of the survey an appropriate Resettlement and Rehabilitation Plan will be formulated as per the norms and guidelines of as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013		

31.2.3 The EAC during deliberation noted the following:

The EAC deliberated on the information submitted and noted that the instant proposal is for grant of terms of Terms of Reference (ToR) for conducting EIA Study for Oju Hydroelectric Project of capacity 1878 MW at Village Reddi, Tehsil Limeking Circle, District Upper Subansiri, Arunachal Pradesh by M/s Oju Subansiri Hydro Power Corporation Pvt. Ltd.

Earlier the Ministry granted ToR to the project vide dated 26.06.2014 followed by extension of ToR vide dated 28th May, 2018. Now, the project proponent has submitted afresh proposal for grant of Terms of Reference after the expiry of validity of ToR.

The project/activity is covered under category A of item 1 (c) 'River Valley projects' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

Total 760 of land area will be required for the project. The submergence area at pond level is estimated as 43.2 Ha having a live pondage volume of 2.065 MCM.

There is no National Park, Wildlife sanctuary, Tiger/Elephant reserve, biosphere reserve etc in and around the project catchment.

31.2.4 *The EAC after detailed deliberation on the information submitted and as presented during the meeting* ***recommended*** *for grant of Standard ToR for conducting EIA Study to the project for Oju Hydroelectric Project of capacity 1878 MW at Village Reddi, Tehsil Limeking Circle, District Upper Subansiri, Arunachal Pradesh, under the provisions of EIA Notification, 2006 and as amended along with the following additional/specific ToR:*

(A) ***Environmental Management and Biodiversity Conservation***

i *Application for necessary clearance from NBWL shall be submitted along with wildlife conservation plan approved by PCCF.*

ii *The project involves diversion of 760 ha of forestland. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980. Application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980, for diversion of forestland required, should be submitted as soon as the actual extent of forestland required for the project is known, and in any case, within six months of issuance of this letter.*

iii *Environmental Cost Benefit Analysis shall be done in terms of loss of Forest ecosystem due to diversion of Forest land/loss of biodiversity, water availability, water uses for generation of hydro power from the existing reservoir.*

iv *Impact of developmental activity/project on the wildlife habitat and wildlife corridors, if any along with mitigation measures within study area shall be studied.*

v *The longitudinal connectivity/Free flowing sketch be provided in the EIA/EMP report.*

vi *Environmental matrix during construction and operational phase needs to be submitted. Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.*

vii *Endemic plant and animal species found in the area concerned shall be provided instead listing entire endemic species found in the State.*

viii *Details of Flora and Fauna reported in submergence area, Nos. of tree along with their density and nomenclature required to be cut for barrage creation and other project component.*

ix *Explore the possibility for reduction in forest land area.*

(B) Socio-economic Study

x *All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended from time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F.No.22-65/2017- IA.III dated 30th September, 2020 shall be submitted.*

xi *Tentative no. of project affected families displaced due to acquiring of private land shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.*

xii *Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.*

(C) Muck Management

xiii *Details of quantity of muck generation component wise, types of muck (Excavation in tunnels, pressure shaft and powerhouse etc) and disposal site/ transportation to be provided.*

xiv *Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, detailing the road map of project construction site/ indicating the distances from HFL, river, project construction site along with types of road etc.*

xv *Details of water sprinkling arrangements for arresting the fugitive / dust, emission from transportation and other project activities in project construction area.*

xvi *Safety measures for avoiding spill over muck into the riverbed/streams and its flow into the river during the high discharge/ flood or monsoon period. Prepare plan for stabilization of muck disposal sites using biological and engineering measures to ensure that muck does not roll down the slopes and shall be disposed safely and that it does not pollute the natural streams and water bodies in surrounding area.*

xvii *Restoration plan for construction area including dumping site of excavated materials by levelling, filling up of burrow pits, landscaping etc.*

(D) Disaster Management

xviii *CAT plan, Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared along with other EMPs and incorporated in the EIA/EMP report.*

xix Impact of Project activities (specially blasting and drilling) on the aquatic and terrestrial ecosystem, within study area to be studied and be incorporated in EIA/EMP report.

xx Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly approved by CWC /CEA shall be submitted.

(E) Miscellaneous

xxi Both capital and recurring expenditure under EMP shall be submitted.

xxii DPR of the project for power generation duly approved by the CWC and CEA be submitted.

xxiii The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples.

xxiv Arial view video of project site shall be recorded and to be submit.

Agenda Item No. 31.3:

Greenko TS02 Off-Stream Closed Loop Pumped Storage project (OCPSP) at Village Gopalpet, Tehsil Neeradigonda & Sarangapur, District Adilabad, Telangana by M/s West Bengal State Electricity Distribution Company Limited – Terms of Reference (TOR) - reg.

[Proposal No. IA/TG/RIV/282757/2022; F. No. J-12011/11/2022-IA.I (R)]

The project proponent vide letter dated 15th July, 2022 has submitted request for withdrawal of ToR application.

The EAC therefore **deferred** the proposal.

Agenda Item No. 31.4:

Rana Pratap Sagar Off-Stream Closed Loop Pumped Storage Project (1200 MW) at Village Semaliya, Tehsil Rawatbhata, District Chittorgarh (Rajasthan) by M/s Semaliya Energy Private Limited – Amendment in Terms of Reference (TOR) - reg.

[Proposal No. IA/RJ/RIV/282041/2022; F. No. J-12011/23/2021-IA.I (R)]

31.4.1 The proposal is for amendment in Terms of Reference granted by the Ministry vide letter dated 27.01.2022 in favour of M/s Semaliya Energy Private Limited to the project for Rana Pratap Sagar Off-Stream Closed Loop Pumped Storage Project (2000 MW) at Village Semaliya, Tehsil Rawatbhata, District Chittorgarh (Rajasthan).

31.4.2 The project proponent has submitted proposal for amendment in

ToR with the details as under:-

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
1		Name of the Project	Rana Pratap Sagar OCPSP 2000MW	Rana Pratap Sagar OCPSP 1200 MW
2		Location		
	a	Country	India	India
	b	State	Rajasthan	Rajasthan
	c	District	Chittorgarh	Chittorgarh
	d	Tehsil	Rawatbhata	Rawatbhata
3		Geographical Co-Ordinates		
	a	Rana Pratap Sagar OCPSP Upper Reservoir		
		Latitude	24°51'7.70"N	24°51'7.70"N
		Longitude	75°41'9.48"E	75°41'9.48"E
	b	Rana Pratap Sagar OCPSP Lower Reservoir		
		Latitude	24°51'50.21"N	24°51'50.21"N
		Longitude	75°42'2.24"E	75°42'2.24"E
4		Access to Project Site		
	a	Airport	Kota Airport – 67 kms from project site	Kota Airport – 67 kms from project site
	b	Rail head	Morak Railway Station-39 kms from project site	Morak Railway Station-39 kms from project site
	c	Road	NH- 9A-4.60 Kms from project site	NH- 9A – Bhilwara – Modak Road, 6.0 Km from project site
	d	Port	Kandla Port- 776 kms from project site	Kandla Port- 776 kms from project site
5		Project		
	a	Type	Off-Stream Closed Loop Pumped Storage Project	Off-Stream Closed Loop Pumped Storage Project
	b	Storage Capacity	12280 MWH	7236 MWH
	c	Rating	2000 MW	1200 MW
	d	Peak Operation duration	6.14 Hours	6.03 Hours
6		Rana Pratap Sagar OCPSP - Upper Reservoir		
	a	Live Storage	1.427 TMC	0.85 TMC

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
	b	Dead Storage	2.183 TMC	0.77 TMC
	c	Gross Storage	3.610 TMC	1.62 TMC
7		Upper Reservoir		
	a	Full Reservoir level (FRL)	EL + 504.00 m	EL + 500.00 m
	b	Min. Draw Down Level (MDDL)	EL + 495.00 m	EL + 490.00 m
	c	Top Bund Level (TBL)	EL + 507.00 m	EL + 503.00 m
	d	Type of Embankment	Rockfill Embankment with Central Clay Core	Rockfill Embankment with Central Clay Core
	e	Max. Height of Embankment	52 m	33 m
	f	Average Height of Embankment	29 m	18 m
	g	Length at the top of Embankment	9452 m	7805 m
	h	Top width of the Embankment	10.0 m	10.0 m
	i	Type of Power Block	Concrete Gravity Structure	Concrete Gravity Structure
	j	Height of Power Block	34.8	35.5
	k	Length at the top of Power Block	260 m	170 m
	l	Top width of the Power Block	10.0 m	10.0 m
8		Rana Pratap Sagar OCPSP - Lower Reservoir		
	a	Live Storage	1.431 TMC	0.841 TMC
	b	Dead Storage	0.030 TMC	0.002 TMC
	c	Gross Storage	1.461 TMC	0.843 TMC
9		Lower Reservoir		
	a	Full Reservoir level (FRL)	EL + 382.00 m	EL + 376.00 m
	b	Min. Draw Down Level (MDDL)	EL + 364.00 m	EL + 361.00 m
	c	Top Bund Level (TBL)	EL + 385.00 m	EL + 379.00 m
	d	Type of Embankment	Rockfill Embankment with Central Clay Core	Rockfill Embankment with Central Clay Core
	e	Average Height of Embankment	18 m	12 m
	f	Max Height of embankment	20 m	19 m

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
	g	Length of Embankment	7860 m	7598 m
10		Intake Structure		
	a	Type	Diffuser Type	Diffuser Type
	b	No. of Vents in each Intake	3 nos.	3 nos.
	c	Size of Each Intake	27 m (W) X 10.8 m (H) Including Piers	27 m (W) X 10.40 m (H) Including Piers
	d	Length of each Intake	42.23(covered with RCC slab at top up to Intake Gate)	42.23 (covered with RCC slab at top up to Intake Gate)
	e	Elevation of Intake center line	EL + 482.20 m	EL + 477.50 m
	f	Elevation of Intake bottom	EL + 478.45 m	EL + 473.75 m
	g	Design Discharge of each Intake (Turbine mode)	228.61 Cumec	219.46 Cumec
	h	Trash rack type	Vertical with inclination of 15°	Vertical with inclination of 15°
	i	Size of Trash Rack	3 Nos. of 8 m(W) X 11.18 m (H) for each unit	3 Nos. of 8 m(W) X 10.77 m (H) for each unit
	j	Numbers & Size of Intake Service Gate	8 Nos. of 6.2 m (W) X 7.5 m (H) with Independent rope drum hoist	5 Nos. of 6.2 m (W) X 7.5 m (H) with Independent rope drum hoist
	k	Numbers & Size of Intake Emergency Gate	4 Nos. of 6.2 m (W) X 7.5 m (H) with Moving Gantry	1 Nos. of 6.2 m (W) X 7.5 m (H) with Moving Gantry
11		Penstock /Pressure Shafts		
	a	Type	Finished steel lined - circular	Finished steel lined - circular
	b	Number of Penstock / Pressure Shaft	Total 8 No. of Independent Penstocks	Total 5 Nos. of independent Penstocks. 1 no. bifurcated in to 2 nos. near powerhouse
	c	Diameter of Penstock / Pressure Shaft	7.5 m	7.5 m
	d	Length of Penstock/Pressure Shaft	582.44 m Length of surface penstock from Intake to Vertical Pressure Shaft – 339.25 m, Length of Vertical Pressure Shaft –98.19m	591.35 m Length of surface penstock from Intake to Vertical Pressure Shaft – 338.07 m, Length of Vertical Pressure Shaft –

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
			& Length of Horizontal Pressure Shaft – 145 m	101.22m & Length of Horizontal Pressure Shaft – 152.05m
	e	Design Discharge of each Penstock	228.61 Cumec	219.46 Cumec
	f	Velocity in the Penstock	5.17 m/sec	4.97 m/sec
	g	No. of Branch Pressure Shaft	-	2
	h	Dia. Of Branch Penstock	-	5.00 m
	i	Design Discharge in branch penstock	-	109.73 Cumec
	j	Velocity in branch penstock	-	5.59 m/sec
	k	Length of each branch penstock	-	75 m
12		Powerhouse		
	a	Type	Surface Powerhouse	Surface Powerhouse
	b	Centre line of Unit	EL + 334.00 m	EL + 331.00 m
	c	Dimensions (Excluding Service bay)	222 m (L) X 25.5 m (W) X 51.20 m(H)	167 m (L) X 25.5 m (W) X 51.20 m(H)
	d	Size of Service bay	40.00 m (L) x 25.5 m (W)	40.00 m (L) x 25.5 m (W)
	e	Service bay Level	EL + 348.20 m	EL + 345.20 m
	f	Size of Unloading Bay	25.00 m (L) X 25.5 m (W)	25.00 m (L) X 25.5 m (W)
	g	Unloading Bay Level	EL + 372.20 m	EL + 369.20 m
13		Tail Race Tunnel		
	a	Type & Shape	Concrete Lined – Circular	Concrete Lined – Circular
	b	Number of Tunnels	8 Nos.	6 Nos. (4 nos. for large units + 2 nos. for smaller units)
	c	Dia. of Tunnel	9.00 m	9.00 m for larger unit & 6.0m for smaller unit
	d	Length of the Tunnel	196 m	199.45 m
	e	Design Discharge	228.61 Cumec	219.46 Cumec each for larger units and 109.73 for smaller units
14		Tailrace Outlet		
	a	Type	Diffuser Type	Diffuser Type

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
	b	No. of Outlet	8 Nos.	6 Nos. (4nos. for large units + 2nos. for smaller units)
	c	Size of each outlet	22.8 m (W) X 13.15 m (H) Including piers	22.8 m (W) X 12.60 m (H) Including piers for larger units 20.0 m (W) X 7.30 m (H) Including piers for smaller units
	d	Length of each Outlet	29.89 m (covered with RCC slab at top up to Outlet Gate)	29.89 m for larger units and 30.32 m for smaller units (covered with RCC slab at top up to Outlet Gate)
	e	Elevation of Outlet Center line	EL + 352.60 m	EL + 349.80 for larger units EL + 348.30 for smaller units
	f	Elevation of Outlet bottom	EL + 348.10 m	EL + 345.30 m
	g	Trash rack Type	Vertical with inclination of 15°	Vertical with inclination of 15°
	h	Size of Trash rack	3 Nos. of 6.6 m(W) X 13.61 m (H) for each unit	3 Nos. of 6.6 m(W) X 13.04 m (H) for each Larger unit 3 Nos. of 5.67 m(W) X 7.56 m (H) for each Smaller unit
	i	Tailrace Outlet Service Gate	8 nos. of 7.5 m (W) X 9 m (H) with independent hydraulic hoist	5 nos. of 7.5 m (W) X 9.0 m (H) for larger units 2 nos. of 4.95 m (W) X 6.0 m (H) for smaller units with independent hydraulic hoist
	j	Tail Race Outlet Emergency Gate	4 nos. of 7.5 m (W) X 9 m (H) with Moving Gantry	1 nos. of 7.5 m (W) X 9.0 m (H) for larger units 1 nos. of 4.95 m (W) X 6.0 m (H) for smaller units with independent hydraulic hoist
15		Tail Race Channel		
	a	Type & Shape	Concrete lined & Trapezoidal	Concrete lined & Trapezoidal
	b	Length of Channel	874.45 m	974.00 m
	c	Bed width	120 m	85 m
	d	Full supply depth	6.00 m	5.00 m

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
	e	Bed slope	1 in 7400	1 in 5600
16		Electro-Mechanical Equipment		
	a	Pump Turbine	Francis type, vertical shaft reversible pump-turbine	Francis type, Vertical shaft reversible pump-turbine
	b	Total No. of units	8 nos. (8X250MW)	6 nos. (4 X 240MW + 2 X 120MW)
	c	Total Design Discharge (Turbine Mode)	1828.87 Cumec	1097.32 Cumec
	d	Rated Net Head in Turbine mode	122.50 m	122.50 m
	A		250 MW Turbines	240 MW Turbines
	a	Total No. of units	8 Units (All fixed Speed)	4 Units (All fixed Speed)
	b	Turbine Design Discharge	228.61 Cumec	219.46 Cumec
	c	Pump Capacity	275 MW	264 MW
	d	Rated Pumping Head	131.50 m	131.50 m
	e	Rated Pump Discharge	198.11 Cumec	189.68 Cumec
	f	Synchronous speed	157.89 RPM	187.50 RPM
	I	Generator-Motor		
	a	Type	Three (3) phases, alternating current synchronous generator motor semi umbrella type with vertical shaft	Three (3) phases, alternating current synchronous generator motor semi umbrella type with vertical shaft
	b	Number of Units	8 units (8X250MW)	4 units (4 X 240MW)
	c	Rated Capacity	Generator – 250 MW. Pump Input – 275 MW.	Generator – 240 MW Pump Input – 264 MW
	d	Rated Voltage	18.0 KV	18.0 KV
	II	Main Power Transformer		
	a	Type	Indoor Single-Phase Power transformers with ON Load Tap Changer (OLTC)	Indoor Single-Phase Power transformers with ON Load Tap Changer (OLTC)
	b	Number of units	24 Nos. i.e. 3 nos. per unit	12 Nos. i.e., 3 nos. per unit + 1 no. Spare Total: 13 nos.

S. No.		Details	Original (As per ToR Granted- 2000 MW)	Revised (Proposed New Layout -1200MW
	c	Rated Capacity of each unit	Single Phase, 18 kV/400kV, 102 MVA	Single Phase, 18 kV/400kV, 100 MVA
	d	Rated Voltage	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10% In 1.25% steps	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10% In 1.25% steps
	B	120 MW Turbines	-	
	a	Total No. of units	-	2 Units (All fixed Speed)
	b	Turbine Design Discharge	-	109.73 Cumec
	c	Pump Capacity	-	132 MW
	d	Rated Pumping Head	-	131.50 m
	e	Rated Pump Discharge	-	95.56 Cumec
	f	Synchronous speed	-	187.50 RPM
	II	Generator-Motor	-	
	a	Type	Three (3) phases, alternating current synchronous generator motor semi umbrella type with vertical shaft	Three (3) phases, alternating current synchronous generator motor semi umbrella type with vertical shaft
	b	Number of Units	8 units (8X250MW)	2 units (2 X 120MW)
	c	Rated Capacity	Generator – 250 MW. Pump Input – 275 MW.	Generator – 120 MW Pump Input – 132 MW
	d	Rated Voltage	18.0 KV	18.0 KV
	III	Main Power Transformer		
	a	Type	Indoor Single-Phase Power transformers with ON Load Tap Changer (OLTC)	Indoor Three-Phase Power transformers with ON Load Tap Changer (OLTC)
	b	Number of units	24 Nos. i.e. 3 nos. per unit	2 Nos. of 3 Phase Power Transformers
	c	Rated Capacity of each unit	Single Phase, 18 kV/400kV, 102 MVA	3 Phase, 18 kV/400kV, 150 MVA
	d	Rated Voltage	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10%	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10%

S. No.		Details	Original (As per ToR Granted-2000 MW)	Revised (Proposed New Layout -1200MW
			to +10% In 1.25% steps	to +10% In 1.25% steps
17		400 KV Gas Insulated Switchgear		
	a	Type of GIS	Indoor Type	Indoor Type
	b	No. of GIS units	One No.	One No.
	c	Location	Inside GIS building above ground	Inside GIS building above ground
	d	Scheme	Double Busbar Arrangement with bus coupler and with Bus Sectionaliser	Double Busbar Arrangement with bus coupler
18		Power Evacuation		
	a	Voltage Level (KV)	400 KV	400 KV
	b	No. of Transmission Lines	Two Transmission line with double circuit	One Transmission line with double circuit
	c	Conductor	Twin Moose	Quad Moose
	d	Total Length	Two 400 KV Double Circuit Transmission Line with Twin Moose conductor of length 41 KMs (appx.) from PSP will be connected to 400KV PGCIL Substation, Kota, Rajasthan State for evacuation of stored power during generating mode and for supply of power during pumping mode.	One 400 KV Double Circuit Transmission Line with Quad Moose Conductor of length 41 KMs (appx.) from PSP will be connected to 400KV PGCIL Substation, Kota, Rajasthan State for evacuation of stored power during generating mode and for supply of power during pumping mode.
19		Estimated Cost		
	a	Civil & Other works	4477.83 Cr.	3169.78 Cr.
	b	E & M Works incl. transmission	2552.50 Cr.	1592.50 Cr.
	c	IDC & Others	3326.35 Cr.	2307.85 Cr.
	d	Total Project Cost with IDC	10356.68 Cr.	7080.94 Cr.

The silent feature of the project is as under:

Name of the Proposal	Rana Pratap Sagar Off-Stream Closed Loop

	Pumped Storage Project - (1200 MW)
Proposal No.	IA/RJ/RIV/243510/2021
Location (Including Coordinates)	Semaliya village, Chittorgarh District, Rajasthan The geographical co-ordinates of the proposed upper reservoir are at longitude 75°41'9.48"E and latitude is 24°51'7.70"N and that of lower reservoir are at longitude 75°42'2.24"E and latitude 24°51'50.21"N.
Company's Name	Semaliya Energy Private Limited
CIN no. of Company/user agency	U40106TG2021PTC158120
Accredited Consultant and certificate no.	R S Envirolink Technologies Pvt. Ltd NABET/EIA/1922/SA 0144
Project location (Coordinates/River/ Reservoir)	Semaliya village, Chittorgarh District, Rajasthan The geographical co-ordinates of the proposed upper reservoir are at Latitude 24°51'7.70" North and Longitude is 75°41'9.48" East and that of lower reservoir are at 24°51'50.21" North and 75°42'2.24" East.
Inter-state issue involved	Nil

Category of the project	1(c) River Valley projects
Capacity/Cultural command area (CCA)	1200 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Nil

Earlier EC Proposal No.	IA/RJ/RIV/243510/2021
Earlier EAC meeting date	14.12.2021
EC Letter No.	J-12011/23/2021-IA-I
EC grant Date	27th January, 2022
Cost of project	10356.68 Cr
Total area of Project	1376.44 Ha
Date of online application for amendment in ToR/EC was	11.07.2022
Details of CTE/CTO	Nil

Powerhouse Installed Capacity	1200 MW
Generation of Electricity Annually	2508 MU
No. of Units	6 nos. (4 X 240 MW + 2 x 120 MW)

31.4.3 *The EAC after detailed deliberation on the information submitted and as presented during the meeting* ***recommended*** *the proposal for amendment in ToR as proposed by the project proponent subject to compliance of following additional ToR:-*

(i) Explore the possibility for reduction in forest land area.

(ii) All other ToR mentioned in the earlier TOR letter dated 27.01.2022 shall remain unchanged.

