सत्यमेव जयते

File No.: J-12011/22/2019-IA-I (R)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Dated **12/07/2025**

To,

Mr. N Gopi Krushna
M/s. GREENKO MP01 IREP PRIVATE LIMITED
2nd floor, D- Block, Plot Ni: 13, Sy. No: 64 Part, Hitech City layout, Madhapur Village, .,
HYDERABAD, TELANGANA, 500081
envifor.mp01@greenkogroup.com

Subject: **MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) in an area of 402.50 ha in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh by M/s Greenko Mp01 IREP Private Limited - Amendment in Environmental Clearances Reg.**

Sir/Madam,

This is in reference to to your online application No. IA/MP/RIV/477062/2024, submitted on 29/07/2024, seeking the grant of **Amendment in Environmental Clearance (EC)** in accordance with the provisions of the Environmental Impact Assessment (EIA) Notification, 2006, and its subsequent amendments. The application concerns the **MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW)** located in an area of 402.50 ha in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh by M/s Greenko Mp01 IREP Private Limited.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A0000MP5123853A
(ii) File No.	J-12011/22/2019-IA-I (R)
(iii) Clearance Type	Amendment in EC
(iv) Category	A
(v) Schedule No./ Project Activity	1(c) River Valley/Irrigation projects
(vi) Sector	River Valley and Hydroelectric Projects
(vii) Name of Project	MP30 Gandhi Sagar Standalone Pumped Storage Project
(viii) Location of Project (District, State)	NEEMUCH, MADHYA PRADESH
(ix) Issuing Authority	MoEF&CC
(x) EC Date	14/10/2024
(xi) Applicability of General Conditions	NO

(xiii) Status of implementation of the project

3. In view of the particulars given in Para 1 above, the project proposal, including Form-1 (Part A, B and C), was submitted to the Ministry for appraisal by the Expert Appraisal Committee (EAC) under the provisions of the EIA Notification, 2006, and its subsequent amendments.

4. The proposal is for amendment in the Environmental Clearance granted by the Ministry Vide letter dated 02.12.2021 for the project MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) located at in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh in favour of M/s Greenko MP01 IREP Private Limited (Previously Greenko Energies Private Limited).

5. The above-mentioned proposal has been considered by the Expert Appraisal Committee (EAC) during its meeting held on 13/08/2024. The minutes of the meeting, along with all submitted application documents (including Form-1 Parts A and B), are available on the PARIVESH portal, which can be accessed by scanning the QR Code above.

6. The EAC based on the information submitted and as presented during the meeting, **recommended** the proposal for grant of amendment in Environmental Clearance dated 02.12.2021 for MP30 Gandhi Sagar Off Stream Pumped Storage Project (1920 MW) in an area of 420.0272 ha by M/s Greenko MP01 IREP Private Limited in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh, under the provisions of EIA Notification, 2006, as amended subject to the following additional conditions (Annexure I).

7. The brief about the reasons for an amendment requested along with comparison table illustrating the details of amendments are annexed to this letter as Annexure (II).

8. The details of the project along with the comparative statement with reference to earlier proposal and revised proposal are enclosed as Annexure (III).

9. The Ministry of Environment, Forest, and Climate Change (MoEF&CC) has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006, and its subsequent amendments. Based on the Expert Appraisal Committee's (EAC) recommendation, the Ministry hereby accords approval for the Amendment in Environmental Clearance (EC) to the MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) in an area of 402.50 ha in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh by M/s Greenko Mp01 IREP Private Limited subject to compliance with the Specific and Standard EC conditions, general instructions issued vide EC letter dated 02/12/2021 and EC identification number EC21A003MP159461 and following additional specific conditions as outlined in Annexure I for ensuring environmental safeguards.

10. The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006, as amended. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

11. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

12. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

13. The Project Proponent is under obligation to implement commitments made in the Environment Management Plan, which forms part of this EC.

14. General Instructions:

(a) The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/ SEIAA website where it is displayed.

(b) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

(c) The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/ forest / wildlife norms / conditions.

