



भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FOREST
& CLIMATE CHANGE

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नस्ती क्रमांक 6-MPA014/2021-BHO/1081

दिनांक : 15/07/2021

प्रति,

श्री श्रवण कुमार वर्मा,
उप वन महानिरीक्षक (एफ.सी.)
पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय,
इंदिरा पर्यावरण भवन,
जोर बाग रोड, अलीगंज
नई दिल्ली 110003 ।

विषय: नीमच जिले के अन्तर्गत वनमण्डल नीमच में एमपी-30 गांधीसागर ऑफ-स्ट्रिम पम्पेड स्टोरेज परियोजना (1440 मेगावाट) के निर्माण हेतु 301.96 हे० वनभूमि ग्रीनको एनर्जी प्रायवेट लिमिटेड, हैदराबाद को उपयोग पर देने बाबत ।

संदर्भ : आपका पत्र क्रमांक 8-18/2021-FC दिनांक 06/07/2021 ।

महोदय,

उपरोक्त विषय के संदर्भ में लेख है कि इस कार्यालय द्वारा स्थल निरीक्षण प्रतिवेदन संलग्न कर अग्रेतर कार्रवाई के लिए प्रेषित की जा रही है।

संलग्न: उपरोक्तानुसार

(हर राम कुमार)
तकनीकी अधिकारी (वानिकी)

Site Inspection Report in respect of diversion of 301.96 ha. land in Reserve Forest (RF) in Compartment no 438, 439, 440, 444, 445 & 446 of Rampura Pathar Forest Range, Neemuch Forest Division, District Neemuch in favour of MP30 Gandhi Sagar Off-Stream Pumped Storage Project (1440 MW) by M/s. Greenko Energies Private Limited (GEPL), Hyderabad.

The CA land was inspected by me on 13th July 2021 and Project site on 14th July 2021. During site inspection Shri Vijay Singh DFO Neemuch, Smt. Meena Mishra DFO Shivpuri, Shri Rajeev Nayan (GEPL) and other officials of User Agency and Neemuch and Shivpuri Forest Division accompanied me.

1. Legal status of the forest land proposed for diversion:

Type of Land	Total Project Area(ha)
Reserve Forest	301.96 Ha

2. The land use shall be as follows:-

S. No.	Work Name	Applied area (ha)
1	Upper Reservoir	253.11
2	Approach Roads	25.61
3	Adit (Under Ground)	0.60
4	Penstock, PH & TRC	22.64
	TOTAL	301.96

3. Details of Component wise breakup:-

The project requires a total of 402.50 Ha of land, including 301.96 Ha of forest land and 100.54 Ha of Non-Forest Land. Out of 301.96 Ha of forest land, 253.11 Ha is needed for Upper Reservoir, 25.61 Ha for approach roads, 22.64 Ha for Penstock, Pump House and Tail Race Channel and 0.6 Ha for Adit. Component wise break up land required for the project is given in the table below:

S. No.	Project Component	Land (Ha)		
		Total Area	Forest	Non-Forest
1	Upper Reservoir	311.27	253.11	58.16
2	Approach Roads			
i	Road from Powerhouse to Upper Reservoir	9.14	9.14	0.00
ii	Road to Powerhouse along with Gandhi Sagar Reservoir periphery	12.79	12.79	0.00
iii	Road from Job facilities to Upper Reservoir	0.44	0.00	0.44
iv	Road from Khemla Block to Upper Reservoir	3.68	3.68	0.00
3	Adit	0.60	0.60	0.00
4	Penstock, PH & TRC	24.48	22.64	1.84
5	Job Facilities	15.00	0.00	15.00
6	Muck Disposal	25.00	0.00	25.00

S. No.	Project Component	Land (Ha)		
		Total Area	Forest	Non-Forest
7	Magazine	0.10	0.00	0.10
	TOTAL	402.50	301.96	100.54

4. The Project is estimated to cost Rs 6991.25 Crores.

5. Wildlife:

Whether forest area proposed for diversion is important from wildlife point of view or not:

The applied area for diversion **does not form part of** any National Park, Wildlife Sanctuary, and Biosphere Reserve.

Gandhi Sagar Wildlife Sanctuary is the nearest notified Protected Area which is located at about 4 Km from the nearest project component. All the project components are located outside the Eco-Sensitive Zone (ESZ) of Gandhi Sagar Wildlife Sanctuary notified by Govt of India vide notification dated 5th December 2016 and ESZ boundary is 1.02 km from the proposed project area. PCCF (Wildlife)-cum-Chief Wildlife Warden, Govt of Madhya Pradesh has issued NOC vide letter dated 12.02.2021 in this regard.

As per the EIA & EMP studies, *Boselaphustrago camelus* (Blue bull), *Semnopithecus entellus* (Common Langur), *Herpestes edwardsii* (Indian Grey Mongoose), *Canis aureus* (Jackal), and *Funambulus pennantii* (Five-striped Palm Squirrel) and a total of 46 species of birds belonging to 14 orders are found in the area. Among reptiles/amphibians Stream frog, Indian Monitor lizard, and Garden lizard were commonly sighted species. Apart from above, Species like Leopard (*Panthera pardus*), Crocodile (*Crocodylus palustris*), Indian Peafowl (*Pavo cristatus*), White-rumped Vulture (*Gyps bengalensis*), Indian Monitor lizard (*Varanus bengalensis*), and Indian Rock Python (*Python molurus molurus*) are reported in the Neemuch Forest.

List of Fauna found in the proposed area

S. No	Common Name	Zoological Name	Schedule Wildlife (Protection) Act, 1972
1	Common Leopard	<i>Panthera pardus</i>	I
2	Jackal	<i>Canis aureus</i>	II
3	Wild Boar	<i>Sus scrofa</i>	III
4	Fox	<i>Vulpes bengalensis</i>	II
5	Porcupine	<i>Hystrix indica</i>	IV
6	Nilgai/Blue Bull	<i>Boselaphustrago camelus</i>	III
7	Common Langur	<i>Semnopithecus entellus</i>	II
8	Crocodile	<i>Crocodylus palustris</i>	I
9	Indian Rock Python	<i>Python molurus molurus</i>	I
10	Indian Monitor Lizard	<i>Varanus bengalensis</i>	I
11	Mongoose	<i>Herpestes edwardsii</i>	II
12	Common Hare	<i>Lepus nigricollis</i>	IV
13	Indian Peafowl	<i>Pavo cristatus</i>	I
14	Sarus crane	<i>Antigone antigone</i>	IV
15	White-rumped Vulture	<i>Gyps bengalensis</i>	I

6. Vegetation:-

The area proposed for diversion falls under the Deccan Peninsular Bio-geographic region of India and comprises of Southern Mixed Deciduous Forest and Dry Deciduous Scrub Forest type. A total 36 trees species have been recorded in the area. The proposed area for diversion falls under Improvement and Rehabilitation working circle.

Most of the area is under stocked and falls under Eco-Class III.

(a) Total number of trees to be felled. 56,840 nos

Effect of removal of trees on the general ecosystem in the area:

- The area proposed for diversion is generally plain and is not vulnerable to erosion.
- The Crop is young or middle aged. There are only 9296 trees of more than 60 cm girth which works out to 30.78 trees/ha. There are 47544 trees of girth less than 60 cm i.e. 157.43 trees/ha.

(b) Important species:

The Crop mainly consists of Bija (*Pterocarpus marsupium*), Dhawra (*Anogeissus latifolia*), Tendu (*Diospyrous melanoxylon*), Palash (*Butea monosperma*), Saja/ Sadar (*Terminalia tomentosa*), Khair (*Acacia catechu*), Amaltash (*Cassia fistula*), Semal (*Bombax ceiba*), Dhaman (*Grewia tiliaefolia*), Salar (*Boswellia serrata*), Kullu (*Sterculia urens*), and others.

7. Background note on the proposal:

MP 30 Gandhi Sagar is an Off-Stream pumped Storage Project where in no new construction is envisaged on any river/stream. This project consists of two reservoirs i.e. Gandhi Sagar reservoir (this will act as Lower Reservoir and is already existing) and Upper Reservoir (to be constructed) which is located away from all existing natural systems. Upper reservoir area is flat and storage will be created by constructing Embankment in the proposed area.

