

MINUTES OF THE 27TH MEETING OF THE EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 9TH MAY, 2022

The 27th 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 9th May 2022 through video conference under the Chairmanship of Dr. Uday Kumar R.Y. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No.27.1:

Confirmation of the Minutes of the 23rd EAC meeting

The Minutes of the 26th EAC (River Valley and Hydroelectric Projects) meeting held on 8^h April, 2022 were confirmed.

Agenda Item No. 27.2:

Kopra Medium Irrigation Project (48.43 MCM) in an area of 1044.72 Haat village Bagaspura Tehsil Rehli, District Sagar, Madhya Pradesh by M/s Water Resources Division No One Sagar - Terms of References (TOR) - reg.

[Proposal No. IA/MP/RIV/241400/2021; F. No. J-12011/07/2022-IA.I (R)]

27.2.1 The proposal is for Terms of Reference to Kopra Medium Irrigation Project (48.43 MCM) in an area of 1044.72 by M/s Water Resources Division No One Sagar located in village Haat village Bagaspura Tehsil Rehli, District Sagar, Madhya Pradesh.

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

(i) Dam is proposed with FRL 403.00 m, having design gross capacity 48.43 MCM, live capacity 41.24 MCM and dead storage 7.19 MCM. After construction of this dam, 9990 Ha area of Garhakota & Rehli tehsil of Sagar district will be irrigated through pressurized pipe irrigation system.

(ii) The details of the dam is as under:

Type Of Dam	Composite Dam
Total length including earthen bund Saddle 1NOS	1620.00 M 1470.00 M Length

Length of Spillway	82.50 M
Height	23.81 M
No. of openings	5 (1 Stand by Total 6)
Size Of Gates	11M X6.00 M
Crest Level	397.00 M
Thickness of Peir	2.75 M

(iii) There is 272.00 ha. forest land coming under submergence and 15.00 lakhs/Ha. cost is taken for compensation and catchment area treatment plan.

(iv) The scheme will irrigate the area of wheat Ord.- 3100 ha, gram ord – 6890 ha. Total Rabi of 9990 ha and so annual irrigation as 9990 ha with irrigation intensity as 100 %. The project has been designed for piped canal system up to 1.00 ha area and 85% efficiencies have been adopted.

(v) The dam is proposed on Kopra River near village Kopra which is a tributary of Sonar River. No historical flood data or flood damage has been observed in last 30 years. Peak flood at dam site for 100 years frequency comes out as 1597.69 Cumecs which is under safe carrying capacity of the river.

(vi) There is no power generation in this project.

(vii) Total cost of the project works out to Rs. 29238 Lakhs.

(viii) The project details as informed is mentioned as under:

I	Location	
	River	Kopra
	River Sub Basin	Ken
	River Basin	Yamuna
	Tribal/ Non Tribal	Non Tribal
	Distance From	60 Km From Sagar
	Probable Estimated Cost	292.37 Crore
	Irrigation Proposed	9990 Ha
	Cost Per Hectare	2.93 Lakh
II	Hydrology	
	Catchment Area	231.80 Sq.km
	Maximum Flood Discharge (SPF)	1597.69 Cumecs
	75% Dependable Yield	52.00 Mcum Intercepted yield 9.011 Net Yield 42.989 Mcum

	Proposed Design Flood	As per Norms
III	Reservoir Data	
	Gross Storage	48.43 Mcum
	Live storage	41.24 Mcum
	Dead Storage	7.19 Mcum
	Gross Area of Submergence at F.R.L	1044.52Ha
	Private Land	712.62 Ha
	Government Land	59.90 Ha.
	Forest Land	272.00Ha.
	No. of Village Submerged	1 No. fully & 12 Nos Only partial Land
IV	Dam Data	
	Type Of Dam	Composite Dam
	Total length including earthen bund Saddle 1NOS	1620.00 M 1470.00 M Length
	Length of Spillway	82.50 M
	Height	23.81 M
	No. of openings	5 (1 Stand by Total 6)
	Size Of Gates	11M X6.00 M
	Crest Level	397.00 M
	Thickness of Peir	2.75 M
V	Control Level	
	Top Level of Dam (TBL)	406.80 M
	Top Level of Dam Gates	403.00 M
	Creast Level	397.00 M
VI	Canal	
	Lenth of Rising Main (RM-1/RM-2)	7000 M/500M
	Max. Dia of Rising Main (RM-1/RM-2)	1.0M/1.3 M
	Length of Gravity Main (GM-1/GM-2)	7000M/13500M
	Max. Dia of Gravity Main (GM-1/GM-2)	1.10M/1.4 M
	Power Required.	1.98 MW
VII	Area Proposed Under Irrigatioin	9990 Ha.
	Annual Irrigation	9990 Ha.