Agenda Item No. 31.5:

Renukaji Dam Project (40 MW) with CCA 32372 Ha in an area of 49800 ha. at Village Dadahu, Tehsil - Dadahu (S.T) District. Sirmaur, Himachal Pradesh by M/s Himachal Pradesh Power Corporation Limited – Terms of Reference (TOR) - reg.

[Proposal No. IA/HP/RIV/250502/2022; F. No. J-12011/53/2008-IA. I]

31.5.1 The proposal is for grant of Terms of Reference to the project for Renukaji Dam Project (40 MW) with CCA 32372 Ha in an area of 49800 ha. at Village Dadahu, Tehsil - Dadahu (S.T) District. Sirmaur, Himachal Pradesh by M/s Himachal Pradesh Power Corporation Limited.

31.5.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

(i) The proposal is for grant of Terms of Reference to the project for Renukaji Dam Project (40 MW) with CCA 32372 Ha in an area of 49800 ha. at Village Dadahu, Tehsil - Dadahu (S.T) District. Sirmaur, Himachal Pradesh by M/s Himachal Pradesh Power Corporation Limited.

(ii) The proposal was earlier considered by the EAC in its 26th meeting held on 8th April, 2022, wherein the EAC deferred the proposal for want of following additional information:-

i. Comparative chart of critical parameters like submergence, muck disposal, EMP cost, distribution of forest land and any change in design etc. considered in earlier EC and as mentioned in de-novo proposal be provided.
ii. Site suitability study in terms of loss of Forest ecosystem, loss of biodiversity, water availability/water uses for irrigation and Ecological flows due to construction of the project.
iii. Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, raw material transportation, detailing the road map of project construction site/ indicating the distances from HFL, river, project construction site along with types of road etc.

iv. Declaration form the project proponent that no construction work has been started yet.
v. Undertaking that no court has passed any direction against the project.

31.5.3 The EAC during deliberations noted the following:

Earlier, the Environment clearance (EC) was accorded to Renukaji Dam Project (40 MW) by Ministry of Environment & Forests (MoEF), Govt. of India on 23.10.2009. Subsequently, amendment has been granted on 15.01.2019 as per NGT order. Further, vide letter dated 6th November, 2019 MOEFCC granted extension to EC for three years till 22.10.2022. Therefore, it was observed that as per MoEF&CC Notification dated 18th January, 2021 validity of EC of the proposed project is valid till 22.10.2023.

The existing EC granted by the Ministry is still valid and as per Ministry's Notification dated 12th April, 2022, the validity of EC granted to River Valley Project will be thirteen years and may be extended for a maximum period of two years in the case of River Valley projects.

As the existing EC is valid as on date and as per the Ministry's new notification dated 12th April, 2022, the validity of this project may be extended for two more years. The EAC suggested the project proponent to submit proposal for validity extension of EC instead of taking afresh ToR. The project proponent was agreed with the same. Accordingly, the project proponent decided to withdraw this ToR application.

The EAC after detailed deliberations decided to **return** the proposal. The proposal therefore deferred on the above lines.

Agenda Item No. 31.6:

Veeraballi Pumped Storage Project of capacity 2720 MW at Village Veeraballi, District Kadapa (Andhra Pradesh) by M/s Astha Green Energy Ventures India Pvt. Ltd. - Amendment in Terms of Reference (TOR) - reg.

[Proposal No. IA/AP/RIV/281327/2022; F. No. J-12011/07/2020-IA.I (R)

31.6.1 The proposal is for amendment in Terms of Reference granted by the Ministry vide letter dated 13.07.2020 in favour of M/s Astha Green Energy Ventures India Pvt Ltd to the project for Veeraballi Pumped Storage Project of capacity 2720 MW at Village Veeraballi, District Kadapa (Andhra Pradesh).

31.6.2 The project proponent has submitted proposal for amendment in ToR with the details as under:-

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
1		**Location**		

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	a	Country	India	India
	b	State	Andhra Pradesh	Andhra Pradesh
	c	District	Kadapa	Kadapa
	d	Village near Powerhouse	Vongimalla	Vongimalla
2		**Geographical Co-Ordinates**		
	a	**VeeraballiPSP (Off-Stream Closed Loop Project)Upper Reservoir- (Now Proposed)**		
		Latitude	14°13'3.91"N	14°13'1.54"N
		Longitude	78°52'24.13"E	78°52'19.26"E
	b	**VeeraballiPSP (Off-Stream Closed Loop Project) Lower Reservoir - (Now Proposed)**		
		Latitude	14°11'19.80"N	14°11'19.58"N
		Longitude	78°52'34.96"E	78°52'29.61"E
3		**Access To Project Site**		
	a	Airport	Tirupati International Airport, Tirupati – 150 kms from project site	Tirupati International Airport, Tirupati – 150 kms from project site
	b	Rail head	Kadapa Railway Station, 70 kms from project site	Kadapa Railway Station, 70 kms from project site
	c	Road	Veeraballi - Gadikota - Edigapalli Rd, 6 km from project site	Veeraballi - Gadikota - Edigapalli Rd, 6 km from project site
	d	Port	Krishnapatnam Port, 200km from project site	Krishnapatnam Port, 200km from project site
4		**Project**		
	a	Type	Off-Stream Closed Loop Pumped Storage Project	Off-Stream Closed Loop Pumped Storage Project
	b	Storage Capacity	28560 MWH	10962 MWH
	c	Rating	2720 MW	1800 MW
	d	Peak Operation duration	10.50 Hours	6.09 Hours
5		**Veeraballi PSP (Off-Stream Closed Loop**		

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
		Project) - Upper Reservoir		
	a	Live Storage	1.17 TMC	0.494 TMC
	b	Dead Storage	0.19 TMC	0.01 TMC
	c	Gross Storage	1.36 TMC	0.504 TMC
6		**Upper Reservoir**		
	a	Full Reservoir level (FRL)	EL +689.00 m	EL +690.00 m
	b	Min. Draw Down Level (MDDL)	EL +660.00m	EL +664.00m
	c	Top Bund Level (TBL)	EL +692.00 m	EL +693.00 m
	d	Type of Embankment	Rock fill Embankment with central clay core	Rock fill Embankment with central clay core
	e	Max. Height of Rockfill Embankment	52 m	38 m
	f	Length at the top of Rockfill Embankment	2307 m	2143 m
	g	Top width of the Rockfill Embankment	10.0 m	10.0 m
	h	Type of Power Block	Concrete Gravity Structure	Concrete Gravity Structure
	i	Height of Power Block	50 m	45.90 m
	j	Length at the top of Power Block	206.00 m	180.00 m
	k	Top width of the Power Block	10.0 m	10.0 m
7		**Veeraballi PSP (Off-Stream Closed Loop Project) - Lower Reservoir**		
	a	Live Storage	1.16 TMC	0.437 TMC
	b	Dead Storage	0.07 TMC	0.126 TMC
	c	Gross Storage	1.23 TMC	0.563 TMC
8		**Lower Reservoir**		
	a	Full Reservoir level (FRL)	EL +324.00 m	EL +323.00 m
	b	Min. Draw Down Level (MDDL)	EL +291.00m	EL +305.00m
	c	Top Bund Level	EL +327.00 m	EL +326.00 m

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
		(TBL)		
	d	Type of Dam	Rock fill Embankment with central clay core	Rock fill Embankment with central clay core
	e	Max Height of Embankment	47 m	41 m
	f	Length of Embankment	2934 m	2591 m
9		**Approach Channel**		
	a	Type & Shape	Concrete lined & Trapezoidal	Concrete lined & Trapezoidal
	b	Length of channel	1713m	901 m
	c	Bed width	85 m	45 m
	d	Full supply depth	4.1 m	5.0 m
	e	Bed slope	1 in 4600	1 in 5900
	f	Design Discharge	865.38 Cumec	564.80 Cumec
	g	Velocity of flow	2.39 m/sec	2.27 m/sec
10		**Intake Structure**		
	a	Type	Diffuser Type	Diffuser Type
	b	No. of Vents	3 nos.	3 nos.
	c	Size of Each Intake	25.50 m (W) x 10.75 m (H) including piers	21.00 m (W) x 5.95 m (H) including piers
	d	Length of each Intake	38.98 m (covered with RCC slab at top up to Intake Gate)	34.65 m (covered with RCC slab at top up to Intake Gate)
	e	Elevation of Intake centre line	EL + 647.60 m	EL + 654.60 m
	f	Elevation of Intake bottom	EL +643.85 m	EL +652.10 m
	g	Design Discharge of each Intake (Turbine mode)	216.35 Cumec	94.13 Cumec
	h	Trash rack type	Vertical with inclination of 15^{o}	Vertical with inclination of 15°
	i	Size of Trash Rack	3 nos. of 7.50 m (W) x 11.13 m (H) for each unit	3 nos. of 6.00 m (W) x 6.16 m (H) for each unit
	j	Numbers & Size of Intake Service Gate	4 nos. of 6.20 m (W) x 7.5 m (H)	6 nos. of 4.20 m (W) x 5.0 m (H)
	k	Numbers & Size of Intake Emergency Gate	2 No. – 6.20 m (W) x 7.50 m (H) with Moving Gantry	1 No. – 4.20 m (W) x 5.0 m (H) with Moving Gantry
11		**Water Conductor System**		

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	I	**Intake Tunnel (up to Exit portal)**		
	a	Type	Steel lined – circular	Steel lined – circular
	b	Number of Tunnels	4 Nos.	6 Nos.
	c	Diameter of Each Tunnel	7.5 m dia.	5.0 m dia.
	d	Length of Tunnel	306 m each	252.30 m each
	e	Design Discharge of each Tunnel	216.35 Cumec	94.13 Cumec
	f	Velocity in the Tunnel	4.90 m/sec	4.79 m/sec
	II	**Buried Penstock (from Exit portal to Power House)**		
	a	Type	Finished steel lined - circular	Finished steel lined - circular
	b	Number of Pressure Shaft	Total 4 No. of Independent Penstocks each bifurcated into 2 nos. near powerhouse	Total 6 No. of Independent Penstocks. 1 no. bifurcated into 2 nos. near powerhouse
	c	Diameter of Main Pressure Shaft	7.50 m	5.00 m
	d	Length of Main Penstock/Pressure Shaft	1703 m Length of surface penstock from Intake to Vertical Pressure Shaft – 1511 m Length of Vertical Pressure Shaft – 82 m Length of Horizontal Main Pressure Shaft – 110m	1084.21 m Length of Surface Penstock from Exit Portal to Start of Vertical Pressure Shaft – 777.48 m Length of Vertical Pressure Shaft – 126.73m Length of Horizontal Pressure Shaft – 180.00m
	e	Diameter of Branch Pressure Shaft	5.25m	3.50m
	f	Length of Branch Penstock/Pressure Shaft	101m	100.00m
	g	Design Discharge of each Main Penstock	216.35 Cumec	94.13 Cumec

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	h	Design Discharge of each Branch Penstock	108.17 Cumec	47.07 Cumec
	i	Velocity in Main Penstock	4.90 m/sec	4.79 m/sec
	j	Velocity in the Branch Penstock	5.00 m/sec	4.89 m/sec
12		**Powerhouse**		
	a	Type	Surface Powerhouse	Surface Powerhouse
	b	Centre line of Unit	EL +251.00 m	EL +265.00 m
	c	Dimensions (Excluding Service bay)	L 222.00m x B 25.50m x H 51.10 m	L 193.00m x B 25.50m x H 51.10 m
	d	Size of Service bay	40.00 m (L) x 25.50 m (W)	40.00 m (L) x 25.50 m (W)
	e	Service bay Level	EL +265.15 m	EL +279 .20 m
	f	Size of Unloading Bay	20.00 m (L) X 25.50 m (W)	20.00 m (L) X 25.50 m (W)
	g	Unloading bay Level	EL + 288.70 m	EL + 303.20 m
13		**Tail Race Tunnel**		
	a	Type & Shape	Concrete Lined – Circular	Concrete Lined – Circular
	b	Number of Tunnels	8 Nos.	7 Nos. (5 nos. for large units and 2 nos. for smaller units)
	c	Dia. of Tunnel	6.50 m	6.0 m for Larger unit & 4.50 m for Smaller unit
	d	Length of the Tunnel	255 m	277 m
	e	Design Discharge	108.17 Cumec	94.13 Cumec each for Larger units and 47.07 Cumec each for Smaller units
14		**Tailrace Outlet**		
	a	Type	Diffuser Type	Diffuser Type
	b	No. of Vents	8 Nos.	7 Nos. (5 nos. for large units and 2 nos. for smaller units)
	c	Size of Each Outlet	18.00 m (W) x 8.00 m (H) including piers	18.00 m (W) x 7.10 m (H) including piers for Large Units 12.00 m (W) x 5.10 m (H) including piers for Smaller Units

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	d	Length of each Outlet	24.91 m (covered with RCC slab at top up to Intake Gate)	25.99 m for Larger units and 16.24m for Smaller Units (covered with RCC slab at top up to Intake Gate)
	d	Elevation of outlet centre line	EL +282.40 m	EL +296.70 m for Larger Units and EL +295.95 m for Smaller Unit
	e	Elevation of Outlet bottom	EL +279.15 m	EL +293.70 m
	f	Trash rack Type	Vertical with inclination of 15°	Vertical with inclination of 15°
	g	Size of Trash rack	3 no. of 5.00m (W) x 8.28 m (H) for each unit	3 nos. of 5.00 m (W) x 7.35 m (H) for each Larger unit 2 nos. of 5.25 m (W) x 5.28 m (H) for each Smaller unit
	h	Tailrace outlet Service Gate	8 nos. of 5.40 m (W) x 6.50 m (H)	5 nos. of 5.00 m (W) x 6.00 m (H) for Larger Units and 2 nos. of 3.80m (W) x 4.50m(H) for Smaller Units with Independent Hydraulic Hoist
	i	Tail Race outlet Emergency Gate	4 No. –5.40 m (W) x 6.50 m (H) with Moving Gantry	1 nos. of 5.00 m (W) x 6.00 m (H) for Larger Units and 1 no. of 3.80m (W) x 4.50 m(H) for Smaller Units with Moving Gantry
15		**Tail Race Channel**		
	a	Type & Shape	Concrete lined & Trapezoidal	Concrete lined & Trapezoidal
	b	Length of channel	1300m	227m
	c	Bed width	85m	45m
	d	Full supply depth	4.1m	5.0m
	e	Bed slope	1 in 4600	1 in 5900
16		**Electro Mechanical Equipment**		
	a	Pump Turbine	Francis type, vertical shaft reversible pump-turbine	Francis type, vertical shaft reversible pump-turbine

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	b	Total No. of units	8 nos. (8 X 340 MW)	7 nos. (5 X 300 MW + 2 x 150 MW)
	c	Total Design Discharge (Turbine Mode)	865.38 Cumec	564.80 Cumec
	d	Rated Head in Turbine mode	360.00 m	357.00 m
	I	**340 MW Turbines**		
	a	Total No. of units	8 Units (6Nos. with Fixed speed & 2 Nos. with Variable Speed)	--
	b	Turbine Design Discharge	108.17 Cumec	--
	c	Pump Capacity	391 MW	--
	d	Rated Pumping Head	375.00 m	--
	e	Rated Pump Discharge	95.57 Cumec	--
	II	**300 MW Turbines**		
	a	Total No. of units	--	5 Units (All Fixed speed)
	b	Turbine Design Discharge	--	94.13 Cumec
	c	Pump Capacity	--	330 MW
	d	Rated Pumping Head	--	370.00 m
	e	Rated Pump Discharge	--	84.40 Cumec
	A	**Generator-Motor**		
	a	Type	Three (3) phase, alternating current synchronous/ asynchronous generator motor semi umbrella type with vertical shaft	Three (3) phase, alternating current synchronous generator motor semi umbrella type with vertical shaft
	b	Number of units	8 Units (8 x 340 MW)	5 Units (5 x 300 MW)
	c	Rated Capacity	Generator – 340 MW; Pump Input – 391 MW	Generator – 300 MW; Pump Input – 330 MW
	d	Rated Voltage	21.0 KV	18.0 KV
	e	Speed of Machine	--	**300 RPM**
	B	**Main Power Transformer**		
	a	Type	Outdoor Single-Phase Power transformers with Off-Circuit tap changer (OCTC)	Indoor Single-Phase Power transformers with **ON Load Tap Changer** (OLTC)

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
	b	Number of units	24 Nos. i.e. 3 nos. per unit	15 Units i.e., 3 Nos. per unit + 1no. Spare Total: 16 nos.
	c	Rated Capacity of each unit	Single Phase, 21 kV/400kV, 150 MVA	Single Phase, 18 kV/400kV, 123 MVA
	d	Rated Voltage	Primary – 21.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10%(3kV/tap)	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10% In 1.25% steps
	III	**150 MW Turbines**		
	a	Total No. of units		2 Units (All Fixed speed)
	b	Turbine Design Discharge	--	47.07 Cumec
	c	Pump Capacity	--	165 MW
	d	Rated Pumping Head	--	370.00 m
	e	Rated Pump Discharge	--	42.20 Cumec
	I	**Generator-Motor**		
	a	Type	--	Three (3) phase, alternating current synchronous generator motor semi umbrella type with vertical shaft
	b	Number of units	--	2 Units (2 x 150 MW)
	c	Rated Capacity	--	Generator – 150 MW; Pump Input – 165 MW
	d	Rated Voltage	--	18.0 KV
	e	Speed of Machine	--	**500 RPM**
	II	**Main Power Transformer**		
	a	Type	--	Indoor Three-Phase Power transformers with **ON Load Tap Changer (OLTC)**
	b	Number of units	--	2 Units
	c	Rated Capacity of each unit	--	Three Phase, 18 kV/400kV, 185 MVA
	d	Rated Voltage	--	Primary – 18.0 kV; Secondary - 400 kV adjustable range of the secondary voltage:-10% to +10% In 1.25% steps

S. No.		Details	Original Veeraballi Pumped Storage Project (2720 MW)	Revised Veeraballi Off-Stream Closed Loop Pumped Storage Project (1800 MW)
17		**400 KV Gas Insulated Switchgear**		
	a	Type of GIS	Indoor Type	Indoor Type
	b	No. of GIS units	One No.	One No.
	c	Location	Inside GIS building above ground	Inside GIS building above ground
	d	Scheme	Double Busbar Arrangement with bus coupler and with bus sectionalizer	Double Busbar Scheme with bus sectionalizer
18		**POWER EVACUATION**		
	a	Voltage Level (KV)	400 KV	400 KV
	b	No. of Transmission Lines	Two Transmission line with double circuit	Two Transmission line with double circuit
	c	Total Length	Two 400 KV Double Circuit Transmission Line of length **23 KMs** (appx.) from PSP will be connected to 765 KV/400KV PGCIL Substation, Jamal Palle, Kadapa district, Andhra Pradesh State for evacuation of stored power during generating mode and for supply of power during pumping mode.	Two 400 KV Double Circuit Transmission Line of length 23 KMs (appx.) from PSP will be connected to 765 KV/400KV PGCIL Substation, Jamal Palle, Kadapa district, Andhra Pradesh State for evacuation of stored power during generating mode and for supply of power during pumping mode.
19		**Estimated Cost**		
	a	Civil & Other works	5423.10 Cr.	3368.53 Cr.
	b	E & M Works incl. transmission	3492.00 Cr.	2217.50 Cr.
	c	I DC & Others	3872.81 Cr.	2652.11 Cr.
		Total Project Cost with IDC	**12787.91 Cr.**	**8238.14 Cr.**

The silent features of the project is as under:

Name of the Proposal	Veeraballi Off Stream Closed Loop Pumped Storage Project (PSP)
Proposal No.	IA/AP/RIV/281327/2022

Location (Including Coordinates)	Vongimalla village, Kadapa District, Andhra Pradesh The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'24.13"E and latitude is 14°13'3.91" N and that of lower reservoir are at longitude 78°52'34.96"E and latitude 14°11'19.80"N.
Company's Name	Astha Green Energies Ventures India Private Limited
CIN no. of Company/user agency	U65993TG2005PTC046775
Accredited Consultant and certificate no.	R S Envirolink Technologies Pvt. Ltd. NABET/EIA/1922/SA 0144
Project location(Coordinates/River/ Reservoir)	Vongimalla village, Kadapa District, Andhra Pradesh The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'01.54"N and that of lower reservoir are at longitude 78°52'29.61"E and latitude 14°11'19.58"N. River: Mandavi River
Inter-state issue involved	Nil

Category details:

Category of the project	1(c) River Valley projects
Capacity/Cultural command area (CCA)	1800 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	Nil

Electricity generation capacity:

Powerhouse Installed Capacity	1800 MW
Generation of Electricity Annually	3799 MU
No. of Units	7 nos. (5 X 300 MW + 2 x 150 MW)

Detail reason for amendment in ToR/EC:

Originally, Veeraballi Pumped Storage Project was planned for the installed capacity of 2720 MW with 10.5 hours storage capacity and obtained ToR clearance from MoEF&CC. The water requirement for this capacity was 1.16 TMC and the total land area required for the project was 838.82 Ha in which forest land and non-forest land requirement was 539.37 Ha and 299.45 Ha respectively.

However, considering the energy market demand and with efforts to sell power through this project it was observed that presently Indian Energy market is looking for project with 4-6 hours of storage only. Recent tenders which have come for storage services are also on similar lines.

Keeping energy market requirements in view the storage hours of the project were refixed to around 6 hours and project optimization studies were taken up and it was revised to 1800 MW with 6.09 hours storage capacity. With this optimization the project footprint has reduced considerably w.r.t. water and land requirements.

Due to reduction in installed capacity, there is reduction in water requirement to 0.437 TMC, reduction in component size and thereby reduction in land requirement too. The total land area requirement with revised capacity of 1800 MW is about 464.67 Ha in which the forest land and Non-forest land requirement is estimated to 323.77 Ha and 140.90 Ha respectively.

The present proposed Veeraballi Pumped storage is a very attractive scheme both in terms of technical feasibility and from economical consideration. The location selected for this scheme is the best in terms of topography, geology, head available, flat terrain for upper reservoir, availability of water source in the vicinity and suiting the requirement of project components with reduced forest and overall land requirement.

31.6.3 *The EAC after detailed deliberation on the information submitted and as presented during the meeting* ***recommended*** *the proposal for amendment in ToR as proposed by the project proponent subject to compliance of following additional ToR:-*

(i) Explore the possibility for reduction in forest land area.

(ii) All other ToR mentioned in the earlier TOR letter dated 13.07.2020 shall remain unchanged.