The proposed scheme involves construction of rock fill embankment (upper reservoir) - 35.0 m (avg) in height, for gross storage of 1.80 TMC (50.97 MCM) water. Water conductor system consists of 6 Nos. wherein 1 No. Independent Pressure shaft bifurcated into 2 for Smaller units which connects the Surface powerhouse.

Pumped storage projects are reportedly essential for integration of Renewable energy from Solar and Wind in the grid. Solar and wind are intermittent sources of energy, when integrated with pumped storage they can supply stable and schedulable power or Power on demand. As per the information shared by the Project Developer, the Detailed Project Report (DPR) is under active consideration by the Central Electricity Authority (CEA) for grant of Techno Economic Concurrence.

8. Compensatory afforestation:

UA has identified an extent of 341.91 Ha of Non-Forest Land in 11 patches towards Compensatory Afforestation (CA) in Umari Biran, Bapabali, Neguwan village of Pichhora Tehsil, Shivpuri Dist. of Madhya Pradesh in lieu of 301.96 ha of Forest land proposed for diversion.

The identified Patta Land (Non-forest) for Compensatory Afforestation (CA) is adjoining the Forest area of Compartment Nos 398,1063, 1064, 1065, 1066, 1078 &1079 of Karera Forest of Shivpuri forest division. Based on the site suitability, DFO Shivpuri has prepared C.A scheme for 334.88 Ha area in 11 patches which was found suitable for raising Compensatory Afforestation (CA).

Detailed CA scheme has been prepared for the 11 patches and CCF, Shivpuri has accorded necessary technical sanction for the CA scheme.

a) **Whether land for compensatory afforestation is suitable from plantation and management point of view or not:**

Yes

b) **Whether land for compensatory afforestation is free from encroachment/other encumbrances:**

Yes.

c) **Whether land for compensatory afforestation is important from Religious/Archaeological point of view:-**

No.

d) **Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not:**

Based on the site suitability certificate issued by the DFO, and the technical sanction accorded by CCF Shivpuri, out of 341.91 Ha of Non-Forest Land proposed, 334.88 Ha area in 11 compact patches has been found suitable for raising Compensatory Afforestation (CA).

Village Wise and Patch Wise breakup of proposed CA land				
Patches	Division	Range	Village	Extent (ha)
1	Shivpuri	Karera	UmriViran	53.22
2	Shivpuri	Karera	Neguwan	26.85
3	Shivpuri	Karera	Neguwan	13.26
4	Shivpuri	Karera	Bapawali	67.08
5	Shivpuri	Karera	Bapawali	23.56
6	Shivpuri	Karera	Bapawali	11.45
7	Shivpuri	Karera	Bapawali	5.46
8	Shivpuri	Karera	Bapawali	25.74
9	Shivpuri	Karera	Bapawali	8.33
10	Shivpuri	Karera	Bapawali	80.95
11	Shivpuri	Karera	Bapawali	18.98
Total				334.88

e) **Map with details: -**

Maps (SoI Topo sheet and GPS/DGPS points) enclosed in the proposal.

f) **Total financial outlay:**

Cost for raising Compensatory afforestation over **334.88 ha** Non-Forest land under Shivpuri Forest Division is **Rs. 21.48 crores** and CCF, Shivpuri has accorded necessary technical sanction for the CA scheme.

9. **Whether proposal involves violation of Forest (Conservation) Act, 1980 or not. If yes, a detailed report on violation including action taken against the concerned officials:**

No

10. **Whether proposal involves rehabilitation of displaced persons. If yes, whether rehabilitation plan has been prepared by the State Government or not:**

The project **does not involve** displacement of any human habitation.

As per the EIA/EMP, the entire private land identified for the project falls in one revenue village namely Khemla Block, under Tehsil Rampura, District Neemuch. The private land proposed for procurement belongs to a total of 88 landowners (138 PAFs). All the 138 families will be losing their agricultural land only and none of the families will be losing any house or any other assets.

None of families are getting displaced due to the project and hence no relocation required. Financial Provision for implementation of the Rehabilitation and Resettlement plan and Economic Development Package is Rs. **809.00 lakhs**

11. **Reclamation plan:**

For Disposal of the waste, **Private land** (25 Ha) has been identified and no forest land is required for muck disposal.

The total quantity of waste likely to be generated from excavation including construction of roads is about 4.56 cum. About 2.28 cum of excavated muck is expected to be utilized in PSP.

Muck disposal plan enclosed in the proposal.

12. **Details of Catchment and Command Area Plan:**

As per the User Agency, MoEF & CC (IA Division), while granting Scoping Clearance (TOR) for the project has exempted the project from the following:

- CAT plan is exempted because no significant catchment area is contributing to the project.
- Fishery Development plan and Release of Environmental flows are exempted because of the proposed reservoirs are not on any water/river course and further, the reservoirs created will have fluctuating levels.

13. **Cost-Benefit analysis:**

As per the Cost Benefit Analysis provided by the UA, the Cost Benefit (CB) ratio is reported as 3.48

14. Recommendations of the Principal Chief Conservator of Forests/State:

Recommended.

15. Recommendations of Dy. Director General of Forest (Central) along with detailed reasons:

Keeping in mind overall benefits of the project for the State and Country in meeting Peak Power requirements and employment generation potential, the proposal for diversion of 301.96 Ha for forest land is recommended with the following additional conditions:

1. Trees will be planted and maintained at the project cost on either side of the approach roads, wherever possible.
2. WL Conservation and Management plan as approved by CWLW vide letter dated 21.06.2021 should be implemented in to-to.

16. Dy. Director General of Forests shall give detailed comments on whether there are any alternative routes/alignment for locating the project on the non-forest land:-

As per the discussion with project authorities, it was informed that Pumped storage projects are site specific projects, as requirements for the project are quite stringent from following point of view:

- Topographical
- Geological
- Availability of Head (height) and water Source
- Techno Commercial viability

Considering the above objectives, user agency apprised that three (3) alternatives were studied before finalizing the present project location.

Alternatives	Forest (Ha)	Non-Forest (Ha)	Total Land (Ha)	Remarks
1.	301.96	100.54	402.50	Present Location (As per FDP)
2.	419.73	41.85	461.58	-
3.	521.50	64.75	586.25	-

Out of the three alternatives considered, alternative 1 (present location) is having the least forest area involved compared to other two alternatives.

Further, at the present site, suitable area is available at a differential height from the existing Gandhi Sagar reservoir and the distance between the existing Gandhi Sagar reservoir and the proposed Upper Reservoir is also bare minimum. Gandhi Sagar reservoir (existing) is under operation with a live storage capacity of 258.47 TMC (7319 MCM) of water which will be utilised as Lower Reservoir for MP 30 Gandhi Sagar Off Stream Pumped Storage Project. Looking to the topography in the area and information provided by the project proponent, the forest area proposed for diversion is minimum and unavoidable.

17. Utility of the project:

Power/energy is one of the prime requirements for the overall development of a State and Nation. Since, IREP power is the cleanest, cheapest and environmentally friendly source of energy, development of this project will facilitate the emergence of industries, trade and commerce thereby bringing economic development in the State and Country.

Pumped Storage Project (PSP) place an important role for load balancing of electricity grids. It facilitates energy from intermittent sources such as solar, wind and other renewables or excess electricity from other power plants to be stored at the time of lower demand and released at the time of higher demand.

The reservoirs used for PSP are quite small compared to conventional Hydro Electricity Projects of similar power capacity.

PSP is proven, reliable source of storage of energy and only source capable of storing largest capacity and support in Grid stability. Proposed PSP is largest in the country and is essentially required in State of MP because of availability large Renewable Energy Sources.

The proposed location requires minimum area for submergence for reservoir formation and minimum length for water conductor system.

The project is likely to provide employment for 4800 people during construction and 200 no of people during operation period.

The Project would contribute to planned peak power generation and allow harnessing of the available renewable Energy potential of state.

There would be direct revenue to the State and the Nation and will help in providing quality power to the consumers.