	Crop Kharif	Nil
	Crop Rabi	9990 Ha.
	Crop Perennial	0
	Total	9990 Ha.
VII	Financial Aspects (Estimated Cost)	
	Unit -I Head Works	191.36 crore
	Unit -II Canal	101.01 crore
	Total	292.37 crore

27.2.3 The EAC during deliberations noted the following:

The proposal is for Terms of Reference to Kopra Medium Irrigation Project(48.43 MCM) in an area of 1044.72 by M/s Water Resources Division No One Sagar located in village Haat village Bagaspura Tehsil Rehli, District Sagar, Madhya Pradesh.

The project proponent and their consultant was not well prepared and was not able to give proper reply to the EAC. The project proponent has not done study on alternate site analysis, impact on forest and wildlife, cost-benefit study and various preliminary studies which is required to support the proposed project.

27.2.4 The EAC after detailed deliberation on the information submitted and as presented during the meeting expressed the opinion that following are the deficiencies which required for further consideration of the project. It was desired that PP may submit the below mentioned information:

- (i) Report on alternate site analysis.
- (ii) Report on impact of proposed project on forest and wildlife.
- (iii) Report on impact and benefits of the proposed project.
- (IV) Project PFR should be revised as per format prescribed in Office Memorandum No. J-11013/41/2006-IA.II (I) dated 30.12.2010.

The proposal was therefore **deferred** on the above lines.

Agenda Item No. 27.3:

Bhavali Pumped Storage Project (1500 MW / 11017 MWH) in an area of 256.16 ha, Village Jamunde (Tehsil Igatpuri) of district Nashik and Kalbhonde(Tehsil Shahpur) of District Thane by M/s JSW Energy PSP Two Limited - Terms of References (TOR) – reg.

[Proposal No. IA/MH/RIV/265129/2022; F. No. J-12011/08/2022-IA.I(R)]

27.3.1 The proposal is for Terms of Reference to Bhavali Pumped Storage Project (1500 MW / 11017 MWH) in an area of 256.16 ha by M/s JSW Energy PSP Two Limited Village Jamunde and Kalbhonde, Tehsil Igatpuri and Shahpur, District Nashik and Thane (Maharashtra).

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

(i) The Bhavali Pumped Storage project, conceived to have an installed capacity 1500 MW / 11017 MWH with 7.34 hours' storage capacity for peak power generation shall be located in District Nashik and Thane, Maharashtra. It will encompass an upper and a lower reservoir, to be located in natural depressions near ridge separating the two districts.

(ii) The MOU for setting up of the proposed Bhavali Pumped Storage Project (1500MW), a self-identified, green field project by M/sJSW Energy PSP TwoLtd., has been made on 14th day of September,2021, between Government of Maharashtra and M/s JSW Neo Energy Ltd.

(iii) The upper reservoir with gross and dead storage of 16.42 MCM and 6.51 MCM, proposed to be located in village Jamunde, Tehsil Igatpuri, District Nashik, shall be created by constructing 1035m long rockfill dam with maximum height of 48m from NSL. The lower reservoir with gross and dead storage of 11.33MCM and 1.42MCM respectively, proposed to be located in village Kalbhonde, Tehsil Shahpur, District Thane, shall be created by constructing 421m long rockfill dam with maximum height of 53m from NSL. The upper and lower reservoir are proposed with a live storage of 9.91 MCM. The project will generate 1500 MW by utilizing a design discharge of 374.60 cumec with rated head of 447.00m. The PSP will utilize 1584 MW to pump 9.91MCM of water from lower reservoir to the upper reservoir. The scheme of operation for the project is with 7.34 hours of peak power per day and 8.46 hours for pumping back the water through TRT-reversible turbines-pressure shaft-HRT to the upper reservoir. Water will be used cyclically for energy storage and discharge.