Agenda Item No. 31.7:

Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project at village Karlakatti, Tehsil - Saundatti, District - Belgaum, Karnataka by M/s Greenko Solar Energy Pvt. Ltd. – Reconsideration of Environmental Clearance - reg.
[Proposal No. IA/KA/RIV/74600/2018, F No. J-12011/11/2018-IA.I(R)]

31.7.1 The proposal is for grant of environmental clearance to the project for Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project at village Karlakatti, Tehsil - Saundatti, District - Belgaum, Karnataka by M/s Greenko Solar Energy Pvt. Ltd.

(i) The proposal no. IA/KA/RIV/74600/2018 was submitted on 11 February, 2019 for grant of Environment Clearance to Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project. at village Karlakatti, Tehsil - Saundatti, District - Belgaum, Karnataka by M/s Greenko Solar Energy Pvt. Ltd.

(ii) The total land requirement for the proposed development of pumped storage project is about 228.97 ha. Out of the total land requirement, around 167.65 ha is forest land, 37.34 ha is Private land and 23.98 ha is Government/ Assigned Land. No families are to be displaced by the Project and it does not involve any resettlement.

(iii) The proposal was considered by the EAC in its 22nd meeting held on 27.02.2019 and recommended the project for Environmental Clearance with certain conditions.

(iv) MoEF&CC vide letter dated 4.12.2020 requested to submit Stage- I Forest Clearance. The Stage-I FC was accorded on 12.07.2022 and the same was submitted to Ministry vide letter dated 18.07.2022.

(v) The silent features of the project is as under:-

Project details:

Name of the Proposal	Saundatti HEP (1260 MW) Integrated Renewable Energy with Pumped Storage Project
Proposal No.	IA/KA/RIV/7 4600/2018
Location (Including Coordinates)	Village Karlakatti, Tehsil -Saundatti, District - Belgaum, Karnataka
Company's Name	Greenko Solar Energy Pvt. Ltd.
CIN no. of Company/user agency	U40108TG2010PTC067974
Accredited Consultant and certificate no.	NABET/EIA/1922/RA 0152
Project location(Coordinates/River/ Reservoir)	Saundatti upper reservoir is at longitude 75° 00' 19.50" East and latitude is 15° 51' 21.84" North and that of Renuka Sagar reservoir (existing) are 15°49'17.15"N N and 75° 05'48.23"E
Inter-state issue involved	No
Proposed on River/Reservoir	Not across any river, Existing Renukasagar Reservoir will be used as Lower Reservoir.
Type of Hydro-electric project	Pumped Storage Project
Seismic zone	II

Category details:

Category of the project	River Valley and Hydro Electric Project
Capacity/Cultural command area(CCA)	1260 MW (14616 MWH)
Attracts the General	No

Conditions (Yes/No)	

ToR/EC Details:

ToR Proposal No.	IA/KA/RIV/74600/2018
EAC meeting date	**ToR-27.04.2018 & ToR Amendment-27.08.2018**
ToR Letter No.	J-12011/11/2018-IA.l
ToR grant Date	**18.05.2018. & 25.09.2018**
Cost of project	5965.33 Cr
Total area of Project	213.70 Ha
Height of Dam from River Bed (EL)	The upper Reservoir is being constructed away from the River, Top of Dam is 858.00m and height of rockfill dam is 43m.
Details of submergence area	128.58 Ha (Upper Reservoir area)
District to provide irrigation facility (if applicable)	NA
Details of tunnels on upper level & lower level and length of canal (if applicable)	NA
No. of affected Village	Karlakatti & Chakrageri under Yekkundi Gram Panchyat
No. of Affected Families	85
Project Benefits	The Project is a renewable green source of energy and helps to reduce carbon foot print, direct and In-direct economic opportunities like employment opportunities petty work contracts, machinery hiring, business opportunity etc., Infrastructure development contracts (roads, retaining walls etc.), Local area development and community development activities like education, health, drinking water, basic amenities, livelihood enhancement, transportation, road network and other infrastructure will improve etc.
R&R details	l The private land identified for the project falls in two revenue villages viz. Chakrageri and Karlakatti under Saundatti Tehsil. The village Chakrageri is un-inhabited and the owners of the identified land reside in Karlakatti Village. The R&R Plan has been prepared in line with The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCT_LARR) and The

	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Karnataka) Rules, 2015. An amount of Rs 517.50 Lakhs has been earmarked towards R&R plan.
Catchment area/Command area	NA
Types of Waste and quantity of generation during construction/Operation	Major waste generation is muck from excavation. Total quantity of excavated material is worked out as 7.21 MCM,
Material used for blasting and its composition as per DGMS standards.	NA
E-Flows for the Project	NA
Is Projects earlier studied in Cumulative Impact assessment & Carrying Capacity studies (CIA&CC) for River in which project located. If yes, then c) E-flow with TOR/ Recommendation by EAC as per CIA&CC study of River Basin. d) If not the E-Flows maintain criteria for sustaining river ecosystem.	NA
Details on provision of fish pass	NA
Project benefit including employment details (no. of employee)	1900 (1600-Labour, 300-Skilled)
Area of Compensatory Afforestation (CA) with tentative no. of plantation.	
Previous EC details	Nil
EC Compliance Report by R.O, MOEF&CC	Nil

Electricity generation capacity:

Powerhouse Installed Capacity	1260 MW
Generation of Electricity Annually	14616 MWH
No. of Units	6 nos. (4 X 252MW & 2 X 126 MW)

Muck Management Details:

No. of proposed disposal area/(type of land-Forest/Pvt. land)	2, Non-forest
Cross section of proposed muck area, Height of muck with slope.	MD-1, 7 Ha, Capacity-12,58,640 Cum MD-2, 3 Ha, Capacity-4,86,675 Cum Ht- 4.75m

Distance of muck disposal area (location), from muck generation sources (project area)/River, HFL of proposed muck disposal area.	Within 500 m i.e. About 450 &250 m from Powerhouse
Total Muck Disposal Area	10 Ha
Estimate Muck to be generated	7.21 MCM
Transportation	By road
Monitoring mechanism for Muck Disposal Transportation	Properly covered Dumper trucks will be used

Land Area Breakup:

Private land	36.64 Ha
Government land/Forest Land	18.66 Ha /160.40 ha
Submergence area/Reservoir area	128.58 Ha (Upper Reservoir)
Land required for project components	213.70 Ha

Presence of Environmentally Sensitive areas in the study area

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/ No**	**Details of Certificate/ letter/ Remarks**
Reserve Forest/ Protected Forest Land	Yes	Obtained Stage-I FC on **12.07.2022.**
National Park	No	
Wildlife Sanctuary	No	
Archaeological sites monuments/ historical temples etc.	No	
Additional information (if any)	-	

Availability of Schedule-I species in study area- one bird species falls under Schedule I i.e. *Pavo cristatus* (Indian Peafowl).

Public Hearing (PH) Details

Advertisement for PH with date	05.12.2018-English. Kannada-06.12.2018
Date of PH	7th January, 2019
Venue	adjacent to Mallur Electrical Sub-station
Chaired by	District Collector
Main issues raised during PH	Water Availability for Agriculture, Compensation of land
No. of people attended	381

Brief of baseline Environment:

Particulars	Details
Period of baseline data collection/Sampling period.	• Winter / Lean season (January, 2018) • Summer season (May, 2018) • Monsoon season (August, 2018) • **Additional one season in December 2019**
(Air, noise, water, land)	• **Ambient Air Quality:** Ambient Air Quality Monitoring was carried out at 6 locations in the study area. The level of pollutant observed at various sampling stations was much lower than the permissible limit of the National Ambient Air Quality Standard notified by CPCB. • **Ambient Noise Levels:** The sound levels on an average ranged from 48.0 to 55.9 dB (A) (day time observations), which are within the Ambient Noise Standards ranging from 55 dB(A) during day time in residential area to 65 dB(A) during day time in commercial area. • **Soil:** Clayey Loamy soils are predominant in the study area. The soil fertility in general varies from Low to Medium category. Based upon Nutrient Index in terms of NPK in case of Nitrogen and Potassium is Medium (2.00), in case of and Phosphorus is Low i.e. NI is 1.00. • **Water:** The data on water quality has been collected to evaluate surface water (reservoir and pond) and ground water quality (tube-wells, hand pumps, wells, etc.) in study area. The water quality in the study area in general is good. Except for agricultural activities there are no sources of pollution of water bodies in the area. According to

	BIS standards for Drinking Water (2012) all the ground water samples collected from the study area fall within permissible limits of the same. The Water Quality Index of all the ground water samples fall in excellent ground water quality class.
Flora and fauna of the project area, aquatic ecology, etc.	• **Flora:** Quadrat sampling was undertaken for carrying out phyto-sociological surveys of the vegetation in the study area. The conservation status (Rare, Endangered and Threatened) of all species of plants recorded from the study area was assessed based on IUCN Red list of Threatened Species. Based upon earlier field surveys an inventory of 170 flowering plant species belonging to 51 families was prepared. This list includes 65 species of trees, 35 species of shrubs and 70 herbaceous species. During additional study survey 66 species of trees, 25 species of shrubs and 51 herbaceous species were recorded from the study area. In addition to 170 species recorded during earlier survey 10 new species (1 tree, 3 shrubs and 6 herbs) viz; *Macaranga peltata, Cassia auriculata, Randia dumetorum, Wattakaka volubilis, Vernonia cinerea, Mimosa pudica, Erianthus munja, Setaria glauca, Thysanolaena agrostis and Hedyotis puberula* were observed in the study area. All the species recorded during additional study survey are under least concern category of IUCN Redlist 2020.1. • **Fauna:** As per IUCN Red list of Threatened Species (Version 2018.2) all the

	mammalian and avifaunal species reported from the study area are under Least Concern (LC) category. During field study survey species like *Semnopithecus entellus* (Grey Langur), *Macaca mulatta* (Rhesus macaque) *Funambulus palmarum* (Indian Palm Squirrel), *Herpestes auropunctatus* (Small Indian Mongoose) and *Lepus nigricollis* (Common hare) etc. are sighted from the study area. All these species are common in study area. A total of 41 species of bird species belonging to 28 families were reported based on Three seasons survey in the study area. During addition study survey 32 bird species were sighted from the study area. Among these 32 bird species 16 species were sighted only during additional study survey. As per IUCN Red list of Threatened Species. Version 2020.1 all species reported during additional study are under Least Concern (LC) category of IUCN Redlist of Threatened species. According to IWPA 1972 all species recorded from the study area are under Schedule IV and V, only one bird species falls under Schedule I i.e. *Pavo cristatus* (Indian Peafowl).
Brief description on hydrology and water assessment as per the approved Pre-DPR:	The Project envisages re-utilization of 1 TMC of water of the Renuka Sagar reservoir by recirculation. The water in the Renuka Sagar reservoir (existing lower reservoir) will be pumped up and stored in the proposed Pumped Storage component of Saundatti IREP reservoir (upper Reservoir) and will be utilized for power generation. Therefore, there is no intendent catchment of this project and hydrological assessment is not

	required.
Additional detail (If any)	Nil

Court case details:

Court Case	Nil
Additional information (if any)	-

Status of other statutory clearances

Particulars	**Letter no. and date**
Status of Stage-IFC	Obtained on 12.07.2022
Approval of Central Water Commission	Under Process
Approval of Central Electricity Authority	Under Process
Additional detail (If any)	
Is FRA(2006) done for FC-I	Under Process, FRA will be submitted along with Stage-I FC

Details of the EMP

Sl. No	Activities	**Capital Cost (Rs. In lakh)**	**Recurring Cost (Rs. In lakh)**			**Total Cost (Rs. In lakh)**
			Year 1	Year 2	Year 3	
1	Biodiversity Conservation & Wildlife Management Plan	280.00	-	-	-	280.00
2	Muck Dumping and Management Plan	-	162.64	162.64	60.00	385.28
3	Solid Waste Management Plan	115.00	23.72	23.72	23.72	186.16
4	Public Health Delivery System	60.00	29.00	29.00	29.00	147.00
5	Energy Conservation Measures	65.00	40.00	40.00	40.00	185.00
6	Landscaping, Restoration and Green Belt Development Plan	17.50	0.00	0.00	132.00	149.50
7	Environmental Monitoring Program	4.00	28.30	28.30	28.30	88.90
8	Rehabilitation and Resettlement Plan	517.50	-	-	-	517.50
9	Disaster Management Plan		25.00	25.00	225.00	275.00
	Total	1059.00	308.66	308.66	538.02	2214.34
Other Costs						
11	Compensatory Afforestation (estimated cost)	3565.50				3565.50
12	CER Budget	-	995.00	995.00	992.50	2982.50

Sl. No	Activities	Capital Cost (Rs. In lakh)	Recurring Cost (Rs. In lakh)			Total Cost (Rs. In lakh)
			Year 1	Year 2	Year 3	
Total		**4624.50**	**1303.66**	**1303.66**	**1530.52**	**8762.34**

ADS details (If any)

S. No.	ADS Point	Reply
1	Clarifications of Change in project features (dt. 04.10.2019)	Reply submitted 09.10.2019
2	Direction to collect 1 season additional data & updation of EIA report (dt 27.02.2020)	Updated EIA report submitted incorporating 1 season additional data 25.09.2020
3	Direction to submit Stage-I FC (dt. 09.08.2021)	Extension sought on 28.10.2021
4	Direction to submit Stage-I FC (dt. 18.07.2022)	Stage-I submitted on 18.07.22

31.7.3 The EAC during deliberations noted the following:

The proposal is for grant of environmental clearance to the project for Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project at village Karlakatti, Tehsil - Saundatti, District - Belgaum, Karnataka by M/s Greenko Solar Energy Pvt. Ltd.

The terms of reference for the project was granted by the Ministry on 18th May, 2018.

The project/activity is covered under category A of item 1 (c) 'River Valley projects' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal at Central level by the sectoral EAC in the Ministry.

The proposal was considered by the EAC in its 22nd meeting held on 27.02.2019 and recommended the project for Environmental Clearance with certain conditions.

Based on recommendation of the EAC, it was requested to the project proponent to submit the Stage-I FC. Now, the project proponent has submitted the Stage-I Forest clearance vide letter dated 18th July, 2022. The EAC also noted that as the Stage I FC has been submitted after the expiry of 18 months and as per OM dated 19th June, 2014 the said proposal was referred to EAC for having a relook.

31.7.4 *The EAC after detailed deliberations on the information submitted and as presented during the meeting reiterated its earlier recommendations and recommended for grant of environmental clearance to the project for Saundatti HEP (1200 MW) Integrated Renewable Energy with Pumped Storage Project at village Karlakatti, Tehsil Saundatti, District Belgaum (Karnataka), subject to compliance of Standard EC conditions with the following additional conditions:*

i. *Conditions given by the EAC in its earlier recommendation shall be complied.*

ii. *Families those are losing their entire agricultural land or left with <1 Ha of their land, at least one member from such families will be getting job in project as per their qualifications.*
iii. *Safe and secured passage to empty the reservoir in case of leakage or any catastrophic events shall be carried out.*
iv. *Rain water harvesting shall be carried out. Surplus water and harvested rain water shall be used as irrigation in area*
v. *Compensatory afforestation done by Forest Department, the survival rate of plants shall maintain more than 95%.*
vi. *PP shall ensure the Ambient Air Quality Monitoring Stations for real time data display and regularly submit to respective Ro, MoEF&CC.*
vii. *The Environmental Management Plan (EMP) shall be strictly adhered to as submitted in the EIA/EMP report. The budgetary provisions for implementation of EMP, shall be fully utilized and not to be diverted to any other purpose. In case of revision of the project cost or due to price level change, the cost of EMP shall also be updated proportionately.*
viii. *The status of compliance will be submitted to the regional Office of the Ministry along with six monthly compliance report.*
ix. *Sport complex with multi- sport facility shall be established. The children's from economically weaker section shall be given free of cost sport facility.*
x. *The Multi-Disciplinary Committee needs to be reconstituted and the meeting needs to be held at regular interval.*
xi. *PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis.*
xii. *After 5 years of the commissioning of the project, a study shall be undertaken regarding impact of the project on the environment. The study shall be undertaken by an independent agency.*
xiii. *Solid waste generated, especially plastic waste, etc. should not be disposed of as landfill material. It should be treated with scientific approach and recycled. Use of single-use plastics may be discouraged.*
xiv. *Necessary permission to be obtained for quarrying construction materials, if any required, for the project as per the EIA Notification, 2006 and as amended thereof.*
xv. *Disposal of the excavated muck and its filling on the low-lying area with proper measures for the stabilization and greenery to minimize the impacts of the generated construction muck shall be taken up paripassu with construction work.*
xvi. *After detailed geological study of muck, re-utilization of muck during the construction of dam is to be carried out.*
xvii. *A detailed ecological monitoring and survey covering forestry, fisheries, wildlife and its habitat shall be done once in two years. Monitoring report shall be uploaded on the Parivesh Portal and a copy of the same be submitted to the Regional Office of MoEF&CC.*
xviii. *Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.*

Agenda Item No. 31.8:

Cumulative Impact Assessment and Carrying Capacity Study (CIA & CCS) of Tirap Basin. Inclusion of Chinglum Hydroelectric Project in Subansiri Basin - Recommendation of the Study – reg.

Background:

(i) Initially, 28HEPs projects having capacity of less than 25MW as well as more than 25MW proposed in Subansiri River basin (Subansiri, Kurung, Kamla, Kale, Kamla, Siu and Payam rivers) covered as a part of the CIA&CC study.

(ii) Further, 27HEPs were identified for inclusion in the additional CIA&CC study in Subansiri River Basin by Department of Hydropower Development, Government of Arunachal Pradesh. This includes one commissioned project namely Ranganadi HEP on Ranganadi adjoining Dikrong with IC of 405MW (3x135) in 2002. These additional projects were considered by MOEFCC for additional study for cumulative Impact Assessment and Carrying Capacity Study (CIA& CCS) of Subansiri basin.

(iii) Additional study for CIA&CC of Subansiri river basin was conducted and approved by the MoEF&CC vide letter dated 13th April, 2018.

(iv) Govt. of Arunachal Pradesh further informed that during the additional study of Subansiri river basin (Subhansiri, Dikrong and Paniyorrivers), One(1) project namely Chinglum HEP(6MW) was not included in Dikrong River Basin and the same may be included.

(v) Accordingly, vide letter dated 11th October, 2021, Govt. of Arunachal Pradesh has requested for conducting additional study of Dikorong Sub-basin of Subansiri river basin.

(vi) The matter was appraised earlier in 28th EAC meeting held on 28.10.2021 for requirement of additional cumulative Impact assessment and Carrying Capacity Study (CIA&CCS) of Dikrong and Tirap River Basin Study in Arunachal Pradesh.

(vii) The EAC in its 28th EAC meeting held on 28.10.2021desired to submit the below mentioned information to ascertain the need of any further study in Dikrong and Tirap River Basin:

a) The longitudinal distances of proposed HEPs in Dikrong and Tirap River shall be submitted.
b) Status report of all Hydro-electric Project (commissioned/proposed/ under construction) developed on Tirap, Dikrong and Subansari River of Arunachal Pradesh.
c) Water availability status in Tirap River and Dikrong river throughout the year (season wise) shall be submitted.
d) Location map of proposed HEPs on River & River basin networking indicating major tributary of Subansiri, Siang and Brahmaputra rivers.
e) Drainage/Flow direction indication map of Catchment area of Dikrong and Tirap River including their confluence with Brahmaputra River

shall be submitted

(viii) In compliance to EAC observation, Govt. of Arunachal Pradesh had submitted required information as desired by the EAC.

(ix) The EAC after detailed deliberations on the information submitted by the Govt. of Arunachal Pradesh opined that following are the deficiencies which required for further clarification:

1) Location map of proposed HEPs on River & River basin networking indicating major tributary of Subansiri, Siang and Brahmaputra river need to relook and the same may be aligned with the google map for clarity. Also, clarify, whether the meeting point of Dikrong river is with Subansiri or Brahamputra River.

2) The Longitudinal distance of proposed seven (7) HEP/SHP in Dikrong and Subansiri River Basin need to be submitted.

3) The updated hydrological data (approved/verified by CWC) of whole stretch of Dikrong and Tirap River including all project may be submitted.

4) In the Map of Catchment area of Dikrong and Tirap River not showing flow direction properly. Clear drainage pattern map of Tirap and Dikrong River basin need to be resubmitted.

Agenda Item No. 31.9:

Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) by M/s West Bengal State Electricity Distribution Company Limited in Triveni town, Tehsil Rangli Rangliot, District Darjeeling, West Bengal - Site Visit Report - reg.
[IA/WB/RIV/219929/2021, J-12011/11/2021-IA.I (R)]

31.9.1 The proposal is for grant of Terms of Reference to the project for Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) by M/s West Bengal State Electricity Distribution Company Limited at Triveni town, Tehsil Rangli Rangliot, District Darjeeling, West Bengal.

31.9.2 The EAC during deliberations noted the following:

The proposal is for grant of Terms of Reference to the project for Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) by M/s West Bengal State Electricity Distribution Company Limited at Triveni town, Tehsil Rangli Rangliot, District Darjeeling, West Bengal.

The proposal was earlier considered by the EAC in its 15th, 19th and 24th meeting held on 27th July, 2021, 15th November, 2021 and 22nd February, 2022 respectively. The EAC decided to conduct site visit by the Sub-committee of the EAC.

Based on recommendation of the EAC, the following members were conducted the site visit.

(i) Dr. A.K. Malhotra - Chairman
(ii) Dr. J.A. Johnson - Member
(iii) Dr. A.K. Sahoo - Member
(iv) Dr. Saurabh Upadhyay (Representative from MoEF&CC) - Member

The following officers from the West Bengal State Electricity Distribution Company Limited and from WAPCOS were present during the site visit:-

A. Representatives from WBSEDCL:

1. Mr. Amitava Sen, Advisor (Power)
2. Mr. Sibes Kumar Deb, Chief Engineer, Hydel HQ
3. Mr. Prolay Sankar Mukhopadhyay, ACE, Hydel HQ
4. Mr. Malay Mukherjee, AGM(F&A), Hydel HQ
5. Mr. Surjit Kumar Singh, SE(E), Hydel HQ
6. Mr. Jahangir Sadhukhan, DE(C), PIDD
7. Mr. Souvik Das, DE(C), PIDD

B. Representatives present from M/s WAPCOS (Consultant):

1. Mr. Amitabh Tripathi, Sr. Executive Director (D&RE)
2. Mr. Manoranjan Mondal, Addl. Chief Engineer
3. Ms. Moumita Mondal Ghosh, Addl. Chief Engineer
4. Mr. Kh. Ashique Akbar, Dy. Chief Engineer
5. Mr. Mehakjeet Singh Deol, Dy. Chief Engineer

The detailed site visit report is at **Annexure- B**. The sub-committee of the EAC during the site visit observed the following:

(i) The sub-committee observed that the project site is located in a multi-storeyed high (natural forest grown from seeds) forest which is rich in biodiversity. The slope of the gorge on both sides where the project is proposed is very steep and varies approximately from 65 to 80 degrees. The geological formation is sedimentary in nature and composed of loose boulders and soil which is kept intact by the forest cover only. The fragility of rock is confirmed by the huge landslides which have been caused on the northern bank of the river where new National Highway has been constructed. After the construction of the road which is already complete, huge amount is required to be spent for stabilizing the slope to prevent the further landslides where they have already taken place in many places. The photographs taken by the sub-committee during the site visit are enclosed, which confirm the above facts.