Improved power supply will result in establishment of more industries and production units in the state boosting the overall economy of the state and the country at large.

18. Whether land being diverted has any socio-cultural/ religious value:

a) The land being diverted has **no socio-cultural/ religious value.**

b) **Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion:**

There are **no sacred grove or any very old growth trees/forests** in the areas proposed for diversion.

c) **Whether the land under diversion forms part of any unique ecosystem:**

The land under diversion **does not form part of any unique ecosystem.**

19. Situation with respect to any Protected Area:

Gandhi Sagar Wildlife Sanctuary is the nearest notified Protected Area which is located at about 4 Km from the nearest project component. All the project components are located outside the Eco-Sensitive Zone (ESZ) of Gandhi Sagar Wildlife Sanctuary and ESZ is 1.02 km

from the proposed project area. PCCF (Wildlife)-cum-Chief Wildlife Warden, Govt of Madhya Pradesh has issued NOC vide letter dated 12.02.2021 in this regard.

Considering the Proximity of Gandhi Sagar Wildlife Sanctuary, a site-specific Conservation Plan for Schedule-I species was prepared and has been approved by PCCF (Wildlife)-cum-Chief Wildlife Warden, Madhya Pradesh, dated 21/06/2021. The total budget allocated focusing on Biodiversity management and Wildlife Conservation including Conservation Plan for Schedule -I species is **Rs 166.90 Lakh**

20. Any other information relating to the project:

Status of Water allotment:


The UA has received water allotment from State Water Resource Department, MP vide letter dated 27.01.2021.

Status of Environmental Clearance:

The project was granted Scoping clearance/TOR by MoEF & CC (IA Division) with installed capacity of 1360 MW project granted in Feb 2020. Thereafter, amendment for scoping clearance for 1440 MW installed capacity was granted by MoEF & CC in January 2021. EIA/EMP studies required for Environment clearance were completed in December 2020 and Public Hearing has been conducted in January 2021. At present Environment Clearance application is under active consideration by MoEF & CC (IA Division), New Delhi.

Status of FRA Certificate:

District Collector, Neemuch vide letter dated 09.07.2021 has issued necessary FRA certificate under Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forests Rights) Act, 2006.

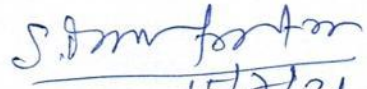

15/7/21
(Subrat Mohapatra, IFS)
Dy. Director General of Forest (Central)

**REPLY TO QUERIES RAISED BY MINISTRY OF ENVIRONMENT FOREST AND
CLIMATE CHANGE**

S. N.	QUERY	REPLY BY NODAL OFFICER (M.P.)	REMARKS OF DDGF(C)
i.	In the justification for locating the project on forest land and the alternatives explored is based on economic criterion i.e. on the basis of shorter period of construction and lesser cost. Reasons/ rationales for finalization of locating proposal in forest land based on minimum forest area involved has not been accounted. State Government may submit a detailed justification.	बिन्दु क्रमांक-1, 2, 5 एवं 7 की जानकारी का संबंध आवेदक संस्था से हैं। इन बिन्दुओं पर आवेदक संस्था द्वारा उनके पत्र दिनांक 14.7.2021 से प्रेषित की गई है, जो संलग्न है।	The detailed justification provided in the project report. The abstract provided in para 1b of the Site Inspection Report.
ii.	Approved copy of the CAT Plan need submission.	बिन्दु क्रमांक-1, 2, 5 एवं 7 की जानकारी का संबंध आवेदक संस्था से हैं। इन बिन्दुओं पर आवेदक संस्था द्वारा उनके पत्र दिनांक 14.7.2021 से प्रेषित की गई है, जो संलग्न है।	This case was examined. Since this is not a run-off of river stream does not require CAT plan.
iii.	In case of Compensatory Afforestation (CA) it has been observed that:		
a.	In the inspection report of DFO concerned, it has been mentioned that the CA has been proposed in Eleven patches on NFL, however as per kml files submitted the CA has been proposed on four patches only. The anomaly needs clarification.	बिन्दु क्रमांक-3(a) के संबंध में लेख है कि वैकल्पिक वृक्षारोपण हेतु गैर वनभूमि शिवपुरी जिले में प्राप्त हुई है। प्रबंधन की दृष्टि से वनमण्डलाधिकारी, शिवपुरी द्वारा रोपण योजना 11 टुकड़ों में तैयार की गई है। तदनुसार 11 टुकड़ों में वृक्षारोपण योजना की तकनीकी स्वीकृति मुख्य वन संरक्षक, शिवपुरी द्वारा जारी की गई है।	The final C.A. KML file has been made available for 11 patches only.
b.	Irregular shapes of NFL pledged for compensatory afforestation where non acquired patches are falling within acquires patches may further make proposed CA patches liable to encroachment. This issue needs clarification. Copy of DSS analysis is enclosed.	बिन्दु क्रमांक-3(b) के संबंध में लेख है कि क्षतिपूर्ति वनीकरण के लिये प्राप्त गैर वनभूमि की चैनलिंग कर अतिक्रमण से सुरक्षा की जायेगी।	The area may be fenced to prevent encroachment.
iv.	In the online Part-II Sr. no 8(v) the query "Whether any	बिन्दु क्रमांक-4 के संबंध में लेख है कि वनमण्डलाधिकारी, नीमच ने पत्र	The user agency has submitted a Wildlife

	<i>rare/endangered/unique species of flora and fauna found in the area</i> has been answered in affirmative. The state govt. may submit details regarding the same with a plan for conservation of the same.	क्रमांक/3275 दिनांक 09.07.2021 से अवगत कराया है कि प्रस्तावित वनक्षेत्र में विलुप्तप्राय प्रजातियों में तेन्दुआ, सफेद गिद्ध, मगरमच्छ, गोयरा, मोर एवं अजगर प्रजातियां हैं। इन प्रजातियों के संरक्षण के लिये एक योजना तैयार की गई है। इस वन्यप्राणी संरक्षण योजना की स्वीकृति प्रधान मुख्य वन संरक्षक एवं मुख्य वन्यप्राणी अभिरक्षक द्वारा पत्र क्रमांक/4246 दिनांक 21.06.2021 से दी गई है। इस योजना पर कुल 166.90 लाख रुपये की राश व्यय होगी। यह प्रबंधन योजना तथा प्रधान मुख्य वन संरक्षक एवं मुख्य वन्यप्राणी अभिरक्षक द्वारा जारी स्वीकृति की प्रति प्रस्ताव के साथ ही प्रेषित की गई है।	Management Plan and approved by CWLW, M.P.
v.	The justification for construction of two Roads i.e. Kemla Block to Upper Reservoir & along Gandhi Sagar periphery comprising an area of 16.49 ha. need submission.	बिन्दु क्रमांक-1, 2, 5 एवं 7 की जानकारी का संबंध आवेदक संस्था से हैं। इन बिन्दुओं पर आवेदक संस्था द्वारा उनके पत्र दिनांक 14.7.2021 से प्रेषित की गई है, जो संलग्न है।	As stated by the user agency, the roads are essential to maintain supply & transport of the heavy equipment.
vi.	Satellite imagery shows the presence of Agriculture fields in the forest area sought for diversion which needs clarification vis-à-vis applicability of R&R plan, if needed.	बिन्दु क्रमांक-6 के संबंध में वनमण्डलाधिकारी, नीमच के पत्र दिनांक 09.07.2021 के साथ संलग्न परिक्षेत्राधिकारी वन परिक्षेत्र रामपुरा द्वारा प्रेषित जानकारी में प्रस्तावित क्षेत्र के अंतर्गत वन अधिकार अधिनियम, 2006 के तहत कोई पट्टे या अतिक्रमण नहीं होना अवगत कराया है।	The area is free of encumbrances as seen during field inspection.
vii	NOC from authorities managing Gandhi Sagar Dam existing nearby need submission. And if, forest land was diverted earlier for Gandhi Sagar Dam copy of approvals need submission.	बिन्दु क्रमांक-1, 2, 5 एवं 7 की जानकारी का संबंध आवेदक संस्था से हैं। इन बिन्दुओं पर आवेदक संस्था द्वारा उनके पत्र दिनांक 14.7.2021 से प्रेषित की गई है, जो संलग्न है।	NOC received and enclosed. Gandhi Sagar Dam was constructed in 1970 before the FCA, 1980 was promulgated. Hence area was not diverted earlier.

