सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(River Valley and Hydroelectric Projects)
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Minutes of 50TH MEETING OF EXPERT APPRAISAL COMMITTEE meeting River Valley and Hydroelectric Projects held from 11/03/2026 to 11/03/2026 **Date:** 26/03/2026

MoM ID: EC/MOM/EAC/806317/3/2026

Agenda ID: EC/AGENDA/EAC/806317/3/2026

Meeting Venue: N/A

Meeting Mode: Virtual

Date & Time:

11/03/2026	10:30 AM	02:30 PM

1. Opening remarks

The 50th meeting of the 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 March, 2026 through virtual mode, under the Chairmanship of Prof. G. J. Chakrapani.

2. Confirmation of the minutes of previous meeting

The Minutes of the 49th EAC meeting held on 26th February, 2026 were confirmed.

3. Details of proposals considered by the committee

Day 1 -11/03/2026

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Veeraballi Off stream Closed Loop Pumped Storage Project by **ANNAMAYYA PUMPED STORAGE PROJEC**

T PRIVATE LIMITED located at **ANNAMAYYA,ANDHRA PRADESH**			
Proposal For		Fresh EC	
Proposal No	**File No**	**Submission Date**	**Activity Sub-Activity (Schedule Item)**
IA/AP/RIV/563180/2025	J-12011/07/2020-IA-I	29/12/2025	River Valley/Irrigation projects Standalone Pump Storage Projects (1(c))

3.1.2. Project Salient Features

50.1.1: The proposal is for grant of Environmental Clearance (EC) to the project for Veeraballi Closed Loop Pumped Storage Project (1800 MW) in an area of 489.91 ha at Village Vangimalla, Sub-District Veeraballe, District Annamayya, Andhra Pradesh from M/s Annamayya Pumped Storage Project Private Limited.

50.1.2: The Project Proponent and the accredited Consultant M/s R. S. Envirolink Technologies Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

ii. The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E and latitude is 14°11'19.58"N.

iii. The project will comprise of two reservoirs which are to be constructed newly

- The upper reservoir is proposed to be located on gorge portion of land which is suitable for creating the desired gross storage capacity of 0.504 TMC by doing excavation up to the desired level. Out of 0.504 TMC, the live storage capacity is 0.494 TMC and the dead storage capacity is 0.01 TMC by keeping FRL & MDDL at EL 690.00 m & EL 664.00 m respectively. For creating this storage for Upper reservoir on natural depression, it is proposed to construct rockfill embankment with average height of around 20 m (maximum height of 38 m) for the length of 2143 m.
- Similarly, the lower reservoir is proposed to be located in the flat/gradually sloping land which is suitable for creating the desired gross storage capacity of 0.563 TMC. Out of 0.563 TMC, the live storage capacity is 0.437 TMC and dead storage capacity is 0.126 TMC by keeping FRL and MDDL at EL 323.00m & EL 305.00m respectively. For creating this storage, it is proposed to construct rockfill embankment of the average height of 25 m (with maximum height of 41 m) for the length of 2591m.

iv. This Project envisages 0.437 TMC of water for recirculation among two proposed reservoirs for power generation. Water for operation of project will be lifted one time from existing nearby Mandavi River (which is located about 1.0 Km away from the proposed lower reservoir) and will be stored in the lower reservoir to be constructed and used cyclically for energy storage and discharge. Evaporation losses, if any will be recouped periodically from Mandavi River as well as through annual rainfall during monsoon period.

v. Scoping clearance of Veeraballi Pumped Storage Project of 2720 MW project was initially accorded by Ministry of Environment Forests and Climate Change (MoEF&CC), Government of India vide letter no. J-12011/07/2020-IA-I, dated: 13.07.2020. However, due to change in installed capacity and changes in configuration of project components, scoping clearance was amended for Veeraballi Closed Loop Pumped Storage Project with 1800 MW installed capacity by MoEF&CC vide letter dated 08.09.2022.

vi. After incorporation of new subsidiary M/s Annamayya Pumped Storage Project Private

Limited, application was submitted vide proposal number IA/AP/RIV/554978/2025 dated 15/10/2025 to MoEF&CC for transferring the TOR to M/s Annamayya Pumped Storage Project Private Limited. MoEF&CC granted the transfer of Terms of Reference as proposed from "M/s Astha Green Energy Ventures India Pvt Ltd." to "M/s Annamayya Pumped Storage Project Pvt. Ltd.", with ToR identification no. TO25A0000AP5537318T dated 03.11.2025.

S. No.	Project Components	Forest	Non-Forest	Total
1	Upper Reservoir & Road along reservoir	147.51	0.00	147.51
2	Lower Reservoir (Including TRC)	81.32	96.45	177.77
3	Approach Road			
I	Approach Road to Lower reservoir to Up per reservoir	23.53	0.00	23.53
II	Approach Road to Lower reservoir to Po werhouse	2.85	0.00	2.85
III	Approach Road to Project Components (i ncluding 0.40 Ha of underground area)	16.24	0.07	16.31
IV	Approach Road to Muck Disposal Area	0.00	0.84	0.84
V	Approach Road to Magazine	0.00	0.20	0.20
VI	Approach Road to Job Facilities	0.00	0.07	0.07
4	Adit (Underground)	0.29	0.00	0.29
5	Water Conducting System (WCS), Power house (PH)	57.28	0.00	57.28
6	Job Facilities Area	0.0	15.00	15.00
7	Muck Disposal Area-Site-1 & 2	0.0	45.00	45.00
8	Magazine	0.0	0.10	0.10
9	Pump House & Pumping Alignment	0.0	3.16	3.16
	TOTAL	**329.02**	**160.89**	**489.91**

Period	From January 2022 to October 2025
AAQ par ameters at 10 lo	Unit in mg/m^3

Core	Min	Max	Standards
PM 2.5	11.40	21.50	60

cations (min. & Max.)

PM_{10}	25.60	37.60	100
SO_2	4.50	5.60	80
NO_2	5.30	6.50	80
Buffer	**Min**	**Max**	
$PM_{2.5}$	13.80	27.90	60
PM_{10}	30.50	54.40	100
SO_2	5.10	6.00	80
NO_2	5.70	8.OO	80

Incremental GLC Level

Core Zone

Criteria Pollutant [PM_{10}, $PM_{2.5}$, SO_2, NO_x, Other parameters specific to the sector (Please specify)]	Unit [mg/m^3]	Baseline Concentration [A]	Predicted incremental value considering worst case stability class [B]	Total GLC [A]+[B]	
PM10	mg/m^3	34.3	10.29	44.59	
PM2.5	mg/m^3	15.1	4.53	19.63	
SOx	mg/m^3	4.7	5.64	10.34	
NOx	mg/m^3	5.7	6.84	12.54	

Buffer Zone

Criteria Pollutant [PM_{10}, $PM_{2.5}$, SO_2, NO_x, Other parameters specific to the sector (Please specify)]	Unit [mg/m^3]	Baseline Concentration [A]	Predicted incremental value considering worst case stability class [B]	Total GLC [A]+[B]	
PM10	mg/m^3	54.4	0	54.4	
PM2.5	mg/m^3	27.9	0	27.9	
SOx	mg/m^3	6.0	0	6.0	
NOx	mg/m^3	8.0	0	8.0	

River water samples (03 samples)

	Core Zone			
S. No	**Parameters**	**Min**	**Max**	**Standards**
1	pH	7.6	8.3	8.5
2	Total Dissolved Solids, mg/L	435.5	786.5	0
3	Dissolved Oxygen (mg/l)	5.1	7.4	6
4	Chloride (as Cl), mg/L	42.1	74.1	0
5	Total Hardness (as CaCO3), mg/L	274.4	323.2	0
6	Biological Oxygen Demand (mg/l)	2.1	4.5	2
7	Chemical Oxygen Demand (mg/l)	2.3	11.9	0
8	Total Coliform (MPN/100 ml)	75	340	50

Buffer Zone

S. No	**Parameters**	**Min**	**Max**	**Standards**
1	pH	7.8	8.2	8.5

2	Total Dissolved Solids, mg/L	533	730.6	0
3	Dissolved Oxygen (mg/l)	6.4	7.1	6
4	Chloride (as Cl), mg/L	45.3	52.1	0
5	Total Hardness (as CaCO3), mg/L	289.8	317.2	0
6	Biological Oxygen Demand (mg/l)	2.1	2.5	2
7	Chemical Oxygen Demand (mg/l)	2.2	7.7	0
8	Total Coliform (MPN/100 ml)	78	85	50

Pond water samples

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Ground water water samples quality at 10 location

Core Zone

S. No.	Parameters	Min	Max	Prescribed Limits	
1	pH	7.65	8.2	6.5	8.5
2	Total Dissolved Solids (mg/l)	1019	1343	500	2000
3	Chloride (as Cl) (mg/l)	72	107	250	1000
4	Total Hardness (as $CaCO_3$) (mg/l)	308.7	347.5	200	600
5	Fluoride (mg/l)	0.34	0.47	1.0	1.5

Buffer Zone

S. No.	Parameters	Min	Max	Prescribed Limits	
1	pH	7.58	8.3	6.5	8.5
2	Total Dissolved Solids (mg/l)	802	1278	500	2000
3	Chloride (as Cl) (mg/l)	62	90	250	1000
4	Total Hardness (as $CaCO_3$) (mg/l)	273.4	335.6	200	600
5	Fluoride (mg/l)	0.33	0.46	1.0	1.5

Noise levels Leq (Day & Night) at 10 locations

Noise Level	Zone	Leq Day dB(A)		Leq Night dB(A)		Prescribed Limits	
		From	To	From	To	Day	Night
Core	Residential	45.2	55.4	35.0	42.7	55	45
Buffer	Residential	45.2	55.8	35.0	43.0	55	45

Soil Quality at 10 Locations

Core Zone

S. No.	Parameters	Min	Max	Prescribed Limits
1	Calcium (mg/kg)	135	243	500
2	Magnesium (mg/kg)	107	139	500
3	Nitrogen (kg/ha)	130	203	500
4	Phosphorus (kg/ha)	11.9	40.8	50
5	Potassium (kg/ha)	227	516	500
6	Carbon (%)	0.34	0.59	1
7	Sodium Absorption Ratio	2.16	3.7	10
8	Salinity (ppt)	0	0	0.01
Buffer Zone				
1	Calcium (mg/kg)	97	138	500
2	Magnesium (mg/kg)	83	151	500
3	Nitrogen (kg/ha)	146	257	500

	4	Phosphorus (kg/ha)	14.9	42.5	50
	5	Potassium (kg/ha)	173	372	500
	6	Carbon (%)	0.37	1.0	1
	7	Sodium Absorption Ratio	1.86	3.2	10
	8	Salinity (ppt)	0	0	0.01
Flora & Fauna	Schedule-I species observed in the study area: As per Wildlife Protection Amendment Act, 2022, Sambar, Barking Deer, Jungle Cat, Jackal, Common Leopard, Grey Mongoose, Ruddy Mongoose, Sloth Bear, Small Indian Civet, Asian Palm Civet, Bonnet Macaque, Indian crested Porcupine, Black-winged Kite are the species listed under Schedule-I.				

Issues/Comments/Observations	Reply by the User Agency
Rightful compensation for land to be acquired from *Patta* and *DKT Patta* lands holders and farmers using government land.	Land Compensation shall be as per Provisions of "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act" (RFCTLARR) 2013 involving direct negotiations with the landowners under monitoring of district administration.
Employment opportunities in the proposed project to villagers As per State Government policy 75% Employment to local people.	Priority will be given to the affected local villagers in employment based on the requirement, eligibility and skills.
Supply water from Irrigation requirements	Water from proposed project cannot be provided for irrigation facilities as water was allocated for power generation purposes only.
Effect of drawing of water from Mandavi River. Water scarcity will arise in the surrounding villages due to digging of borewells for the water requirement of proposed project. Sand extraction from riverbed of Mandavi River will result in reduction of water level thereby causing scarcity and affect the health of villagers.	Water requirement of 0.5 TMC for the operation of proposed project will be met from the surplus available water from Mandavi River, as allotted by the state government.
Wastewater generated due to operation of proposed project will con	There will not be any water pollution in the proposed project as water will be pumped from lower to up

Issues/Comments/Observations	Reply by the User Agency
taminate the ground water will aff ect the crops health.	per reservoir and pumped back and there will be no i ndustrial wastewater generation from the proposed project.
Blasting activities in the proposed project might affect the cattle hou ses and inconvenience to the villag ers.	Controlled blasting will be carried out during the co nstruction phase of the project.
Development of plantation includi ng medicinal plant around the proj ect area. Forest land to be acquired should be compensated by means of affor estation as per law.	Planation will be carried out in the surrounding with the CSR funds as suggested in the public hearing an d further stated that for the trees and plants remove d for development of the project, compensatory aff orestation will be taken up at a suitable location.
Provision for Skill Development ce ntres for youth to improve the em ployment opportunities.	Skill development training will be imparted to local y outh to improve their employment opportunities in th e project.
Project authorities involve village r epresentatives and local people an d consider their suggestion regardi ng development in the project are a.	The management will take measure to avoid any inc onvenience due to development of the project with duly taking the suggestions expressed by the gather ing into consideration.

