MINUTES OF THE 35TH MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 11TH OCTOBER, 2022 FROM 02.30 PM – 04:00 PM THROUGH VIDEO CONFERENCE.

The 35th meeting of the re-constituted EAC for River Valley & Hydroelectric Projects organized by the Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi, was held on 11th October, 2022 through video conference, under the Chairmanship of Dr. A. K. Malhotra. The list of Members present in the meeting is at **Annexure-I.**

Agenda Item No. 35.1

Confirmation of the minutes of 34th EAC meeting

The minutes of the 34th EAC (River Valley Hydroelectric Project) meeting held on 14th September, 2022 were confirmed.

Agenda Item No. 35.2

Ranapur Off-Stream Closed Loop Pumped Storage Project (1200MW) at Village Ranapur, Tehsil Sarangapur & Neradigonda, District Adilabad & Nirmal (Telangana) by M/s Sri Siddharth Infratech & Services (I) Private Limited – Terms of Reference (TOR) - reg.

[Proposal No. IA/TG/RIV/400275/2022; F. No. J-12011/15/2022-IA.I (R)]

35.2.1: The proposal is for grant of terms of reference to Ranapur Off-Stream Closed Loop Pumped Storage Project of capacity 1200MW in an area of 609.64 Ha at Village Ranapur, Tehsil Sarangapur & Neradigonda, District Adilabad & Nirmal (Telangana) by M/s Sri Siddharth Infratech & Services (I) Private Limited.

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

i. The Project involves creation of upper and lower reservoir, water conductor system powerhouse and appurtenant facilities. Water will be sourced from Swarna Reservoir/Sriram Sagar reservoir (on Swarna River) for one time filling and annual recharge to compensate for evaporation losses. The proposed scheme involves construction of Rock fill embankments of average height of around 31m with maximum of 54m height in upper reservoir and average height of around 19m with maximum of 34m in lower reservoir. About 41.4m high Power Intake Structure with 4 nos. each of 700.37m long and 7.0m dia. surface circular steel lined Penstock / Pressure Shaft out of which 3 nos. will feed 3 units of 300 MW and one no. of 700.37m long 7.0m dia. Surface circular steel lined Penstock / Pressure Shaft which will get bifurcated into 2 nos. near power house each of 74.08m long and 4.9m dia. will feed 2 units of 150MW. Three vertical-axis reversible Francis type units composed each of a generator/motor and a pump/turbine having generating/pumping capacity of 300MW / 330MW respectively and two vertical-axis reversible Francis type units composed each of a generator/motor and a pump/turbine having generating/pumping capacity of 150MW / 165MW respectively.

ii. **Land requirement:** The total land required for construction of various components including infrastructure facilities and muck disposal area is estimated to be around 609.64Ha, involving 502.04 Ha of forest land and 107.60 Ha of non-forest land.

iii. **Status of Forest clearance & other statutory clearances:** Forest Clearance: Online application will be submitted for diversion of 502.04 ha. Forest land. Alongside, other statutory

clearances (as applicable) from State as well as Central government will be obtained post completion of Detailed Project

iv. **Environmentally Sensitive areas in the study area:** The proposed PSP is not located near any protected area. The nearest protected area is Kawal Tiger Reserve, which is around 13.5 km (East) from the project.

v. **Muck Disposal area:** 40 ha in Forest area.

vi. **Project Cost:** SSISPL envisages to complete the construction of project within a period of three years at an estimated cost of INR 6614.15 Crores.

vii. **Power generation**: The proposed project will generate 1200 MW by utilizing a design discharge of 214.05 Cumec and rated head of 157.00 m

viii. **Project benefit:**

a) The project will generate revenue to the local villages and improve the livelihood of the people.
b) Direct and Indirect Employment Opportunities; Local Area Development

ix. **The silent feature of the project is as under: -**

Project details:

Name of the Proposal	**Ranapur Off-Stream Closed Loop Pumped Storage Project - Telangana**
Location (Including coordinates)	The proposed project involves creation of upper reservoir at longitude 78°19'47.12"E and latitude is 19°12'34.57"N and that of lower reservoir at longitude 78°19'28.10"E and latitude 19°11'42.97"N.
Inter- state issue involved	No
Seismic zone	Zone -II (least active)

Electricity generation capacity:

Powerhouse Installed Capacity	1200MW
Generation of Electricity Annually	2592 MU
No. of Units	5 nos. (3 X 300 MW + 2 x 150 MW)

Land Area Breakup:

Government land/Forest Land	502.04 Ha
Submergence area/Reservoir area	450.99 Ha
Land required for project components	609.64 Ha
Additional information (if any)	Private Land-107.60 Ha