The reply on the query is submitted.


 (Subrat Mohapatra)
 Dy. Director General of Forests (Central)

कार्यालय प्रधान मुख्य वन संरक्षक (कक्ष भू-प्रबंध) सतपुड़ा भवन, मध्यप्रदेश भोपाल

क्रमांक/एफ-4/23/2021/10-11/2352

भोपाल, दिनांक 14-7-21

प्रति,

वन महानिरीक्षक (एफ.सी.)

भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय

इंदिरा पर्यावरण भवन, अलीगंज,

जोरबाग रोड, नई दिल्ली-110003

विषय:- नीमच जिले के अंतर्गत वन मंडल नीमच में एमपी-30 गांधी सागर ऑफ-स्ट्रिम पम्पेड स्टोरेज परियोजना (1440 मेगावाट) के निर्माण हेतु 301.96 हेक्टेयर वनभूमि ग्रीनको एनर्जी प्रायवेट लिमिटेड, हैदराबाद को उपयोग पर देने बावत्।

संदर्भ:- भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली का पत्र क्रमांक 8-18/2021-FC दिनांक 06.07.2021

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विषयांकित प्रकरण में भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, नई दिल्ली ने अपने पत्र क्रमांक 8-18/2021-FC दिनांक 06.07.2021 से 07 बिन्दुओं पर अतिरिक्त जानकारी चाही गई है, जो निम्नानुसार है :-

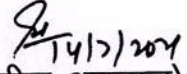
1. बिन्दु क्रमांक-1, 2, 5 एवं 7 की जानकारी का संबंध आवेदक संस्था से हैं। इन बिन्दुओं पर आवेदक संस्था द्वारा उनके पत्र दिनांक 14.07.2021 से प्रेषित की गई है, जो संलग्न है।
2. बिन्दु क्रमांक-3 (a) के संबंध में लेख है कि वैकल्पिक वृक्षारोपण हेतु गैर वनभूमि शिवपुरी जिले में प्राप्त हुई है। प्रबंधन की दृष्टि से वनमण्डलाधिकारी, शिवपुरी द्वारा रोपण योजना 11 टुकड़ों में तैयार की गई है। तदनुसार 11 टुकड़ों में वृक्षारोपण योजना की तकनीकी स्वीकृति मुख्य वन संरक्षक, शिवपुरी द्वारा जारी की गई है।
बिन्दु क्रमांक-3 (b) के संबंध में लेख है कि क्षतिपूर्ति वनीकरण के लिये प्राप्त गैर वनभूमि की चैनलिंग फेंसिंग कर अतिक्रमण से सुरक्षा की जायेगी।
3. बिन्दु क्रमांक-4 के संबंध में लेख है कि वनमण्डलाधिकारी, नीमच ने पत्र क्रमांक/3275 दिनांक 09.07.2021 से अवगत कराया है कि प्रस्तावित वनक्षेत्र में विलुप्तप्राय प्रजातियों में तेन्दुआ, सफेद गिद्ध मगरगच्छ, गोयरा, मोर एवं अजगर प्रजातियां है। इन प्रजातियों के संरक्षण के लिये एक योजना तैयार की गई है। इस वन्यप्राणी संरक्षण योजना की स्वीकृति प्रधान मुख्य वन संरक्षक एवं मुख्य वन्यप्राणी अभिरक्षक द्वारा पत्र क्रमांक/4246 दिनांक 21.06.2021 से दी गई है। इस योजना पर कुल 166.90 लाख रुपये की राशि व्यय होगी। यह प्रबंधन योजना तथा प्रधान मुख्य वन संरक्षक एवं मुख्य वन्यप्राणी अभिरक्षक द्वारा जारी स्वीकृति की प्रति प्रस्ताव के साथ ही प्रेषित की गई है।
4. बिन्दु क्रमांक-6 के संबंध में वनमण्डलाधिकारी, नीमच के पत्र दिनांक 09.07.2021 के साथ संलग्न परिक्षेत्राधिकारी वन परिक्षेत्र रामपुरा द्वारा प्रेषित जानकारी में प्रस्तावित क्षेत्र के अंतर्गत वन अधिकार अधिनियम, 2006 के तहत कोई पट्टे या अतिक्रमण नहीं होना अवगत कराया है।

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5. वन अधिकार अधिनियम, 2006 के तहत कलेक्टर, जिला नीमच का प्रमाण पत्र प्राप्त हो गया है, जो संलग्न प्रेषित है।

अतः उपरोक्त जानकारी संलग्न कर लेख है कि प्रकरण में भारत सरकार की सैद्धान्तिक सहमति प्राप्त कर इस कार्यालय को अवगत कराने का कष्ट करेंगे।

संलग्न:-उपरोक्तानुसार।

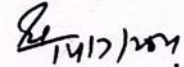

(सुनील अग्रवाल)

अपर प्रधान मुख्य वन संरक्षक (भू-प्रबंध)
मध्यप्रदेश, भोपाल

पृ. क्रमांक/एफ-4/23/2021/10-11/2353
प्रतिलिपि:-

भोपाल, दिनांक 14-7-21

1. उप वन महानिदेशक (केन्द्रीय), भारत सरकार, पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय, क्षेत्रीय कार्यालय, पश्चिम क्षेत्र केन्द्रीय पर्यावरण भवन, लिंक रोड नं. 3, ई-5, रविशंकर नगर, मध्यप्रदेश, भोपाल
 2. मुख्य वन संरक्षक, उज्जैन वृत्त, उज्जैन, मध्यप्रदेश।
 3. वनमण्डलाधिकारी, सामान्य वन मंडल, नीमच, मध्यप्रदेश।
 4. ग्रीनको एनर्जी प्रायवेट लिमिटेड, हैदराबाद।
- की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।


(सुनील अग्रवाल)

अपर प्रधान मुख्य वन संरक्षक (भू-प्रबंध)
मध्यप्रदेश, भोपाल

Ref: GEPL/MP30GSPSP/FDP/ 210714

Date: 14.07.2021

To,

Additional PCCF (Land Management)

Madhya Pradesh Forest Department

Bhopal, Madhya Pradesh

Sub: Diversion of 301.96 ha forest land for the construction of MP-30 Gandhi Sagar off-stream Pumped Storage Project (1440 MW) by M/s Greenko Energies Private Limited, Hyderabad in Neemuch Forest Division, Neemuch District of Madhya Pradesh State (Online proposal No. FP/MP/HYD/116943/2020)-regarding.

Ref: Your office letter: S. No/F-4/23/2021/10-11/2219 dated 07-07-2021

Sir,

With reference to above mentioned Subject, point wise reply to the observations sought vide your above referred office letter is attached at **Annexure-A** for your kind perusal and further processing please.

Thanking You,

Yours Sincerely,

For M/s **Greenko Energies Private Limited**

N. Gov. Krishna

Authorized Signatory



Enclosures: As above.