EAC meeting/s	50th
Date of Meeting/s	11.03.2026
Date of earlier EAC meetings	ToR : 15.05.2020 ToR amendment: 29.07.2022

Name of the Proposal	Veeraballi Off-stream Closed Loop Pumped Storag e Project (OCPSP) (1800 MW)
Proposal No.	IA/AP/RIV/563180/2025
Location (Including Coordinates)	Vongimalla village, Annamayya District, Andhra Pra desh The geographical co-ordinates of the proposed up per reservoir are at longitude 78°52'19.26"E and la titude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E and latitude is 14°1

	1'19.58"N.
Company's Name	M/s. Annamayya Pumped Storage Project 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)	The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E latitude is 14°11'19.58"N
Inter- state issue involved	No
Proposed on River/ Reservoir	Not across any river
Type of Hydro-electric project	Off-stream Closed Loop Pumped Storage Project (OCPSP)
Seismic zone	Zone-II
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
ToR Proposal No. (TOR/Amendment/Transfer)	IA/AP/RIV/152122/2020 (TOR) IA/AP/RIV/281327/2022 (TOR amendment) IA/AP/RIV/554978/2025 (TOR transfer)
EAC meeting date (TOR/Amendment)	15.05.2020 (TOR) 29.07.2022 (TOR amendment) 15.10.2025 (TOR transfer)
ToR Letter No.	J-12011/07/2020-IA-I (TOR) J-12011/07/2020-IA-I (R) (TOR amendment) J-12011/07/2020-IA-I (TOR transfer) ToR identification no. TO25A0000AP5537318T dated 03.11.2025
ToR grant Date	13th July, 2020 (TOR)

	8th September 2022 (TOR amendment) 3rd November 2025 (TOR transfer)
Cost of project	8238.14 Cr.
Total area of Project	489.91 Ha
Height of Dam from River Bed (EL)	Upper reservoir-Height of Embankment max-38 m & avg ht-20 m Lower Reservoir- Height of Embankment max-41 m & avg-25 m
Details of Submergence area	The submerged area of the upper reservoir is 147.5 1 Ha and that of the lower reservoir is 177.77 Ha
District to provide irrigation facility (if applicable) NA	
Details of tunnels on upper level & lo wer level and length of canal (if applic able)	277 m
No. of affected Village.	1
No. of Affected Families	169
Project Benefits	The Project is a renewable green source of energy and helps to reduce carbon foot print, will create di rect and in-direct economic opportunities like empl oyment opportunities petty work contracts, machin ery hiring, business opportunity etc., Infrastructure development contracts (roads, retaining walls etc.), Local area development and community developme nt activities like education, health, drinking water, b asic amenities, livelihood enhancement, transportat ion, road network and other infrastructure will impr ove etc.
R&R details	The entire private land and Govt. assigned land iden tified for the project falls in one revenue village na mely Vongimalla under Tehsil/ Mandal-Veeraballi (V eeraballe) in Annamayya District of Andhra Pradesh. The above private and Govt assigned land proposed for procurement belongs to a total of 169 land ow ner families (74 nos patta land holders and 95 nos govt assigned land owners). All the 169 families wil l be losing part of their agricultural land and none o f the families will be losing any house or any other assets. Private land identified for the project will be acquired as per Section 2 and Part (a) of Sub-Secti on 3 of The Right to Fair Compensation and Transp

	arency in Land Acquisition, Rehabilitation and Reset tlement Act (RFCTLARR), 2013.
Catchment area/ Command area	NA
Types of Waste and quantity of genera tion during construction/ Operation	Net Quantity of Muck to be rehabilitated/disposed-off is estimated to be 10.62 MCUM
Material used for blasting and its comp osition as per DGMS standards.	NA
E-Flows for the Project	NA
Is Projects earlier studies in Cumulative Impact assessment & Carrying Capacit y 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 Basi n. b) If not the E-Flows maintain criteria f or sustaining river ecosystem.	NA
Details on provision of fish pass	NA
Project benefit including employment details (no of employee)	3600 persons may be engaged. Out of 3600 nos. t he majority of about 2400 nos. will be from the loc al population/surrounding Villages and balance pers ons of about 1200 nos. will be skilled/ semiskilled f rom other area.
Area of Compensatory Afforestation (CA) with tentative no of plantation.	Area of Compensatory Afforestation (CA)-330 Ha with 3,30,000 no. Plantation.
Previous EC details	Nil
No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign	
Powerhouse Installed Capacity	1800 MW
Generation of Electricity Annually	3799 MU
No. of Units	7 nos. (5 X 300 MW + 2 x 150 MW)
No. of proposed disposal area/ (type o f land-Forest/Pvt. land)	
Cross section of proposed muck area,	The total height of filling requirement is for Muck D

Height of muck with slope.	isposal Site – 1 & 2 are 30 m & 28 m respectively f rom ground level and the muck that needs disposal would be piled at Ø (angle of repose) maximum of 30° at the proposed dumping site
Distance of muck disposal area (locati on), from muck generation sources (pr oject area)/River, HFL of proposed mu ck disposal area.	610 meters
Total Muck Disposal Area	45 Ha
Estimate Muck to be generated	10.62 MCUM
Transportation	By road
Monitoring mechanism for Muck Dispo sal	Properly covered Dumper trucks will be used
Private Land	24.82 Ha
Government land assigned land	119.84 Ha
Government land	16.23 Ha
Forest Land	329.02 Ha
Total Land	489.91Ha
Submergence area/Reservoir area	325.28 Ha
Additional information (if any)	-

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

	<table><tr><th>Parameters</th><th>Winter</th><th>Summer/ Pre-Monsoon</th><th>Monsoon</th><th>Additional study [1]</th></tr><tr><td>Soil</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Air Environment</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Noise & Traffic</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Water Quality</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Vegetation</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Fauna surveys</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr><tr><td>Socio-economic survey</td><td colspan="4">July-August 2022</td></tr></table>

Particulars	Letter no. and date
Status of Stage-I FC	PSC-I meeting held on 31.12.2025
Approval of Central Water Commission	-
Approval of Central Electricity Authority	-
Additional detail (If any)	

S. No.	Component of EMP	Capital Cost (Rs. in lakh)	Recurring Cost (Rs. in lakh)				Total Cost (Rs. in lakh)
			Year 1	Year 2	Year 3	Year 4	
1	Biodiversity Conservation & Wildlife Conservation Plan	323.00	0.00	0.00	0.00	0.00	323.00
2	Fisheries Development Plan	28.00	8.00	8.00	8.00	6.00	58.00
3	Muck Dumping and Management Plan	0.00	578.23	416.98	375.00	287.73	1657.94
4	Landscaping, Restoration of Construction Sites	5.00	15.28	130.00	170.90	110.00	431.18
5	Sanitation and Solid Waste Management Plan	207.00	39.40	33.40	32.40	27.40	339.60
6	Public Health Delivery System	115.00	47.00	47.00	47.00	42.00	298.00
7	Energy Conservation Measures	73.00	63.50	62.50	62.50	62.50	324.00

S. No.	Component of EMP	Capital Cost (Rs. in lakh)	Recurring Cost (Rs. in lakh)				Total Cost (Rs. in lakh)
			Year 1	Year 2	Year 3	Year 4	
8	Labour Management Plan	70.00	14.00	29.00	29.00	29.00	171.00
9	Green Belt Development Plan	12.50	3.00	9.00	19.00	13.00	56.50
10	Disaster Management Plan	200.00	27.50	47.50	37.50	37.50	350.00
11	Pollution Mitigation Measures	0.00	25.00	25.00	25.00	25.00	100.00
12	Environmental Monitoring Program	0.00	26.94	38.94	38.94	38.94	143.76
	Other Components						
13	Rehabilitation and Resettlement Plan*	929.50	12.50	12.50	12.50	12.50	979.50
14	Local Area Development Plan	270.00	327.50	621.00	558.00	223.50	20000.0

S. No.	Component of EMP	Capital Cost (Rs. in lakh)	Recurring Cost (Rs. in lakh)				Total Cost (Rs. in lakh)
			Year 1	Year 2	Year 3	Year 4	
							0
	Total	2233.00	1187.85	1480.82	1415.74	915.07	7232.48

S. No	Forest Components#	Capital Cost (Rs. In lakh)
1	Compensatory Afforestation	11515.70
2	Net Present Value (NPV)	3,152.01
		14,667.71

[1] *Since the original baseline data collected in 2022 are now over three years old, therefore in compliance with the OM issued by the MoEF&CC dated June 8, 2022, sampling was carried out during the post-monsoon season (October 2025) to revalidate the earlier findings. The revalidated data have been incorporated in* ***Annexure VII*** *of the EIA Report.*

3.1.3. Deliberations by the committee in previous meetings

Date of EAC 1 :09/01/2026

Deliberations of EAC 1 :

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

3.1.4. Deliberations by the EAC in current meetings

The EAC during deliberations noted the following:

· The Expert Appraisal Committee (EAC) deliberated on the information submitted by the Project Proponent and the details presented during the meeting. The Committee observed that the proposal pertains to the grant of Environmental Clearance for the Veeraballi Closed Loop Pumped Storage Project (1800 MW) in an area of 489.91 ha at Village Vangimalla, Sub-District Veeraballe, District Annamayya, Andhra Pradesh from M/s Annamayya Pumped Storage Project Private Limited.

· The project falls under Item 1(c) of the Schedule to the Environmental Impact Assessment (EIA) Notification, 2006, and is categorized as a Category 'A' project, which requires appraisal at the Central level by the Expert Appraisal Committee (EAC).

· The Terms of Reference (ToR) for conducting EIA/EMP study and Public Hearing of the Veeraballi Closed Loop Pumped Storage Project was granted by the MoEF&CC vide letter no. J-12011/07/2020-IA-I, dated 13.07.2020. Subsequently, amendment in ToR due to change in installed capacity and changes in configuration of project components was granted by MoEF&CC vide letter dated 08.09.2022. Further, MoEF&CC granted the transfer of Terms of Reference as proposed from "M/s Astha Green Energy Ventures India Pvt Ltd." to "M/s Annamayya Pumped Storage Project Pvt. Ltd.", vide letter dated 03.11.2025.

· The EAC, constituted under the provisions of the EIA Notification, 2006, and comprising expert members/domain experts from various relevant fields, examined the proposal submitted by the Project Proponent. This examination included a review of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports, which were prepared and submitted by a QCI/NABET-accredited consultant on behalf of the Project Proponent.

· The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

· The EAC noted that the total land requirement is about 489.91 ha for the construction of various project components, out of which 329.02 ha is forest land and 160.89 ha is non-forest land. However, for diversion of 329.02 ha of forest land, online application has been submitted to MoEF&CC vide proposal No.: FP/AP/HYD/IRRIG/548268/2025 dated 23.12.2025 and it is still pending.

· During the deliberations on the land requirement for the proposed project, the EAC observed that the proposed width of the approach roads appears to be larger than what may actually be required for the project. The Committee further noted that such a wide road width may not be necessary, particularly after the commissioning of the project. It was further observed that the road width, particularly along straight stretches, can be reduced to 7 meters without any technical constraints, while additional widening may be limited to hairpin bends or U-turns. Such optimization would help in minimizing forest land diversion and saving a significant number of trees. Accordingly, the EAC suggested that the PP should re-examine and optimize the land requirement for the proposed project, particularly with respect to the land proposed for the approach roads.

· Further, the Committee noted that the PP had obtained an amendment in the Terms of Reference (ToR) vide letter dated 08.09.2022, wherein the proposal submitted by the PP indicated that the total land requirement for the project was 464.67 ha, comprising 323.77 ha of forest land and 140.90 ha of non-forest land. However, upon comparison with the EIA/EMP report submitted by the PP, it was observed that the total land requirement has increased from 464.67 ha to 489.91 ha. Accordingly, the EAC suggested that the PP should obtain the necessary amendment in the ToR from MoEF&CC to reflect the revised land requirement. The Committee also advised the PP to clarify the land area that was considered and presented during the public hearing process.

· The Committee noted that One time filling of the reservoir will be done by water from Mandavi River (0.437 TMC); thereafter water will remain in-circulation and only evaporation losses will be compensated by intermittent additional filling. Further, Hydrology Study for Veeraballi

PSP was approved by CWC vide letter No. T-11012/3/2023- HYD(S) DTE on 23.09.2023.

· The EAC deliberated on the Biodiversity Management and Wildlife Conservation Plan, including conservation measures for Schedule-I species, which has been prepared and submitted to the State Forest Department for approval. The Committee noted that the proposed plan was submitted by the PP on 23.01.2024. Subsequently, the Forest Department, vide its letter dated 13.02.2024, provided comments and suggested submission of a revised proposal. In response, the PP submitted the revised Biodiversity Management and Wildlife Conservation Plan vide letter dated 30.09.2024. The approval of the revised plan is presently awaited from the State Forest Department.

· The EAC noted that the estimated project cost is Rs 8238.14 Crore. Total capital cost earmarked towards Environment Management Plan along with Recurring cost will be about Rs. 7232.48 lakh. Additionally, the EAC noted that an amount of ₹ 14,667.71 lakh has been earmarked towards Compensatory Afforestation and Net Present Value (NPV).

· The committee observed that the Public Hearing for the proposed project has been conducted by the State Pollution Control Committee on 06.01.2023 at adjacent to Mandal Parshad Primary School, Kallevandlapalle, Diguvarachapalle Village, Mandal: Veeraballi.

· Publications of notice for public hearing were given in state/national level Telugu newspaper “Sakshi” and English newspaper “The Hindu” dated 05.12.2022. The EAC discussed the concerns raised during the Public Hearing (PH) and reviewed the action plan submitted by the PP to address these issues. After detailed deliberation, the Committee found the action plan satisfactory, recognizing that the proposed mitigation measures adequately respond to stakeholders' concerns.

· The EAC during the meeting, noted that the Power Potential Studies for 1800 MW Veeraballi PSP was accorded by Central Electricity Authority for investigation vide letter No.CEA-HY12-29/3/2023-HPA Division dated 16.06.2023. However, the EAC raised serious concerns regarding the approval of the Layout Map. In response, the PP informed that the tentative layout approval had been obtained from the Hydel Civil Design Division, CWC, vide letter dated 10.10.2023. Upon further enquiry, the PP submitted that the Ministry of Power, Government of India, vide Notification S.O. 3561(E) dated 01.08.2025, has exempted off-stream closed-loop Pumped Storage Projects (PSPs), irrespective of capital expenditure, from the requirement of concurrence from the CEA, due to which several proposals were returned including Veeraballi Closed Loop Pumped Storage Project. However, the Committee expressed displeasure that the PP had not approached CEA for obtaining the necessary technical clearances, including final Layout approval as per condition mentioned in HCD letter, particularly in view of the MoP O.M. dated 29.08.2025, wherein it has been clarified that although concurrence is not mandatory for the exempted categories, developers may still approach CEA for DPR appraisal on a voluntary basis.