Salient Features of Proposed PSP

Sr. No.		Parameters	Description
1.	a.	Storage Capacity	7476 MWH

	b.	Rating	1200 MW
	c.	Peak Operation Duration	6.23 Hours daily
	d.	Rated Head (Generation Mode)	157.00 m
	e.	Design Discharge (Generation Mode)	856.19 Cumec
2.		Upper Reservoir (Proposed)	
	a.	Live Storage	0.678TMC
	b.	Dead Storage	0.417 TMC
	c.	Gross Storage	1.095 TMC
	d.	Full Reservoir level (FRL)	EL +561.00m
	e.	Min. Draw Down Level (MDDL)	EL +542.00 m
	f.	Top Bund Level (TBL)	EL +564.00m
	g.	Max Height of Embankment	54.00 m
	h.	Length of Embankment	3087.00 m
3.		Lower Reservoir (Proposed)	
	a.	Live Storage	0.681TMC
	b.	Dead Storage	0.196 TMC
	c.	Gross Storage	0.877 TMC
	d.	Full Reservoir level (FRL)	EL +398.00m
	e.	Min. Draw Down Level (MDDL)	EL +383.00 m
	f.	Top Bund Level (TBL)	EL +401.00m
	g.	Max Height of Embankment	34.00 m
	h.	Length of Embankment	3191.00 m
4.		RCC intake Structure	
	a.	Type	Diffuser Type
	b.	Elevation of Intake centre line	EL +529.10 m
	c.	Elevation of Intake bottom	EL +525.60 m
5.		Penstock /Pressure Shafts	
	a.	Type	Finished steel lined - circular
	b.	Number of Penstocks	4 No.
	c.	Diameter of penstock	7.00 m - main Penstock
	d.	Length of penstock/Pressure Shaft	649.47 m
6.		Powerhouse	
	a.	Type	Surface Powerhouse
	b.	Dimensions (Excluding Service Bay)	145.00m (L) x 25.50m (W) x 51.20m (H)
7.		Tail Race Channel	
	a.	Type & Shape	Concrete lined & Trapezoidal
	b.	Length of the channel	405.70 m
	c.	Bed Width	65.00 m
	d.	Full supply depth	5.0 m
	e.	Bed slope	1 in 5300
8.		Tailrace Outlet	
	a.	Type	Diffuser Type
	b.	Elevation of outlet centre line	EL + 371.70 m for larger units and EL+ 370.45 m for smaller units
9.		Power Evacuation	
	a.	Voltage Level (KV)	400 KV
	b.	No. of Transmission Lines	One double circuit transmission line

	c.	Total Length	One 400 KV Double Circuit transmission line with Quad Moose Conductor of length 22 KMs (app) from PSP will be connected to 400 KV, TSTRANSCO, Nirmal substation for evacuation of stored power during generating mode and for supply of power during pumping mode.

35.2.3: The EAC during deliberations noted the following:

The EAC deliberated on the information submitted (Form 1, PFR, kml file, etc.) and as presented in the meeting and observed that the proposal is for grant of terms of reference to the project for Ranapur Off-Stream Closed Loop Pumped Storage Project of capacity 1200MW in an area of 609.64 Ha at Village Ranapur, Tehsil Sarangapur & Neradigonda, District Adilabad & Nirmal (Telangana) by M/s Sri Siddharth Infratech & Services (I) Private Limited.

35.2.4 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 for Ranapur Off-Stream Closed Loop Pumped Storage Project of capacity 1200MW in an area of 609.64Ha at Village Ranapur, Tehsil Sarangapur & Neradigonda, District Adilabad & Nirmal (Telangana) by M/s Sri Siddharth Infratech & Services (I) Private Limited, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation:

i. Alternative site analysis shall be carried out in terms of ecological aspects viz. loss of Forest ecosystem due to diversion of Forest land/ loss of biodiversity and its impacts on productivity of the ecosystem, water availability, eco-sustainability of water source be used for generation of hydro power and Ecological flows in the small stream/ Nallah. Preference shall be given to minimize forest land.
ii. Impact on fisheries due to obstruction in Swarna Reservoire during project construction.
iii. WRD permission to take water from Swarna reservoir/Sriram Sagar reservoir.
iv. Hydrological report of Swarna reservoir/Sriram Sagar reservoir (Swarna River) from CWC.
v. Alternative study carried out for reducing requirement of Forest land for the Construction of proposed project.
vi. Impact zone decided prior to base line data generation and accordingly, sampling location shall be finalized. Baseline data as mentioned in Standard ToR shall be collected for preparation of EIA/EMP report along with soil characteristics which shall be studied at minimum 10 locations. The ground water level at 10 locations shall be measured in project area in all three seasons.
vii. A study shall be carried out on impact of project activity on the aquatic and terrestrial ecosystem, within project area classifying the impact zones (highly impact/low impact zone) based on seasonal variations and covering the aspects related to impacts on aquatic ecosystem/ primary productivity due to quantity of water to be lifted for power generation and thermal stratification. Accordingly, Environment Management plan shall be prepared.
viii. Sampling locations be located to cover villages situated near the reservoir and around boundary of forest area for collection of baseline data and data to be incorporated in EIA/ EMP report.
ix. The study shall be conducted and approved by CWC regarding assessment of E-Flow of water in the river (if any).
x. Details about other projects located on the river basin along with their longitudinal distance between two projects be submitted. In case of more than one project a detailed Cumulative Impact Assessment and Carrying Capacity study covering aspects related to impact of each project on

the flow pattern of the rivers and forest and biodiversity shall be conducted through a reputed Government institute having expertise in the area.