(d) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

(e) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(f) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(g) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

(h) PP needs to comply the OM dated 24.07.2024 of MoEFCC, where it is stated that the plantation of saplings shall be carried out in the earmarked 33% greenbelt area as part of the tree plantation campaign " EK Ped Ma ke Naam" (एक पेड़ माँ के नाम (and the details of the same shall be uploaded in the MeriLife portal (https://merilife.nic.in).

15. This issues with the approval of the Competent Authority.

Copy To

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi -110 001.
2. The Secretary, Ministry of Water Resources, RD & GR, Shram Shakti Bhawan, Rafi Marg, New Delhi - 110 001.
3. Deputy Director General of Forests (DDGF), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal – 462016
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.
5. The Member Secretary, Madhya Pradesh Pollution Control Board, E-5, Main Rd No. 3, Ekant Park, Arera Colony, Bhopal, Madhya Pradesh 462016.
6. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road,

New Delhi
7. Guard File/Record File/Monitoring File/Website of MoEF&CC

Annexure 1

Specific EC Conditions for (River Valley/irrigation Projects)

1. Additional Conditions

S. No	EC Conditions
1.1	Miyawaki green plantation shall be carried out within a 10 km radius of the project area, in consultation with the Gram Panchayat
1.2	Time bound action plan for ensuring the compliance of partly complied Environmental Safeguard measures as reported by the Regional Office, MoEF&CC shall be submitted within one month to the concerned regional office.
1.3	All the conditions mentioned in Environmental Clearance dated 02.12.2021 and its subsequent amendment shall be complied with

Annexure 2

Amendment Logs

Description	Reference	Existing	Proposed / Amendment	Reason
NA	NA	NA	NA	NA

Annexure-III

MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) in an area of 402.50 ha in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh by M/s Greenko Mp01 IREP Private Limited

The details of the project: -

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

i. The proposal is for amendment in the Environmental Clearance granted by the Ministry Vide letter dated 02.12.2021 for the project MP30 Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) located at in village Khemla Block, Tehsil Rampur, District Neemuch, Madhya Pradesh in favour of M/s Greenko MP01 IREP Private Limited (Previously Greenko Energies Private Limited).

ii. The project proponent has requested for amendment in the EC with the details are as under;

S. No.	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/ read as	Justification/ reasons
1	Point No. 4 (vi)	Two nos. Reversible Francis turbine each of 120 MW capacity operating under a rated head of 121.0 m in generating mode and 128.70 m in pumping mode	Two nos. Reversible Francis turbine each of 120 MW capacity operating under a rated head of 119.95 m in generating mode and 127.85 m in pumping mode	The heads have been reworked out and therefore there is minor change in rated head values.
2	Subject	MP30Gandhi Sagar Off Stream Pumped Storage Project (1440 MW) in an area of 402.50 ha	MP30Gandhi Sagar Off Stream Open Loop Pumped Storage Project (1920 MW) in an area of 420.0272 ha	There is no change in project category except that capacity has been enhanced. However, as per new CEA guidelines such projects are categorized as Off-

				stream Open loop pumped storage project. There is a change in land requirement (Forest land 17.5272Ha) for the project.
3	Point No. 2	Capacity - 1440 MW	Capacity - 1920 MW	The project capacity 1440 MW (5X240 MW + 2X120 MW) has been enhanced to 1920 MW (7X240 MW + 2X120 MW) as per the requirements and demand from various State DISCOMs/STUs, to meet Off-peak hrs supply as well as peak supply for around 6 hr.
4	Point No. 4 (iii)	The project envisages non-consumptive re-utilization of 1.22 TMC of water of the Gandhi Sagar reservoir by recirculation	The project envisages non-consumptive re-utilization of 1.24 TMC of water of the Gandhi Sagar reservoir by recirculation	Without changing the project reservoir shape and levels the storage capacity reworked out to 1.24 TMC. The same shall be used for recirculation for generation & pumping vice versa as non-consumptive reutilization.
5	Point No. 4 (iv)	Capacity - 1440 MW	Capacity - 1920 MW	The project capacity 1440 MW (5X240 MW + 2X120 MW) has been enhanced to 1920 MW (7X240 MW + 2X120 MW) as per the requirements and demand from various State DISCOMs/STUs, to meet Off-peak hrs supply as well as peak supply for around 6 hr.
6	Point No. 4 (vi)	The project will involve	The project will involve construction	The type of dam changed to PVC