Reply to the Clarifications sought by Nodal Officer, Bhopal vide letter dated 09.07.2021

S.No	Observation	Remark
i	<p>In the justification for locating the project on forest land and the alternatives explored is based on economic criterion i.e. on the basis of shorter period of construction and lesser cost. <u>Reasons/rationales for finalization of locating proposal in forest land based on minimum forest</u> area involved has not been accounted. State Government may submit a detailed justification.</p>	<ul style="list-style-type: none"> Pumped Storage Project (PSP) is a special type of project where energy is stored in form of water at higher elevations. These projects require very specific topographical and geological site conditions. Since water is required to be stored in form of energy therefore availability of water source in close vicinity is also an essential requirement for finalising these projects. Because of these limitations very few suitable sites are available across the country. Keeping all above requirements, the present location has been selected for MP30 Gandhi Sagar Off Stream PSP as required elevation difference is available with suitable topography, good geological condition and location of Gandhisagar (water Source) is also close by. In order to minimise the forest area required for the project three (3) alternatives/options have been studied. Option 1 involves an area of 301.96 ha, Option 2 involves an area of 419.73 ha and Option 3 involves an area of 521.50 ha of forest land. Option-1 has been selected since it required minimum forest area. Comparative Statement and map showing the three option are enclosed at Annexure-1A & 1B Conventionally two reservoirs are constructed for Pumped storage projects, but this location has been identified in such a way that there is no need to construct the lower reservoir. This has resulted in minimizing the forest land requirement for the project in a big way. While finalising location of components of this project the criteria for requirement of minimum forest land has been duly considered and where-ever

S.No	Observation	Remark
		<p>possible the project components have been located on the private land.</p> <ul style="list-style-type: none"> Sizing of the Project components have also been optimized to have minimum requirement of land i.e. primarily forest land with in permissible/allowable technical parameters. Further, the construction of road to the project where movement of heavy equipment is required is also planned in an acceptable steeper gradient of 1:20 so as to have minimum length of road thus minimising the forest land requirement. <p>Entire project layout and sizing of components have been firmed in such a way that only minimum requirement of forest land is involved.</p>
ii	Approved copy of the CAT Plan need submission.	<ul style="list-style-type: none"> MoEF&CC/EAC (IA division) while granting ToR vide letter dated 28.02.2020 has <i>inter-alia</i> observed that instant project being the Pump storage project and standalone in nature and upper reservoir is located away from the existing natural water systems and have no/negligible catchment area. Therefore CAT Plan, RIM treatment, L-section of river and Environmental flow study will not be required. Copy enclosed at Annexure-2
v	The justification for construction of two Roads i.e. Kemla Block to Upper Reservoir & along Gandhi Sagar periphery comprising an area of 16.49 ha need submission.	<ul style="list-style-type: none"> The provision of two roads have been made with specific project requirement. One road is for transportation of heavy project equipment and the other road is for construction/movement requirement of project. The road along Gandhi Sagar periphery connecting Powerhouse is for Transportation Heavy E&M equipment to PH site. This is a big project with Unit size as 240 MW wherein weight of equipment may go up to 100 tonnes and sizes to the tune of 6m wide. This all equipment will be carried out using 70-100 Ft long trailers. This road has been proposed directly from highway to Power-House at a very flat gradient and

S.No	Observation	Remark
		<p>is essential for the project. This road is away from the big habitations therefore project construction will cause minimum discomfort to the local population.</p> <ul style="list-style-type: none"> The road from Khemla Block to Upper Reservoir is proposed to connect the existing road head point to project area. All the project affected villages are located along the existing road in the vicinity of Khemla Block surroundings. As we have promised & planned to employ a big number of local villagers from the adjoining/affected villages and all these people will be moving daily from their villages to project site and back therefore connecting road from existing road to project site is an essential requirement. <p>In view of above, both roads are essentially required for execution of the project.</p>
vii	NOC from authorities managing Gandhi Sagar Dam existing nearby need submission. And if, forest land was diverted earlier for Gandhi Sagar Dam copy of approvals need submission.	<ul style="list-style-type: none"> Copy of NOC from authorities managing Gandhi Sagar Dam is enclosed at Annexure-3

N. Gov. P. K. K.



Annexure-1A

Details of Land Requirement for the Project for various Options/ Alternatives											
Sl. No	Components	Option-1			Option-2			Option-3			Total Area (Ha)
		Forest (Ha)	Non-Forest (Ha)	Total Area (Ha)	Forest (Ha)	Non-Forest (Ha)	Total Area (Ha)	Forest (Ha)	Non-Forest (Ha)	Total Area (Ha)	
1	Upper Reservoir	253.11	58.16	311.27	372.37	0.00	372.37	451.31	0.69	452.00	
2	Approach Roads										
i	Road from Powerhouse (PH) to Upper Reservoir (UR)	9.14	0.00	9.14	9.19	0.00	9.19	12.63	0.48	13.11	
ii	Road to Powerhouse along with Gandhi sagar Reservoir periphery	12.79	0.00	12.79	7.67	0.99	8.66	3.04	1.82	4.86	
iii	Road from Job facilities to UR	0.00	0.44	0.44	0.38	0.46	0.84	0.00	0.46	0.46	
iv	Road from Khemla Block to UR	3.68	0.00	3.68	3.60	0.00	3.60	7.90	0.00	7.90	
3	Adit	0.60	0.00	0.60	0.67	0.00	0.67	0.51	0.17	0.68	
4	Penstock, PH & TRC	22.64	1.84	24.48	25.85	0.30	26.15	46.11	21.03	67.14	
5	Job Facilities	0.00	15.00	15.00	0.00	15.00	15.00	0.00	15.00	15.00	
6	Muck Disposal	0.00	25.00	25.00	0.00	25.00	25.00	0.00	25.00	25.00	
7	Magazine	0.00	0.10	0.10	0.00	0.10	0.10	0.00	0.10	0.10	
Total Area		301.96	100.54	402.50	419.73	41.85	461.58	521.50	64.75	586.25	



N. G. G. G. G.

No. J-12011/22/2019-IA-I
 Government of India
 Ministry of Environment, Forest & Climate Change
 (IA.I Division)

Indira Paryavaran Bhawan
 3rd Floor, Vayu Wing
 Jor Bagh Road
 New Delhi-110 003

Dated: 28th February, 2020

To

M/s Greenko Energies Private Limited
 Plot No. 1071, Road No. 44
 Jubilee Hills, Hyderabad-500033
 Telangana

Sub: MP 30 Gandhi Sagar Standalone Pumped Storage Project (1360 MW), District Neemuch, Madhya Pradesh Greenko Energies Pvt. Ltd.-reg. Fresh ToR.

Sir,

This has reference to your, online Proposal No. IA/MP/RIV/124890/2019, and letter no MP/SPSP/MoEF&CC /ToR/ 20191111 Dated 11.11.2019 submitted to the Ministry for ToR to the project on the above-mentioned subject.

2. The above referred proposal was considered by the Expert Appraisal Committee (EAC) for River Valley & Hydroelectric projects in its 29th meeting held on 05.12.2019. The comments and observations of EAC on the project may be seen in the Minutes of the meeting which are available on the web-site of this Ministry.

3. Greenko Energies Pvt. Ltd. proposes to develop Standalone Pumped Storage Project (PSP) in Khemla Block (V), Rampura (T) of Neemuch (D) in the State of Madhya Pradesh. The MP 30 Gandhi Sagar Standalone PSP Project will comprise of two reservoirs i.e. Gandhi Sagar lower reservoir (already existing) and MP 30 Gandhi Sagar Upper Reservoir (to be constructed newly).

4. This scheme envisages non-consumptive re-utilization of 1.07 TMC of water of Gandhi Sagar reservoir by recirculation. The water in Gandhi Sagar reservoir (existing lower reservoir) will be pumped up and stored in the proposed Standalone Pumped Storage Project of MP 30 Gandhi Sagar Upper reservoir and will be utilized for power generation. The gross storage capacity of Gandhi Sagar reservoir is 258.47 TMC. The Geographical co-ordinates of the proposed MP 30 Gandhi Sagar Standalone Pumped Storage Project component of upper reservoir is at latitude 24°31'19.90" North and Longitude is 75°31'8.54" East and that of Gandhi Sagar lower reservoir (existing) are 24°31'5.40" North and 75°32'5.28" East.

5. Depending upon actual Peak demand capacity and peaking duration requirement of State Government / Central utility, Project configuration can be changed to 1020MW for 8 hours by keeping overall daily storage capacity same. The peak demand capacity and peaking duration

requirement will be studied prior to completion of DPR and accordingly final configuration either of two i.e. 1360 MW for 6 hours or 1020 MW for 8 hours will be adopted. However, the proposed upper reservoir capacity and water utilization and the MWH generated will remain same in both cases.