(ii) The sub-committee also observed that the project site is a very suitable habitat for Mahseer and Trout fish species. It also found that 50m above the proposed barrage, a major stream/ nallah which joins the left bank of the river is the most suitable for spawning and growth of these two endangered species of fishes which is likely to be destroyed due to

construction of proposed project at the selected site. Besides this, the breeding, migration of these two species into the nallah shall be blocked, resulting in loss of their habitat which consequently will adversely affect the population of these two endangered species in the river.

(iii) As regards the ecological sustainability is concerned the committee was unanimously of the view that looking at the gradient of the slope on the both sides of the river any disturbance due to the construction related works at the lower reaches of the hill will have cascading effect leading to large scale landslides in future. So much so that this may affect the National Highway on the northern bank of the river. On the whole, it was felt that in case this project is allowed to come up, it will just be a disaster in waiting.

(iv) Besides the above, ecological related observations, it is seen that the project proponent was not even in a position to explain the project plan to the members of the committee, thereby given an impression that the application of Terms of reference (ToR) is just the only step they have taken for the project. Further, on enquiring it was revealed that even the DPR of the project is not finalised. On the whole, it was found that PP was not able to satisfy the concerns raised by sub-committee as regards to site suitability and ecological sustainability as raised by the EAC in earlier meetings dated 27th July, 2021, 15th November, 2021 during the site inspection.

(v) The committee felt that quantity of power which will be generated (about 70 MW) doesn't go well with the amount of loss of biodiversity rich and ecologically valuable high forest. Since, the site location doesn't permit removal of the forest from the site prior to submergence, the same is bound to lead to eutrophication in the reservoir leading to the adverse impact on the aquatic life which includes two endangered species of fishes.

(vi) The area has a high tourist potential with high footfall of domestic and foreign tourists in the area. Any intervention in the area in the name of development (generation of 70 MW) leading to ecological devastation will adversely affect the same.

(vii) As a part of additional information during cursory inquiry, the sub-committee members also came to know that, most of the submergence area lies in neighbouring state of Sikkim for which the Project authorities have not taken any concurrence/ approval of Government of Sikkim.

(viii) Again during cursory inquiry, it also came to the knowledge of the sub-committee that NHPC which was given the responsibility of constructing this project has backed out due to some similar reasons .

The view of the sub-committee was that the proposed site of the project (Teesta Low Dam -I & II Hydro-Electric Project of capacity 71 MW) is not ecologically suitable as the construction is likely to lead to large scale

landslides. Looking at the meagre amount of power to be generated, it may not be a wise step to loose such a huge and unique amount of natural resources which are likely to be lost due to the construction of the project.

31.9.3 The EAC after detailed deliberations on the sub-committee report found the project not suitable as far as ecological point of view and cost benefit of the project. Accordingly, the EAC **not recommended** the project for grant of ToR.

The proposal is therefore not recommended.

Agenda Item No. 31.10:

Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra - Site Visit Report - reg.

[IA/MH/RIV/255427/2022; F. No. J-12011/05/2021-IA. I(R)]

31.10.1 The proposal is for grant of Terms of Reference to the project for Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra.

31.10.2 The EAC during deliberations noted the following:
The proposal is for grant of Terms of Reference to the project for Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon (Maharashtra).

The proposal was earlier submitted to MoEF&CC for grant of TOR in January 2009. The ToR was granted by the Ministry in April 2009. The Public Hearing was held in April, 2010 and January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC.However, the said proposal was not concluded.

The proposal was considered by the EAC (River Valley and Hydroelectric projects) in its 25th meeting held on 14th March, 2022. The EAC observed that PP has started the construction work of the project prior to the grant of Environmental Clearance and completed more than 50% of the work and accordingly, the application has been made for appraisal in terms of the provisions the EIA Notification, 2006, as amended under violation category.

Accordingly, the EAC decided to conduct a site visit by the sub-committee of the EAC.

Accordingly, the sub-committee comprising Dr. A.K. Malhotra, Dr. Ashok Kumar Kharya and Dr. Saurabh Upadhyay undertook field visit from 10th-12th July 2022.

The detailed site visit report is at **Annexure- C**. The Sub-committee of the

EAC found that the project proponent has started construction of Dam at Islampur, Taluka Jalgaon (Jamod), District Buldhana, Jackwell /Pump house (Stage-I) at village Rigaon, Tal. Muktainagar, Laying of underground pipeline, Pump House (Stage-) at village Sule, Taluka Muktainagar, 132/33 Kv substation & Transmission Line at at Bhota Taluka Muktainagar, District Jalgaon.The present proposal involves violation and the same will be appraised as per the Ministry's Office Memorandum dated 7th July, 2021, stating Standard Operating Procedure (SOP) for identification and handling of violation cases.

The sub-committee of the EAC **recommends** that the project Kurha Vadhoda Islampur Lift Irrigation Schemeshall be given ToRs as per the Office Memorandum dated 7th July, 2021 with following conditions:

(i) The State Government / SPCB to ensure that the case shall be filed against the project proponent for violation of the EP Act, 1986, and further no consent to operate or occupancy certificate to be issued till the project is granted EC.

(ii) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.

(iii) Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be carried out by the accredited consultant of the PP. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

(iv) The PP has to obtain clearance from inter-state aspect from the designated authorities as per procedure.

(v) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation to be done.

(vi) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

(vii) The PP is required to conduct public hearing as per EIA notification, 2006.

(viii) Socio Economic Study following standard procedures to be included, impacts due to project activities need to be assessed and remedial

measures to be proposed based on the Field Study and issues raised during Public Hearing.

The EAC further noted that since the project is being appraised as a violation project the committee constituted for field visit has Mr. Gowrapan as an expert nominated by the MoEF& CC for calculation of the exact violation cost. Somehow Mr. Gowrapan could not join the field visit due to some personal reasons but he has assured that he will be able to do the needful based on the information to be provided by the PP for which he has already sent some proformas to the PP through MoEF&CC. The EAC took a decision that both the PP and Mr.Gowrapan will calculate the violation cost independently and the one which is higher will be accepted by the EAC and further action taken accordingly. The member Secy. will help Mr. Gowrapan in obtaining any further information which he may require from the PP.

31.10.3 *The EAC after detailed deliberation on the information submitted and as per the recommendation of the sub-committee of the EAC* ***recommended*** *the proposal for grant of Standard ToR with public consultation (without public hearing) for conducting EIA study for conducting EIA study to the project for Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra under the provisions of EIA Notification, 2006 and as amended along with the following additional/specific ToR:*

(A) Environmental Management and Biodiversity Conservation

i *Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980. Application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980, for diversion of forestland required, should be submitted as soon as the actual extent of forestland required for the project is known, and in any case, within six months of issuance of this letter.*

ii *Environmental Cost Benefit Analysis shall be done in terms of loss of Forest ecosystem due to diversion of Forest land/loss of biodiversity.*

iii *Impact of developmental activity/project on the wildlife habitat and wildlife corridors, if any along with mitigation measures within study area shall be studied.*

iv *Environmental matrix during construction and operational phase needs to be submitted.Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.*

v *Endemic plant and animal species found in the area concerned shall be provided instead listing entire endemic species found in the State.*

vi *Details of Flora and Fauna reported in submergence area, Nos. of tree along with their density and nomenclature required to be cut for dam creation and other project component.*

(B) Socio-economic Study

vii *Tentative no. of project affected families displaced due to acquiring of private land shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.*

viii *Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.*

(C) Muck Management

ix *Details of quantity of muck generation component wise, types of muck (Excavation in tunnels, pressure shaft and powerhouse etc) and disposal site/ transportation to be provided.*

x *Details of muck management such as dumping sites and its locations, transportation plan along with monitoring mechanism for muck transportation, detailing the road map of project construction site.*

xi *Details of water sprinkling arrangements for arresting the fugitive / dust, emission from transportation and other project activities in project construction area.*

xii *Restoration plan for construction area including dumping site of excavated materials by levelling, filling up of burrow pits, landscaping etc.*

(D) Disaster Management

xiii *CAT plan, Dam break analysis, Disaster Management Plan and Fisheries Management Plan be prepared along with other EMPs and incorporated in the EIA/EMP report.*

xiv *Impact of Project activities (specially blasting and drilling) on the aquatic and terrestrial ecosystem, within study area to be studied and be incorporated in EIA/EMP report.*

xv *Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly approved by CWC /CEA shall be submitted.*

(E) Miscellaneous

xvi *Both capital and recurring expenditure under EMP shall be submitted.*

xvii *The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples*

xviii *The State Government / SPCB to ensure that the case shall be filed against the project proponent for violation of the EP Act, 1986, and further no consent to operate or occupancy certificate to be issued till the project is granted EC.*

xix *The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.*

xx *Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be carried out by the accredited consultant of the PP. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.*

xxi *The PP has to obtain clearance from inter-state aspect from the designated authorities as per procedure.*

xxii *Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation to be done.*

xxiii *The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.*

xxiv *Public Consultation shall be carried out as per the provision contained in EIA Notification, 2006. In which public notice shall be issued through State Pollution Control Board and issues raised shall be addressed with allocation of fund and within certain timeline and shall be submitted during EIA/EMP submissions and appraisal. Also, the minutes of earlier Public hearing shall be incorporated in the EIA/EMP report. Issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter. Statement on the commitments (activity-wise) made during public hearing to facilitate the discussion on the CER in compliance of the Ministry's OM F.No.22-65/2017- IA.III dated 30th September, 2020 shall be submitted.*

xxv *Socio Economic Study following standard procedures to be included, impacts due to project activities need to be assessed and remedial measures to be proposed based on the Field Study and issues raised during Public consultation.*

***

ANNEXURE A

ATTENDANCE

Sr. No	Name &Address	Role	Attendance
1.	Dr. A. K. Malhotra	Chairman	P
2.	Dr. Narayan Shenoy K.	Member	P
3.	Dr. Uday Kumar R.Y.	Member	P
4.	Shri Ashok Kharya	Member (Official) Representative of Central Water Commission (CWC)	P
5.	Dr. J. A. Johnson	Member (Official) Representative of Wildlife Institute of India (WII)	
6.	Shri Yogendra Pal Singh	Member Secretary	P
7.	Dr. Saurabh Upadhyay	Scientist C, MoEF&CC	P

Annexure- B

Site Visit Report

Sub: Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) by M/s West Bengal State Electricity Distribution Company Limited in Triveni town, Tehsil Rangli Rangliot, District Darjeeling, West Bengal - Site Visit Report - reg.

[IA/WB/RIV/219929/2021, J-12011/11/2021-IA.I (R)]

Background

The proposal no. IA/WB/RIV/219929/2021dated 14th July 2021 received in the Ministry for grant of Terms of Reference (ToR) for Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) in an area of 170 ha by M/s West Bengal State Electricity Distribution Company Limited in Triveni town, Tehsil Rangli Rangliot, District Darjeeling, West Bengal.

The proposal was considered by the EAC in its 15th, 19th and 24th meeting held on 27th July, 2021, 15th November, 2021 and 22nd February, 2022 respectively. The PP was asked to submit some additional information in the above meetings. The EAC deliberated upon the additional information submitted by project proponent and noted that points raised by the EAC in the earlier meetings were mainly regarding the site selection criteria for the proposed project which was not answered satisfactorily. Based on the information submitted, the EAC felt that the proposed project is located in the area of high ecological value and raised concerns about the sustainability of the project. Therefore, after due deliberations, the EAC decided to conduct site visit for which the sub-committee having following, members was proposed:-

(i)	Dr. A.K. Malhotra	-	Chairman
(ii)	Dr. Chandrahas Deshpande	-	Member
(iii)	ShriSharvan Kumar	-	Member
(iv)	Dr. M.K. Sinha	-	Member
(v)	Dr. J.A. Johnson	-	Member
(vi)	Dr. A.K. Sahoo	-	Member
(vii)	Representative from MoEF&CC	-	Member

Site visit report

Based on recommendation of the EAC and thereafter sanction order of the Ministry vide their letter dated 23rd May, 2022, the sub-committee conducted site visit of Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) site from 8th June, 2022 to 10th June, 2022 for which advance information was sent to Project Proponent well in time.

Out of the sub-committee constituted by the Ministry, only the following members were able to join the site-visit.

(v)	Dr. A.K. Malhotra	-	Chairman
(vi)	Dr. J.A. Johnson	-	Member

(vii) Dr. A.K. Sahoo - Member
(viii) Dr. Saurabh Upadhyay (Representative from MoEF&CC) – Member

The following officers from the West Bengal State Electricity Distribution Company Limited and from WAPCOS were present during the site visit:-

A. Representatives from WBSEDCL:

1. Mr. Amitava Sen, Advisor(Power)
2. Mr. Sibes Kumar Deb, Chief Engineer, Hydel HQ
3. Mr. Prolay Sankar Mukhopadhyay, ACE, Hydel HQ
4. Mr. Malay Mukherjee, AGM(F&A), Hydel HQ
5. Mr. Surjit Kumar Singh, SE(E), Hydel HQ
6. Mr. Jahangir Sadhukhan, DE(C), PIDD
7. Mr. Souvik Das, DE(C),PIDD

B. Representatives present from M/s WAPCOS (Consultant):

1. Mr. Amitabh Tripathi, Sr. Executive Director (D&RE)
2. Mr. Manoranjan Mondal, Addl. Chief Engineer
3. Ms. Moumita Mondal Ghosh, Addl. Chief Engineer
4. Mr. Kh. Ashique Akbar, Dy. Chief Engineer
5. Mr. Mehakjeet Singh Deol, Dy. Chief Engineer

At the outset, Shri Amitava Sen, Advisor briefed the Sub-Committee about the project Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW). After the briefing session the Sub-Committee reached the site of the project with the team of project proponent and consultant. Based on the site-visit to the project site and detailed discussions with State Officials, the following observations are accordingly made:

Observations of the Sub-committee

(ix) The sub-committee observed that the project site is located in a multi-storeyed high (natural forest grown from seeds) forest which is rich in biodiversity. The slope of the gorge on both sides where the project is proposed is very steep and varies approximately from 65 to 80 degrees. The geological formation is sedimentary in nature and composed of loose boulders and soil which is kept intact by the forest cover only. The fragility of rock is confirmed by the huge landslides which have been caused on the northern bank of the river where new National Highway has been constructed. After the construction of the road which is already complete, huge amount is required to be spent for stabilizing the slope to prevent the further landslides where they have already taken place in many places. The photographs taken by the sub-committee during the site visit are enclosed, which confirm the above facts.

(x) The sub-committee also observed that the project site is a very suitable habitat for Mahseer and Trout fish species. It also found that 50m above the proposed barrage, a major stream/ nallah which joins the left bank

of the river is the most suitable for spawning and growth of these two endangered species of fishes which is likely to be destroyed due to construction of proposed project at the selected site. Besides this, the breeding, migration of these two species into the nallah shall be blocked, resulting in loss of their habitat which consequently will adversely affect the population of these two endangered species in the river.

(xi) As regards the ecological sustainability is concerned the committee was unanimously of the view that looking at the gradient of the slope on the both sides of the river any disturbance due to the construction related works at the lower reaches of the hill will have cascading effect leading to large scale landslides in future. So much so that this may affect the National Highway on the northern bank of the river. On the whole, it was felt that in case this project is allowed to come up, it will just be a disaster in waiting.

(xii) Besides the above, ecological related observations, it is seen that the project proponent was not even in a position to explain the project plan to the members of the committee, thereby given an impression that the application of Terms of reference (ToR) is just the only step they have taken for the project. Further, on enquiring it was revealed that even the DPR of the project is not finalised. On the whole, it was found that PP was not able to satisfy the concerns raised by sub-committee as regards to site suitability and ecological sustainability as raised by the EAC in earlier meetings dated 27th July, 2021, 15th November, 2021 during the site inspection.

(xiii) The committee felt that quantity of power which will be generated (about 70 MW) doesn't go well with the amount of loss of biodiversity rich and ecologically valuable high forest. Since, the site location doesn't permit removal of the forest from the site prior to submergence, the same is bound to lead to eutrophication in the reservoir leading to the adverse impact on the aquatic life which includes two endangered species of fishes.

(xiv) The area has a high tourist potential with high footfall of domestic and foreign tourists in the area. Any intervention in the area in the name of development (generation of 70 MW) leading to ecological devastation will adversely affect the same.

(xv) As a part of additional information during cursory inquiry, the sub-committee members also came to know that, most of the submergence area lies in neighbouring state of Sikkim for which the Project authorities have not taken any concurrence/ approval of Government of Sikkim.

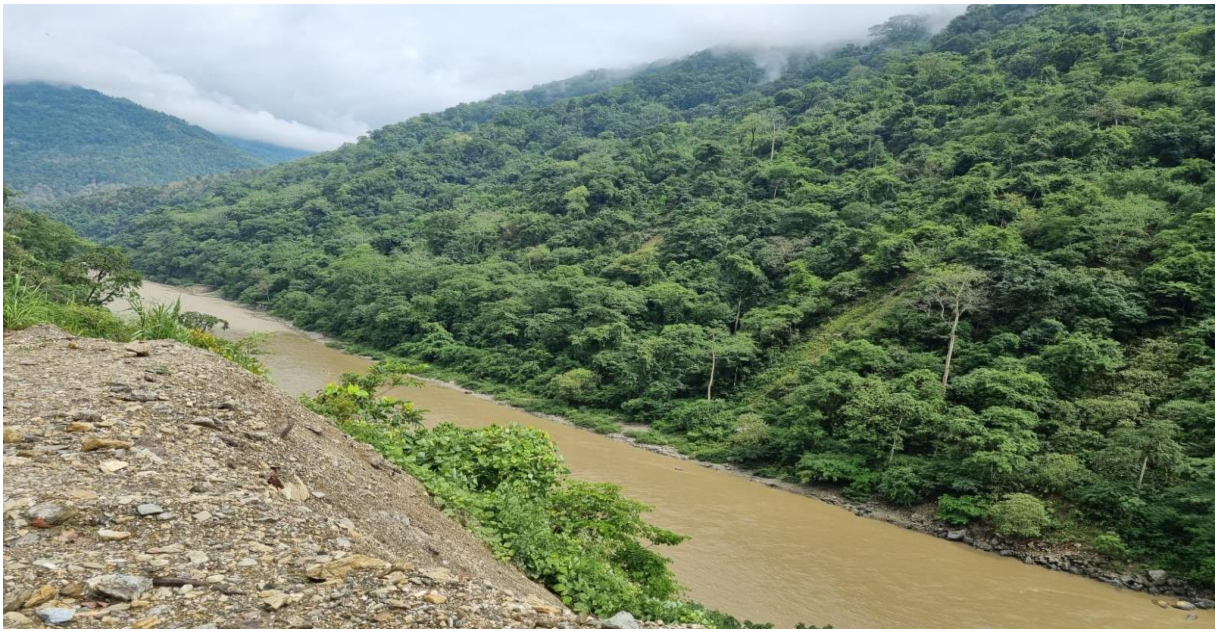
(xvi) Again during cursory inquiry, it also came to the knowledge of the sub-committee that NHPC which was given the responsibility of constructing this project has backed out due to some similar reasons.