(iv) The project shall comprise of the following structures: -

- a) 48m high (from NSL) ,1035 m long and 10m wide at top upper rock fill dam.
- b) 53m high (from NSL) ,421 m long and 10m wide at top lower rock fill dam.
- c) 43 m(L) x40 m (W) x 13.0 m (H) Diffuser Intake
- d) 11 m diameter,1617.45m long Horse Shoe HR Tunnel designed for 374.58 cumec.
- e) Two 7.7m diameter, 185.16m long steel lined penstocks.
- f) Six 5.5m diameter, 43m long steel lined pressure shaftf

- g) Underground Powerhouse 135mx18mx50m
 - h) Six,5.5m diameter & 97.70m long converging into two of 7.70m diameter & 98 m long & one of 11.0m diameter & 158.615m long Horse Shoe TRT.
 - i) 73 m(L) x43 m (W) x 13.0 m (H) Diffuser Type Outlet structure
 - j) 6 number Francis Type(250MW), Vertical Shaft Reversible Pump Turbines
- (v) Land requirement: The total land requirement under the project for upper and lower rock fill dam, reservoir & other works, has been assessed as 256.16 ha of which private land is 43.51 ha, forest land 212.65 ha. The acquisition of the land shall be in consonance with “The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013”, (RFCTLARRA 2013).
- (vi) Kalsubai Harichandra gad Wildlife Sanctuary exists within 10 km of project boundary. However, no part of the project lies within Eco-sensitive zone of the Sanctuary. As per Annexure-C of Para -2 of MoEF Notification. 5135(E), dated 3rd October, 2018, village Jamunde (Tehsil Igatpuri) of district Nashik and Kalbhonde (Tehsil Shahpur) of district Thane fall within the Western Ghats Ecologically Sensitive Area. Though, as per Annexure C of MoEF&CC Notification dated 3rd October ,2018, the project villages Jamunde and Kalbhonde fall within the ESA of Western Coast, yet as per para 3, Note-(2 (a) of the Notification, New Hydropower projects shall be allowed provided they fulfill the stipulated conditions (i) through (iii) in respect of uninterrupted ecological flow.
- (vii) Project Cost: The total project cost has been estimated at Rs. 5723.30 Crore.

27.3.3 EAC during deliberations noted the following:

The proposal is for Terms of Reference to Bhavali Pumped Storage Project (1500 MW / 11017 MWH) in an area of 256.16 ha by M/s JSW Energy PSP Two Limited Village Jamunde and Kalbhonde, Tehsil Igatpuri and Shahpur, District Nashik and Thane (Maharashtra).

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.

Project area falls under forest land and 212.65 ha of land is required for Project Construction. Diversion of forest land for non-forest purpose will be involved for construction of Bhavali Pumped Storage Project components.

The proposal was earlier considered by the EAC in its 20th meeting held on 14th December, 2021. Wherein, the EAC after detailed deliberation observed that the information submitted by PP lacks certain information which are required for further consideration of the project and deferred the project for want of certain additional

information. The project proponent has now submitted a revised/ fresh proposal for terms of reference.

27.3.4 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 Bhavali Pumped Storage Project (1500 MW / 11017 MWH) in an area of 256.16 ha by M/s JSW Energy PSP Two Limited Village Jamunde and Kalbhonde, Tehsil Igatpuri and Shahpur, District Nashik and Thane (Maharashtra), 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, water uses for generation of hydro power and Ecological flows in the small stream/Nallah and Thandava and preference shall be given to minimize forest land.*
- ii. *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.*
- iii. *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.*
- iv. *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.*
- v. *Identify the sand mining/quarrying sites in submergence area and downstream of reservoir.*
- vi. *Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is located outside the Eco- sensitive Zone (ESZ) / Wild Life Sanctuary and no Tiger/elephant corridor/Critically polluted area falls within 10 km of Project site.*