· The Committee observed that provision of a cleaning and rejuvenation of local water bodies, including village ponds, is a pressing need. The EAC advised to prepare an action plan for restoration/rejuvenation of water bodies in the study area in consultation with gram panchayats and revise Environment Management Plan accordingly.

50.1.4 The EAC after examining the information submitted and detailed deliberations **deferred** the project on want of following information:

i. PP shall submit comparison chart showing changes in project parameters/components from the proposal for which Terms of Reference granted vide letter dated 13.07.2020 from MoEF&CC and clarify on the stamp duty that the details of land area and other changes were considered and presented during the public hearing process.

ii. PP shall explore the possibilities to reduce land requirement for Approach Roads specifically forest land.

iii. PP shall submit approved Biodiversity and Wildlife Conservation and Management Plan, along with a Conservation Plan for Schedule-I species from State Forest Department.
iv. Layout Map appraised by CEA shall be submitted.
v. PP shall revise Environment Management Plan with addition of action plan and budget outlay for restoration/rejuvenation of village ponds/ water bodies in the study area.
vi. PP shall submit present status of Stage-I Forest Clearance.
The proposal was ***deferred*** on the above lines.

3.1.5. Recommendation of EAC

Deferred for ADS

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Saundatti IRESP - Storage Project by **Greenko KA01 IREP Private Limited** located at **BELAGAVI,KARNATAKA**			
Proposal For		Fresh ToR	
Proposal No	**File No**	**Submission Date**	**Activity Sub-Activity (Schedule Item)**
IA/KA/RIV/571168/2026	J-12011/11/2018-IA.I-(R)	06/03/2026	River Valley/Irrigation projects Standalone Pump Storage Projects (1(c))

3.2.2. Project Salient Features

50.2.1 The proposal is for grant of Terms of Reference (ToR) to the project Saundatti (1200 MW to 1600 MW) (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited.
50.2.2 The Project Proponent and the accredited Consultant M/s R. S. Envirolinks Technologies Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:
i. Saundatti HEP (Integrated Renewable Energy Project with Pumped Storage Project) near village Karlakatti, Tehsil Saundatti in Belagavi District of Karnataka being implemented by M/s Greenko KA01 IREP Private Limited (SPV of Greenko Solar Energy Private Limited) has been granted Environmental Clearance vide letter dated 19-09-2022; corrections/amendment in EC vide 24-03-2023 and Forest Clearance (Stage II) vide letter dated 21-08-2024 by MoEF&CC, New Delhi and Transfer of Environmental Clearance from M/s. Greenko Solar Energy Private Limited to M/s. Greenko KA01 IREP Private Limited was granted on 10.03.2025 and the execution of the project is in progress
ii. Due to the power supply requirements and demand from various State DISCOMs/STUs, to meet Off-peak hrs supply as well as peak supply around 6 hr, on daily basis, M/s Greenko KA01 IREP Private Limited (GKA01) has proposed to change the peak operation hours from 11.60 hours to 5.66 hours, Keeping this in view, the project installed capacity is optimized to 1600 MW, with 5.66 hours of peak operation duration and 9056 MWH as storage capacity.

iii. Irrigation Department of State Govt, while granting water allocation vide GO Number: WRD 23 MPZ 2023, dated March 28, 2024), has mandated the construction of a new lower reservoir as a prerequisite for allocating water to the PSP. Further, as part of the Stage I Forest Clearance, the Environmental Management & Policy Research Institute (EMPRI) of the Government of Karnataka conducted a study on the aquatic fauna of Renuka Sagar Reservoir. EMPRI's report recommended creation of separate lower reservoir to mitigate the impact on fisheries, if any. Accordingly, PP had explored various options and envisaged construction of new lower reservoir.

iv. The project components as proposed earlier for 1260 MW and the location remains unchanged for 1600 MW. However, there are slight changes in FRL & MDDL levels, dimensions of structures, rated head due to change in project capacity, unit size of machine, discharge requirements, generation hours and associated storage requirements which are as under: -

· While the location of the Upper Reservoir remains unchanged, the height and length of the Dam has been reduced considering the lesser storage requirements (Gross Storage of 0.735TMC required now as against 1.032 TMC proposed earlier) due to reduced generation hours. The earlier proposed Upper Reservoir with 38.00 m high, 5177m long Rock Fill Dam with central clay core has now been revised to 42m high, 4605m Geomembrane Faced Rockfill Dam (GFRD). The FRL & MDDL of Upper reservoir has been revised from EL +855.00 m & EL +825.00 m respectively to EL + 854.00 m & EL + 829.00 m respectively. The present proposed Dam and reservoir lies within the footprint of the earlier proposed Dam and reservoir and therefore geologically there is no change.

· Instead of the earlier proposal of using the existing Renuka Sagar reservoir as the Lower Reservoir, it is proposed to construct a new Lower Reservoir just adjacent to the existing Renuka Sagar reservoir. Geomembrane faced Rockfill Dam (27m high and 5237m long) has been proposed for the Lower Reservoir which is now to be constructed. The FRL & MDDL of Lower reservoir has been revised from EL +633.83 m & EL +623.93 m respectively (for existing Renuka Sagar reservoir) to EL + 654.00 m & EL + 631.00 m respectively (for now proposed Lower reservoir to be constructed newly). This project is one of its kind because the proposed upper and lower reservoirs are not located on any river course and are faraway from any river course.

· The water conductor system is aligned within the earlier proposed corridor of 150 m width except at the tail end of TRT which is realigned to connect to the proposed new Lower reservoir, and the other change is being in the penstock diameter which is now proposed to be 5nos. of 7.1m diameter as against 5nos. of 6.0m proposed earlier due to revised discharge requirements as per revised capacity and rated head. The location of the water conductor system remains geologically unchanged.

· Further for the 1600 MW, the machine unit size has been changed to (320MW x 4 + 160MW x2) from the earlier proposed for 1260 MW (252MW x 4 +126MW x 2). The size of Powerhouse including Service Bay has accordingly been revised from (200.00m (L) x 24.00 m (W) x 51.12 m (H)) to (207 m (L) X 25.5 m (W) X 51.20 m(H)). The location of the Powerhouse remains unchanged and therefore geologically there is no change.

· It is proposed that One-time requirement of 0.759 TMC of water will be lifted from existing nearby Renuka Sagar reservoir and will be stored in the reservoirs to be constructed and used cyclically for energy storage and discharge. Evaporation losses of water will be recouped periodically from existing nearby Renuka Sagar reservoir based on the requirement.

v. The total capacity of proposed PSP is 1600 MW (9056 MWH) and envisages non-consumptive re-utilization of 0.683 TMC of water for recirculation among the proposed upper reservoir are at latitude 15°51'21.84" N North and longitude is 75°00'19.50" E East and that of lower reservoir are at latitude 15°50'46.62" N North and longitude 75°00'24.67" E East. Water from Renuka Sagar reservoir will be pumped and stored in the lower reservoir which will be used for power generation by re- circulating between Upper Reservoir & Lower Reservoir.

vi. **Chronology of Approvals/Clearances:**

Sl. No.	Activity	Date	IC (MW)	Remarks
1	Proceedings of Government of Karnataka for 600 MW PSP and Water Allocation (1 TMC)	12/03/2018	600	In favour of Greenko Solar Energy Pvt. Ltd.
2	Scoping Clearance/ TOR	18/05/2018	1200	TOR was issued to Greenko Energies Private Limited
3	Corrigendum in TOR	06/07/2018	1200	Entity Name correction from Greenko Energies Private Limited to Greenko Solar Energy Private Limited (GSEPL)
4	Amendment of TOR	25/09/2018	1260	Due to increase in capacity from 1200 MW to 1260 MW; a surface powerhouse instead of underground and corresponding changes in other project parameters including changes in land requirement.
5	Public Hearing	07/01/2019	1260	PH was conducted at Karlakatti Village, Yakkundi panchayat, Saundatti Hobli Taluk, Belagavi district, Karnataka. Meeting was chaired by District Collector, Belagavi.
6	Proceedings of Govt. of Karnataka for 1260 MW PSP	27/02/2019	1260	Increase in capacity from 600 MW to 1260 MW
7	EC recommendation	25/04/2019	1200	EAC recommendation of environmental clearance subject to certain conditions vide MoEF&CC letter to Greenko Solar

				Energy Private Ltd.
8	Proceedings of Gov ernment of Karnata ka for 1260 MW PSP	24/08/2020		Entity Name Change f rom GSEPL to Greenk o KA01 IREP Pvt Ltd
9	Stage I forest Clearance for 160.4 0 ha of forest land	12/07/2022	1260	In favour of Greenko Solar En ergy Pvt. Ltd.
10	Environment Cleara nce	19/09/2022	1200	In favour of Greenko Solar En ergy Private Limited
11	Correction in Environment Cleara nce	24/03/2023	1260	In favour of Greenko Solar En ergy Private Limited
12	GO from Water Res ource Department	28/03/2023	1260	Approval of 1 TMC water fro m Renuka Sagar Dam
13	Proceedings of Gov t. of Karnataka for 1 600 MW PSP	14/03/2024	1600	In favour of Greenko KA01 IR EP Private Limited
14	Renuka Sagar Dam NOC	22/05/2024	1260	
15	Fisheries NOC	23/05/2024	1260	
16	Stage II forest Clear ance for 160.40 ha of forest land	21/08/2024	1260	In favour of Greenko Solar En ergy Pvt. Ltd.
17	Consent to Establis h (CTE)	20/09/2024	1260	In favour of Greenko Solar En ergy Pvt. Ltd. Valid for a perio d of 10 years from the date o f issue.
18	IRO Report	30/10/2024	1260	IRO EC compliance verificatio n site report.
19	Transfer of EC in fa vour of Greenko KA 01 IREP Pvt Ltd	10/03/2025	1260	In favour of Greenko KA01 IR EP Private Limited
20	Amendment to CTE order (change of na	17/03/2025	1260	Name changed to Greenko K A01 IREP Private Limited appl

	me)			ied
21	Transfer of FC in favour of Greenko K A01 IREP Pvt Ltd	11/04/2025	1260	In favour of Greenko KA01 IR EP Private Limited applied

Total private land required for the project	147.02 ha
Total Landowners identified for 147.02 Ha	153 Nos.
Land purchase already completed	88.26 ha
No. of landowners whose land purchase is settled	78 Nos.
Remaining land in the process of purchase	58.76 Ha
No. of Landowners for remaining land	75 Nos.

Name of the Proposal	Saundatti IRESP
Location (Including coordinates)	The project is located in Karlakatti Village, Saundat ti Tehsil, Belagavi District in the state of Karnataka
Inter- state issue involved	No
Seismic zone	

Category of the project	1 (c)
Capacity / Cultural command area (CCA)	1600 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	NA

Powerhouse Installed Capacity	1600 MW
Generation of Electricity Annually	3139.42 MU
No. of Units	4×320 + 2×160
Additional information (if any)	NA

Cost of project	11015.98 Crore
Total area of Project	307.42 Ha
Height of Dam from River Bed (EL)	42 m for Upper reservoir & 27 m for Lower reservo ir

Length of Tunnel/Channel	652.18 m
Details of Submergence area	258.34 Ha
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 17.88 Mcum
E-Flows for the Project	NA
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.	NA
No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign	

No. of proposed disposal area/ (type of land- Forest/Pvt land)	Non-Forest Land – 65.14 Ha, comprising of 7 Muck disposal site (The land is not considered under this project as this land is available with project proponent for Solar Project)
Muck Management Plan	The total quantity of muck generated is 17.88 Mcum, in which 10.34 Mcum of excavated muck is expected to be reutilized. Capacity of the MDA is 10.618 Mcum. The Rehabilitation plan of muck dumping site includes engineering and biological measures.
Monitoring mechanism for Muck Disposal	Properly covered Dumper trucks will be used for transportation. Regular monitoring of the muck dumping will be conducted by State forest department and Karnataka State Pollution Control Board (KSPCB).