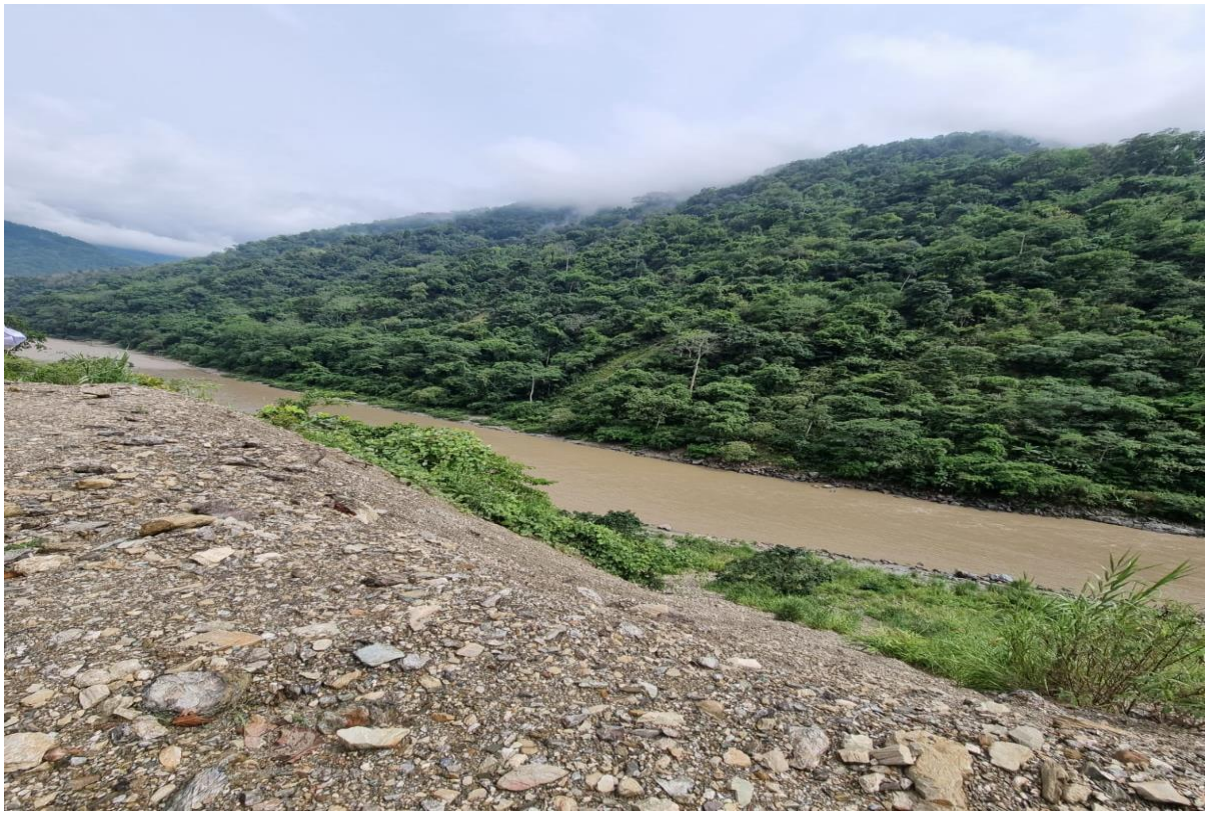
Recommendations of Sub-committee

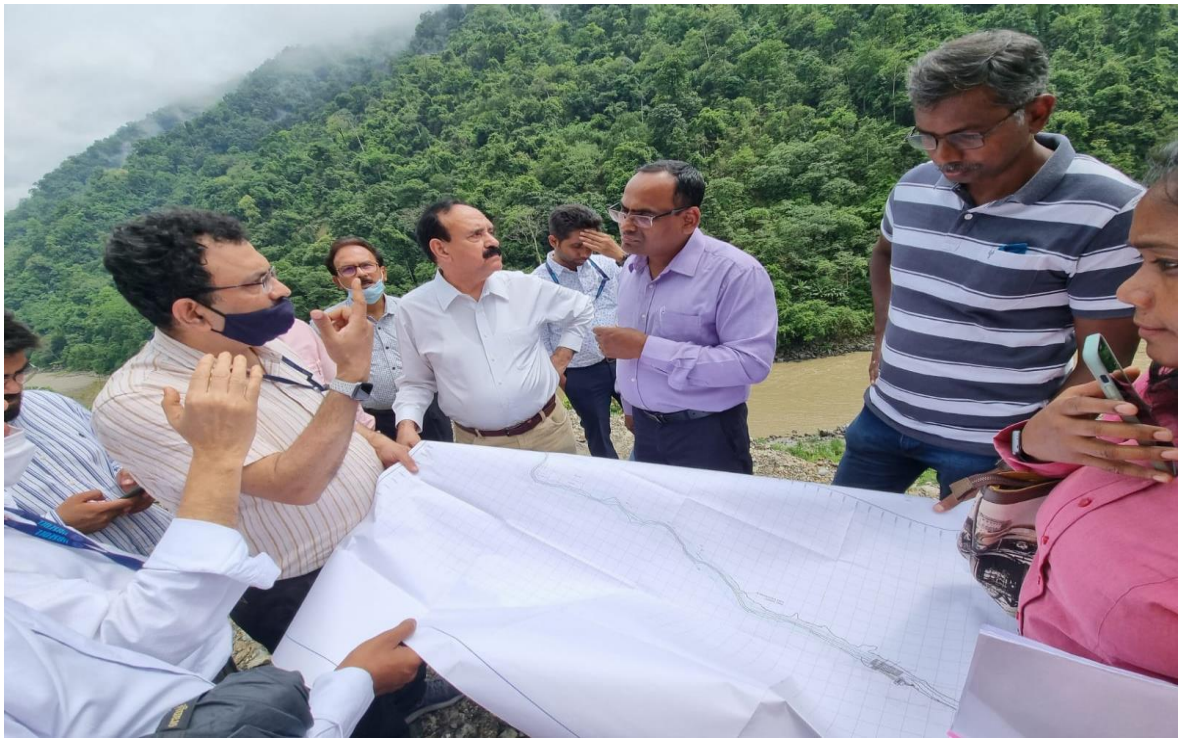
Based on above observations, the sub-committee is of the unanimous view that the proposed site of the project (Teesta Low Dam -I & II Hydro-Electric Project of capacity 71 MW) is not ecologically suitable as the construction is likely to lead to large scale landslides. Looking at the meagre amount of power to be generated, it may not be a wise step to loose such a huge and unique amount of natural resources which are likely to be lost due to the construction of the project.

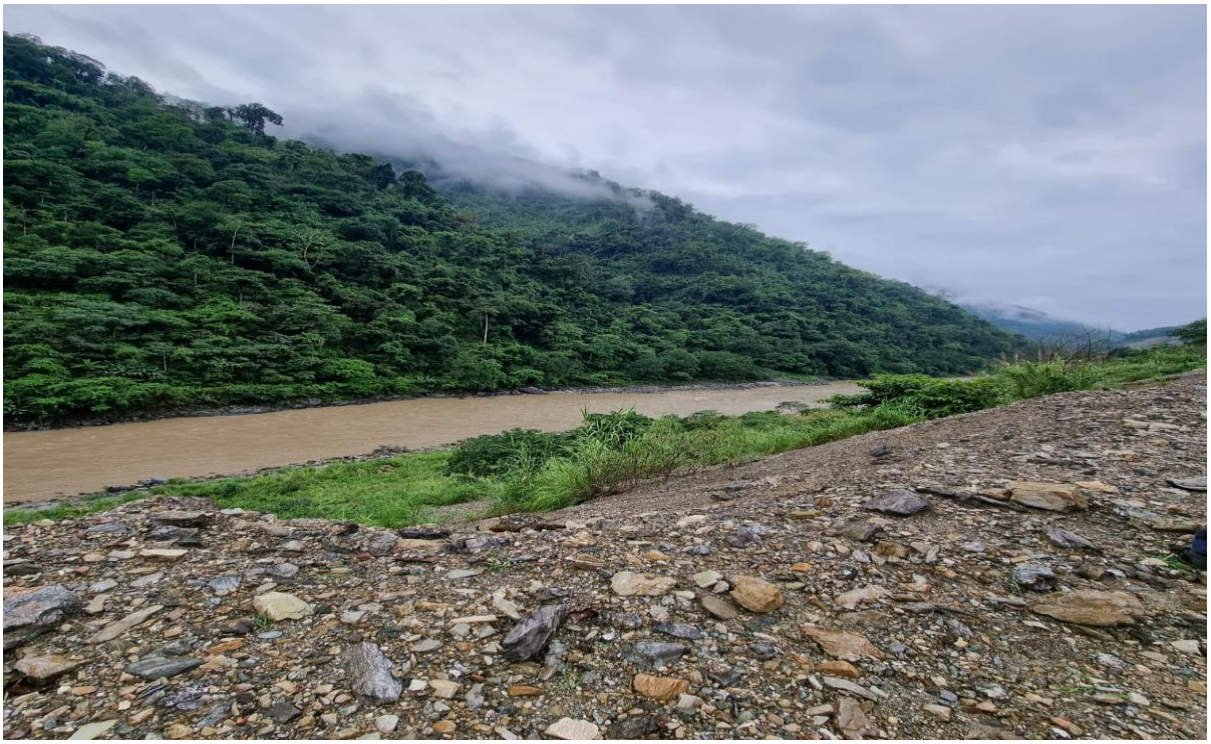
Submitted to the EAC for taking a Final view.

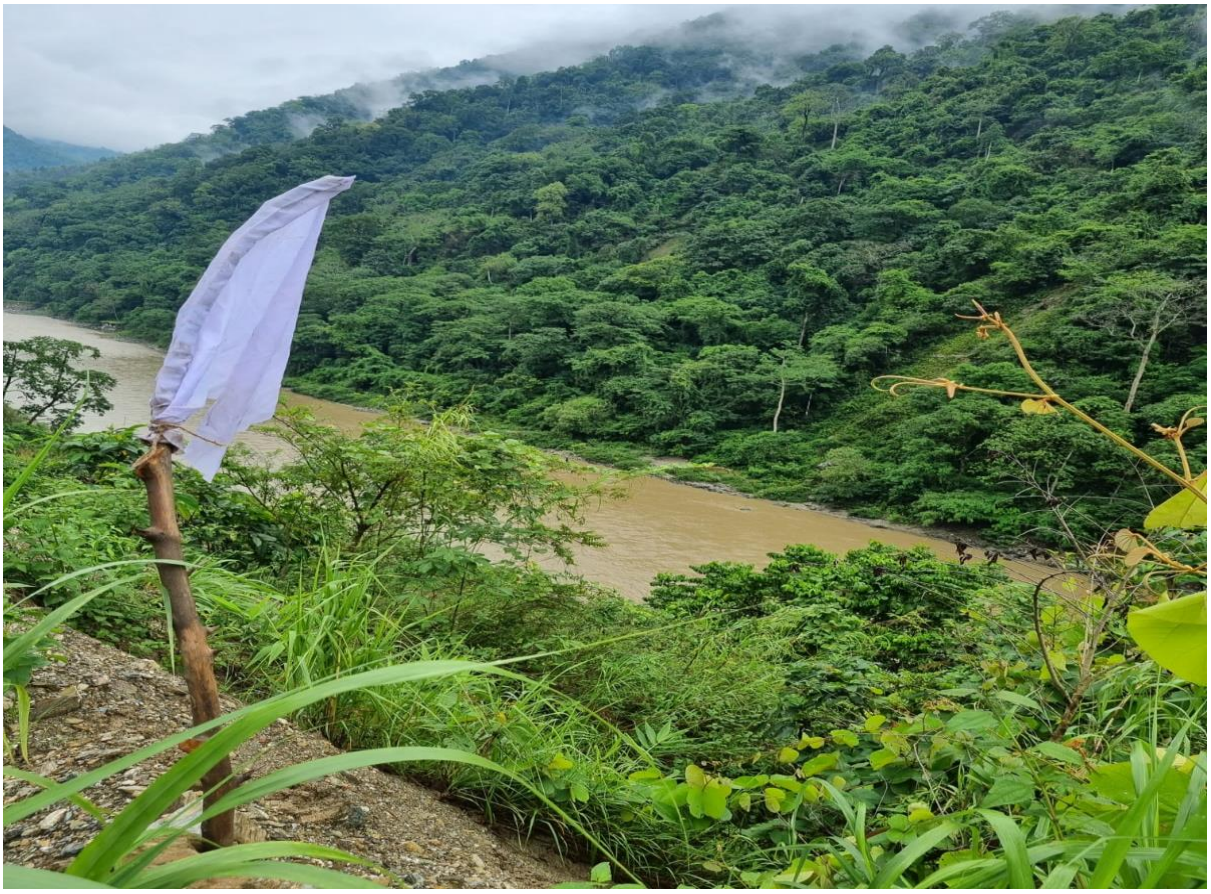
Photographs of the site inspection



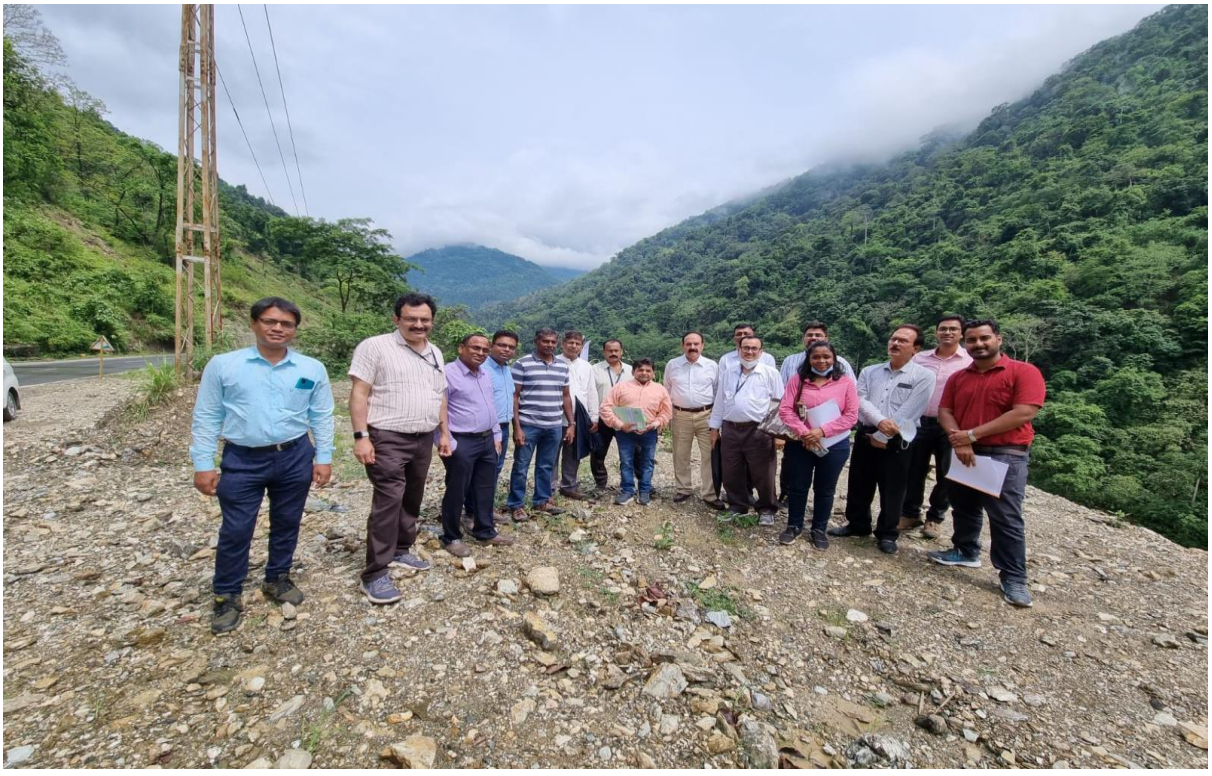


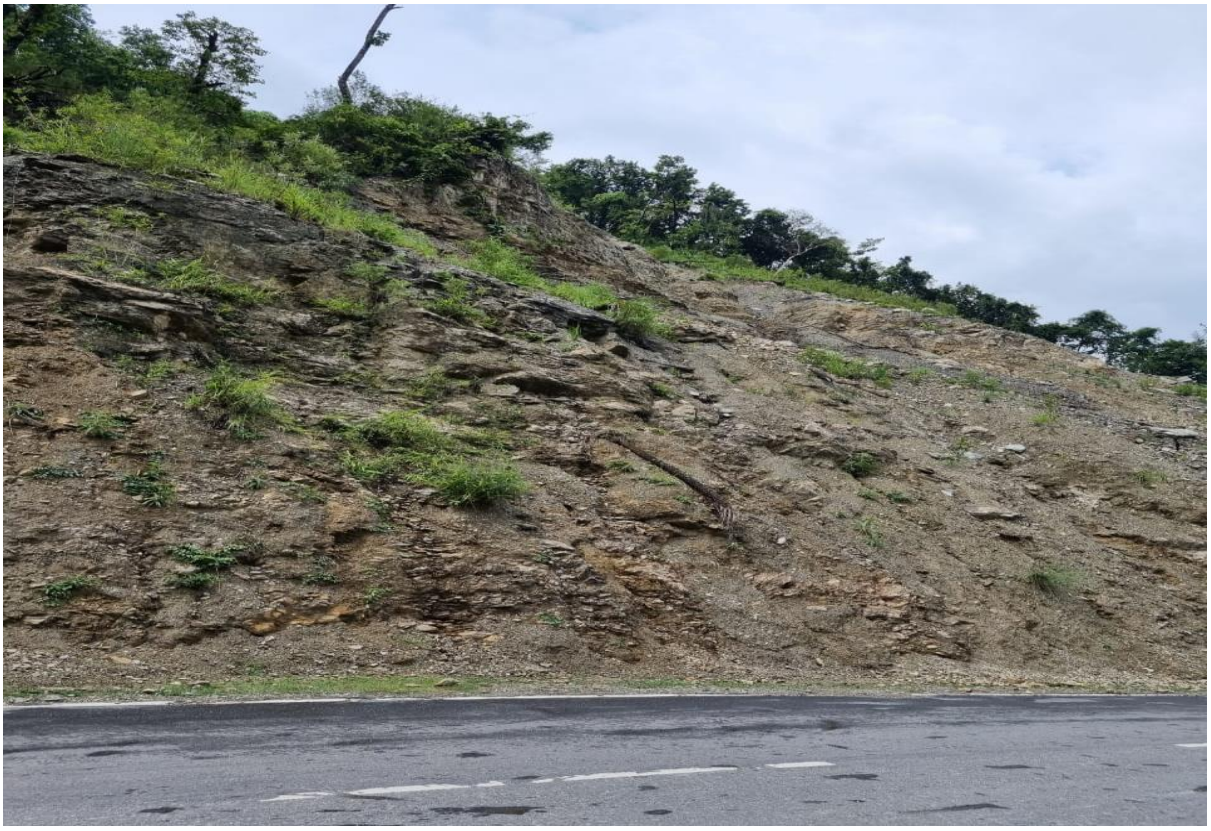




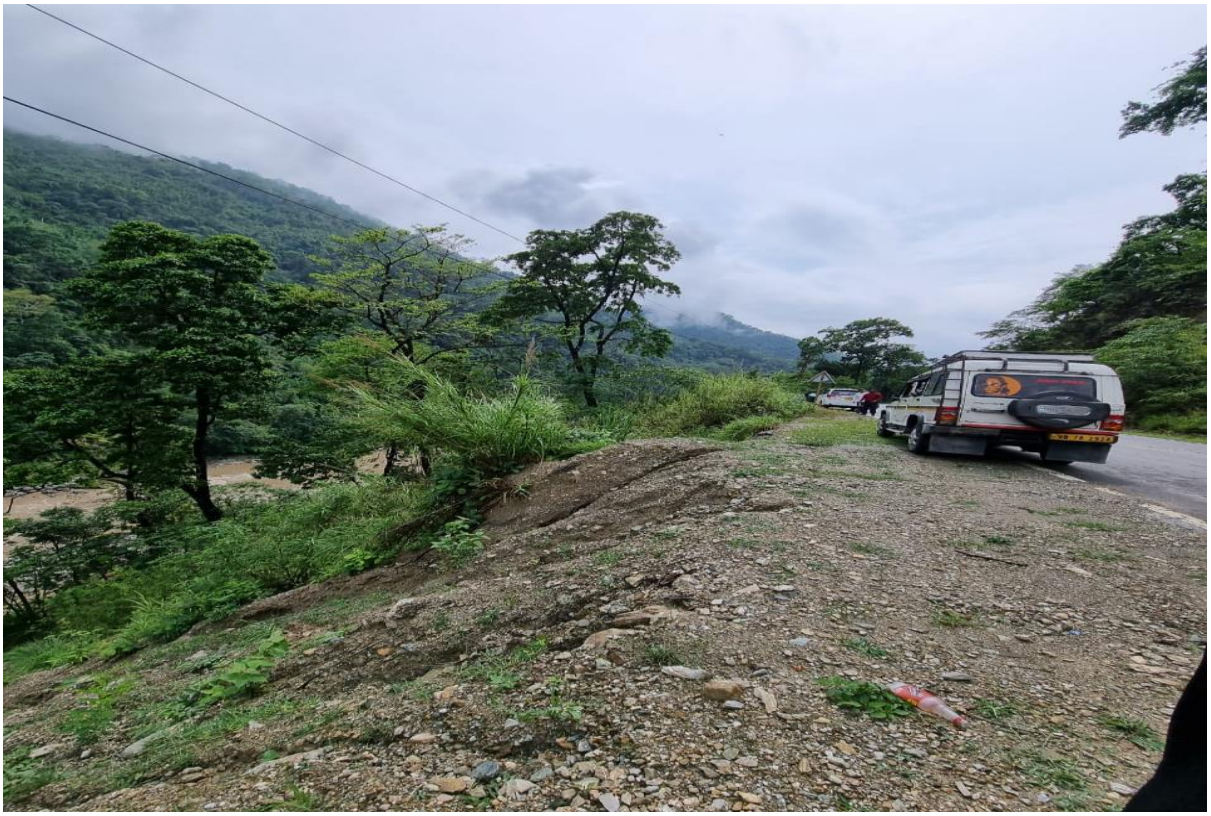


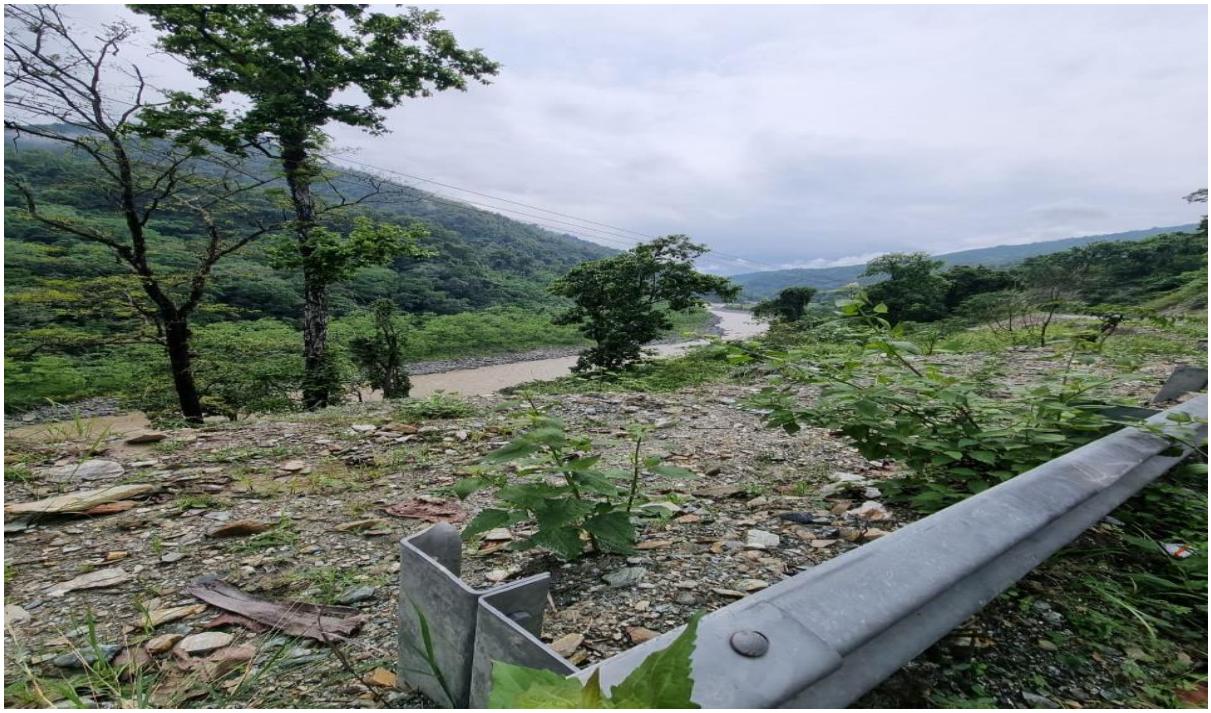
Pictures of multi-layered high graded forest area with high biodiversity





Pictures of fragile hill slope





Pictures of fragile hill slope

Picture of Existing stream 50 m above the barrage site feeding water to main channel

***

Email **Saurabh Upadhyay**

Re: Draft site visit report of Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) - reg.

From : Amiya Sahoo <Amiya.Sahoo@icar.gov.in> Fri, Jul 22, 2022 11:42 AM

Subject : Re: Draft site visit report of Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) - reg.

To : Saurabh Upadhyay <saurabh.upadhyay85@gov.in>, ajitkumarmalhotra463@gmail.com, jaj@wii.gov.in

Cc : Yogendra Pal Singh <yogendra78@nic.in>, Sarvesh Narwal <sarvesh.narwal@gov.in>

Dear Dr. Saurabh,

I agree with the report and approved from my end.