		construction of rock fill embankment of maximum height of 35 m for creation of MP 30 Gandhi Sagar Off-Stream PSP upper reservoir of 1.80 TMC gross storage and 1.22 TMC live storage	of GFRD embankment of maximum height of 38 m for creation of MP 30 Gandhi Sagar Off-Stream PSP upper reservoir of 1.90 TMC gross storage and 1.24 TMC live storage	Geomembrane Faced Rockfill Dam (GFRD) from the earlier proposed rockfill dam due to shorter construction period, less maintenance, easy connection to concrete surface, higher placing rate and resistance against wind uplift and the high drawdown rate of reservoir. In both the dams, the fill material is the rockfill and hence there is no change in the material type.
7	Point No. 4 (vi)	The upper reservoir is located at EL 491 m and the FRL and MDDL of this reservoir is at EL 523.00 m & EL. 508.00 m respectively	The upper reservoir is located at EL 491.25 m and the FRL and MDDL of this reservoir is at EL 522.20 m & EL. 508.00 m respectively	As per the latest topographical survey the reservoir levels have been optimized corresponding to the required storage capacities without changing the location.
8	Point No. 4 (vi)	6 nos. each of 683.48 m long and 7.5 m dia. surface circular steel lined Penstock/ Pressure Shaft in which 5 nos.. will feed 5 units each of 240 MW and 1 will bifurcate in to 2 of 5.3 m dia to feed 2 units of each of 120 MW	8 nos. each of 280.33 m long and 7.5 m dia. surface circular steel lined Penstock/ Pressure Shaft in which 7 nos.. will feed 7 units each of 240 MW and 1 will bifurcate in to 2 of 5.3 m dia to feed 2 units of each of 120 MW	The project capacity has been enhanced to 1920 MW by adding two more units of 240 MW each which requires two additional Penstock/pressure shaft. Thus, the total no of penstock/pressure shaft are 8
9	Point No. 4 (vi)	A surface powerhouse having an installation of 5 nos. of Reversible Francis turbine	A surface powerhouse having an installation of 7 nos. of Reversible Francis turbine each of 240 MW capacity	Enhancement of installed capacity from 1440 MW to 1920 MW requires installation of two additional pump

		each of 240 MW capacity operating under a rated head of 121.70 m in generation mode and 127.70 m in pumping mode	operating under a rated head of 121.45 m in generation mode and 127.25 m in pumping mode	turbines of 240 MW each i.e. number of total units has increased from 5 to 7.
10	Salient Features	Project Cost – 6991.25 Cr.	Project Cost – 11469.08 Cr.	The cost of the project has been increased due to addition of two more units, increased size of TRC, and change in power evacuation system.

iii. Detail reason for amendment in EC:

The project was designed for 7.23 hours of peak generation duration with 1440 MW installed capacity to create a storage capacity of 10411.20 MWH. As per the power grid requirement, PSPs should be designed for about 6 hours peak supply on daily basis. Keeping the grid requirement, the project operation duration has been optimized to 5.35 hours daily. Keeping the storage capacity close to earlier designed value, the installed capacity is revised to 1920 MW, which will give a storage capacity of 10272 MWH. This is achieved, without any change in the storage capacity of the upper reservoir. Lower reservoir is already existing Gandhi Sagar reservoir. Additional land requirement works out to be 17.5272 ha, which is forest land., there is no additional private land requirement. Out of 17.5272 ha, 8.3184 ha is under submergence in Gandhi Sagar and 5.55 ha is also surrendered as unused forest land from earlier diversion. Therefore, effective additional surface forest land is 3.6549 ha.