Private Land	147.02 Ha
Government land	-
Forest Land	160.40 Ha
Total Land	307.42 Ha

Submergence area/Reservoir area	258.34 Ha
Additional information (if any)	-

Forest Land/ Protected Area/ Environmental Sensitivity Zone	**Yes/No**	**Details of Certificate/ letter/Remarks**
Reserve Forest/Protected Forest Land	Yes	160.4 ha forest land diverted. File No: 8-29/2021-FC dated 21-08-2024 No project component falls in any notified protected area. Ghataprabha Bird Sanctuary is about 38.40 kms aerial distance from the reservoir area of the proposed project.
National Park	No	
Wildlife Sanctuary	No	

Particulars	**Letter no. and date**
Certified EC compliance report (if applicable)	IRO CCR dated 30.10.2024 File no: File No. EP/12.1/2022-23/09/KAR/388
Status of Stage- I FC	Stage I granted: File No.8-29/2021-FC dated 12-07-2022 Stage II granted: File No: 8-29/2021-FC dated 21-08-2024
Additional detail (If any)	NA
Is FRA (2006) done for FC-I	Yes

Particulars	**Details**
Details of consultant	R. S. Envirolinks Technologies Pvt. Ltd.
Project Benefits	**<u>Employment Generation</u>** Saundatti IRESP is planned to be completed in 48 months, at the time of peak construction work in the project, around 1900 persons may be engaged. Out of 1900 the majority of about 1100 nos. (800 - labour and 300 - Technical) will be from the local population/surrounding Villages and balance about 800 (600 - labour and 200 - technical) will migrate from outside. During project operation, about 350 persons will be engaged permanently. **<u>CER Activities (Local Area Development)</u>** For the infrastructure development and strengthening of infrastructure facilities in the project area financial provision of Rs. 34.95 Crore has been committed under Corporate Environment Responsibility (CER). The investment of this magnitude in the area improves t

<table>
<tr><td></td><td>he local infrastructure in the region. As on March 2025, Rs. 86,81,904/- has been spent on various activities carried out under CER and balance has been kept for on-going activities. These activities include strengthening of facilities in educational institutes, Health Care facilities, Environment Protection, Agriculture and Animal Husbandry, Skill Development activities, etc</td></tr>
<tr><td>Status of other statutory clearances</td><td>Stage I & Stage II for diversion of forest land granted</td></tr>
<tr><td>R&R details</td><td>The private land proposed for procurement belongs to a total of 153 land owners of 2 villages (Chakrageri and Karlakatti), who will be losing part of their total agricultural land only and none of the families will be losing any house or any other assets. None of them is getting displaced due to the project from the above land procurement.
Private land is in the process of direct purchase and about 60% of total land required for the project has already been acquired.
<table>
<tr><td>Total private land required for the project</td><td>147.02 ha</td></tr>
<tr><td>Total Landowners identified for 147.02 Ha</td><td>153 Nos.</td></tr>
<tr><td>Land purchase already completed</td><td>88.26 ha</td></tr>
<tr><td>No. of landowners whose land purchase is settled</td><td>78 Nos.</td></tr>
<tr><td>Remaining land in the process of purchase</td><td>58.76 Ha</td></tr>
<tr><td>No. of Landowners for remaining land</td><td>75 Nos.</td></tr>
</table>
The total private land proposed to be purchased through private negotiations for the Project is about 147.02 Ha. As the total private land required exceeds the specified limits by the relevant rules notified by the Government of Karnataka provisions related to rehabilitation and resettlement under RFCTLARR, 2013 shall apply for the proposed Project.
The financial requirement for implementation of the Rehabilitation and Resettlement plan and Economic Development Package is Rs. 891.50 lakhs.</td></tr>
<tr><td>Additional detail (If any)</td><td>NA</td></tr>
</table>

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

50.2.3 The EAC during deliberations noted the following:

· The Expert Appraisal Committee (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 TOR for conducting EIA/EMP for expansion in capacity (1260 MW to 1600 MW) of Saundatti (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited under the provisions of the para 7 (ii) (a) of the EIA Notification, 2006, as amended.

· The EAC noted that the project/activity falls under Category A of item 1(c) of the Schedule of the EIA Notification, 2006, as amended; hence, requires appraisal at the Central level by the sectoral EAC in the Ministry.

· The EAC noted that Environmental Clearance to Saundatti HEP Integrated Renewable Energy with Pumped Storage Project (1260 MW) was granted by the Ministry to M/s. Greenko Solar Energy Private Limited vide letter dated 19.09.2022 after submission of Stage-I clearance for the forest land 160.40 hectares. Stage-II Forest Clearance was granted vide letter dated 21.08.2024 by MoEF&CC, New Delhi. Further, Transfer of Environmental Clearance from M/s. Greenko Solar Energy Private Limited to M/s. Greenko KA01 IREP Private Limited was granted on 10.03.2025.

· The EAC noted that as per SECI requirement, irrespective of the Energy Storage Systems (ESS) technology being implemented in the Project, the developer shall be responsible for meeting Off-peak Hrs supply as well as minimum 6 Hrs. of Peak supply on daily basis. Consequently, the Saundatti IRESP generation hours have been reduced to 5.66 Hrs from 11.60 hr by enhancing the installed capacity to 1600 MW from 1260 MW by changing the unit capacities the project is being reconfigured and optimized to 1600 MW.

· It was further observed by the committee that the total capacity of proposed PSP is 1600 MW (9056 MWH) and envisages non-consumptive re-utilization of 0.683 TMC of water for recirculation among the proposed upper reservoir and lower reservoir. Water from Renuka Sagar reservoir will be pumped and stored in the lower reservoir which will be used for power generation by re- circulating between Upper Reservoir & Lower Reservoir.

· The EAC noted that the total land requirement for the project has increased from 213.70 hectares to 307.42 hectares. It was observed that there is no increase in the forest land component, which remains unchanged at 160.40 hectares. However, the non-forest land area has increased from 53.30 hectares to 147.02 hectares, primarily due to the inclusion of an additional project component, namely the construction of the Lower Reservoir. The PP informed that private land required for the project falls in two revenue villages viz. Chakrageri and Karlakatti Villages under Savadatti Tehsil which is located in the same study area for which EIA/EMP along with Public Consultation was done before grant of EC. The PP has informed that there is no change in project villages from where private land is being purchased for the expansion proposal (1260 MW open loop project to 1600 MW closed loop project) and more than 70% of total private land has been acquired.

· The Committee observed that the Regional Office, MoEF&CC submitted the Certified Compliance Report of the Environmental Clearance (EC) conditions on 30.10.2024. Hence PP required to submit a fresh Certified Compliance Report in terms of MoEF&CC O.M. dated 8.06.2022.

· The EAC was of the view that since PP has already conducted public hearing before grant of earlier Environmental Clearance on 07/01/2019 and additional private land required for proposed components is adjacent to the earlier components of the project and the lower reservoir falls in same study area for which EC was granted; moreover 70% of total private land has been acquired. Therefore, there is no requirement of fresh Public

Consultation/Public hearing.

· The estimated project cost is Rs 11015.98 Crores. Total capital cost earmarked towards environmental management plan is Rs 2997.72 lakhs and the Recurring cost (operation and maintenance) will be about Rs 1290.85 per annum.

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Terms of Reference

3.2.6.1. Specific

Specific ToR	
1.	The EAC based on the information submitted and as presented during the meeting, recommended the proposal for grant of Specific ToR issued by the Ministry for Close Loop Pumped Storage Projects vide OM dated 14.08.2023 for conducting EIA study without Public Consultation for proposed construction of the project for Saundatti (1260 MW to 1600 MW) (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited, under the provisions of EIA Notification, 2006, as amended.

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Prof G J Chakrapani	Chairman, EAC	cha**********@gmail.com	
2	Dr Mukesh Sharma	Member (EAC)	muk***@iitk.ac.in	Absent
3	Dr Uday Kumar R Y	Member (EAC)	uda********@yahoo.com	
4	Dr J A Johnson	Member (EAC)	jaj@wii.gov.in	Absent
5	Dr J V Tyagi	Member (EAC)	jvt******@gmail.com	
6	Shri Kartik Sapre	Member (EAC)	kar********@gmail.com	
7	Shri Ajay Kumar Lal	Member (EAC)	akl****@gmail.com	
8	Dr A K Sahoo	Member (EAC)	ami***@gmail.com	

9	Shri Balram Kumar	Member	emo***@nic.in	
10	Shri Rakesh Goyal	Member	goy*********@nic.in	
11	Yogendra Pal Singh	Scientist - F	yog*******@nic.in	

MINUTES OF THE 50TH MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR RIVER VALLEY AND HYDROELECTRIC PROJECTS HELD ON 11TH MARCH, 2026 THROUGH VIDEO CONFERENCE.

The 50th meeting of the 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 March, 2026 through virtual mode, under the Chairmanship of Prof. G. J. Chakrapani. The list of Members present in the meeting is at **Annexure**.

Confirmation of the Minutes of the 49th EAC meeting:

The Minutes of the 49th EAC meeting held on 26th February, 2026 were confirmed.

Agenda Item No. 50.1

Veeraballi Closed Loop Pumped Storage Project (1800 MW) in an area of 489.91 ha at Village Vangimalla, Sub-District Veeraballe, District Annamayya, Andhra Pradesh from M/s Annamayya Pumped Storage Project Private Limited - Environmental Clearance (EC) – reg.

[Proposal No. IA/AP/RIV/563180/2025; F. No. J-12011/07/2020-IA-I]

50.1.1: The proposal is for grant of Environmental Clearance (EC) to the project for Veeraballi Closed Loop Pumped Storage Project (1800 MW) in an area of 489.91 ha at Village Vangimalla, Sub-District Veeraballe, District Annamayya, Andhra Pradesh from M/s Annamayya Pumped Storage Project Private Limited.

50.1.2: The Project Proponent and the accredited Consultant M/s R. S. Envirolink Technologies Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

i. The proposed Veeraballi Off-stream Closed Loop Pumped Storage Project (OCPSP) is located near Vongimalla village of Tehsil-Veeraballi in Annamayya District of Andhra Pradesh. The proposed project in nature and both the reservoirs are located away from all existing natural water systems and have no/negligible catchment area.

ii. The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E and latitude is 14°11'19.58"N.

iii. The project will comprise of two reservoirs which are to be constructed newly

- The upper reservoir is proposed to be located on gorge portion of land which is suitable for creating the desired gross storage capacity of 0.504 TMC by doing excavation up to the desired level. Out of 0.504 TMC, the live storage capacity is 0.494 TMC and the dead storage capacity is 0.01 TMC by keeping FRL & MDDL at EL 690.00 m & EL 664.00 m respectively. For creating this storage for Upper reservoir on natural depression, it is proposed to construct rockfill embankment with average height of around 20 m (maximum height of 38 m) for the length of 2143 m.

- Similarly, the lower reservoir is proposed to be located in the flat/gradually sloping land which is suitable for creating the desired gross storage capacity of 0.563 TMC. Out of 0.563 TMC, the live storage capacity is 0.437 TMC and dead storage capacity is 0.126 TMC by keeping FRL and MDDL at EL 323.00m & EL 305.00m respectively. For creating this storage, it is proposed to construct rockfill embankment of the average height of 25 m (with maximum height of 41 m) for the length of 2591m.

iv. This Project envisages 0.437 TMC of water for recirculation among two proposed reservoirs for power generation. Water for operation of project will be lifted one time from existing nearby Mandavi River (which is located about 1.0 Km away from the proposed lower reservoir) and will be stored in the lower reservoir to be constructed and used cyclically for energy storage and discharge. Evaporation losses, if any will be recouped periodically from Mandavi River as well as through annual rainfall during monsoon period.

v. Scoping clearance of Veeraballi Pumped Storage Project of 2720 MW project was initially accorded by Ministry of Environment Forests and Climate Change (MoEF&CC), Government of India vide letter no. J-12011/07/2020-IA-I, dated: 13.07.2020. However, due to change in installed capacity and changes in configuration of project components, scoping clearance was amended for Veeraballi Closed Loop Pumped Storage Project with 1800 MW installed capacity by MoEF&CC vide letter dated 08.09.2022.

vi. After incorporation of new subsidiary M/s Annamayya Pumped Storage Project Private Limited, application was submitted vide proposal number IA/AP/RIV/554978/2025 dated 15/10/2025 to MoEF&CC for transferring the TOR to M/s Annamayya Pumped Storage Project Private Limited. MoEF&CC granted the transfer of Terms of Reference as proposed from “M/s Astha Green Energy Ventures India Pvt Ltd.” to “M/s Annamayya Pumped Storage Project Pvt. Ltd.”, with ToR identification no. TO25A0000AP5537318T dated 03.11.2025.

vii. **Land requirement:** Total land requirement is about 489.91 ha for the construction of various project components, out of which 329.02 ha is forest land and 160.89 ha is non-forest land. The forest land required for the project falls in Annamayya Forest

Division. For diversion of 329.02 ha of forest land, online application has been submitted to MoEF&CC vide proposal No.: FP/AP/HYD/IRRIG/548268/2025 dated 23.12.2025.

S. No.	Project Components	Forest	Non-Forest	Total
1	Upper Reservoir & Road along reservoir	147.51	0.00	147.51
2	Lower Reservoir (Including TRC)	81.32	96.45	177.77
3	Approach Road			
I	Approach Road to Lower reservoir to Upper reservoir	23.53	0.00	23.53
II	Approach Road to Lower reservoir to Powerhouse	2.85	0.00	2.85
III	Approach Road to Project Components (including 0.40 Ha of underground area)	16.24	0.07	16.31
IV	Approach Road to Muck Disposal Area	0.00	0.84	0.84
V	Approach Road to Magazine	0.00	0.20	0.20
VI	Approach Road to Job Facilities	0.00	0.07	0.07
4	Adit (Underground)	0.29	0.00	0.29
5	Water Conducting System (WCS), Powerhouse (PH)	57.28	0.00	57.28
6	Job Facilities Area	0.0	15.00	15.00
7	Muck Disposal Area-Site-1 & 2	0.0	45.00	45.00
8	Magazine	0.0	0.10	0.10
9	Pump House & Pumping Alignment	0.0	3.16	3.16
	TOTAL	**329.02**	**160.89**	**489.91**

viii. **Demographic details in 10 km radius of project area :**

Socio-economic profile of the study area covering aspects like demography, occupational pattern, literacy rate, and other important socio-economic indicators of the villages. The baseline socio-economic profile is based on the Census of India 2011.

The population of the study area 37546 with 19286 (51.36%) males and 18260 (48.63%) females. The children population under 6 years old was found to be 4631 (12.33%). The number of households was 9470 with average occupancy of 4 to 5 persons per household. The sex ratio was found at 946 females per 1000 males.

The total Scheduled Castes (SC) population in the study area are 7797 which is 2.76% of the total population with 4179 SC male & 3618 SC female. The total Scheduled Tribes (ST) population are 557 which is 1.48% of the total population with 310 ST male & 247 ST female.

The literacy rate in the study area has been worked out to 62.41%, among males it is 75.72% while among females is 48.44% creating a gender gap of 27.28%.

About 50.41% of the population in the study area is engaged in different kinds of works. Out of the total working population, 52.37% are male and 40.45% are female, creating a gender gap in the work participation rate of 11.92%.