- vii. *River bank protection plan all along the submergence need to be prepared and incorporated in EIA/EMP.*
- viii. *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.*
- ix. *Water uses for the project shall be approved by concerned authority.*
- x. *Environmental matrix during construction and operational phase needs to be submitted.*
- xi. *Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.*
- xii. *Endemic plant and animal species found in the area concerned shall be provided instead listing entire endemic species found in the State.*
- xiii. *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.*
- xiv. *Project impact on avi-fauna shall be studied and incorporated in EIA/EMP report.*
- xv. *Possibility impact assessment on the fish diversity based on the hydrological alteration at the water drawing sources (river /reservoir) shall be studied.*

[B] Socio-economic Study

- xvi. *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.*
- xvii. *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.*
- xviii. *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.*

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

[C] Muck Management / Disaster Management

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

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

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

[D] Miscellaneous.

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

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

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

xxvi. *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.*

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

Agenda Item No. 27.4:

Somasila Pumped Storage Hydroelectric Project (900MW), in an area of 183 ha located at village Racheypeta and Ramapuram, Tehsil Gopovaram Mandal, District Kadapa, Andhra Pradesh by M/s New and Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP) – Terms of Reference - reg.

[Proposal No. IA/AP/RIV/233871/2021; F. No. J-12011/15/2021-IA.I (R)]

27.4.1 The proposal is for terms of reference to Somasila Pumped Storage Hydroelectric Project (900MW), in an area of 183 ha by M/s New and Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP) at village Racheypeta and Ramapuram, Tehsil Gopovaram Mandal, District Kadapa, Andhra Pradesh.

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

(i) The proposal is for terms of reference to Somasila Pumped Storage Hydroelectric Project (900MW), in an area of 183 ha by M/s New and Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP) at village Racheypeta and Ramapuram, Tehsil Gopovaram Mandal, District Kadapa, Andhra Pradesh.

(ii) The project location falls on the left bank of existing Somasila Reservoir in NE direction with upper reservoir at geographical co-ordinate 14°38'4.12"N and 79°10'41.98"E and lower reservoir at geographical co-ordinate 14°39'14.09"N and 79°10'34.25"E.

(iii) The project is a standalone pumped storage scheme to meet the power requirements during the peaking time and to maintain grid stability. The scheme envisages drawl of water from existing Somasila reservoir for initial filling into the proposed lower reservoir through a pipeline arrangement. Both the reservoirs are planned to be interconnected through water conductor system and the reversible generator pump turbine would be installed in the underground powerhouse.

(iv) The scheme is envisaged to meet the peak demand of about 6 hours with an estimated annual energy generation of 1971.0 GWh. Off-peak pumping hours are estimated as 7.33 hours with annual pumping energy of 2409.0 GWh. The cycle efficiency of the project is 80.73%. The proposed Somasila Project is envisaged as a pumped storage scheme with traditional fixed speed synchronous motor/generator design.

(v) The proposed Somasila PSP (4x225MW) envisages construction of following civil structures:-

- 1. Upper Reservoir & Dam (Concrete Gravity Dam):** The Upper reservoir is located in the natural depression area having potential to create sufficient pondage by providing concrete gravity dam on both sides of depression area for creating the reservoir.
 - a. NorthFacingDam (Upper Intakeside)
 - b. SouthFacingDam
- 2. Upper Intake:** Two intake structure, one for each reservoir (Upper and Lower) consisting of four bays each of 3.75 m width to accommodate 17 numbers of trash rack panel of size 3.75mx2.5m, at the mouth of the intake.
- 3. Pressure Shaft:** 2Nos. 5.30m diameter 1305.45 and 1307.35m long steel lined pressure shaft bifurcating into 2nos. branch penstock of 3.75 m diameter

85.40m length leading to powerhouse.