xi. Identify the sand mining/ quarrying sites in submergence area and downstream of reservoir.

xii. Source of construction material and its distance from the project site along with detailed transportation plan for construction material be submitted.

xiii. A detailed reclamation/ restoration plan of quarrying site/sites be incorporated in the EIA/EMP report.

xiv. Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is located outside the Eco Sensitive Zone (ESZ) and no Wildlife Sanctuary falls within 10 km of Project site.

xv. A detailed wildlife conservation plan for Schedule –I species be prepared duly approved by the Chief Wild Life Warden be submitted.

xvi. In case any Wildlife Corridor is located within 10 km radius of the project site a detailed study shall be conducted to assess the impact of project on safe movement of wild animals.

xvii. Reservoir/ River banks protection plan all along the submergence need to be prepared and incorporated in EIA/ EMP.

xviii. Scope of watershed development in the 10 km radius of the project shall be studied in consultation with Govt. institutions/ Indian Council of Agriculture Research (ICAR)and accordingly a detailed Water Shed Development Plan shall be prepared and incorporated in EIA/ EMP report.

xix. MoU for water uses for the project shall be signed and approved by concerned authority.

xx. Environmental matrix during construction and operational phase needs to be submitted.

xxi. Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.

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

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

xxiv. Project impact on avi-fauna shall be studied and incorporated in EIA/ EMP report.

xxv. Impact assessment on the fish diversity based on the hydrological alteration at the water drawing sources shall be studied.

xxvi. Stage-1 Forest Clearance shall be obtained.

[B] Socio-economic Study

xxvii. Declaration by the project proponent by way of affidavit that "No" Inter-state issue/ policies issue is involved with any state in the project. Consent from other state for drawing of water from Narmada River, if required.

xxviii. 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.

xxix. 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.

xxx. Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.

[C] Muck Management/ Disaster Management

xxxi. Details of quantity of muck generation component wise and disposal site along with transportation plan and its monitoring to be provided.

xxxii. Details of Muck Management plan prepared along with estimated cost incorporated in EIA/ EMP report.

xxxiii. Techno-economic viability of the project must be recommended from CEA/ CWC

[D] Miscellaneous.

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

xxxv. Undertaking need to submitted on affidavit that regarding no activities has been yet on the project site and water allocated to this scheme shall not be diverted to other purpose.

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

xxxvii. 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.

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

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

Agenda Item No. 35.3

CHIREC Pumped Storage Project (75MW) at Chikni village, Tehsil Odagi, District Surajpur (Chhatisgragh) by M/s Venika Green Power Private Limited– Terms of Reference (TOR) - reg.

[Proposal No. IA/CG/RIV/401403/2022; F. No. J-12011/16/2022-IA.I (R)]

35.3.1 The project proponent did not attend the meeting. The EAC decided to defer the proposal.

The meeting ended with vote of thanks to the Chair.

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ANNEXURE-I

ATTENDANCE LIST

Sr. No.	Name & Address	Role	Attendance
1.	Dr. Uday Kumar R.Y.	Chairman	P
2.	Dr. A. K. Malhotra	Member	P
3.	Shri Ashok Kharya	Representative of CWC	P
4.	Dr. A. K. Sahoo	Representative of CIFRI	P
5.	Shri Yogendra Pal Singh	Member Secretary	P
6.	Dr Saurabh Upadhyay	Scientist C, MoEF&CC	P

APPROVAL OF THE CHAIRMAN

From: udaykumarry@yahoo.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Tuesday, October 25, 2022 12:11:25 PM
Subject: Re: Draft minutes of the 35th EAC (RIV&HEP) meeting held on 11.10.2021-reg

Dear Yogendra ji,

I approve the MOM of the 35th EAC (RV&HEP).

With Warm Regards
Udaykumar R.Y

Dr. Udaykumar R.Y, *SMIEEE*
Director (In-Charge) and Professor (HAG),
Dept. of EEE
NITK, Surathkal
Mangalore - 575 025, Karnataka, India
Former Director, MNIT-Jaipur

Cell: 9448147806
7410898000

Email: udaykumarry@yahoo.com

On Tuesday, October 25, 2022 at 10:47:02 AM GMT+5:30, Yogendra Pal Singh <yogendra78@nic.in> wrote:

Dear Sir,

The draft MOM of the 35th EAC (RV&HEP) was forwarded to all EAC members vide email dated 18.10.2022. No comments received so far.

Accordingly, the draft MOM are attached herewith for approval please.