Of the total working population, 70% are 'Main Workers' and 30% are 'Marginal Workers'. Among 'Main Workers' the gender gap of work participation is 32.29% while among Marginal Workers it 31.27% in favour of females.

About 74.57% working population is engaged in agricultural activities, out of which 27.62% are Cultivators and 46.95% are Agricultural Labours. A small percentage of the population is engaged as household industrial workers (6.31%) while about 19.10% are in miscellaneous services.

ix. **Water requirement:** One time filling of the reservoir will be done by water from Mandavi River (0.437 TMC); thereafter water will remain in-circulation and only evaporation losses will be compensated by intermittent additional filling..

x. **Project Cost:** The estimated project cost is Rs 8238.14 Cr. Total capital cost earmarked towards Environment Management Plan/environmental pollution control measures is Rs.2233.00 lakh and the Recurring cost (operation and maintenance) will be about Rs. 4999.48 lakh.

xi. **Project Benefit:** Total Employment will be 600 persons as direct & 3000 persons indirect during construction phase and 100 Persons as direct & 150 Persons indirect after construction. Industry proposes to allocate Rs 20 Cores towards LADP.

xii. **Environmental Sensitive area:** No project component falls in any notified protected area. Nearest Protected Area to the Project Components is Sri Penusila Narasimha Wildlife Sanctuary, which is at a distance of around 23.00 km. Eco-sensitive Zone (ESZ) has been notified for Sri Penusila Narasimha Wildlife Sanctuary on 31/08/2020. All the project components are outside the notified ESZs.

A tiger corridor namely "NSTR-Tirupati Tiger Corridor" is located at an approximate distance of 9.75 km and 11.37 km proposed upper reservoir and lower reservoir

respectively. National Tiger Conservation Authority issued No Objection Certificate vide letter no. F. No. 7-9/2010- NTCA New Delhi, December 22nd, 2022.

xiii. **MOU/ any other clearance/ permission signed with State government:** MoU with Government of Andhra Pradesh dated 12.09.2022

xiv. **Resettlement and rehabilitation:** The entire private land and Govt. assigned land identified for the project falls in one revenue village namely Vongimalla under Tehsil/ Mandal-Veeraballi (Veeraballe) in Annamayya District of Andhra Pradesh. The above private and Govt assigned land proposed for procurement belongs to a total of 169 land owner families (74 nos patta land holders and 95 nos govt assigned land owners). All the 169 families will be losing part of their agricultural land and none of the families will be losing any house or any other assets. Private land identified for the project will be acquired as per **Section 2** and **Part (a) of Sub-Section 3** of The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (RFCTLARR), 2013.

xv. **Scheduled – I species:** As per Wildlife Protection Amendment Act, 2022, Sambar, Barking Deer, Jungle Cat, Jackal, Common Leopard, Grey Mongoose, Ruddy Mongoose, Sloth Bear, Small Indian Civet, Asian Palm Civet, Bonnet Macaque, Indian crested Porcupine, Black-winged Kite are the species listed under Schedule-I.

xvi. **Alternative Studies:** In all these three alternative layouts studied, the locations of upper and lower reservoir for for all the three layouts have been kept same. The size and shape of reservoirs have been varied except for Alternative-2 & 3. The Alternative-1 layout has been discarded as the water and land area requirement is more. Further, Alternative-3 layout has been preferred over Alternative-2

xvii. **Baseline Environmental Scenario:**

The field surveys for the collection of primary data were initiated in January 2022 and completed in August 2022, in accordance with the Terms of Reference (ToR) accorded by the MoEF&CC. These surveys covered winter, pre-monsoon/summer, and monsoon seasons, focusing on the collection of data and information related to terrestrial ecology and physical environmental parameters and additional data in post monsoon season 2025. The monsoon season (July–August) also included interactions with local communities and the conduct of socio-economic surveys within the study area.

Period	**From January 2022 to October 2025**

AAQ parameters at 10 locations (min. & Max.)

Unit in $\mu g/m^3$

Core	Min	Max	Standards
PM 2.5	11.40	21.50	60
PM 10	25.60	37.60	100
SO_2	4.50	5.60	80
NO_2	5.30	6.50	80
Buffer	**Min**	**Max**	
PM 2.5	13.80	27.90	60
PM 10	30.50	54.40	100
SO_2	5.10	6.00	80
NO_2	5.70	8.OO	80

Incremental GLC Level

Core Zone

Criteria Pollutant [PM_{10}, $PM_{2.5}$, SO_2, NO_x, Other parameters specific to the sector (Please specify)]	Unit [$\mu g/m^3$]	Baseline Concentration [A]	Predicted incremental value considering worst case stability class [B]	Total GLC [A]+[B]
PM10	$\mu g/m^3$	34.3	10.29	44.59
PM2.5	$\mu g/m^3$	15.1	4.53	19.63
SOx	$\mu g/m^3$	4.7	5.64	10.34
NOx	$\mu g/m^3$	5.7	6.84	12.54

Buffer Zone

Criteria Pollutant [PM_{10}, $PM_{2.5}$, SO_2, NO_x, Other parameters specific to the sector (Please specify)]	Unit [$\mu g/m^3$]	Baseline Concentration [A]	Predicted incremental value considering worst case stability class [B]	Total GLC [A]+[B]
PM10	$\mu g/m^3$	54.4	0	54.4
PM2.5	$\mu g/m^3$	27.9	0	27.9

	SOx	µg/m^3	6.0	0	6.0
	NOx	µg/m^3	8.0	0	8.0

River water samples

(03 samples)

Core Zone

S. No	Parameters	Min	Max	Stan dards
1	pH	7.6	8.3	8.5
2	Total Dissolved Solids, mg/L	435.5	786.5	0
3	Dissolved Oxygen (mg/l)	5.1	7.4	6
4	Chloride (as Cl), mg/L	42.1	74.1	0
5	Total Hardness (as CaCO3), mg/L	274.4	323.2	0
6	Biological Oxygen Demand (mg/l)	2.1	4.5	2
7	Chemical Oxygen Demand (mg/l)	2.3	11.9	0
8	Total Coliform (MPN/100 ml)	75	340	50

Buffer Zone

S. No	Parameters	Min	Max	Stan dards
1	pH	7.8	8.2	8.5
2	Total Dissolved Solids, mg/L	533	730.6	0
3	Dissolved Oxygen (mg/l)	6.4	7.1	6
4	Chloride (as Cl), mg/L	45.3	52.1	0
5	Total Hardness (as CaCO3), mg/L	289.8	317.2	0

6	Biological Oxygen Demand (mg/l)	2.1	2.5	2
7	Chemical Oxygen Demand (mg/l)	2.2	7.7	0
8	Total Coliform (MPN/100 ml)	78	85	50

Pond water samples

-

Groundwater water samples quality at 10 location

Core Zone

S. No.	Parameters	Min	Max	Prescribed Limits	
1	pH	7.65	8.2	6.5	8.5
2	Total Dissolved Solids (mg/l)	1019	1343	500	2000
3	Chloride (as Cl) (mg/l)	72	107	250	1000
4	Total Hardness (as $CaCO_3$) (mg/l)	308.7	347.5	200	600
5	Fluoride (mg/l)	0.34	0.47	1.0	1.5

Buffer Zone

S. No.	Parameters	Min	Max	Prescribed Limits	
1	pH	7.58	8.3	6.5	8.5
2	Total Dissolved Solids (mg/l)	802	1278	500	2000
3	Chloride (as Cl) (mg/l)	62	90	250	1000

	4	Total Hardness (as $CaCO_3$) (mg/l)	273.4	335.6	200	600
	5	Fluoride (mg/l)	0.33	0.46	1.0	1.5

Noise levels Leq (Day & Night) at 10 locations

Noise Level	Zone	Leq Day dB(A)		Leq Night dB(A)		Prescribed Limits	
		From	To	From	To	Day	Night
Core	Residential	45.2	55.4	35.0	42.7	55	45
Buffer	Residential	45.2	55.8	35.0	43.0	55	45

Soil Quality at 10 Locations

Core Zone

S. No.	Parameters	Min	Max	Prescribed Limits
1	Calcium (mg/kg)	135	243	500
2	Magnesium (mg/kg)	107	139	500
3	Nitrogen (kg/ha)	130	203	500
4	Phosphorus (kg/ha)	11.9	40.8	50
5	Potassium (kg/ha)	227	516	500
6	Carbon (%)	0.34	0.59	1
7	Sodium Absorption Ratio	2.16	3.7	10
8	Salinity (ppt)	0	0	0.01
Buffer Zone				
1	Calcium (mg/kg)	97	138	500
2	Magnesium (mg/kg)	83	151	500
3	Nitrogen (kg/ha)	146	257	500
4	Phosphorus (kg/ha)	14.9	42.5	50

	5	Potassium (kg/ha)	173	372	500
	6	Carbon (%)	0.37	1.0	1
	7	Sodium Absorption Ratio	1.86	3.2	10
	8	Salinity (ppt)	0	0	0.01
Flora & Fauna	Schedule-I species observed in the study area: As per Wildlife Protection Amendment Act, 2022, Sambar, Barking Deer, Jungle Cat, Jackal, Common Leopard, Grey Mongoose, Ruddy Mongoose, Sloth Bear, Small Indian Civet, Asian Palm Civet, Bonnet Macaque, Indian crested Porcupine, Black-winged Kite are the species listed under Schedule-I.				

xviii. **Details of Solid waste/ Hazardous waste generation/ Muck and its management**

The project authority, within the territorial area of the project complex/ colony, responsible for the implementation of the provision of Solid Wastes Management. Adequate facilities for collection, transportation and disposal of solid waste will be developed. Any solid waste generated in the project complex/ project colony/ labour colony, shall be managed and handled appropriately. /Net Quantity of Muck to be rehabilitated/disposed of is estimated as 10.60 MCUM (approx.). Keeping the above requirement and topography of the area, two muck disposal sites have been identified. Area of Muck disposal Site – 1 is 25 Ha and Area of Muck disposal Site – 2 is 20 Ha. Hence, total area of muck disposal site – 1 & 2 are worked out to 45 Ha and the capacity of each muck disposal site – 1 & 2 are works out to be 6.24 MCum and 4.38 MCum respectively and the total capacity of both muck disposal sites are worked out to 10.62 MCum.

xix. **Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 06.01.2023. The main issues raised during the public hearing are**

Issues/Comments/Observations	Reply by the User Agency
Rightful compensation for land to be acquired from *Patta* and *DKT Patta* lands holders and farmers using government land.	Land Compensation shall be as per Provisions of "The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act" (RFCTLARR) 2013 involving direct negotiations with the landowners under monitoring of district administration.

Issues/Comments/Observations	Reply by the User Agency
Employment opportunities in the proposed project to villagers As per State Government policy 75% Employment to local people.	Priority will be given to the affected local villagers in employment based on the requirement, eligibility and skills.
Supply water from Irrigation requirements	Water from proposed project cannot be provided for irrigation facilities as water was allocated for power generation purposes only.
Effect of drawing of water from Mandavi River. Water scarcity will arise in the surrounding villages due to digging of borewells for the water requirement of proposed project. Sand extraction from riverbed of Mandavi River will result in reduction of water level thereby causing scarcity and affect the health of villagers.	Water requirement of 0.5 TMC for the operation of proposed project will be met from the surplus available water from Mandavi River, as allotted by the state government.
Wastewater generated due to operation of proposed project will contaminate the ground water will affect the crops health.	There will not be any water pollution in the proposed project as water will be pumped from lower to upper reservoir and pumped back and there will be no industrial wastewater generation from the proposed project.
Blasting activities in the proposed project might affect the cattle houses and inconvenience to the villagers.	Controlled blasting will be carried out during the construction phase of the project.
Development of plantation including medicinal plant around the project area. Forest land to be acquired should be compensated by means of afforestation as per law.	Planation will be carried out in the surrounding with the CSR funds as suggested in the public hearing and further stated that for the trees and plants removed for development of the project, compensatory afforestation will be taken up at a suitable location.