4. **Surface Power House:** The overall dimension of the surface Power house is 122m (L)x23m (W)x52m(H).
5. **Tailrace Tunnel:** Four nos. tail race tunnel of 4.50m diameter from the down stream wall of machine hall merging with the twin main tailrace tunnel of 6.30m diameter.
6. **Lower Reservoir & Dam (Concrete Gravity Dam):** The lower reservoir is proposed by providing a concrete gravity dam only on one side. The maximum height of Concrete Gravity Dam is around 33.50m.
7. The Entire Project area falls under forest land and 212.46ha of land is required for Project Construction. Diversion of forest land for non-forest purpose will be involved for construction of Somasila project components. Therefore, Forest Clearance to be obtained under Forest Conservation Act.
8. Ecological Sensitive Area, if any within 10km of project site (WLS, Tiger/elephant corridor, Critically Pollute Area etc

The project components are proposed outside the Eco-Sensitive Zone (ESZ) of Sri Penusila Narasimha Wildlife Sanctuary (PNWLS), the pipeline for the initial filling of reservoir will be laid through the PNWLS. Thus, Wildlife Protection Act is applicable for this project and clearance / NOC to be obtained for this project from National Board for Wild Life (NBWL). ForestCoverintheStateis29,137.40 sqkmwhichis17.88%oftheState's geographical area. In terms of forest canopy density classes, the State has 1,994.22 sqkm under very Dense Forest (VDF), 13,938.36 sqkm under Moderately Dense Forest (MDF) and13,204.82sq km under Open Forest.

9. **BIODIVERSITY& WILDLIFE** - Andhra Pradesh forests are endowed with varied forest types, unique eco-systems, diverse habitats and biodiversity rich areas. Andhra Pradesh has 3 National Parks and 13 Wildlife Sanctuaries covering an area of 7,311.08 sq km which is about 4.49% of the geographical area of the State. It's store house of several unique and endemic flora and fauna which includes Pterocarpussantalinus(RedSanders), Cycas beddomi, Shorea tambaggia, Syzizium alternifolium, Terminalia pallida etc. It has fauna like Tiger, Gaur (Indian Bison), Great Indian Bustard, Lesser Florican, Jerdon's Courser, Golden Gecko, other avifauna like Flamingo, Pelican etc. It has the largest Tiger reserve in the country i.e Srisailam Tiger reserve, and the second largest Mangrove eco-system in the country (Godavari and Krishna Estuaries.) It has fauna like Tiger, Gaur (Indian Bison), Great Indian Bustard, Lesser Florican, Jerdon's Courser, Golden Gecko, other avifauna like Flamingo, Pelican etc.

- 10.** Inter-State Agreement on Sharing of Waters: Both the reservoirs of the project (Upper and Lower Reservoir) lie in the State of Andhra Pradesh. As such there is no Inter-state aspects involved in the development of the Project. As filling from the existing Somasila reservoir will be taken up during monsoon season when there is surplus water available; no impact on any international or national aspects is envisaged. There will be minor replenishment to compensate for the evaporation losses which will be taken up twice a year.
- 11.** The following configuration for the Turbine generator units has been adopted for the Project:

Description	Somasila PSP
Generating Capacity	900MW (4x225MW)
Turbine Type	Francis, Vertical Shaft
Generator Type	Vertical shaft, Synchronous generator, Suspended type
Rated Gross Head	371 m
Capital Cost (Excl.	Rs.2920.31Crores

27.4.3 The EAC during deliberations noted the following:

The proposal is for terms of reference to Somasila Pumped Storage Hydroelectric Project (900MW), in an area of 183 ha by M/s New and Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP) at village Racheypeta and Ramapuram, Tehsil Gopovaram Mandal, District Kadapa, Andhra Pradesh.

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.

Project area falls under forest land and 212.46ha of land is required for Project Construction. Diversion of forest land for non-forest purpose will be involved for construction of Somasila project components. The pipelines of the project will be passing through Sri Penusila Narasimha Wildlife Sanctuary (PNWLS).

The proposal was earlier considered by the EAC in its 18th meeting held on 28th October, 2021. Wherein, the EAC after detailed deliberation felt that the feasibility of site proposed in terms of Environmental issues is not appropriate as water will be drawn from forest Reservoir and pipelines will be laid through the Sri Penusila Narasimha Wildlife

Sanctuary. Alternative sites study shall be submitted in consultation of WII along with their comparison with selected proposed site by the PP, for further consideration in EAC.

The WII has submitted the Site inspection report vide letter dated 31st March, 2022 on assessment of alternative site.