Regards,

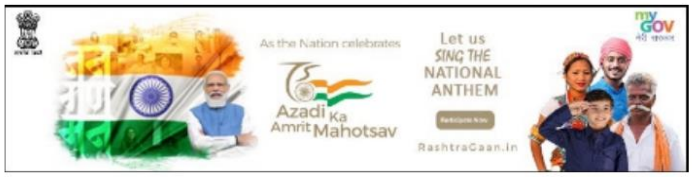
Sahoo

DR. AMIYA KUMAR SAHOO, *MFSc, PhD*
Senior Scientist
ICAR-Central Inland Fisheries Research Institute
Barrackpore, Kolkata, West Bengal 700 120,India
Cell.+91-9674301441
Tel: +91-33-25921190 * 364

Guest Editor: Frontiers in Marine Science
https://www.frontiersin.org/research-topics/39406
Technical Member: DBT, Aquaculture & Marine Science, GoI
Technical Member: EAC, River valley Projects, MoEFCC, GoI
Executive Member: Asian Fisheries Society, IB

With Regards

(Dr Saurabh Upadhyay)
Dy. Director/ Scientist C
Ministry of Environment, Forest & Climate Change,
2nd floor, Agni Wing, I. P. Bhawan ,
Jor bagh Road, Aliganj, New Delhi - 3
Ph:-011-20819401



From : ajitkumarmalhotra463@gmail.com Thu, Jul 21, 2022 12:39 PM
Subject : Re: Draft site visit report of Teesta Low Dam -I & II (Combined) Hydro-Electric Project 71 MW (2x30+1x11MW) - reg.
To : Saurabh Upadhyay <saurabh.upadhyay85@gov.in>

yes , now it is OK , This field visit report of the sub committee may be got signed by the other members and put up for the consideration of the EAC inits next meeting.

Dr.A.K.Malhotra

On Wed, Jul 20, 2022 at 10:01 AM Saurabh Upadhyay <saurabh.upadhyay85@gov.in> wrote:

> Dear sir,

Annexure- C

Site Visit Report

Sub: Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra - Site Visit Report - reg.

Proposal No. IA/MH/RIV/255427/2022; F. No. J-12011/05/2021-IA. I(R)

Background

The proposal no. IA/MH/RIV/255427/2022 dated 7th February, 2022 was received in the Ministry for grant of Terms of Reference (ToR) to the project for Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha at Village Rigaon, Tehsil Muktainagar District Jalgaon (Maharashtra) by M/s Tapi Irrigation Development Corporation, Jalgaon, Maharashtra.

The proposal was considered by the EAC (River Valley and Hydroelectric projects) in its 25th meeting held on 14th March, 2022. The EAC observed that PP has started the construction work of the project prior to the grant of Environmental Clearance and completed more than 50% of the work and accordingly, the application has been made for appraisal in terms of the provisions the EIA Notification, 2006, as amended under violation category. The EAC also observed that information submitted by PP is not adequate to estimate the damagecaused to the environment due to start of project construction work without EC as well as there maybe some inter-state issues involved in the proposal. Accordingly, the EAC decided to conduct a site visit by following EAC sub-committee members before making any recommendations on proposal:

i. Dr. A.K. Malhotra	-	Chairman
ii. Dr. Chandrahas Deshpande	-	Member
iii. Shri Sharvan Kumar	-	Member
iv. Dr. M.K. Sinha	-	Member
v. Dr. J.A. Johnson	-	Member
vi. Dr. A.K. Sahoo	-	Member
vii. Representative from MoEF&CC	-	Member

The Chairman, EAC co-opted Shri K. Gowarappan, ex-member of the Violation Committee, MoEF&CC as a member of the committee who will conduct the site visit.

Accordingly, the sub-committee undertook field visit from 10th-12th July 2022 and during which only the following members were present:-

i. Dr. A.K. Malhotra	-	Chairman
ii. Dr. Ashok Kumar Kharya	-	Member (CWC representative)
iii. Dr. Saurabh Upadhyay	-	Representative of MoEF&CC

However, Shri K. Gowrappan, ex-member of the violation committee could not join due to health issues.

Site visit report

Based on recommendation of EAC and approval of the Ministry vide its letter dated 6th July, 2022 the sub-committee decided to conduct site visit of Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha during 10th July, 2022 to 12th July, 2022 and accordingly their travel plan was communicated to the PP well in time.

The following officers from M/s Tapi Irrigation Development Corporation (TIDC), Jalgaon (Maharashtra) and from M/s Mantec Consultant Pvt. Ltdwere present during the site visit:-

1. Mr. Y K Bhadane, Superintending Engineer, Jalgaon Irrigation Project
2. Mr. U D Dhabade, Executive Engineer, Tapi Valley Survey and Investigation Division, Jalgaon
3. Mr. N M Chaudhari, SDO, Tapi Valley Survey and Investigation Sub division
4. Mr. P G Khedkar, JE
5. Mr. R V Khanapure
6. Mr. Kamal Saxena, Consultant (M/s Mantec Consultant Pvt. Ltd)

At the outset, during the first day of the field visit, a meeting was held with the officials of TIDC, wherein, Shri J D Borkar, Chief Engineer, TIDC Jalgaon briefed the Sub-Committee about the project Kurha Vadhoda Islampur Lift Irrigation Scheme with CCA 32372 Ha and informed that the scheme envisages lifting of flood water in rainy season from Purna River (tributary of Tapi River) by constructing Intake structure, Jackwell overhead pump house at Stage-1 near village Rigaon, Tehsil- Muktainagar, District- Jalgaon (Maharashtra) and conveying water in three stages to store 77.60 Mm^3 in Islampur dam near village Islampur, Tehsil- Jalgaon (Jamod), District- Buldhana (Maharashtra). The project will irrigate to 25,898 Ha. command area out of which 8249 Ha. of Tehsil- Muktainagar, Districts - Jalgaon & 17649 Ha. lying in Tehsils - Jamod & Sangrampur of District - Buldhana of Maharashtra State. During the meeting the project proponent gave the following information:-

(i) That the area under this scheme falls under drought prone areas of Vidarbha region of Maharashtra. The area being mostly under rainfed agriculture the rainfall being low/ erratic leads to a very uncertain production leading to large number of farmers resorting to extreme step like suicide. To provide them with assured source of irrigation, the only option is to lift the water from Purna River which is very low lying and High Banks. Since the area has fertile and good soil minus the irrigation, if somehow the same is assured, it can lead to total socio-economic transformation of the area. The soil is mostly black cotton soil and suitable for the cultivation of cotton, banana and sugarcane. The total storage capacity of the proposed reservoir is 77.60 Mm^3 and it will ensure irrigation to 25898 Ha. of area lying in 104 villages. Out of this 8249 Ha. area falls in Tehsil- Muktainagar, District - Jalgaon & 17649 Ha. in Tehsil- Jamod & Sangrampur, District - Buldhana of Maharashtra State.

(ii) Since the agriculture in the Jalgaon and Buldhana districts is rainfed and the rain having become very erratic due to the Climate change reasons, the area suffers from acute water shortages leading to erratic agriculture yields, which at times is also the reason for the farmers resorting to suicides. Considering the sensitivity of the situation there is a tremendous pressure from local representatives to complete

the project work at the earliest.

(iii) The Maharashtra - Madhya Pradesh inter-state boundary being at 5.7 Km in NNW from Islampur dam site, this project is categorised as schedule1(c), category 'A'. As such there is interstate issue involved in this project.

(iv) This scheme is administratively approved by Government of Maharashtra for Rs.842.40 Crore at price level of 2008-09vide their letter dated 05/05/2009 out of which 691.31 crores has been spent till date. However, no work has been done after Feb, 2020.

(v) No village or individual household will be submerged due the construction of the project and as such no resettlement and rehabilitation issue is involved.

(vi) The total land required for this project is 572 Ha out of which 563.43 Ha is private land, 7.57 Ha is Govt. land, 1.98 Ha is forest land. Out of the 563.43 ha private land 536 Ha land has been acquired by direct purchase method under Land Acquisition Act – 2013 which is about 87 % of the total acquired land. Since, most of the land losers are also beneficiaries of the project, they are very enthusiastic to part with their lands. Moreover, Government is giving a very attractive price for their land. The acquisition of balance private land is under progress.

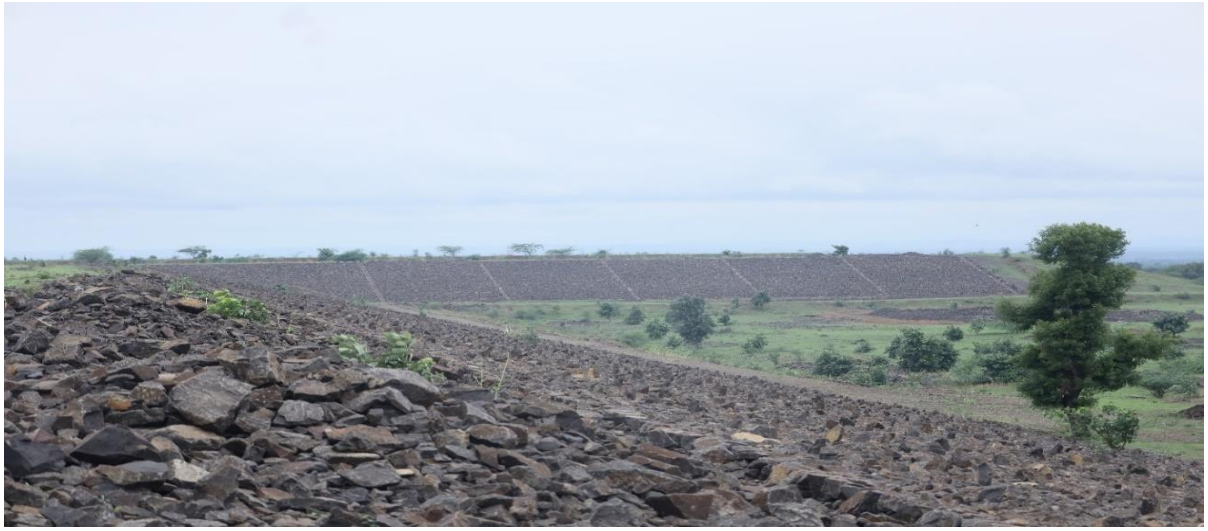
(vii) For this scheme, required 1.98 Ha. forest land is in possession of PP. It has been duly released by the Ministry of Environment & Forest, Bhopal as per the provisions of the Forest Conservation Act vide their letter dated 23/11/2012.

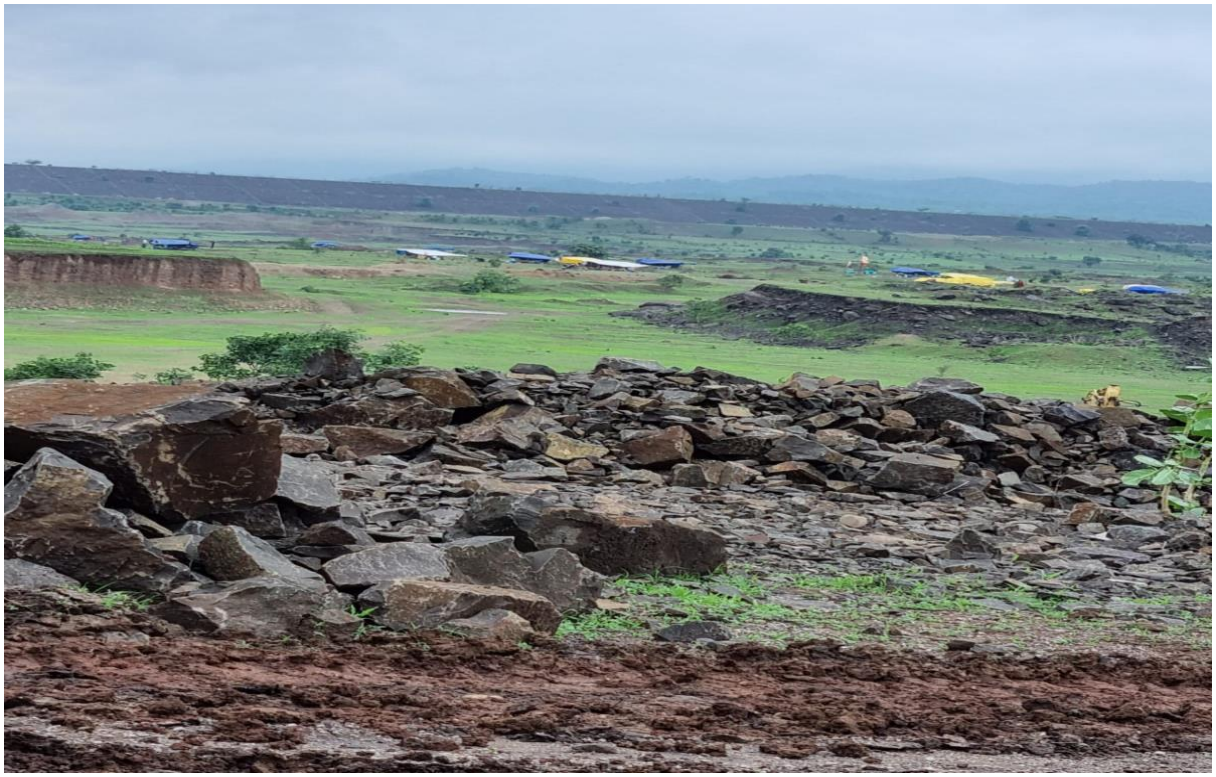
After the briefing session the Sub-Committee visited the field and observed the following: -

Observations of the Sub-committee

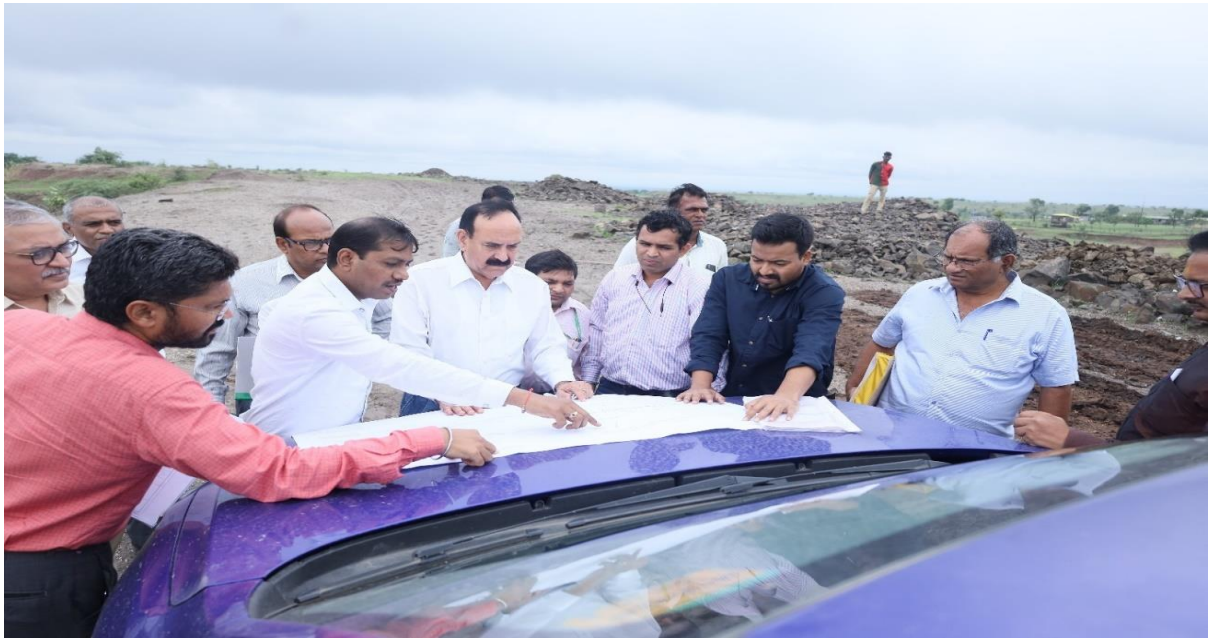
(i) **Dam at Islampur, Taluka Jalgaon (Jamod), District Buldhana**

- Cut of Trench (C.O.T), excavation & earthwork has been 67 % completed.
- Hearting & casing earthwork has been 57 % completed.
- Other activity like pitching, drains etc has been 45% completed.
- Other construction activities like head regulator, waste weir work has not been started.
- At present no any construction activities are under progress at this location.