Issues/Comments/Observations	Reply by the User Agency
Provision for Skill Development centres for youth to improve the employment opportunities.	Skill development training will be imparted to local youth to improve their employment opportunities in the project.
Project authorities involve village representatives and local people and consider their suggestion regarding development in the project area.	The management will take measure to avoid any inconvenience due to development of the project with duly taking the suggestions expressed by the gathering into consideration.

xx. Status of Litigation Pending against the proposal, if any : No

xxi. The salient features of the project are as under: -

- **EAC Meeting Details:**

EAC meeting/s	50th
Date of Meeting/s	11.03.2026
Date of earlier EAC meetings	ToR : 15.05.2020 ToR amendment: 29.07.2022

- **Project details:**

Name of the Proposal	Veeraballi Off-stream Closed Loop Pumped Storage Project (OCPSP) (1800 MW)
Proposal No.	IA/AP/RIV/563180/2025
Location (Including Coordinates)	Vongimalla village, Annamayya District, Andhra Pradesh The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E and latitude is 14°11'19.58"N.
Company's Name	M/s. Annamayya Pumped Storage Project 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)	The geographical co-ordinates of the proposed upper reservoir are at longitude 78°52'19.26"E and latitude is 14°13'1.54"N and that of lower reservoir are at longitude 78°52'29.61"E latitude is 14°11'19.58"N
Inter- state issue involved	No
Proposed on River/ Reservoir	Not across any river
Type of Hydro-electric project	Off-stream Closed Loop Pumped Storage Project (OCPSP)
Seismic zone	Zone-II

- **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

- **ToR/EC Details:**

ToR Proposal No. (TOR/Amendment/Transfer)	IA/AP/RIV/152122/2020 (TOR) IA/AP/RIV/281327/2022 (TOR amendment) IA/AP/RIV/554978/2025 (TOR transfer)
EAC meeting date (TOR/Amendment)	15.05.2020 (TOR) 29.07.2022 (TOR amendment) 15.10.2025 (TOR transfer)
ToR Letter No.	J-12011/07/2020-IA-I (TOR) J-12011/07/2020-IA-I (R) (TOR amendment) J-12011/07/2020-IA-I (TOR transfer) ToR identification no. TO25A0000AP5537318T dated 03.11.2025
ToR grant Date	13th July, 2020 (TOR) 8th September 2022 (TOR amendment)

	3rd November 2025 (TOR transfer)
Cost of project	8238.14 Cr.
Total area of Project	489.91 Ha
Height of Dam from River Bed (EL)	Upper reservoir-Height of Embankment max-38 m & avg ht-20 m Lower Reservoir- Height of Embankment max-41 m & avg-25 m
Details of Submergence area	The submerged area of the upper reservoir is 147.51 Ha and that of the lower reservoir is 177.77 Ha
District to provide irrigation facility (if applicable) NA	
Details of tunnels on upper level & lower level and length of canal (if applicable)	277 m
No. of affected Village.	1
No. of Affected Families	169
Project Benefits	The Project is a renewable green source of energy and helps to reduce carbon foot print, will create 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	The entire private land and Govt. assigned land identified for the project falls in one revenue village namely Vongimalla under Tehsil/ Mandal-Veeraballi (Veeraballe) in Annamayya District of Andhra Pradesh. The above private and Govt assigned land proposed for procurement belongs to a total of 169 land owner families (74 nos patta land holders and 95 nos govt assigned land owners). All the 169 families will be losing part of their agricultural land and none of the families will be losing any house or any other assets. Private land identified for the project will be acquired as per Section 2 and Part (a) of Sub-Section 3 of The Right to Fair Compensation and

	Transparency in Land Acquisition, Rehabilitation and Resettlement Act (RFCTLARR), 2013.
Catchment area/ Command area	NA
Types of Waste and quantity of generation during construction/ Operation	Net Quantity of Muck to be rehabilitated/disposed-off is estimated to be 10.62 MCUM
Material used for blasting and its composition as per DGMS standards.	NA
E-Flows for the Project	NA
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.	NA
Details on provision of fish pass	NA
Project benefit including employment details (no of employee)	3600 persons may be engaged. Out of 3600 nos. the majority of about 2400 nos. will be from the local population/surrounding Villages and balance persons of about 1200 nos. will be skilled/ semiskilled from other area.
Area of Compensatory Afforestation (CA) with tentative no of plantation.	Area of Compensatory Afforestation (CA)-330 Ha with 3,30,000 no. Plantation.
Previous EC details	Nil
No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign	NA

- **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)

- **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.	The total height of filling requirement is for Muck Disposal Site – 1 & 2 are 30 m & 28 m respectively from ground level and the muck that needs disposal would be piled at Ø (angle of repose) maximum of 30° at the proposed dumping site
Distance of muck disposal area (location), from muck generation sources (project area)/River, HFL of proposed muck disposal area.	610 meters
Total Muck Disposal Area	45 Ha
Estimate Muck to be generated	10.62 MCUM
Transportation	By road
Monitoring mechanism for Muck Disposal	Properly covered Dumper trucks will be used

- **Land Area Breakup:**

Private Land	24.82 Ha
Government land assigned land	119.84 Ha
Government land	16.23 Ha
Forest Land	329.02 Ha
Total Land	489.91Ha
Submergence area/Reservoir area	325.28 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	Yes	• No project component falls in any notified protected area. Nearest Protected Area to the Project Components is Sri Penusila Narasimha Wildlife Sanctuary, which is at a distance of around 23.00 km. Eco-sensitive Zone (ESZ) has been
National Park	No	
Wildlife Sanctuary	No	

		notified for Sri Penusila Narasimha Wildlife Sanctuary on 31/08/2020. All the project components are outside the notified ESZs. • A tiger corridor namely "NSTR-Tirupati Tiger Corridor" is located at an approximate distance of 9.75 km and 11.37 km proposed upper reservoir and lower reservoir respectively. National Tiger Conservation Authority issued No Objection Certificate vide letter no. F. No. 7-9/2010-NTCA New Delhi, December 22nd, 2022. • As per the forest proposal; wildlife clearance is required.
Archaeological sites monuments/historical temples etc.	No	
Additional information (if any)	-	

Availability of Schedule-I species in study area

- **Public Hearing Details:**

Advertisement for PH with date	05.12.2022 in English (The Hindu) and Telugu (Sakshi)
Date of PH	06.01.2023
Venue	Adjacent to Mandal Parshad Primary School, Kallevandlapalle, Diguvarachapalle Village, Mandal: Veeraballi
Chaired by	District Revenue Officer/ District Additional Magistrate, District Annamayya.
Main issues raised during PH	• Employment opportunities in the proposed project to villagers. • Supply water from Irrigation requirements. • Education and better medical facilities. • Community development activities.
No. of people attended	220

- **Brief of base line Environment:**

<table>
<tr><td>Particulars</td><td>Details</td></tr>
<tr><td>Period of baseline data collection/Sampling period.
(Air, noise, water, land)
flora and fauna of the project area,</td><td>
<table>
<tr><td>Parameters</td><td>Winter</td><td>Summer/ Pre-Monsoon</td><td>Monsoon</td><td>Additional study 1</td></tr>
<tr><td>Soil</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Air Environment</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Noise & Traffic</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Water Quality</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Vegetation</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Fauna surveys</td><td>January 2022</td><td>May 2022</td><td>July-August 2022</td><td>October 2025</td></tr>
<tr><td>Socio-economic survey</td><td colspan="4">July-August 2022</td></tr>
</table>
</td></tr>
<tr><td>Brief description on hydrology and water assessment as per the approved Pre-DPR:</td><td>The Project envisages non-consumptive re-utilization of 0.437 TMC from Mandavi River. The water from the Mandavi River will be pumped up and stored in the proposed Pumped Storage Lower Reservoir and will be utilized for power generation by recirculation between the Lower and Upper reservoirs. Therefore, there is no intendent catchment of this project and hydrological assessment is not required.</td></tr>
<tr><td>Additional detail (If any)</td><td>No</td></tr>
</table>

[1] *Since the original baseline data collected in 2022 are now over three years old, therefore in compliance with the OM issued by the MoEF&CC dated June 8, 2022, sampling was carried out during the post-monsoon season (October 2025) to revalidate the earlier findings. The revalidated data have been incorporated in* ***Annexure VII*** *of the EIA Report.*

- **Court case details: Nil**

- **Status of other statutory clearances:**

Particulars	**Letter no. and date**
Status of Stage-I FC	PSC-I meeting held on 31.12.2025
Approval of Central Water Commission	-
Approval of Central Electricity Authority	-
Additional detail (If any)	

- **Details of the EMP:**

S. No.	**Component of EMP**	**Capital Cost (Rs. in lakh)**	**Recurring Cost (Rs. in lakh)**				**Total Cost (Rs. in lakh)**
			Year 1	**Year 2**	**Year 3**	**Year 4**	
1	Biodiversity Conservation & Wildlife Conservation Plan	323.00	0.00	0.00	0.00	0.00	323.00
2	Fisheries Development Plan	28.00	8.00	8.00	8.00	6.00	58.00
3	Muck Dumping and Management Plan	0.00	578.23	416.98	375.00	287.73	1657.94
4	Landscaping, Restoration of Construction Sites	5.00	15.28	130.00	170.90	110.00	431.18
5	Sanitation and Solid Waste Management Plan	207.00	39.40	33.40	32.40	27.40	339.60
6	Public Health Delivery System	115.00	47.00	47.00	47.00	42.00	298.00
7	Energy Conservation Measures	73.00	63.50	62.50	62.50	62.50	324.00
8	Labour Management Plan	70.00	14.00	29.00	29.00	29.00	171.00
9	Green Belt Development Plan	12.50	3.00	9.00	19.00	13.00	56.50
10	Disaster Management Plan	200.00	27.50	47.50	37.50	37.50	350.00
11	Pollution Mitigation Measures	0.00	25.00	25.00	25.00	25.00	100.00
12	Environmental Monitoring Program	0.00	26.94	38.94	38.94	38.94	143.76
	Other Components						
13	Rehabilitation and Resettlement Plan*	929.50	12.50	12.50	12.50	12.50	979.50
14	Local Area Development Plan	270.00	327.50	621.00	558.00	223.50	2000.00
	Total	2233.00	1187.85	1480.82	1415.74	915.07	7232.48

**Cost of private land acquisition will be part of DPR cost.

S. No	Forest Components#	Capital Cost (Rs. In lakh)
1	Compensatory Afforestation	11515.70
2	Net Present Value (NPV)	3,152.01
		14,667.71

50.1.3 The EAC during deliberations noted the following:

- The Expert Appraisal Committee (EAC) deliberated on the information submitted by the Project Proponent and the details presented during the meeting. The Committee observed that the proposal pertains to the grant of Environmental Clearance for the Veeraballi Closed Loop Pumped Storage Project (1800 MW) in an area of 489.91 ha at Village Vangimalla, Sub-District Veeraballe, District Annamayya, Andhra Pradesh from M/s Annamayya Pumped Storage Project Private Limited.

- The project falls under Item 1(c) of the Schedule to the Environmental Impact Assessment (EIA) Notification, 2006, and is categorized as a Category 'A' project, which requires appraisal at the Central level by the Expert Appraisal Committee (EAC).

- The Terms of Reference (ToR) for conducting EIA/EMP study and Public Hearing of the Veeraballi Closed Loop Pumped Storage Project was granted by the MoEF&CC vide letter no. J-12011/07/2020-IA-I, dated 13.07.2020. Subsequently, amendment in ToR due to change in installed capacity and changes in configuration of project components was granted by MoEF&CC vide letter dated 08.09.2022. Further, MoEF&CC granted the transfer of Terms of Reference as proposed from "M/s Astha Green Energy Ventures India Pvt Ltd." to "M/s Annamayya Pumped Storage Project Pvt. Ltd.", vide letter dated 03.11.2025.

- The EAC, constituted under the provisions of the EIA Notification, 2006, and comprising expert members/domain experts from various relevant fields, examined the proposal submitted by the Project Proponent. This examination included a review of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports, which were prepared and submitted by a QCI/NABET-accredited consultant on behalf of the Project Proponent.

- The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

- The EAC noted that the total land requirement is about 489.91 ha for the construction of various project components, out of which 329.02 ha is forest land and 160.89 ha is non-forest land. However, for diversion of 329.02 ha of forest land, online application has been submitted to MoEF&CC vide proposal No.: FP/AP/HYD/IRRIG/548268/2025 dated 23.12.2025 and it is still pending.

- During the deliberations on the land requirement for the proposed project, the EAC observed that the proposed width of the approach roads appears to be larger than what may actually be required for the project. The Committee further noted that such a wide road width may not be necessary, particularly after the commissioning of the project. It was further observed that the road width, particularly along straight stretches, can be reduced to 7 meters without any technical constraints, while additional widening may be limited to hairpin bends or U-turns. Such optimization would help in minimizing forest land diversion and saving a significant number of trees. Accordingly, the EAC suggested that the PP should re-examine and optimize the land requirement for the proposed project, particularly with respect to the land proposed for the approach roads.

- Further, the Committee noted that the PP had obtained an amendment in the Terms of Reference (ToR) vide letter dated 08.09.2022, wherein the proposal submitted by the PP indicated that the total land requirement for the project was 464.67 ha, comprising 323.77 ha of forest land and 140.90 ha of non-forest land. However, upon comparison with the EIA/EMP report submitted by the PP, it was observed that the total land requirement has increased from 464.67 ha to 489.91 ha. Accordingly, the EAC suggested that the PP should obtain the necessary amendment in the ToR from MoEF&CC to reflect the revised land requirement. The Committee also advised the PP to clarify the land area that was considered and presented during the public hearing process.

- The Committee noted that One time filling of the reservoir will be done by water from Mandavi River (0.437 TMC); thereafter water will remain in-circulation and only evaporation losses will be compensated by intermittent additional filling. Further, Hydrology Study for Veeraballi PSP was approved by CWC vide letter No. T-11012/3/2023- HYD(S) DTE on 23.09.2023.

- The EAC deliberated on the Biodiversity Management and Wildlife Conservation Plan, including conservation measures for Schedule-I species, which has been prepared and submitted to the State Forest Department for approval. The Committee noted that the proposed plan was submitted by the PP on 23.01.2024. Subsequently, the Forest Department, vide its letter dated 13.02.2024, provided comments and suggested submission of a revised proposal. In response, the PP submitted the revised Biodiversity Management and Wildlife Conservation Plan vide letter dated 30.09.2024. The approval of the revised plan is presently awaited from the State Forest Department.

- The EAC noted that the estimated project cost is Rs 8238.14 Crore. Total capital cost earmarked towards Environment Management Plan along with Recurring cost will be about Rs. 7232.48 lakh. Additionally, the EAC noted that an amount of ₹ 14,667.71 lakh has been earmarked towards Compensatory Afforestation and Net Present Value (NPV).

- The committee observed that the Public Hearing for the proposed project has been conducted by the State Pollution Control Committee on 06.01.2023 at adjacent to Mandal Parshad Primary School, Kallevandlapalle, Diguvarachapalle Village, Mandal: Veeraballi.
- Publications of notice for public hearing were given in state/national level Telugu newspaper "Sakshi" and English newspaper "The Hindu" dated 05.12.2022. The EAC discussed the concerns raised during the Public Hearing (PH) and reviewed the action plan submitted by the PP to address these issues. After detailed deliberation, the Committee found the action plan satisfactory, recognizing that the proposed mitigation measures adequately respond to stakeholders' concerns.