6. Proposed scheme involves construction of 33m high rockfill embankment for creation of MP30 Gandhi Sagar Standalone PSP upper reservoir of 1.12 TMC gross storage capacity. Water conductor system consists of 8 nos. each of 621 m long and 7.0 m dia. surface circular steel lined Penstock / Pressure Shaft (i.e. consisting of 441.43 m long surface penstock, 100.23 m long vertical pressure shaft and 78.87 m long Horizontal pressure shaft) to feed 8 units of 170 MW. As such, the proposed project will generate 1360 MW by utilizing design discharge of 1391 cumecs with rated head of 113 m. A surface Power house having an installation of Eight nos. reversible Francis turbine each of 170MW capacity (4 units of fixed speed and 4 units of variable speed turbines) operating under a rated head of 113.00 m in generating mode and 122.00 m in pumping mode. Tailrace channel of about 1056.00 m long is connecting to the Existing Gandhi Sagar.

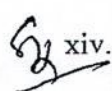
7. Total land required for construction of various components, including infrastructure facilities and muck disposal area is estimated to be around 282.46 ha, involving 69.63 ha of forestland and 212.83 ha of non-forest land. Total estimated cost of the project is Rs. 6,054.06 Crores.

8. The above proposal was appraised by the EAC in 29th meeting on 05.12.2019. The EAC after detailed presentation on the project observed that the water in the Gandhi Sagar reservoir (existing lower reservoir) will be pumped up and stored in the proposed Standalone Pumped Storage Project of MP 30 Gandhi Sagar Upper reservoir and will be utilized for power generation. EAC further observed that instant project being the Pump storage project and standalone in nature and upper reservoir is located away from the existing natural water systems and have no/negligible catchment area therefore CAT Plan, RIM treatment, L-section of river and Environmental flow study will not be required under EMP. EAC in the 29th meeting after detailed scrutiny and deliberations on the information submitted and as presented by the Project Proponent, **recommended** the proposal for grant of fresh ToR/Scoping clearance for Standalone Pumped Storage Project (PSP) in Khemla Block (V), Rampura (T) of Neemuch (D) in the State of Madhya Pradesh.

9. Based on recommendations of the EAC, the Ministry of Environment Forest & Climate Change hereby **accords** a fresh Terms of Reference (TOR) as per the **Standard ToR** (Hydro projects) for activities at the proposed site as per the provisions of the Environmental Impact Assessment Notification, 2006 and as amended time to time along with the following **additional ToR** for preparation of EIA/EMP report:

- i. The EIA/EMP report should contain the information in accordance with provisions & stipulations as given in the **Standard ToR for hydro projects**:
(<http://environmentclearance.nic.in/writereaddata/standardtorreference.pdf>)
- ii. The consultant engaged for preparation of EIA/EMP report has to be registered with Quality Council of India (QCI/ NABET) under the scheme of Accreditation & Registration of MoEF& CC. This is a pre-requisite.
- iii. Consultant shall include a "Certificate" in EIA/EMP report regarding portion of EIA/EMP prepared by them and data provided by other organization(s)/ laboratories including status of approval of such laboratories. Declaration by the Consultant that

information submitted in the EIA/EMP is factually correct and shall be submitted along with EIA/EMP reports.

- iv. An undertaking as a part of the EIA report from Project proponent, owning the contents (information and data) of the EIA report with the declaration about the contents of the EIA report pertaining to a project have not been copied from other EIA reports.
- v. Consolidated EIA/EMP report is to be submitted as per the generic structure (Appendix III & IIIA) given in the EIA Notification, 2006.
- vi. Land acquired for the project shall be suitably compensated in accordance with the law of the land with the prevailing guidelines. Private land shall be acquired as per provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
- vii. The project involves diversion of about 69.63 ha of forestland. Forest clearance shall be obtained as per the prevailing norms of Forest (Conservation) Act, 1980.
- viii. Application to obtain prior approval of Central Government under the Forest (Conservation) Act, 1980 for diversion of forestland required should be submitted as soon as the actual extent of forestland required for the project is known, and in any case, within six months of issuance of this letter.
- ix. The draft EIA/EMP report prepared as per the Generic Structure (Appendix III of EIA Notification, 2006) incorporating information as per the Standard ToR, should be submitted to the State Pollution Control Board for conducting Public Consultation as per the provisions stipulated in EIA Notification, 2006. Public Hearing, which is a part of Public Consultation, shall be held district wise at the site or in its close proximity as prescribed in Appendix (IV) of EIA Notification, 2006. The draft EIA/EMP report is to be submitted to SPCB sufficient before the expiry of the ToR validity so that necessary amendments in EIA/EMP can be undertaken based on public hearing and the same is to be submitted to MoEF&CC before expiry of validity of ToR.
- x. All the tasks including conducting public hearing shall be done as per the provisions of EIA Notification, 2006 and as amended time to time. Public hearing issues raised and compliance of the same shall be incorporated in the EIA/EMP report in the relevant chapter.
- xi. Funds allocation for Corporate Environment Responsibility (CER) shall be made as per O.M. No. 22-65/2017-IA.III dated 01.05.2018 for various activities therein.
- xii. The details of funds allocation and activities for CER shall be incorporated in EIA/EMP report.
- xiii. Conservation plan for the Scheduled I species, if any, in the project study area shall be prepared and submitted to the Competent Authority for approval.
-  xiv. Pre-DPR Chapters viz., Hydrology and Layout Map and Power Potential Studies duly approved by CWC/CEA be submitted.

- xv. Dam break analysis and Disaster Management Plan be prepared and submitted in the EIA/EMP report.
- xvi. Environmental matrix during construction and operational phase needs to be submitted.
- xvii. Both capital and recurring expenditure under EMP shall be submitted.
- xviii. Certificate from the Chief Wild Life Warden that all the project components are outside the notified Eco-Sensitive zone of Gandhi Sagar Wildlife Sanctuary.
- xix. Impact of developmental activity/project on the wildlife habitat within 10 km of the project boundary shall be studied.
- xx. Detailed hydrological studies of the existing nearby reservoir which will be used to fill up the proposed reservoir.
- xxi. The ToR will remain valid for a period of 4 years from the date of issue of this letter for submission of EIA/EMP report along with public consultation. The ToR will stand lapsed after completion of 4 years in case final EIA/EMP is not submitted and the validity is not extended.
- xxii. In case the validity is to be extended, necessary application is to be submitted to the Regulatory Authority before expiry of validity period along with an updated Form-I based on proper justification.
- xxiii. Baseline data and public consultation shall not be older than 3 years, at the time of submission of the proposal, for grant of Environmental Clearance.
- xxiv. In case of any change in the scope of the project such as capacity enhancement, change in submergence, etc., fresh scoping clearance has to be obtained.
- xxv. The PP should submit a copy of TEC of the DPR along with EIA/EMP report.
- xxvi. The EIA report should clearly mention activity wise EMP and CER cost details and should earmarked clear break-up of the capital and recurring cost along with the timeline for incurring the capital cost.
- xxvii. Details of the name and number of posts to be engaged by the project proponent for implementation and monitoring of environmental parameters be specified in the EIA report.
- xxviii. The EIA/ EMP report must contain an Index showing details of compliance of all ToR conditions. The Index will comprise of page No. etc., vide which compliance of a specific ToR is available. It may be noted that without this index, EIA/ EMP report will not be accepted.
- xxix. The PP should complete all the tasks as per the provisions of EIA Notification, 2006 and as amended time to time) and submit the application for final clearance within the stipulated time.



xxx. Appropriate Biodiversity Conservation and Management plan for the Native, Rare & Endangered floral and faunal species getting affected due to the project shall be prepared.

This has approval of the Competent Authority.

Yours faithfully,


(Dr. S. Kerketta)
Director

Copy to:

1. The Secretary, Ministry of Water Resources, RD & GR, Shram Shakti, Bhawan, Rafi Marg, New Delhi - 110 001.
2. The Principal Secretary (Water Resources Department), Government of Madhya Pradesh, Secretariat, Bhopal -462 016.
3. The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal - 462 016.
4. The Chief Engineer, Project Appraisal Directorate, Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi-110 066.
5. The Deputy Director General of Forests (C), Regional Office (WR), Ministry of Environment, Forest & Climate Change, Kendriya Paryavaran Bhavan, Link Road No-3, Ravi Shanker Nager, Bhopal - 462 016.
6. The Member Secretary, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 016.
7. NIC Cell - uploading in MoEFCC's website.
8. PPS to JS (GM)
9. Guard file.