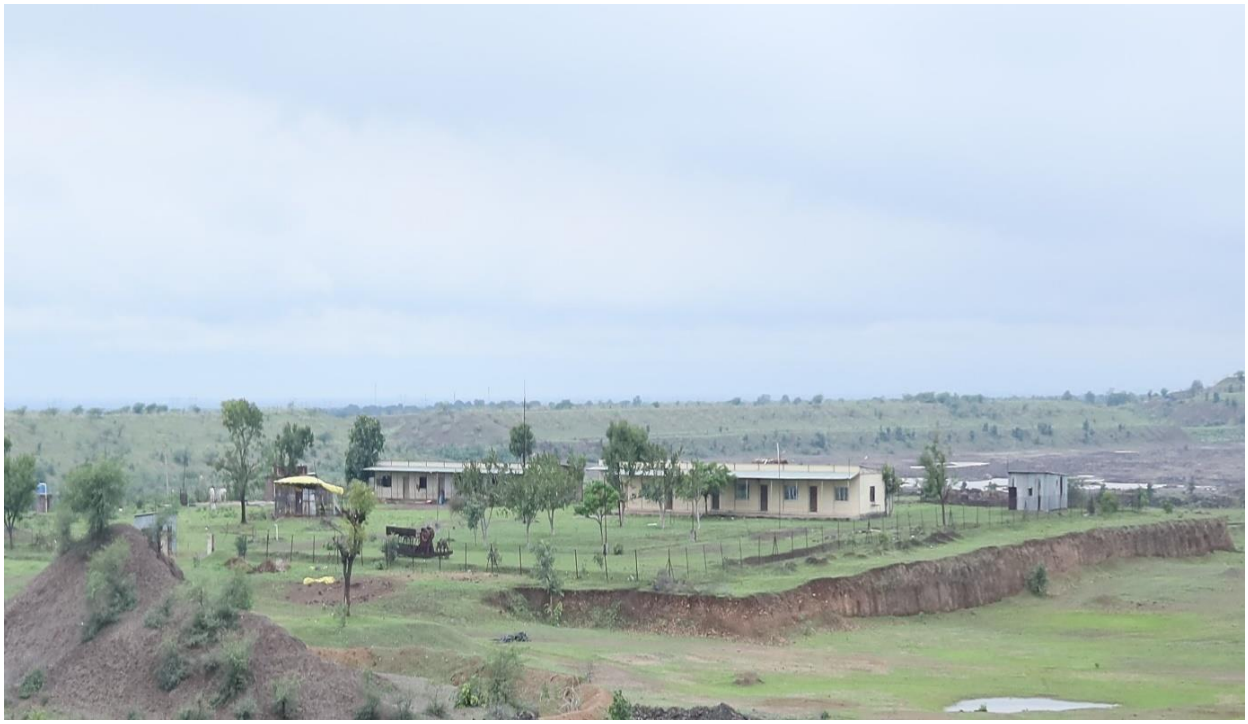




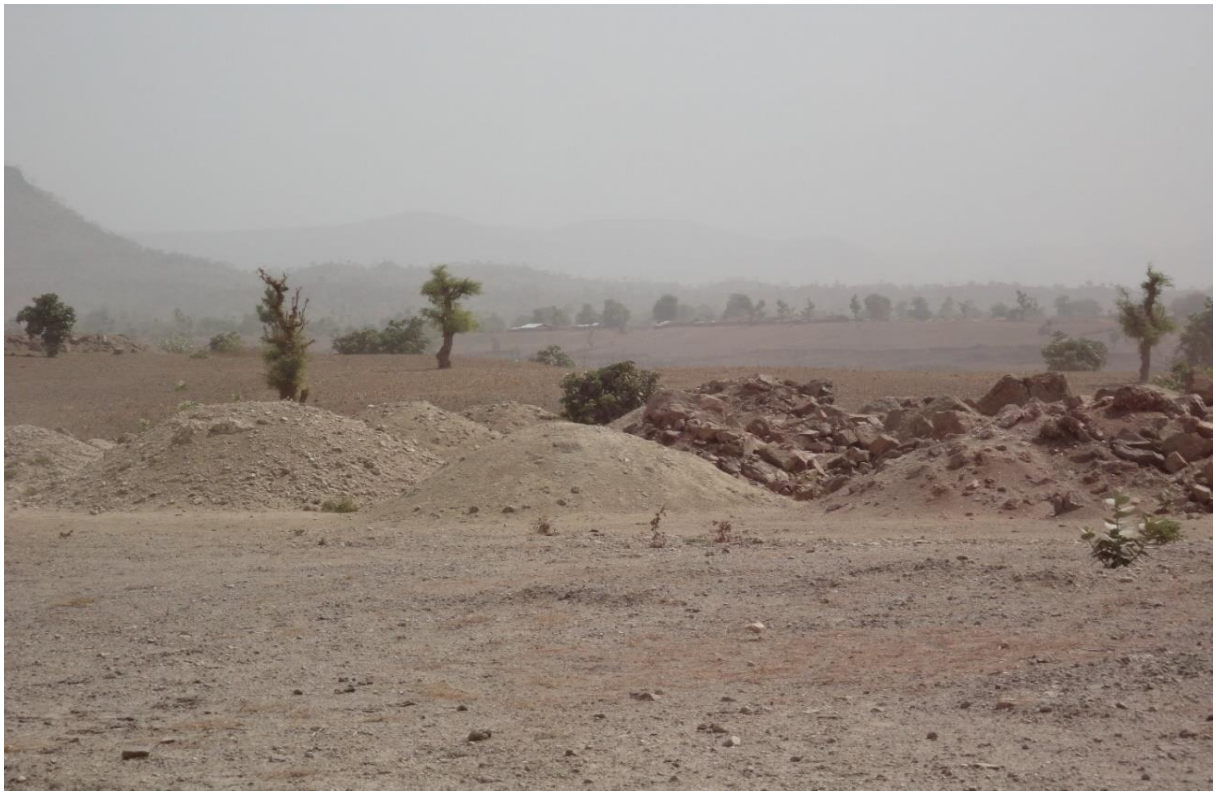
Excavation activity at Dam Site



Dam at Islampur, Tal: - Jalgaon (Jamod), Dist.:- Buldhana



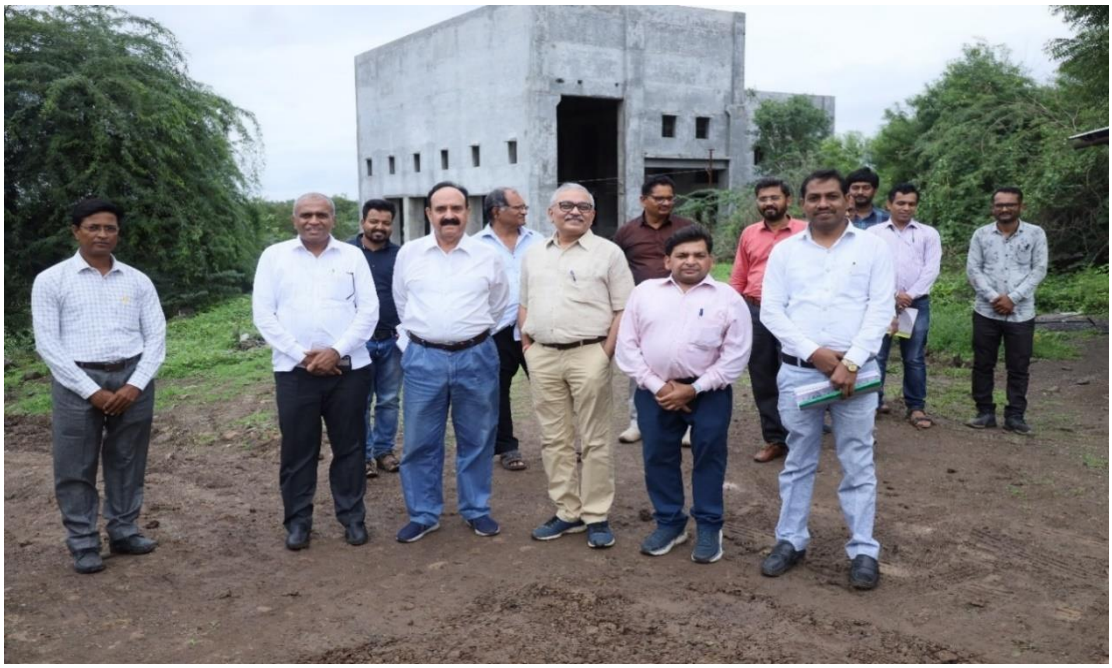
Camp building near Islampur dam site



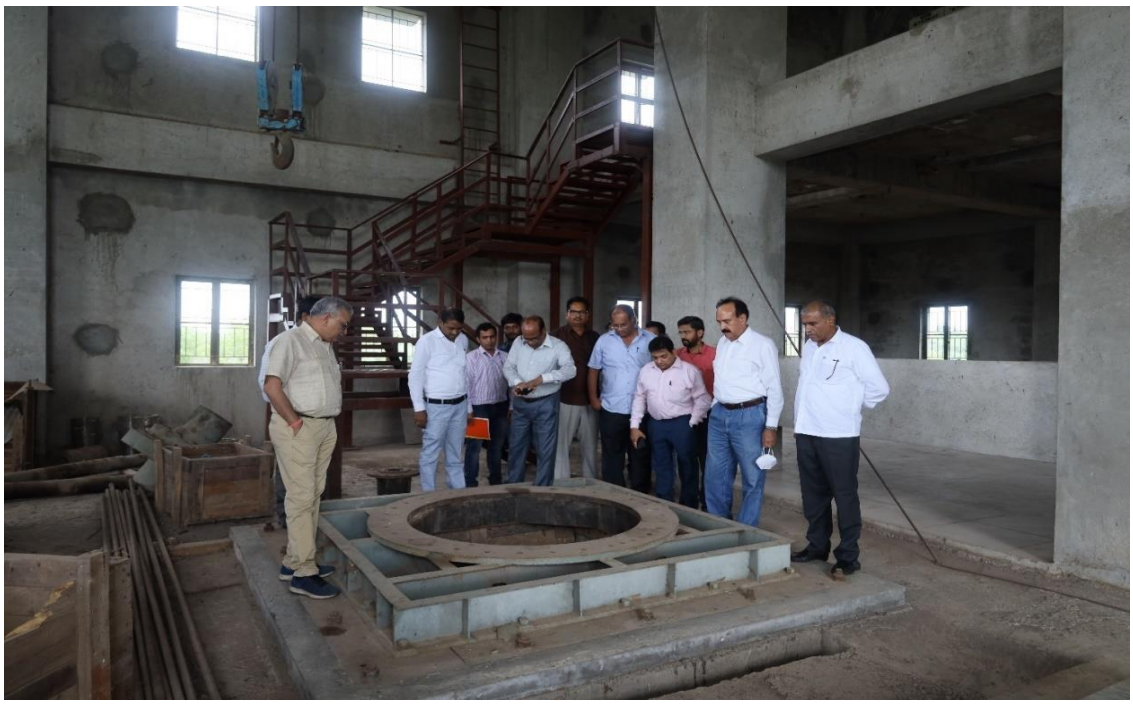
Rejected excavated soil/muck stacked at dam site Islampur Tal: - Jalgaon (Jamod), Dist.:- Buldhana

(ii) **Lift System/ Jackwell /Pump house at Stage-I (At village Rigaon, Tal. Muktainagar):-**

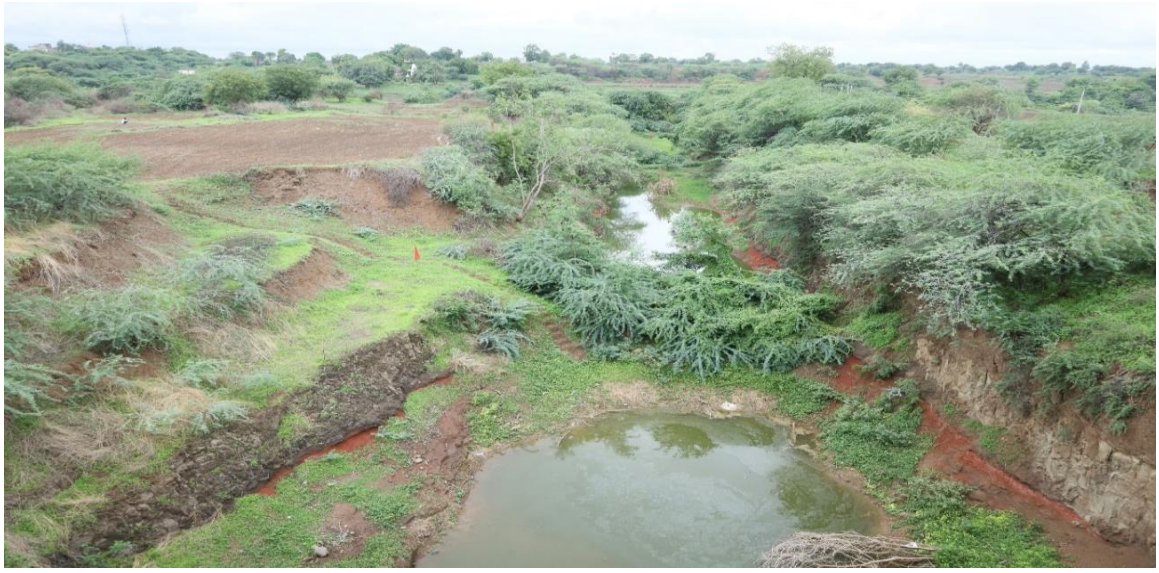
- Pump House/Jackwell RCC structure has been 85% completed.
- Excavation for approach channel, retaining wall & intake structure has been 85% completed.
- Supply of pumping machinery has been 90 % completed.
- The water will be lifted from jackwell at village Rigaon to 2.82 Km ahead stage-II at the head of 36.40 m by using 4 number of pumps having capacity 2110 HP each.
- Erection of 33KV electrical switchyard has been 95% completed.
- At present no construction activities are under progress at this location.



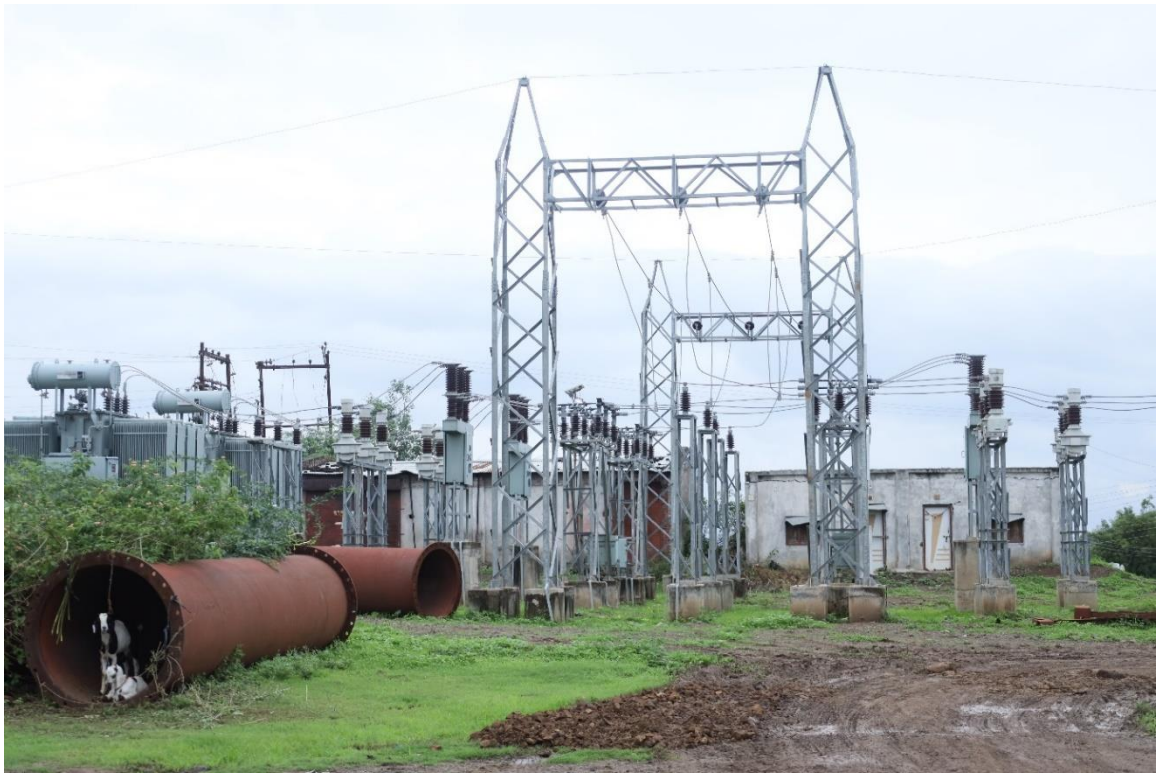
Jackwell/Pump House RCC structure of stage-I



Pump installation arrangement of stage-I at Rigaon



Excavation of Approach Channel of stage-I at Rigaon

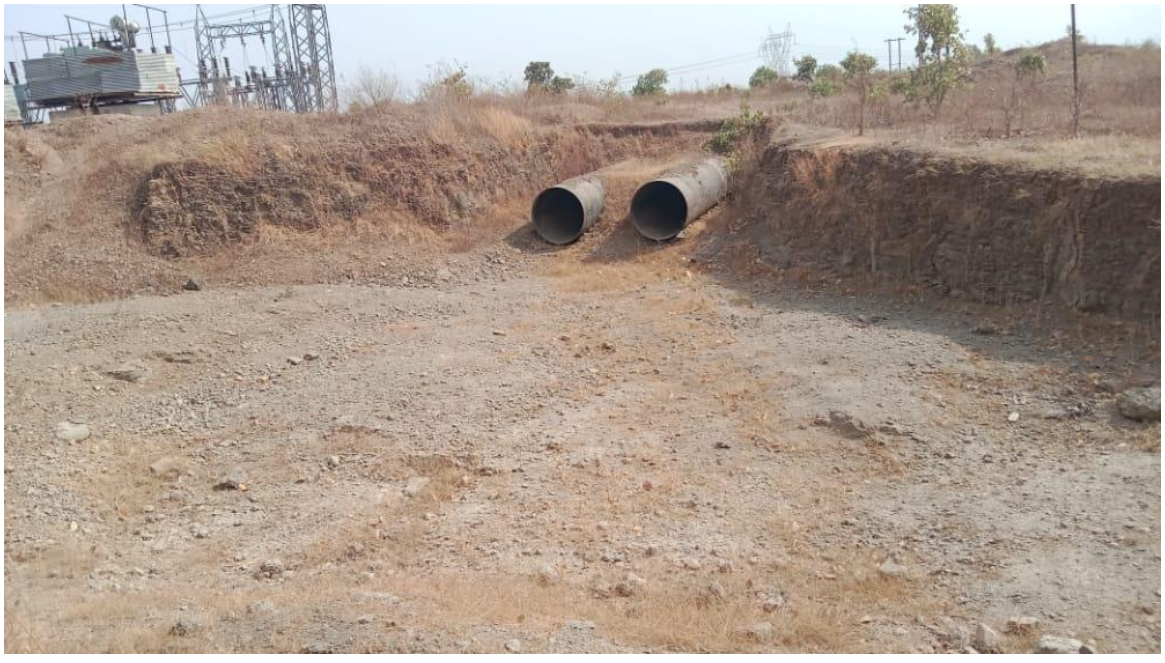


Electrical 33 KV Switchyard of stage-I at Rigaon Tal: - Muktainagar, Dist.:- Jalgaon

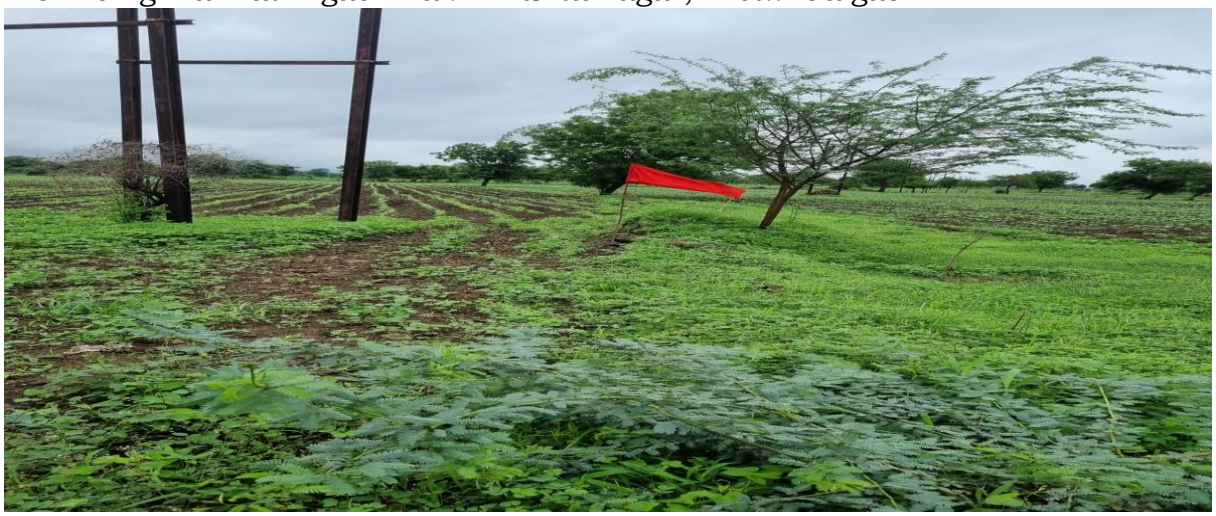
Installation of Control Panel of stage-I at Rigaon Tal: - Muktainagar, Dist.:- Jalgaon

(a) **MS Rising Main:-**

- As per scheme planning, length of MS Raising Main having 1.8 m diameter is 13.14 Km with two rows.
- Out of 13.14 Km, length of 9.50 Km pipe laying work has been completed (72%).
- At present no any construction activities are under progress at this location.



MS Rising Main at Rigaon Tal: - Muktainagar, Dist.:- Jalgaon



(Location where underground MS pipe laying is already completed and farming is in progress)

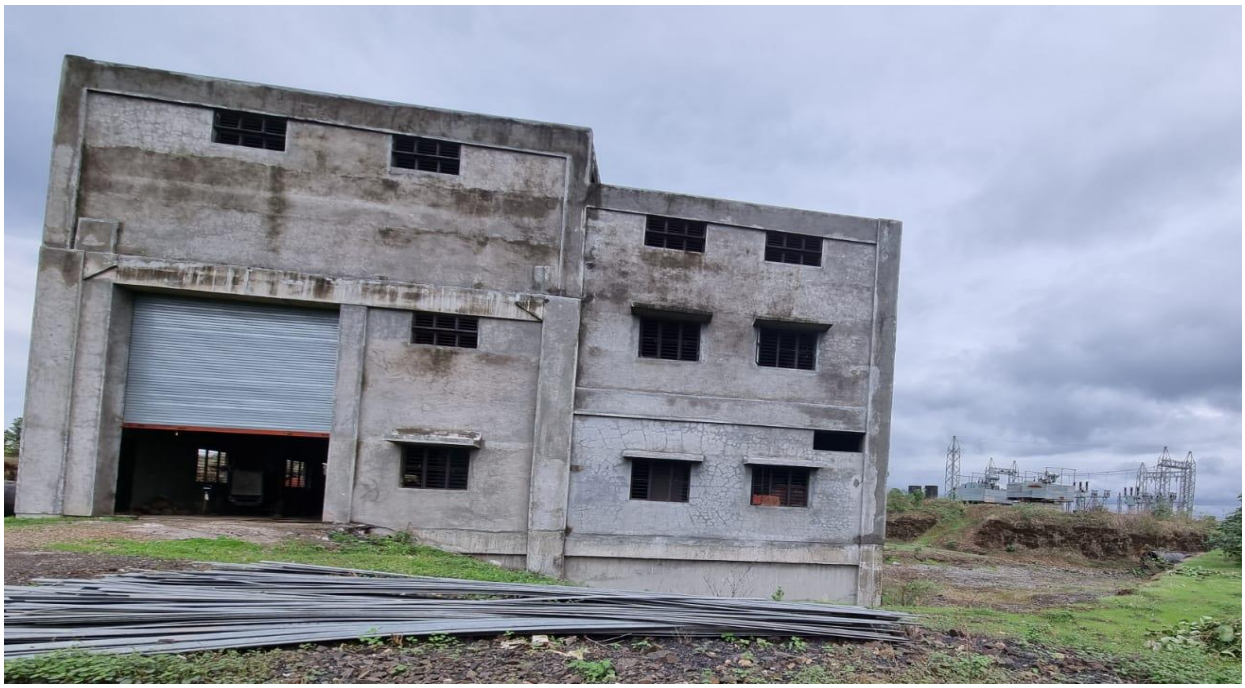
(iii) **Pump House at Stage-II (At village Sule, Tal. Muktainagar):-**

- As per planning, water will be lifted from stage-II to 6.18 Km ahead stage- III at the head of 38.13 m by using 4 number of pumps having capacity 2045 HP's each.
- No work has been started at this location**.**

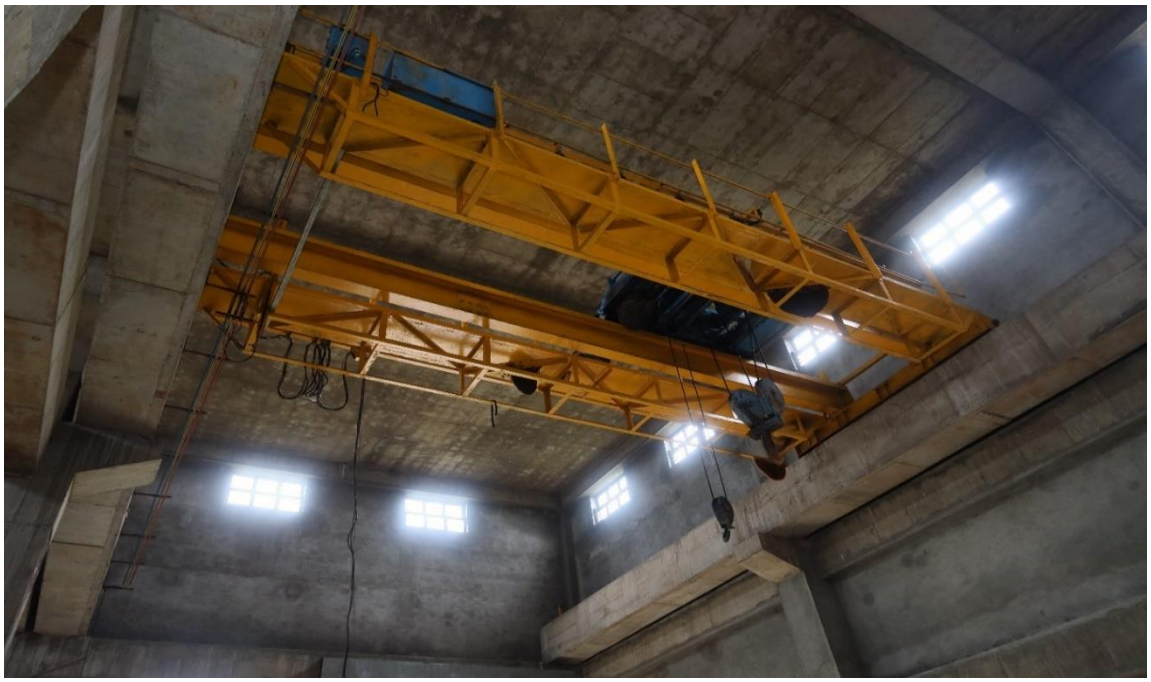
Location of Pump House of stage-II at Sule Tal: - Muktainagar, Dist.:- Jalgaon (Acquired Forest Land)

(iv) **Pump House at Stage-III (At village Islampur, Tal. Jalgaon (Jamod)):-**

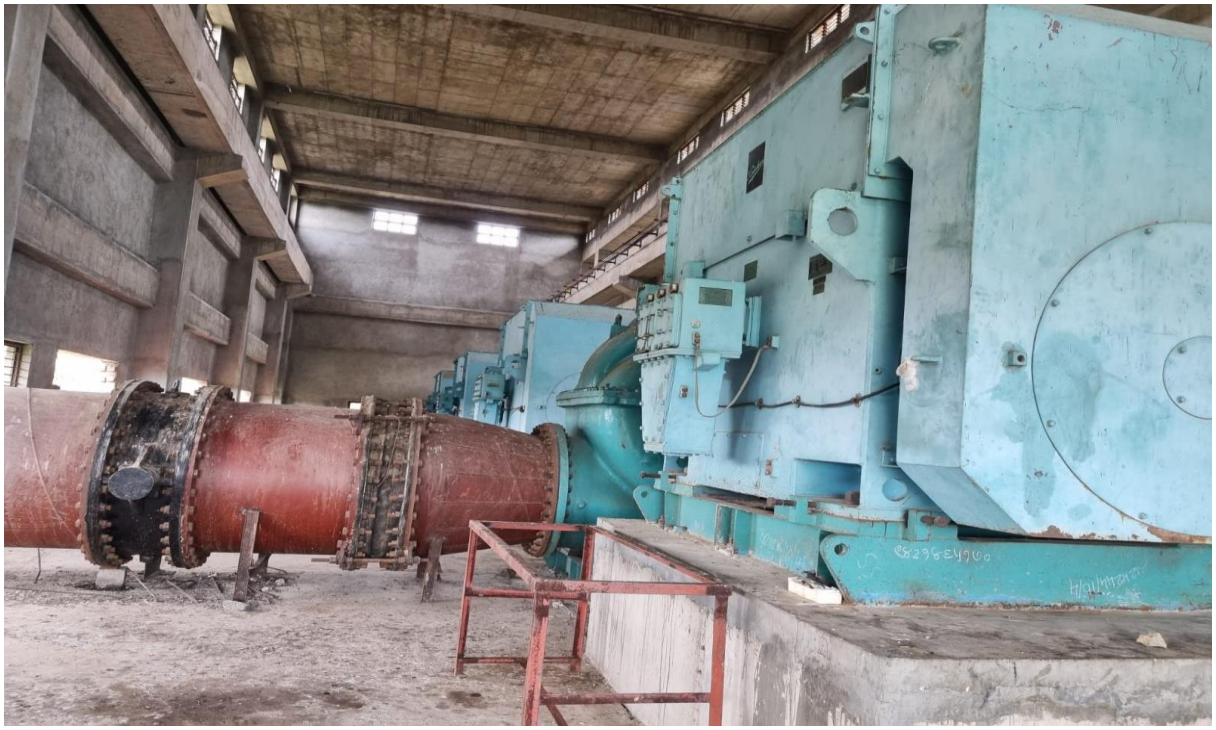
- As per planning, water will be lifted from stage-III to 4.14 Km ahead Islampur dam at the head of 42.87 m by using 4 number of pumps having capacity 4140 HP's each.
- Pump house RCC structure has been 80 % completed.
- Installation of pumping machinery has been 85% completed.
- At present no construction activities are under progress at this location.