- The EAC during the meeting, noted that the Power Potential Studies for 1800 MW Veeraballi PSP was accorded by Central Electricity Authority for investigation vide letter No.CEA-HY12-29/3/2023-HPA Division dated 16.06.2023. However, the EAC raised serious concerns regarding the approval of the Layout Map. In response, the PP informed that the tentative layout approval had been obtained from the Hydel Civil Design Division, CWC, vide letter dated 10.10.2023. Upon further enquiry, the PP submitted that the Ministry of Power, Government of India, vide Notification S.O. 3561(E) dated 01.08.2025, has exempted off-stream closed-loop Pumped Storage Projects (PSPs), irrespective of capital expenditure, from the requirement of concurrence from the CEA, due to which several proposals were returned including Veeraballi Closed Loop Pumped Storage Project. However, the Committee expressed displeasure that the PP had not approached CEA for obtaining the necessary technical clearances, including final Layout approval as per condition mentioned in HCD letter, particularly in view of the MoP O.M. dated 29.08.2025, wherein it has been clarified that although concurrence is not mandatory for the exempted categories, developers may still approach CEA for DPR appraisal on a voluntary basis.

- The Committee observed that provision of a cleaning and rejuvenation of local water bodies, including village ponds, is a pressing need. The EAC advised to prepare an action plan for restoration/rejuvenation of water bodies in the study area in consultation with gram panchayats and revise Environment Management Plan accordingly.

50.1.4 The EAC after examining the information submitted and detailed deliberations **deferred** the project on want of following information:

i. PP shall submit comparison chart showing changes in project parameters/components from the proposal for which Terms of Reference granted vide letter dated 13.07.2020

from MoEF&CC and clarify on the stamp duty that the details of land area and other changes were considered and presented during the public hearing process.

ii. PP shall explore the possibilities to reduce land requirement for Approach Roads specifically forest land.

iii. PP shall submit approved Biodiversity and Wildlife Conservation and Management Plan, along with a Conservation Plan for Schedule-I species from State Forest Department.

iv. Layout Map appraised by CEA shall be submitted.

v. PP shall revise Environment Management Plan with addition of action plan and budget outlay for restoration/rejuvenation of village ponds/ water bodies in the study area.

vi. PP shall submit present status of Stage-I Forest Clearance.

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

Agenda Item No. 50.2

Saundatti (1200 MW to 1600 MW) (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited – Terms of Reference (ToR) – reg.

[Proposal No. IA/KA/RIV/571168/2026; F. No. J-12011/11/2018-IA.I-(R)]

50.2.1 The proposal is for grant of Terms of Reference (ToR) to the project Saundatti (1200 MW to 1600 MW) (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited.

50.2.2 The Project Proponent and the accredited Consultant M/s R. S. Envirolinks Technologies Pvt. Ltd., made a detailed presentation on the salient features of the project and informed that:

i. Saundatti HEP (Integrated Renewable Energy Project with Pumped Storage Project) near village Karlakatti, Tehsil Saundatti in Belagavi District of Karnataka being implemented by M/s Greenko KA01 IREP Private Limited (SPV of Greenko Solar Energy Private

Limited) has been granted Environmental Clearance vide letter dated 19-09-2022; corrections/amendment in EC vide 24-03-2023 and Forest Clearance (Stage II) vide letter dated 21-08-2024 by MoEF&CC, New Delhi and Transfer of Environmental Clearance from M/s. Greenko Solar Energy Private Limited to M/s. Greenko KA01 IREP Private Limited was granted on 10.03.2025 and the execution of the project is in progress

ii. Due to the power supply requirements and demand from various State DISCOMs/STUs, to meet Off-peak hrs supply as well as peak supply around 6 hr, on daily basis, M/s Greenko KA01 IREP Private Limited (GKA01) has proposed to change the peak operation hours from 11.60 hours to 5.66 hours, Keeping this in view, the project installed capacity is optimized to 1600 MW, with 5.66 hours of peak operation duration and 9056 MWH as storage capacity.

iii. Irrigation Department of State Govt, while granting water allocation vide GO Number: WRD 23 MPZ 2023, dated March 28, 2024), has mandated the construction of a new lower reservoir as a prerequisite for allocating water to the PSP. Further, as part of the Stage I Forest Clearance, the Environmental Management & Policy Research Institute (EMPRI) of the Government of Karnataka conducted a study on the aquatic fauna of Renuka Sagar Reservoir. EMPRI's report recommended creation of separate lower reservoir to mitigate the impact on fisheries, if any. Accordingly, PP had explored various options and envisaged construction of new lower reservoir.

iv. The project components as proposed earlier for 1260 MW and the location remains unchanged for 1600 MW. However, there are slight changes in FRL & MDDL levels, dimensions of structures, rated head due to change in project capacity, unit size of machine, discharge requirements, generation hours and associated storage requirements which are as under: -

- While the location of the Upper Reservoir remains unchanged, the height and length of the Dam has been reduced considering the lesser storage requirements (Gross Storage of 0.735TMC required now as against 1.032 TMC proposed earlier) due to reduced generation hours. The earlier proposed Upper Reservoir with 38.00 m high, 5177m long Rock Fill Dam with central clay core has now been revised to 42m high, 4605m Geomembrane Faced Rockfill Dam (GFRD). The FRL & MDDL of Upper reservoir has been revised from EL +855.00 m & EL +825.00 m respectively to EL + 854.00 m & EL + 829.00 m respectively. The present proposed Dam and reservoir lies within the footprint of the earlier proposed Dam and reservoir and therefore geologically there is no change.
- Instead of the earlier proposal of using the existing Renuka Sagar reservoir as the Lower Reservoir, it is proposed to construct a new Lower Reservoir just adjacent to the existing Renuka Sagar reservoir. Geomembrane faced Rockfill Dam (27m high and 5237m long) has been proposed for the Lower Reservoir which is now to be constructed. The FRL & MDDL of Lower reservoir has been revised from EL

+633.83 m & EL +623.93 m respectively (for existing Renuka Sagar reservoir) to EL + 654.00 m & EL + 631.00 m respectively (for now proposed Lower reservoir to be constructed newly). This project is one of its kind because the proposed upper and lower reservoirs are not located on any river course and are faraway from any river course.

- The water conductor system is aligned within the earlier proposed corridor of 150 m width except at the tail end of TRT which is realigned to connect to the proposed new Lower reservoir, and the other change is being in the penstock diameter which is now proposed to be 5nos. of 7.1m diameter as against 5nos. of 6.0m proposed earlier due to revised discharge requirements as per revised capacity and rated head. The location of the water conductor system remains geologically unchanged.
- Further for the 1600 MW, the machine unit size has been changed to (320MW x 4 + 160MW x2) from the earlier proposed for 1260 MW (252MW x 4 +126MW x 2). The size of Powerhouse including Service Bay has accordingly been revised from (200.00m (L) x 24.00 m (W) x 51.12 m (H)) to (207 m (L) X 25.5 m (W) X 51.20 m(H)). The location of the Powerhouse remains unchanged and therefore geologically there is no change.
- It is proposed that One-time requirement of 0.759 TMC of water will be lifted from existing nearby Renuka Sagar reservoir and will be stored in the reservoirs to be constructed and used cyclically for energy storage and discharge. Evaporation losses of water will be recouped periodically from existing nearby Renuka Sagar reservoir based on the requirement.

v. The total capacity of proposed PSP is 1600 MW (9056 MWH) and envisages non-consumptive re-utilization of 0.683 TMC of water for recirculation among the proposed upper reservoir are at latitude 15°51'21.84" N North and longitude is 75°00’19.50" E East and that of lower reservoir are at latitude 15°50'46.62" N North and longitude 75°00'24.67" E East. Water from Renuka Sagar reservoir will be pumped and stored in the lower reservoir which will be used for power generation by re- circulating between Upper Reservoir & Lower Reservoir.

vi. **Chronology of Approvals/Clearances:**

Sl. No.	Activity	Date	IC (MW)	Remarks
1	Proceedings of Government of Karnataka for 600 MW PSP and Water Allocation (1 TMC)	12/03/2018	600	In favour of Greenko Solar Energy Pvt. Ltd.
2	Scoping Clearance/TOR	18/05/2018	1200	TOR was issued to Greenko Energies Private Limited

3	Corrigendum in TOR	06/07/2018	1200	Entity Name correction from Greenko Energies Private Limited to Greenko Solar Energy Private Limited (GSEPL)
4	Amendment of TOR	25/09/2018	1260	Due to increase in capacity from 1200 MW to 1260 MW; a surface powerhouse instead of underground and corresponding changes in other project parameters including changes in land requirement.
5	Public Hearing	07/01/2019	1260	PH was conducted at Karlakatti Village, Yakkundi panchayat, Saundatti Hobli Taluk, Belagavi district, Karnataka. Meeting was chaired by District Collector, Belagavi.
6	Proceedings of Govt. of Karnataka for 1260 MW PSP	27/02/2019	1260	Increase in capacity from 600 MW to 1260 MW
7	EC recommendation	25/04/2019	1200	EAC recommendation of environmental clearance subject to certain conditions vide MoEF&CC letter to Greenko Solar Energy Private Ltd.
8	Proceedings of Government of Karnataka for 1260 MW PSP	24/08/2020		Entity Name Change from GSEPL to Greenko KA01 IREP Pvt Ltd
9	Stage I forest Clearance for 160.40 ha of forest land	12/07/2022	1260	In favour of Greenko Solar Energy Pvt. Ltd.
10	Environment Clearance	19/09/2022	1200	In favour of Greenko Solar Energy Private Limited
11	Correction in Environment Clearance	24/03/2023	1260	In favour of Greenko Solar Energy Private Limited
12	GO from Water Resource Department	28/03/2023	1260	Approval of 1 TMC water from Renuka Sagar Dam
13	Proceedings of Govt. of Karnataka for 1600 MW PSP	14/03/2024	1600	In favour of Greenko KA01 IREP Private Limited

14	Renuka Sagar Dam NOC	22/05/2024	1260	
15	Fisheries NOC	23/05/2024	1260	
16	Stage II forest Clearance for 160.40 ha of forest land	21/08/2024	1260	In favour of Greenko Solar Energy Pvt. Ltd.
17	Consent to Establish (CTE)	20/09/2024	1260	In favour of Greenko Solar Energy Pvt. Ltd. Valid for a period of 10 years from the date of issue.
18	IRO Report	30/10/2024	1260	IRO EC compliance verification site report.
19	Transfer of EC in favour of Greenko KA01 IREP Pvt Ltd	10/03/2025	1260	In favour of Greenko KA01 IREP Private Limited
20	Amendment to CTE order (change of name)	17/03/2025	1260	Name changed to Greenko KA01 IREP Private Limited applied
21	Transfer of FC in favour of Greenko KA01 IREP Pvt Ltd	11/04/2025	1260	In favour of Greenko KA01 IREP Private Limited applied

vii. **Land requirement:** The total land requirement for proposed project is about 307.42 Ha; out of which 160.40 Ha is forest land and remaining 147.02 Ha is non-forest land.

viii. **Demographic details in 10 km radius of project area :** The study area for the proposed project primarily covers the Karlakatti village, Saundatti Taluk in Belagavi District of Karnataka. Belagavi district contains 1263 villages with total number of 9,83,854. It has a population of 47,79,661 with 24,23,063 males and 23,56,598 females, a population density of 356 per sq. km, a sex ratio of 973, and a literacy rate of 73.5% (male 82.2%, female 64.6%). The work participation rate for male and female is 56.6 and 31.1 respectively. Scheduled castes and tribes constitute 12.1% and 6.2% of the population, respectively.

ix. **Water requirement:** The water requirement for the project for initial filling (one-time) is about 28.317 Mm^3 (1 TMC) and the net annual evaporation losses will be around 1.33 Mm^3 (0.047 TMC) to be recouped annually during monsoon period..

x. **Project Cost:** The estimated project cost is Rs 11015.98 Crores. Total capital cost earmarked towards environmental management plan is Rs 2997.72 lakhs and the Recurring cost (operation and maintenance) will be about Rs 1290.85 per annum.

xi. **Project Benefit:**

Employment Generation

Saundatti IRESP is planned to be completed in 48 months, at the time of peak construction work in the project, around 1900 persons may be engaged. Out of 1900 the majority of about 1100 nos. (800 - labour and 300 - Technical) will be from the local population/surrounding Villages and balance about 800 (600 - labour and 200 - technical) will migrate from outside. During project operation, about 350 persons will be engaged permanently.

CER Activities (Local Area Development)

For the infrastructure development and strengthening of infrastructure facilities in the project area financial provision of Rs. 34.95 Crore has been committed under Corporate Environment Responsibility (CER). The investment of this magnitude in the area improves the local infrastructure in the region. As on March 2025, Rs. 86,81,904/- has been spent on various activities carried out under CER and balance has been kept for on-going activities. These activities include strengthening facilities in educational institutes, Health Care facilities, Environment Protection, Agriculture and Animal Husbandry, Skill Development activities, etc.

xii. **Environmental Sensitive area:** No project component falls in any notified protected area. Ghataprabha Bird Sanctuary is about 38.40 Kms aerial distance from the proposed reservoir area of the project.

xiii. **MOU/ any other clearance/ permission signed with State government:** MoU is entered with Karnataka State Government on 14.03.2024 on revised capacity (1600 MW).

xiv. **Resettlement and rehabilitation:** The private land proposed for procurement belongs to a total of 153 land owners of 2 villages (Chakrageri and Karlakatti), who will be losing part of their total agricultural land only and none of the families will be losing any house or any other assets. None of them is getting displaced due to the project from the above land procurement.

Private land is in the process of direct purchase and about 60% of total land required for the project has already been acquired.

Total private land required for the project	147.02 ha

Total Landowners identified for 147.02 Ha	153 Nos.
Land purchase already completed	88.26 ha
No. of landowners whose land purchase is settled	78 Nos.
Remaining land in the process of purchase	58.76 Ha
No. of Landowners for remaining land	75 Nos.