(Director)

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

Indira Paryavan Bhavan
3rd Floor, Vayu Wing
Jor Bagh Road
New Delhi – 110 003

Date: 15th January, 2021

To

M/s Greenko Energies Pvt. Ltd
Plot No- 1071, Road No.- 44
Jubli Hills, Hyderabad-500033
Telangana

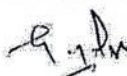
Sub: MP 30 Gandhi Sagar Off-Stream Pumped Storage Project, District Neemuch, Madhya Pradesh by M/s Greenko Energies Private Limited –regarding Amendment in ToR .

Sir,

This is with reference to your Proposal No. IA/MP/RIV/184197/2020 & letter dated 20-11-2020 on the above mentioned subject. The said proposal was appraised by the Environment Appraisal Committee (EAC) for River Valley and Hydro Electric Power Projects (RV&HEP) in its 4th meeting held on 02.12.2020. The comments and observations of EAC may be seen in the minutes of the meeting are available on the Ministry's web-site.

2. Earlier, the project was accorded ToR vide dated 28.02.2020. An online application for amendment in ToR/EC was submitted on dated 20-11-2020 requesting this Ministry for an amendment in TOR. It has been submitted by the Project Proponent that after the grant of TOR ground survey was taken up at site, on evaluation of actual data it was observed that actual surveyed contours showed difference of 3-5m i.e. actual elevations observed were higher than the earlier data considered. Further, based on the market survey and energy needs of the DISCOMS, it was observed that number of hours of storage requirement is around 7 hours as against 6 hours earlier envisaged. The following comparative statement submitted to this Ministry with reference to earlier proposal and revised proposal :

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
1		Location		
	a	Country	India	India
	b	State	Madhya Pradesh	Madhya Pradesh



		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
	c	District	Neemach	Neemach
	d	Village near Powerhouse	Khemla Block, Rampura Taluk	Khemla Block, Rampura Taluk
2		Geographical Co-Ordinates		
	a	Upper Reservoir - (Now Proposed)		
		Latitude	24° 31' 19.90" N	24°31'6.89"N
		Longitude	75° 31' 8.54" E	75°30'56.12"E
	b	Gandhi Sagar reservoir Reservoir – Lower (Existing)		
		Latitude	24° 31' 5.4" N	24° 31' 5.4" N
		Longitude	75° 32' 5.28" E	75° 32' 5.28" E
3		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
4		Project		
	a	Type	Standalone Pumped Storage Project	Off-Stream Pumped Storage Project
	b	Storage Capacity	8160 MWH	10411.20 MWH
	c	Rating	1360 MW	1440 MW
	d	Peak operation duration	6 Hours daily	7.23 Hours daily
5		Upper Reservoir(Nowproposed)		
	a	Live Storage	1.07TMC	1.22 TMC
	b	Dead Storage	0.05 TMC	0.58 TMC

e-1

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
	c	Gross Storage	1.12 TMC	1.80 TMC
	d	Full Reservoir level (FRL)	EL +520.00m	EL +523.00 m
	e	Minimum Draw Down Level (MDDL)	EL +495.00 m	EL +508.00m
	f	Top Bund Level (TBL)	EL +523.00m	EL +526.00m
	g	Foundation Level	EL +490.00 m	EL +491.00 m
	h	Max Height of Embankment	33.00 m	35.00 m
	i	Length of Embankment	5285.00 m	5561.131 m
6		Gandhi Sagar reservoir – LowerReservoir – (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 381.00 m
	d	Height of Dam above deepest bedlevel	63.70 m	63.70 m
	e	Length of Dam	514.00m	514.00m
	f	Gross Storage Capacity	258.47 TMC	258.47 TMC
7		RCC intake Structure		
	a	Type	Open Semi Circular	Diffuser Type
	b	Elevation of Intake center line	EL +483.87 m	EL +495.50 m
	c	Elevation of bell mouth bottom	EL +478.33 m	EL +491.05 m
8		Penstock /Pressure Shafts		
	a	Type	Finished steel lined - circular	Finished steel lined - circular
	b	Number of Penstocks	8 No. of Independent Penstocks	6 Nos., wherein one No. Independent Pressure shaft

E. J. D.

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
				bifurcated in to 2 for Smaller units
	c	Diameter of penstock	7.0 m - main Penstock	7.5 m - main Penstock 5.3 m – Branch Penstock
	d	Length of penstock/Pressure Shaft	621 m	For 5 nos. - 683.48 m each (Main Penstock) for 5 larger units For 1 No. – 607.23m long (Main Penstock) and 76.25m each Branch Penstock for 2 smaller units.
9		Powerhouse		
	a	Type	Surface Powerhouse	Surface Powerhouse
	b	Dimensions (Excluding Service Bay)	201.00m (L) x 24.00m (W) x 58.00m (H)	181.20m (L) x 25.50m (W) x 56.10m (H)
10		Tail Race Channel		
	a	Type & Shape	Concrete lined & Trapezoidal	Concrete lined & Trapezoidal
	b	Length of the channel	1056.00 m	860.00 m
	c	Bed Width	90.00 m	85.00 m
	d	Full supply depth	6.0 m	6.0 m
	e	Bed slope	1 in 7200	1 in 7000
11		Tailrace Outlet Structure		
	a	Type	Open Semi Circular	Diffuser Type
	b	Elevation of outlet centre line	EL +342.33 m	EL +370.71 m
12		Hydro-Mechanical Equipment		
	a	RCC Intake Structure		
		Trash Rack		
		No. of Trash racks	8 nos.	6 nos.

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		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
		No. of bays in each trash rack	7 Nos. each of size 3.58m (W) x 18.81m (H)	2 nos. of 7.75m(W) x 10.97m(H) & 1 no. of 8.5m(W) x 10.97m(H) for each unit
		Intake Service Gate	Size – 5.80m (W) x 7.0 m (H) – 8 Nos. With Rope Drum Hoist	Size – 6.20m (W) x 7.50 m (H) – 6 Nos. With Rope Drum Hoist
		Intake Stop log Gate	Size – 5.80m (W) x 7.0 m (H) – 2 Nos. with Moving Gantry	Size – 6.20m (W) x 7.50 m (H) – 1 No. with Moving Gantry
	b	Draft Tube Gates	High pressure steel type slide gates	High pressure steel type slide gates
		No. of Service gates per unit	Total – 16 nos. 2 per unit each of size W 5.75m X H 5.75 m (Vertical lift fixed wheel type) with Hydraulic Hoist	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
		No of Stoplog gates per unit	Total – 4 nos. 2 per unit each of size W 5.75 m x H 5.75 m (Vertical lift fixed wheel type) with Rope drum Hoist	1 No. – 7.0 m (W) x 8.5 m (H) for Larger Units & 1 No. - 5.1 m (W) x 6.2 m (H) for Smaller Units with Moving Gantry Crane
	c	Tailrace Outlet Structure		
		No. of Trash racks	8 nos.	7 nos.
		No. of bays in each trash rack	2 bays each of size 5.70m (W) x 41.55m (H)	2 no's of 6.65m(W) x 10.87m(H) & 1 no of 6.70m(W) x 10.87m(H) for each larger unit & 2 no's of 5.20m(W) x 6.73m(H) + 1 no of 6.60m(W) x 6.73m(H) for each smaller unit
13		Electro Mechanical Equipment		
		Pump Turbine	Francis type, vertical shaft reversible pumpturbine	Francis type, vertical shaft reversible pumpturbine
		Total No of units	8 nos. (8 X 170MW)	7 no's (5x240 MW & 2x120 MW)