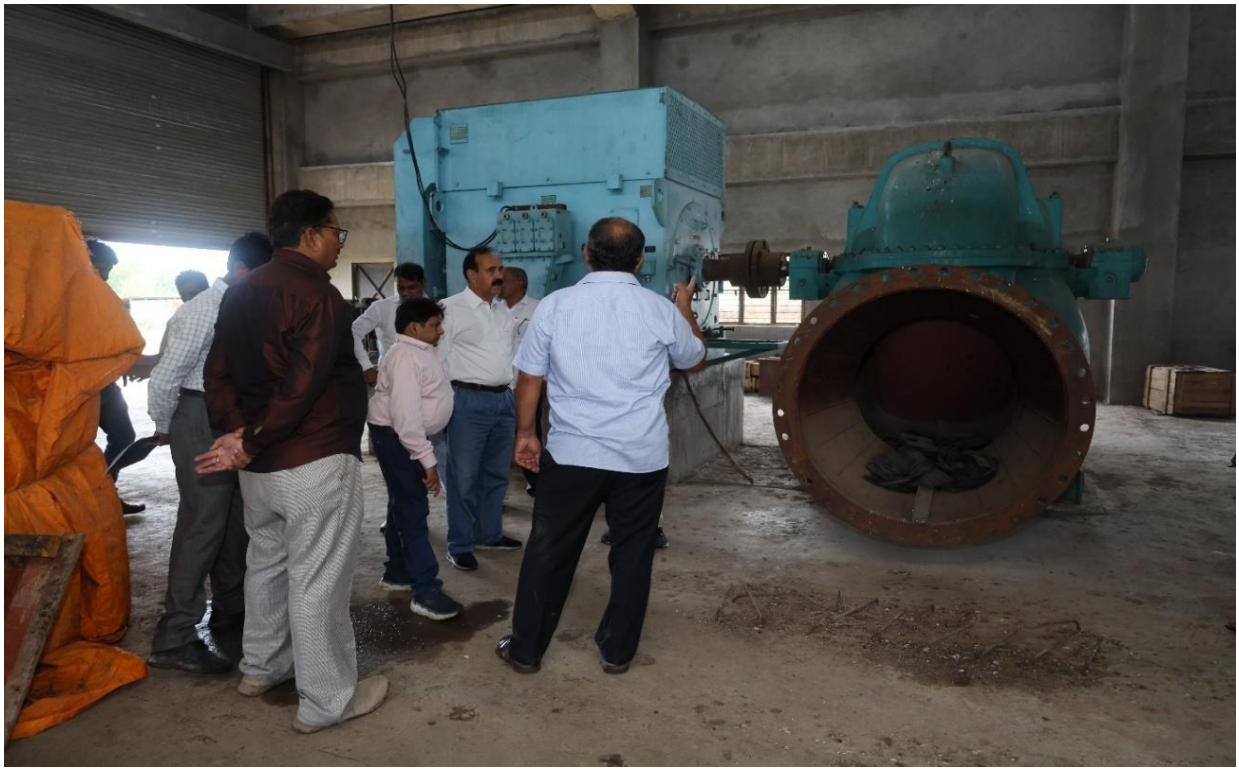
Pump House of stage-III at Islampur Tal: - Jalgaon (Jamod), Dist.:- Buldhana



EOT arrangement at Pump House of stage-III at Islampur Tal: - Jalgaon (Jamod), Dist.:- Buldhana



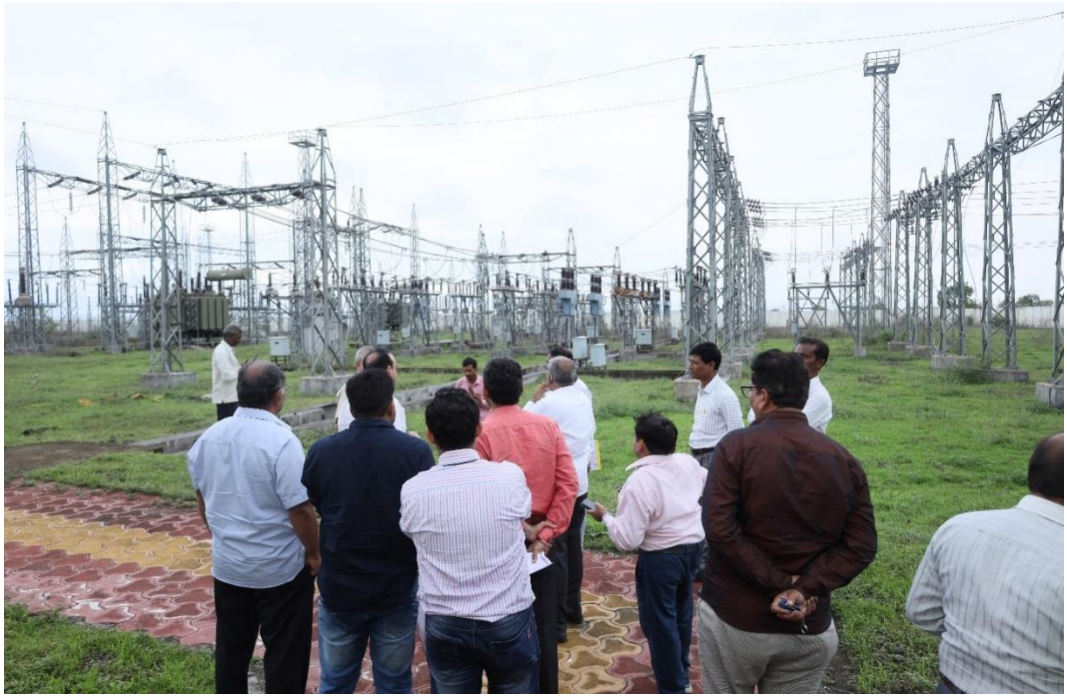
Pump House Machinery of stage-III at Islampur Tal: - Jalgaon (Jamod), Dist.:- Buldhana



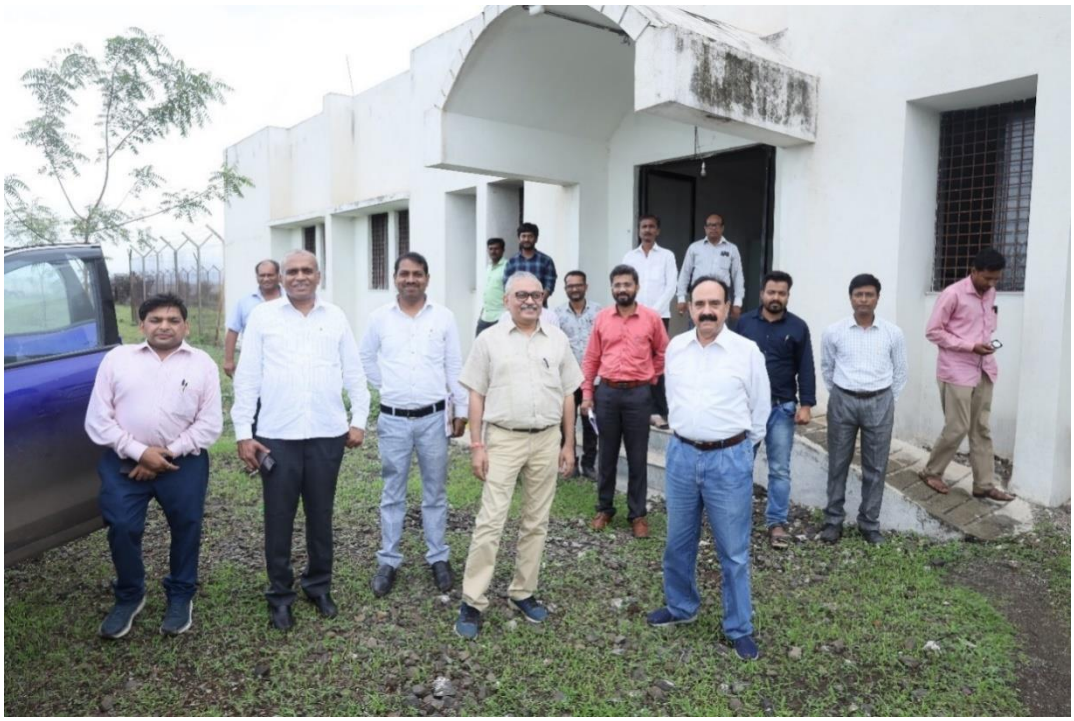
Pump House Machinery of stage-III at Islampur Tal: - Jalgaon (Jamod), Dist.:- Buldhana

(v) **132/33 kV substation & Transmission Line (At village Bhota, Tal. Muktainagar):-**

- Construction & installation of 132/33 Kv substation & transmission line has been 80% completed.
- At present no construction activities are under progress at this location.



132/33 Kv substation & Transmission Line at Bhota Tal: - Muktainagar, Dist.:- Jalgaon



132/33 Kv substation building at Bhota Tal: - Muktainagar, Dist.:- Jalgaon

(vi) **CAD work/ Distribution PDN Network:-**

- Physical work is not started as yet.

During the visit the Sub-committee requested the project proponent to submit the details of muck generated during construction phase and details of tender/ contract given for the construction of project. The project proponent has informed that total 3335620 cum muck/solid waste has been generated till date and the same has been fully disposed/utilized at the site for the construction of embankment of the reservoir. The details of Solid Waste/ Tress Plantation /Land use/Cover and details of tender/ contract is at **Annexure-I and II** respectively.

As per the EIA Notification, 2006, the project activity falls under item 1(c) of the schedule to the EIA Notification, 2006 and requires prior environmental clearance. The Sub-committee further observed that the project proponent has carried out construction work of the project without prior environmental clearance, hence, the project involves violation.

The Sub-committee of the EAC found that the project proponent has started construction of Dam at Islampur, Taluka Jalgaon (Jamod), District Buldhana, Jackwell /Pump house (Stage-I) at village Rigaon, Tal. Muktainagar, Laying of underground pipeline, Pump House (Stage-) at village Sule, Taluka Muktainagar, 132/33 Kv substation & Transmission Line at at Bhota Taluka Muktainagar, District Jalgaon.
The present proposal involves violation and the same will be appraised as per the Ministry's Office Memorandum dated 7th July, 2021, stating Standard Operating Procedure (SOP) for identification and handling of violation cases.

Recommendations of Sub-committee:

Based on above observations, the sub-committee of the EAC confirms that project has started construction of the project and violated the provision contained in EIA Notification, 2006. **Hence, the subcommittee recommends** that the project Kurha Vadhoda Islampur Lift Irrigation Schemeshall be given ToRs as per the Office Memorandum dated 7th July, 2021 with following conditions:

(ix) The State Government / SPCB to ensure that the case shall be filed against the project proponent for violation of the EP Act, 1986, and further no consent to operate or occupancy certificate to be issued till the project is granted EC.

(x) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.

(xi) Assessment of ecological damage with respect to air, water, land and other environmental attributes shall be carried out by the accredited consultant of the PP. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

(xii) The PP has to obtain clearance from inter-state aspect from the designated authorities as per procedure.

(xiii) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation to be done.

(xiv) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

(xv) The PP is required to conduct public hearing as per EIA notification, 2006.

(xvi) Socio Economic Study following standard procedures to be included, impacts due to project activities need to be assessed and remedial measures to be proposed based on the Field Study and issues raised during Public Hearing.

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Annexure

Annexure-I- Details of Solid Waste/ Tress Plantation /Land use, Cover														
Kurha Vadhoda Islampur Lift Irrigation Scheme, Tal.Muktainagar, Dist- Jalgaon														
Sr. No.	**Scheme Components**	**Solid Waste Management Details**						**Progressive Plantation Details**		**Details of Land Use (Agricultural, residential, transportation, institutional and public buildings, commercial and industrial)**		**Details of Land Cover in Project implemented area (forest, herbaceous/grassland, shrubland, developed, agriculture, wetlands, and other (includes ice/snow, barren**		**Remarks**
		Total Muck/ Soil Generated (Cum)	**Quantity of muck/ soil utilized for construction work (Cum)**	**muck /soil utilized for ground levelling & Road approaches**	**Total muck /soil utilized**	**Other Solid Waste Generated (MT)**	**Disposal of Solid Waste**	**No. Planted**	**Types/ Names of saplings planted**	**Before Construction**	**After Construction**	**Before Construction**	**After Construction**	
1	2	3	4	5	(6=4+5)	7	8	9	10	11	12	13	14	15

1	Islampur Dam	3018874	1830018	886968	2716986	6.30	Fully Disposed at Corporation disposal site	1200	Nim, Palas, karanj	Agriculture	Water Body	Agriculture-90 % Barren Land-6 % Fruit Land-4 %	Water Body	Work stopped from March 2020
2	Stage-I	33007	20125	11231	31356	2.70		100	Nim, Palas, karanj	Barren Land	Pump House Building	Barren Land-100 %	Pump House Building	
3	Stage-II	0	0	0	0	0.00	0	0		Forest	Forest	Forest-100 %	Forest	Work not started
4	Stage-III	5070	3521	1296	4817	2.70	Fully Disposed at Corporation disposal site	100	Nim, Palas, karanj	Agriculture	Pump House Building	Agriculture-100%	Pump House Building	Work stopped from March 2020
5	Rising Main	264485	189000	62260	251260	1.35		0		Agriculture	Agriculture	Agriculture-92 % Forest-8 %	Agriculture	

6	132 KV Substation	14184	11800	1674	13474	2.16		100	Nim, Palas, karanj	Barren Land	132 KV Substation	Barren Land-100 %	132 KV Substation	
	Total	**3335620**	**2054464**	**963429**	**3017893**	**15.21**		**1500**						

Annexure-II- Tender /Contract Details						
Kurha Vadhoda Islampur Lift Irrigation Scheme, Tal. Muktainagar, Dist- Jalgaon						
Sr.No.	**Work Name**	**Tender /Contractor No**	**Tender /Contract Value (In Crore)**	**Updated Cost (In Crore)**	**Amount Spent till date (In Crore)**	**Balance Amount to be spent (In Crore)**
1	2	3	4	5	6	(7=5-6)
1	Designing, Planning, Execution of jackwell, Rising Main, Pump House, Pumping Machinery and Command Area Survey	B1/TIDC/CE/03/33/10/2008/09, dtd. 24.10.2008.	282.68	399.23	297.21	102.02
2	132/33 KV Substation, 132 KV Transmission Line & 33 KV Distribution Lines & Allied Civil Works	B 1 Tender No CE/TIDC/01/16/01/2010/10 For 2009-2010	57.55	95.57	72.18	23.39
3	Constructing Islampur earthen Dam & allied works, Waste Weir & Allied woks	CE/TIDC/03/33/12/2007/05 for the year 2007-08	56.40	733.24	321.92	411.32

4	Preparation and approval of TOR from MoEF&CC, carrying out Environment Impact Assessment (EIA) studies, preparation of EIA/EMP damage assessment / remedial plan reports and obtaining environmental clearance from concerned authority for the Kurha Vadhoda Lift Irrigation Scheme Tal. Muktainagar Dist. Jalgaon (CCA - 32372 Hect.) as per EIA -2006, subsequent amendments and as per terms of reference approved by the Competent Authority considering present status of project.	LICD/AB-3/Tender/197/for2020 Dt.18/11/2020.	0.20	0.20	0.00	0.20
		Total	**396.83**	**1228.24**	**691.31**	**536.93**

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Re: Revised Draft site visit report of Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha project

From : ajitkumarmalhotra463@gmail.com Thu, Jul 21, 2022 01:05 PM

Subject : Re: Revised Draft site visit report of Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha project

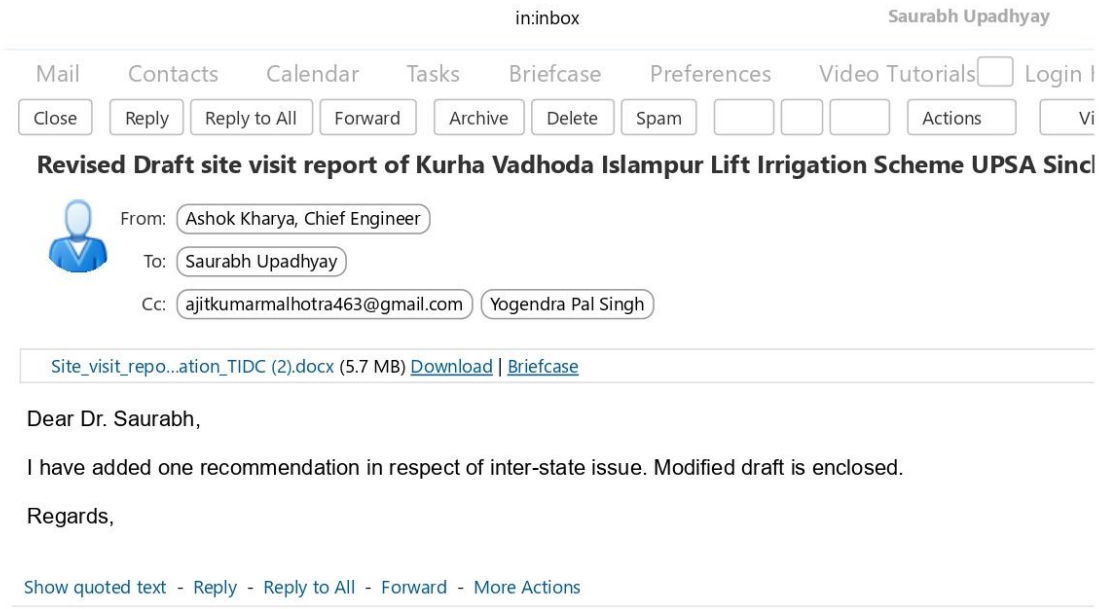
To : Saurabh Upadhyay <saurabh.upadhyay85@gov.in>

yes , I have made some minor corrections and dictated the same to Mr. Sarvesh who has incorporated them in the report. Regarding the PP's consultant making the assessment of the damage the member secy. may take a call on this based on what has been the Ministry's stand in similar cases in the past.

Dr.A.K.Malhotra

On Wed, Jul 20, 2022 at 10:58 AM Saurabh Upadhyay <saurabh.upadhyay85@gov.in> wrote:

> Dear sir,
>
> Please find enclosed herewith the revised Draft site visit report of Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sinchan Yojna with CCA 32372 Ha project for kind perusal and approval pls.
>
> With Regards
>
> **(Dr Saurabh Upadhyay)**
> **Dy. Director/ Scientist C**
> ***Ministry of Environment, Forest & Climate Change,***
> ***2nd floor, Agni Wing, I. P. Bhawan ,***
> ***Jor bagh Road, Aliganj, New Delhi - 3***
> ***Ph:-011-20819401***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Saurabh Upadhyay
Mail
Contacts
Calendar
Tasks
Briefcase
Preferences
Video Tutorials
Login I
Close
Reply
Reply to All
Forward
Archive
Delete
Spam
Actions
Revised Draft site visit report of Kurha Vadhoda Islampur Lift Irrigation Scheme UPSA Sincl
From: Ashok Kharya, Chief Engineer
To: Saurabh Upadhyay
Cc: ajitkumarmalhotra463@gmail.com
Yogendra Pal Singh
Site_visit_repo...ation_TIDC (2).docx (5.7 MB) Download | Briefcase
Dear Dr. Saurabh,
I have added one recommendation in respect of inter-state issue. Modified draft is enclosed.
Regards,
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APPROVAL OF THE CHAIRMAN

From: ajitkumarmalhotra463@gmail.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Wednesday, August 17, 2022 3:21:49 PM
Subject: Re: Draft MOM of the 31st EAC meeting of River Valley Projects held on 29.07.2022-reg.

Dear Y.P.SINGH
The draft MoM forwarded by you are in order except the following may be added as the recommendation of the EAC in the case of Kurha Vadhode Islampur lift irrigation scheme in distt. Jalgaon, Maharashtra,

Since the project is being appraised as a violation project the committee constituted for field visit has Mr. Gowrapan as an expert nominated by the MoEF & CC for calculation of the exact violation cost. Somehow Mr. Gowrapan could not join the field visit due to some personal reasons but he has assured that he will be able to do the needful based on the information to be provided by the PP for which he has already sent some proformas to the PP through MoEF & CC. The EAC took a decision that both the PP and Mr. Gowrapan will calculate the violation cost independently and the one which is higher will be accepted by the EAC and further action taken accordingly. The member Secy. will help Mr. Gowrapan in obtaining any further information which he may require from the PP.

with the above the minutes are approved