27.4.4 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 Somasila Pumped Storage Hydroelectric Project (900MW) in an area of 183 ha by M/s New and Renewable Energy Development Corporation of Andhra Pradesh Ltd. (NREDCAP) at village Racheypeta and Ramapuram, Tehsil Gopovaram Mandal, District Kadapa, Andhra Pradesh, under the provisions of EIA Notification, 2006, as amended along with the following additional/specific ToR:

[A] Environmental Management and Biodiversity Conservation:

- i. 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.*
- ii. Sampling locations be located to cover villages situated near the reservoir and around boundary of Sri Penusila Narasimha Wildlife Sanctuary (PNWLS) for collection of baseline data and data to be incorporated in EIA/EMP report.*
- iii. Identify the sand mining/quarrying sites in submergence area and downstream of reservoir.*
- iv. Certificate and certified map from Chief Wildlife Warden shall be submitted mentioning that project boundary is located outside the Eco- sensitive Zone (ESZ) / Wild Life Sanctuary and no Tiger/elephant corridor/Critically polluted area falls within 10 km of Project site.*
- v. Impact on irrigation facilities to the villages coming inside of Sri Penusila Narasimha Wildlife Sanctuary (PNWLS) shall be studied.*
- vi. River bank protection plan all along the submergence need to be prepared and incorporated in EIA/EMP.*

- vii. *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.*
- viii. *Water uses for the project shall be approved by concerned authority.*
- ix. *Environmental matrix during construction and operational phase needs to be submitted.*
- x. *Matrix formulated on the basis of detailed study and field survey of flora and Fauna methodology used shall be mentioned in the EIA report.*
- xi. *Endemic plant and animal species found in the area concerned shall be provided instead listing entire endemic species found in the State.*
- xii. *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.*
- xiii. *Project impact on avi-fauna shall be studied and incorporated in EIA/EMP report.*

[B] Socio-economic Study

- xiv. *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.*
- xv. *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.*
- xvi. *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.*
- xvii. *Tentative no. of project affected families shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared.*

[C] Muck Management / Disaster Management

- xviii. *Details of quantity of muck generation component wise and disposal site along with transportation plan and its monitoring to be provided.*
- xix. *Details of Muck Management plan prepared along with estimated cost incorporated in EIA/EMP report.*
- xx. *Techno-economic viability of the project must be recommended from CEA/CWC*

[D] Miscellaneous.

- xxi. *Pre-DPR Chapters viz., Hydrology, Layout Map and Power Potential Studies duly approved by CWC /CEA shall be submitted.*
- xxii. *Undertaking need to submitted regarding no activities has been yet on the project site and water allocated to this scheme shall not be diverted to other purpose.*
- xxiii. *Both capital and recurring expenditure under EMP shall be submitted*
- xxiv. *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.*
- xxv. *Arial view video of project site shall be recorded and to be submit.*

The meeting ended with vote of thanks to the Chair.

ATTENDANCE

Sr. No	Name & Address	Role	Attendance
1.	Dr. UdayKumar R.Y.	Member (Chairman)	P
2.	Dr. A. K. Malhotra	Member	P
3.	Dr. Narayan Shenoy K.	Member	P
4.	Shri Sharvan Kumar	Member	P
5.	Dr. M. K. Sinha	Member	P
6.	Dr. J. A. Johnson	Representative of WII	P
7.	Dr. A. K. Sahoo	Representative of CIFRI	P
8.	Dr. A. K. Sahoo	Representative of CIFRI	P
9.	Shri Yogendra Pal Singh	Member Secretary	P
10.	Dr. Saurabh Upadhyay	Scientist C, MoEF&CC	P

APPROVAL OF THE CHAIRMAN

Yogendra Pal Singh via nic.in
to me ▾

Wed, Jun 1, 9:37 PM (17 hours ago) ☆ ↶ ⋮

From: udaykumary@yahoo.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Wednesday, June 1, 2022 7:42:03 PM
Subject: Re: Draft MOM of the EAC (RVHEP) 27th meeting held on 09.05.2022 for perusal and comments

Dear Yogendra ji,

I have read the draft MOM of 27th meeting held on 09/05/2022. I approve the MOM.

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