The total private land proposed to be purchased through private negotiations for the above Project is about 147.02 Ha. As the total private land required exceeds the specified limits by the relevant rules notified by the Government of Karnataka provisions related to rehabilitation and resettlement under RFCTLARR, 2013 shall apply for the proposed Project. The financial requirement for implementation of the Rehabilitation and Resettlement plan and Economic Development Package is **Rs. 891.50 lakh**.

xv. **Scheduled – I species:** As per Wildlife Protection Amendment Act, 2022, Bengal Fox, Golden Jackal, Grey Wolf, Jungle cat, Indian Grey Mongoose, Striped Hyaena, Bonnet Macaque, Indian Crested Porcupine, Indian Peafowl Mottled wood owl, Indian Peafowl, Mottled wood owl, Asian Chameleon, Rat Snake, Mugger/Crocodile, Indian Cobra, Indian Rock Python and Bengal Monitor Lizard are the Schedule-I species reported from the study area..

xvi. **Alternative Studies:** Post Environment clearance, keeping in view the market demand of energy storage requirement of about 6 hours and local as well state government's requirement of not utilizing the Renuka Sagar reservoir as lower reservoir; an alternative have been developed with 5.66 hours of generation hours closed loop pump storage project. This alternative has been finally selected which will have 1600 MW of installed capacity with two new reservoirs i.e. closed loop PSP sourcing one time water and annual recuperation from Renuka Sagar reservoir.

xvii. **Details of Solid waste/ Hazardous waste generation/ Muck and its management:**

The solid waste will be transported for disposal at the designated landfill sites. The bio- degradable portion of the solid waste would be disposed of by composting. Project will identify authorized vendors for recycling or disposal of Hazardous waste like used batteries, used oil and used oil filters. The total quantity of muck likely to be generated from excavation including construction of roads is about 17.88 Mcum. The entire excavated material, after the reutilization, is proposed to be dumped in 7 locations of area 65.14 Ha and capacity 10.618 Mcum.

xviii. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 07-01-2019. The main issues raised during the public hearing are related to drinking water, Irrigation, Agriculture, Air pollution, Water allocation from Renukasagar reservoir, Land acquisition.

xix. **Details of Certified compliance report submitted by RO, MoEF&CC**. IRO, Regional Office, Bangalore, conducted the site inspection as per the request from user agency and issued Site inspection report and Certified compliance report EP/12.1/2022-23/09/KAR/388 on 30.10.2024.

xx. Status of Litigation Pending against the proposal, if any: Nil

xxi. The salient features of the project are as under: -

- **Project details:**

Name of the Proposal	Saundatti IRESP
Location (Including coordinates)	The project is located in Karlakatti Village, Saundatti Tehsil, Belagavi District in the state of Karnataka
Inter- state issue involved	No
Seismic zone	Zone-III

- **Category details:**

Category of the project	1 (c)
Capacity / Cultural command area (CCA)	1600 MW
Attracts the General Conditions (Yes/No)	No
Additional information (if any)	NA

- **Electricity generation capacity:**

Powerhouse Installed Capacity	1600 MW
Generation of Electricity Annually	3139.42 MU
No. of Units	4×320 + 2×160
Additional information (if any)	NA

- **ToR/EC Details:**

Cost of project	11015.98 Crore
Total area of Project	307.42 Ha
Height of Dam from River Bed (EL)	42 m for Upper reservoir & 27 m for Lower reservoir
Length of Tunnel/Channel	652.18 m
Details of Submergence area	258.34 Ha
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 17.88 Mcum
E-Flows for the Project	NA
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.	NA
No. of trees/saplings proposed in view of 'Ek Ped Maa Ke Naam' campaign	250

- **Muck Management Details:**

No. of proposed disposal area/ (type of land- Forest/Pvt land)	Non-Forest Land – 65.14 Ha, comprising of 7 Muck disposal site (The land is not considered under this project as this land is available with project proponent for Solar Project)
Muck Management Plan	The total quantity of muck generated is 17.88 Mcum, in which 10.34 Mcum of excavated muck is expected to be reutilized. Capacity of the MDA is 10.618 Mcum. The Rehabilitation plan of muck dumping site includes engineering and biological measures.
Monitoring mechanism for Muck Disposal	Properly covered Dumper trucks will be used for transportation. Regular monitoring of the muck dumping will be conducted by State forest department and Karnataka State Pollution Control Board (KSPCB).

- **Land Area Breakup:**

Private Land	147.02 Ha
Government land	-
Forest Land	160.40 Ha
Total Land	307.42 Ha
Submergence area/Reservoir area	258.34 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	Yes	160.4 ha forest land diverted. File No: 8-29/2021-FC dated 21-08-2024 No project component falls in any notified protected area. Ghataprabha Bird Sanctuary is about 38.40 kms aerial distance from the reservoir area of the proposed project.
National Park	No	
Wildlife Sanctuary	No	

- **Court case details:** Nil

- **Previous EC compliance and necessary approvals:**

Particulars	**Letter no. and date**
Certified EC compliance report (if applicable)	IRO CCR dated 30.10.2024 File no: File No. EP/12.1/2022-23/09/KAR/388
Status of Stage- I FC	Stage I granted: File No.8-29/2021-FC dated 12-07-2022 Stage II granted: File No: 8-29/2021-FC dated 21-08-2024
Additional detail (If any)	NA
Is FRA (2006) done for FC-I	Yes

- **Miscellaneous:**

<table>
<tr><th>Particulars</th><th>Details</th></tr>
<tr><td>Details of consultant</td><td>R. S. Envirolinks Technologies Pvt. Ltd.</td></tr>
<tr><td>Project Benefits</td><td><u>Employment Generation</u>
Saundatti IRESP is planned to be completed in 48 months, at the time of peak construction work in the project, around 1900 persons may be engaged. Out of 1900 the majority of about 1100 nos. (800 - labour and 300 - Technical) will be from the local population/surrounding Villages and balance about 800 (600 - labour and 200 - technical) will migrate from outside. During project operation, about 350 persons will be engaged permanently.

<u>CER Activities (Local Area Development)</u>
For the infrastructure development and strengthening of infrastructure facilities in the project area financial provision of Rs. 34.95 Crore has been committed under Corporate Environment Responsibility (CER). The investment of this magnitude in the area improves the local infrastructure in the region. As on March 2025, Rs. 86,81,904/- has been spent on various activities carried out under CER and balance has been kept for on-going activities. These activities include strengthening of facilities in educational institutes, Health Care facilities, Environment Protection, Agriculture and Animal Husbandry, Skill Development activities, etc</td></tr>
<tr><td>Status of other statutory clearances</td><td>Stage I & Stage II for diversion of forest land granted</td></tr>
<tr><td>R&R details</td><td>The private land proposed for procurement belongs to a total of 153 land owners of 2 villages (Chakrageri and Karlakatti), who will be losing part of their total agricultural land only and none of the families will be losing any house or any other assets. None of them is getting displaced due to the project from the above land procurement.
Private land is in the process of direct purchase and about 60% of total land required for the project has already been acquired.
<table><tr><td>Total private land required for the project</td><td>147.02 ha</td></tr></table></td></tr>
</table>

	Total Landowners identified for 147.02 Ha	153 Nos.
	Land purchase already completed	88.26 ha
	No. of landowners whose land purchase is settled	78 Nos.
	Remaining land in the process of purchase	58.76 Ha
	No. of Landowners for remaining land	75 Nos.
	The total private land proposed to be purchased through private negotiations for the Project is about 147.02 Ha. As the total private land required exceeds the specified limits by the relevant rules notified by the Government of Karnataka provisions related to rehabilitation and resettlement under RFCTLARR, 2013 shall apply for the proposed Project. The financial requirement for implementation of the Rehabilitation and Resettlement plan and Economic Development Package is **Rs. 891.50 lakhs**.	
Additional detail (If any)	NA	

50.2.3 The EAC during deliberations noted the following:

- The Expert Appraisal Committee (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 TOR for conducting EIA/EMP for expansion in capacity (1260 MW to 1600 MW) of Saundatti (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited under the provisions of the para 7 (ii) (a) of the EIA Notification, 2006, as amended.

- The EAC noted that the project/activity falls under Category A of item 1(c) of the Schedule of the EIA Notification, 2006, as amended; hence, requires appraisal at the Central level by the sectoral EAC in the Ministry.
- The EAC noted that Environmental Clearance to Saundatti HEP Integrated Renewable Energy with Pumped Storage Project (1260 MW) was granted by the Ministry to M/s. Greenko Solar Energy Private Limited vide letter dated 19.09.2022 after submission of Stage-I clearance for the forest land 160.40 hectares. Stage-II Forest Clearance was granted vide letter dated 21.08.2024 by MoEF&CC, New Delhi. Further, Transfer of Environmental Clearance from M/s. Greenko Solar Energy Private Limited to M/s. Greenko KA01 IREP Private Limited was granted on 10.03.2025.

- The EAC noted that as per SECI requirement, irrespective of the Energy Storage Systems (ESS) technology being implemented in the Project, the developer shall be responsible for meeting Off-peak Hrs supply as well as minimum 6 Hrs. of Peak supply on daily basis. Consequently, the Saundatti IRESP generation hours have been reduced to 5.66 Hrs from 11.60 hr by enhancing the installed capacity to 1600 MW from 1260 MW by changing the unit capacities the project is being reconfigured and optimized to 1600 MW.

- It was further observed by the committee that the total capacity of proposed PSP is 1600 MW (9056 MWH) and envisages non-consumptive re-utilization of 0.683 TMC of water for recirculation among the proposed upper reservoir and lower reservoir. Water from Renuka Sagar reservoir will be pumped and stored in the lower reservoir which will be used for power generation by re- circulating between Upper Reservoir & Lower Reservoir.

- The EAC noted that the total land requirement for the project has increased from 213.70 hectares to 307.42 hectares. It was observed that there is no increase in the forest land component, which remains unchanged at 160.40 hectares. However, the non-forest land area has increased from 53.30 hectares to 147.02 hectares, primarily due to the inclusion of an additional project component, namely the construction of the Lower Reservoir. The PP informed that private land required for the project falls in two revenue villages viz. Chakrageri and Karlakatti Villages under Savadatti Tehsil which is located in the same study area for which EIA/EMP along with Public Consultation was done before grant of EC. The PP has informed that there is no change in project villages from where private land is being purchased for the expansion proposal (1260 MW open loop project to 1600 MW closed loop project) and more than 70% of total private land has been acquired.

- The Committee observed that the Regional Office, MoEF&CC submitted the Certified Compliance Report of the Environmental Clearance (EC) conditions on 30.10.2024. Hence PP required to submit a fresh Certified Compliance Report in terms of MoEF&CC O.M. dated 8.06.2022.

- The EAC was of the view that since PP has already conducted public hearing before grant of earlier Environmental Clearance on 07/01/2019 and additional private land required for proposed components is adjacent to the earlier components of the project and the lower reservoir falls in same study area for which EC was granted; moreover 70% of total private land has been acquired. Therefore, there is no requirement of fresh Public Consultation/Public hearing.

- The estimated project cost is Rs 11015.98 Crores. Total capital cost earmarked towards environmental management plan is Rs 2997.72 lakhs and the Recurring cost (operation and maintenance) will be about Rs 1290.85 per annum.

50.2.4 The EAC based on the information submitted and as presented during the meeting, recommended the proposal for grant of Specific ToR issued by the Ministry for Close Loop

Pumped Storage Projects vide OM dated 14.08.2023 for conducting EIA study without Public Consultation for proposed construction of the project for Saundatti (1260 MW to 1600 MW) (Integrated Renewable Energy with Pumped Storage Project) in an area of 307.42 Ha (213.7 ha existing + 93.72 Ha additional) in Village Badli, Mallor, Yekkundi, etc., Sub District Savadatti, District Belagavi Karnataka by M/s Greenko Ka01 IREP Private Limited, under the provisions of EIA Notification, 2006, as amended.

The meeting ended with vote of thanks to and from the Chair.

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ANNEXURE

ATTENDANCE

S. No.	Name of Member	Role
1.	Prof. Govind Chakrapani	Chairman
2.	Dr. Uday Kumar R Y	Member
3.	DR. J. V. Tyagi	Member
4.	Shri Kartik Sapre	Member
5.	Shri Ajay Kumar Lal	Member
6.	Dr. A. K. Sahoo,	Member Representative of Central Inland Fisheries Research Institute (CIFRI),
7.	Shri Rakesh Goyal	Member Representative of Central Electricity Authority (CEA)
8.	Shri Balram Kumar	Member Representative of Central Water Commission (CWC)
9.	Shri Yogendra Pal Singh	Member Secretary

APPROVAL OF THE CHAIRMAN

========== Forwarded message ==========
From: chakrapani govind <chakrapani.govind@gmail.com>
To: "Yogendra Pal Singh"<yogendra78@nic.in>
Date: Thu, 26 Mar 2026 11:22:56 +0530
Subject: Re: Draft MOM of the EAC (RVHEP) meeting held on 11.03.2026-reg.
========== Forwarded message ==========

Approved.
Chakrapani

On Thu, Mar 26, 2026 at 11:19 AM Yogendra Pal Singh <yogendra78@nic.in> wrote:

> Sir,
>
> The draft MOM of the EAC EAC (RVHEP) meeting held on 11.03.2026 was circulated amongst EAC members. The comments provided by the representative Member, CEA have been duly incorporated (highlighted in yellow). The modified draft MOM is attached herewith for kind perusal and approval please.
>
> With Regards,
>
> **Yogendra Pal Singh**
> **Scientist 'F'**
> **Government of India**
> **M/o Environment, Forest and Climate Change**
> **Room No. 236, 2nd Floor, Vayu Wing**
> **Indira Paryavaran Bhawan**
> **Jor Bagh, New Delhi-110003**
> **Tele-fax: 011-20819364**