During detailed engineering design, keeping in view the further geological investigation, layout has been optimized to achieve 1920 MW installed capacity.

iv. The comparative statement with reference to earlier proposal and revised proposal is to be given in table format:

1		**FEATURS OF THE PROJECT**	**1440 MW**	**1920 MW**
2		**Location**		
	a	Country	India	India
	b	State	Madhya Pradesh	Madhya Pradesh
	c	District	Neemach	Neemuch
	d	Village near Powerhouse	Khemla Block, Rampura Taluk	Khemla Block

3		**Geographical Co-Ordinates**		
	a	**MP 30 GANDHI SAGAR PSP Upper Reservoir - (NowProposed)**		
		Latitude	24° 31' 6.89" N	24°31'6.89"N
		Longitude	75° 30' 56.12" E	75°30'56.12"E
	b	**Gandhi Sagar reservoir – Lower Reservoir (Existing)**		
		Latitude	24° 31' 5.4" N	24° 31' 5.4" N
		Longitude	75° 32' 5.28" E	75° 32' 5.28" E
4		**Access To Project Site**		
	a	Airport	Neemach, 85Km from project site	Neemach, 85Km from project site
	b	Rail head	Neemach, 67 Km from project site	Neemach, 67 Km from project site
	c	Road	SH 31A	SH 31A
	d	Port	Navlakhi	Navlakhi
5		**Project**		
	a	Type	Off-stream open loop pumped storage project	Off-stream open loop pumped storage project
	b	Storage Capacity	10411.20 MWH	10272 MWH
	c	Rating	1440 MW	1920 MW
	d	Peak operation duration	7.23 Hours daily	5.35 Hours daily
6		**MP 30 GANDHI SAGAR PSP – Upper Reservoir**		
	a	Live Storage	1.22 TMC	1.24 TMC
	b	Dead Storage	0.58 TMC	0.66 TMC
	c	Gross Storage	1.80 TMC	1.90 TMC
	d	Full Reservoir level (FRL)	EL +523.00 m	EL 522.2 m
	e	Minimum Draw Down Level (MDDL)	EL +508.00m	EL 508.0 m
	f	Top Bund Level (TBL)	EL +526.00m	EL 527.8 m
	g	Foundation Level	EL +491.00 m	-
	h	Max Height of Embankment	35.00 m	38.0 m
	i	Length of Embankment	5561.131 m	5990.0 m
7		**Gandhi Sagar reservoir – Lower Reservoir – (Existing)**		
	a	Type of Dam	Masonry Gravity Dam	Masonry Gravity Dam

	b	Full Reservoir Level (FRL)	EL 400.00 m	EL 400.00 m
	c	Minimum Draw Down Level (MDDL)	EL 381.00 m	EL 381.00m
	d	Height of Dam above deepest bed level	63.70 m	63.70 m
	e	Length of Dam	514.00m	514.00 m
	f	Gross Storage Capacity	258.47 TMC	258.47 TMC
8		**RCC intake Structure**		
	a	Type	Diffuser Type	Diffuser Type
	b	Elevation of Intake center line	EL +495.50 m	EL 495.00 m
	c	Elevation of Intake bottom	EL +491.05 m	EL 491.25 m
9		**Penstock /Pressure Shafts**		
	a	Type	Finished steel lined – circular	Finished steel lined - circular
	b	Number of Penstocks	6 Nos. wherein 1 No. Independent Pressure shaft bifurcated in to 2 for smaller units.	8 Nos. wherein 1 No. Independent Pressure shaft bifurcated in to 2 for smaller units.
	c	Diameter of Penstock	7.5 m - Main Penstock 5.3 m – Branch Penstock	7.5 m - Main Penstock 5.3 m – Branch Penstock
	d	Length of penstock/Pressure Shaft	For 5 nos. – 683.48 m each (MainPenstock) for 5 larger units For 1 no. – 607.23m long (Main Penstock) and 76.25m each Branch Penstock for 2smaller units	For 7 nos. – 671.33 m each (MainPenstock) for 7 larger units For 1 no. – 631.93 m long (Main Penstock) and 75.00 m each Branch Penstock for 2smaller units
10		**Powerhouse**		
	a	Type	Surface Powerhouse	Surface Powerhouse
	b	Dimensions (Excluding Service Bay)	181.20m (L) x 25.50m (W) x 56.10m (H)	233.25 m (L) x 25.5 m (W) x 53.10 m (H)
11		**Tail Race Tunnel**		