E. J. D.

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
		Total Design Discharge (Turbine Mode)	1391 Cumec	1326.75 Cumec
		Rated Head in Turbine mode	113.00 m	121.70 m for larger unit & 121.00 m for smaller unit
	a	240MW Turbines		
		Total No of units	8 Units (4Nos. with variable speed & 4 Nos. with Fixed Speed)	5 Units (Fixed speed)
		Turbine Design Discharge	173.88 Cumec	220.91 Cumec
		Pump Capacity	200 MW	251 MW
		Rated Pumping Head	122 m	127.90 m
		Rated Pump Discharge	149.73 Cumec	183.86 Cumec
		Synchronous speed	150 rpm	136.36 rpm
	i	Generator-Motor		
	a	Type	Three (3) phase, alternating current synchronous/asynchronous generator motor semi umbrella type with vertical shaft	Three(3) phase, alternating current synchronous generator motor semi umbrella type with vertical shaft
	b	Number of units	8 Units (4 Fixed + 4 Variable)	5 Units
	c	Rated Capacity	Generator – 170 MW; Pump Input – 200 MW	Generator – 240 MW; Pump Input – 251 MW
	d	Rated Voltage	15.00 KV	18.00 KV
	ii	Main Power Transformer		
	a	Type	Three Single Phase Power transformers with Off-Circuit tap changer (OCTC)	Three Single Phase Power transformers with Off-Circuit tap changer (OCTC)
	b	Number of units	24 Numbers (i.e. 3 Nos./Unit)	15 Numbers (i.e. 3 Nos./Unit)
	c	Rated Capacity of each unit	Single Phase, 15KV/400 KV, 80 MVA	Single Phase, 18KV/400 KV, 100 MVA
	d	Rated Voltage	Primary – 15 kV; Secondary - 400 kV adjustable range of the secondary voltage: -	Primary – 18 kV; Secondary - 400 kV adjustable range of the secondary voltage: -

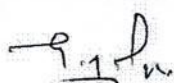
E. J. J.

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
			10% to +10%(3kV/tap)	10% to +10%(3kV/tap)
	b	120MW Turbines		
		Total No of units	-	2 Units (Variable speed)
		Turbine Design Discharge	-	111.10 Cumec
		Pump Capacity	-	135 MW
		Rated Pumping Head	-	128.70 m
		Rated Pump Discharge	-	98.16 Cumec
		Synchronous speed	-	187.50 rpm
	i	Generator-Motor		
	a	Type	-	Three(3)phase, alternating current asynchronous generator motor semi umbrella type with vertical shaft
	b	Number of units	-	2 Units
	c	Rated Capacity	-	Generator – 120 MW Pump Input – 135 MW
	d	Rated Voltage	-	18 KV
	ii	Main Power Transformer		
	a	Type	-	Indoor, 3-Ph power transformers with Off-Circuit tap changer (OCTC)
	b	Number of units	-	2 Units
	c	Rated Capacity of each unit	-	Each 160 MVA, 18 kV/400kV rating power transformers.
	d	Rated Voltage	-	Primary – 18 kV; Secondary - 400 kV adjustable range of the secondary voltage:-10% to +10%(3kV/tap)
14		400 KV Gas Insulated Switchgear		

R. J. D.

		NAME OF THE PROJECT	MP 30 GANDHI SAGAR Standalone Pumped Storage Project(As per ToR Granted)	MP 30 GANDHI SAGAR Off-Stream Pumped Storage Project(Proposed new layout)
	a	Type of GIS	Indoor Type	Indoor Type
	b	No. of GIS units	One No.	One No.
	c	Location	Inside GIS Building above ground	Inside GIS Building above Ground
	d	Scheme	Double Busbar Arrangement with bus coupler	Double Busbar Arrangement with coupler
15		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 transmission line with double circuit.
	c	Total Length	400 KV Double Circuit Transmission Lines with Moose conductor of length 50 Kms from PSP will be connected to 400 / 220 KV MPEB substation at Neemuchor to 400/765 kV PGCIL substation at Chittorgarh of Rajasthan State which is about 133Km for evacuation of generated Power and for Supply of power during pumping mode	One 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.
16		ESTIMATED COST		
	a	Civil Works	2422.83 Cr.	2797.67 Cr.
	b	E&M Works incl. Transmission line	1986.00 Cr.	1930.50 Cr.
	c	IDC & Others	1645.23 Cr.	2263.08 Cr.
		Total Project Cost with IDC	6054.06 Cr.	6991.25 Cr.

3. Above proposal for an amendment in ToR was considered by the EAC in its 4th meeting held on 02.12.2020. Project Proponent made the detailed presentation before the EAC on the ToR amendment proposal. EAC after detailed deliberations on the revised proposal and as presented, recommended the project for grant of Amendment in ToR dated 28.02.2020 to the proposed MP 30 Gandhi Sagar Off-Stream Pumped Storage Project in district Neemuch, Madhya Pradesh.



4. Based on the recommendation of the EAC, Ministry of Environment Forest & Climate Change hereby **accords** an amendment in Terms of Reference (TOR) to the proposed revised proposal of MP 30 Gandhi Sagar Off-Stream Pumped Storage Project in district Neemuch, Madhya Pradesh. You are advised to prepare the EIA/EMP report as per the Standard ToR and additional ToRs granted vide Ministry's letter dated 28.02.2020.

5. Further, Ministry in suppression of OM dated 1st May 2018 regarding CER has issued an another OM dated 30.09.2020. In this regard, it is advised that issues raised during Public hearing and activities proposed to address such issues shall be made part of EMP.

6. This issue with the approval of the Competent Authority.

Yours faithfully,

[Signature]
15.1.2021
(Y.P. Singh)
Scientist "E"

Copy to:

1. The Secretary, Ministry of Water Resources, RD & GR, Shram Shakti, Bhawan, Rafi Marg, New Delhi - 110001
2. The Principal Secretary (Water Resources Department), Government of Madhya Pradesh, Secretariat, Bhopal -462 016.
3. The Secretary, Department of Environment, Government of Madhya Pradesh, Secretariat, Bhopal - 462 016.
4. The Chief Engineer, Project Appraisal Directorate, Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi-11 0 066.
5. The Deputy Director General of Forests (C), Regional Office (WR), Ministry of Environment, Forest & Climate Change, Kendriya Paryavaran Bhavan, Link Road No-3, Ravi Shanker Nager, Bhopal - 462 016.
6. The Member Secretary, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 016.
7. NIC Cell - uploading in MoEFCC's website.
8. PPS to JS (GM)
9. Guard file.

[Signature]
15.1.2021
(Y.P. Singh)
Scientist "E"

OFFICE OF THE EXECUTIVE ENGINEER, ANNEXURE-3
GANDHISAGAR DAM DIVISION, GANDHISAGAR (M.P.)

Email address- eewrd.gandhisagar@yahoo.in

Phone No. 07427 - 237114

S.No./ ~~1414~~ / Revenue/ 2021

Gandhisagar Date ~~12/07/21~~

To,

Greenko Energies Private Limited.

✓ Plot No. 1071, Road No. 44,

Jubilee Hills, Hyderabad - 500033, Telangana,

Sub: Copy of Forest Diversion Details of Gandhi Sagar Dam reservoir -reg

To Whom so ever it may concern

It has been brought to our attention by Greenko Energies Private Limited that MOEF & CC, vide its letter (File No.8-18/2021-FC) dt. 6th July 2021 has requested Gandhisagar Dam authorities to provide NoCbe submitted to their office w.r.t fulfilment of shortcomings in their proposal for diversion of 301.96 ha forest land for the construction of MP-30 Gandhi Sagar off-stream Pumped Storage Project (1440 MW) by M/s Greenko Energies Private Limited, Hyderabad in Neemuch Forest Division, Neemuch District of Madhya Pradesh State (Online proposal No. FP/MP/HYD/116943/2020).

The State Govt. of Water Resources Department has allotted 1.90 TMC (55.97 MCM) water for the project vide letter No 892/2019/56 Dated 27.01.2021 for implementation of MP-30 Gandhisagar off-stream Pumped Storage Project. In this regard, it is stated that there is no objection for execution of the proposed Pumped Storage Project.

(A.S.Chouhan) 21/7/21,

Executive Engineer,
Gandhisagar Dam Division
Gandhisagar Colony Distt. - Mandsaur (M.P.)

MP 30 GANDHI SAGAR STANDALONE PUMPED STORAGE PROJECT

ANNEXURE-IB