	a	Type	Concrete Lined - Circular	Steel lined - circular
	b	Number of tunnels	7 Nos (5 individual tunnels for larger units& 2 individual tunnels for smaller units)	9 No (7 individual tunnels for larger units & 2 individual tunnels for smaller units)
	c	Diameter for larger unit	8.5 m each	8.5 m each
	d	Length for larger unit	97.318 m each	97.33 m each
12		**Tail Race Channel**		
	a	Type & Shape	Concrete lined & Trapezoidal	Concrete lined & Trapezoidal
	b	Length of the channel	860.00 m	4002 m
	c	Bed Width	85.00 m	280 m
	d	Full supply depth	6.0 m	5.0 m
	e	Bed slope	1 in 7000	1 in 4002
13		**Tailrace Outlet Structure**		
	a	Type	Diffuser Type	Diffuser Type
	b	Elevation of outlet Centre line	EL +370.71 m	EL 370.60 m for larger units EL 369.45 m for smaller units
14		**Hydro-Mechanical Equipment**		
	a	**RCC Intake Structure**		
	i	Trash Rack	Vertical with inclination of 15°	Vertical with inclination of 15°
	ii	No. of Trash racks	6 nos.	8 nos.
	iii	No. of bays in each trash rack	2 nos. of 7.75m(W) x 10.97m(H) & 1 no. of 8.5m(W) x 10.97m(H) for each unit	3 No of 8.0 m(W) x 11.18 m(H) for each intake
	iv	Intake Service Gate	Size – 6.20m (W) x 7.50 m (H) – 6 Nos. with Rope Drum Hoist	8 No. - 5.9 m(W) x 7.5 m (H) withindependent rope drum hoist
	v	Intake Stop log Gate	Size – 6.20m (W) x 7.50 m (H) – 1 No. with moving Gantry	1 No. - 5.9 m (W) x 7.5 m (H) with moving gantry
	b	**Draft Tube Gates**	High pressure steel type slide gates	-

	i	No. of Service gates per unit	5 Nos. - 7.0 m (W) x 8.5 m (H) for Larger Units & 2 Nos. - 5.1 m (W) x 6.2 m (H) for Smaller Units with Independent Hydraulic Hoist	-
	ii	No. of Stoplog gates per unit	1 No. – 7.0 m (W) x 8.5 m (H) for LargerUnits & 1 No. - 5.1 m (W) x 6.2 m (H) for Smaller Units with Moving Gantry Crane	-
	c	**Tailrace Outlet Structure**		
	i	No. of Trash racks	7 nos.	9 No. (7 No. for larger units & 2 no. forsmaller units
	ii	No. of bays in each trash rack	2 nos. of 6.65m(W) x 10.87m(H) & 1 no. of 6.70m(W) x 10.87m(H) for each larger unit & 2 nos. of 5.20m(W) x 6.73m(H) + 1 no. of 6.60m(W) x 6.73m(H) for each smaller unit	3 No 6.67 m(W) x 12.0m (H) for each largerunit 3 No 5.67 m(W) x 7.87 m(H) for eachsmaller unit
15		**Coffer dam**		
		Length	-	1011 m
		Max. height	-	17.0 m
		Top level	-	EL 405.0 m
16		**Electro-Mechanical Equipment**		
	i	Pump Turbine	Francis type, vertical shaft reversible Pump-turbine	Francis type, vertical shaft reversible pump-turbine
	ii	Total No of units	7 no's (5 X 240MW & 2 X 120 MW)	9 No (7 X 240MW & 2 X 120 MW)
	iii	Total Design Discharge (Turbine Mode)	1326.75 Cumec	1798.92 Cumec
	iv	Rated Head in Turbine mode	121.70 m for larger unit & 121.00m for smaller unit	121.45 m for larger unit & 119.95m for smaller unit
	A	**240 MW Turbines**		
	i	Total No of units	5 Units (Fixed speed)	7 Units (Fixed speed)

	ii	Turbine Design Discharge	220.91 Cumec	224.04 cumec
	iii	Rated Head in Turbine Mode	121.70m	121.45 m
	iv	Pump Capacity	251 MW	249 MW
	v	Rated Pumping Head	127.90 m	127.25 m
	Vi	Rated Pump Discharge	183.86 Cumec	185.02 Cumec
	vii	Synchronous speed	136.36 rpm	187.50 rpm
	I	**Generator-Motor**		
	a	Type	Three (3) phase, alternating current synchronous generator motor semi umbrella type with vertical shaft	Three phase, alternating current synchronous, generator motor semi umbrella type with vertical shaft
	b	Number of units	5 Units	7 Units
	c	Rated Capacity	Generator – 240 MW; Pump Input – 251 MW	Generator – 240 MW Pump Input – 249 MW
	d	Rated Voltage	18 KV	18 kV
	II	**Main Power Transformer**		
	a	Type	Three Single Phase Power transformerswith Off-Circuit tap changer (OCTC)	Outdoor three-Phase transformers with on-load tap changer (OLTC)
	b	Number of units	15 Numbers (ie. 3 Nos./Unit)	7 units
	c	Rated Capacity of each unit	Single Phase, 18KV/400 KV, 100 MVA	315 MVA
	d	Rated Voltage	Primary – 18 kV; Secondary - 400 kV adjustable range of the secondary voltage: - 10% to +10%(3kV/tap)	Primary – 18 kV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10% (in 1.25% of steps
	B	**120 MW Turbines**		
	i	Total No of units	2 Units (Variable speed)	2 Units (both are Fixed speed)
	ii	Turbine Design Discharge	111.10 Cumec	115.32 cumec
	iii	Rated Head in	121.00 m	119.95 m

		Turbine Mode		
	iv	Pump Capacity	135 MW	134 MW
	v	Rated Pumping Head	128.70 m	127.85 m
	vi	Rated Pump Discharge	98.16 Cumec	98.78 cumec
	vii	Synchronous speed	187.50 rpm	272.73 rpm
	I	**Generator-Motor**		
	a	Type	Three (3) phase, alternating current asynchronous generator motor semi umbrella type with vertical shaft	Three (3) phase, alternating current synchronous, generator motor semi umbrella type with vertical shaft
	b	Number of units	2 Units	2 units
	c	Rated Capacity	Generator – 120 MW Pump Input – 135 MW	Generator – 120 MW Pump input – 134 MW
	d	Rated Voltage	18 KV	18 kV
	II	**Main Power Transformer**		
	a	Type	Indoor, 3-Ph transformers with Off-Circuittap changer (OCTC)	Outdoor, 3-Ph transformers with On-load tap changer (OLTC)
	b	Number of units	2 Units	2 units
	c	Rated Capacity of each unit	Each 160 MVA, 18KV/400 KV rating power transformers.	166 MVA
	d	Rated Voltage	Primary – 18 KV; Secondary - 400 kV adjustable range of the secondary voltage: -10% to +10%(3kV/tap)	Primary – 18 kV; Secondary - 400 kV adjustable range of the secondary voltage:-10% to +10% (in 1.25% of steps)
17		**Gas Insulated Switchgear (GIS)**	**400 KV Gas Insulated Switchgear**	**420 kV Gas Insulated Switchgear**
	b	No. of GIS units	One No.	One No. with bus sectionaliser
	c	Location	Inside GIS Building above ground	Inside GIS building above ground
	d	Scheme	Double Busbar Arrangement with bus	Double busbar arrangement with bus sectionaliser

			coupler	
18		**Power Evacuation**		
	a	Voltage Level (KV)	400 KV	400 kV
	b	No. of Transmission lines	One 400 KV transmission line with double circuit.	one 400 kV double circuit transmission line on lattice towers from MP30 Gandhi Sagar PSP pothead yard to 765/400 kV PGCIL Mandsaur Substation, Madhya Pradesh State.
	c	Total Length	400 KV Double Circuit Transmission Lines with Moose conductor of length 81 Kms (app) from PSP will be connected to **400 / 220 KV PGCIL substation** at **Kota of Rajasthan State** for evacuation of generated Power and for Supply of power during pumping mode	Transmission Lines are of 65 km (approx.) length for evacuation of Stored Power from MP30 Gandhisagar PSP during Generating mode and for input power to PSP during pumping mode.
19		**ESTIMATED COST**		
	a	Civil Works	2797.67 Cr.	7057.26 Cr
	b	E&M Works incl. Transmission line	1930.50 Cr.	3112.34 Cr
	c	IDC & Others	2263.08 Cr.	1299.48 Cr
		Total Project Cost with IDC	**6991.25 Cr.**	11469.08 Cr

Signature Not Verified

Digitally Signed by : Yogendra Pal Singh
Member Secretary, MoEFCC (EC)

Date: 12/07/2025