

**ADDITIONAL AGENDA FOR THE MEETING OF FOREST ADVISORY
COMMITTEE SCHEDULED TO BE HELD ON 27.01.2021**

Agenda No. 1

F. No. 8-07/2020-FC

Sub: Proposal seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980 for non-forestry use of diversion of 169.1779 ha of forest land coal mining in respect of Utkal 'E' Coal Mines under Section-2 of Forest (Conservation) Act, 1980 by NALCO -reg.

1. The State Government of Odisha vide their letter No. No. 10F(Cons) 105/2020-9681/F&E dated 25.06.2020 submitted the above subject proposal for seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980.
2. The facts related to the proposal as contained in the State Government's letter dated 25.06.2020 are given below in the form of fact sheet:

FACT SHEET

1.	Name of the Proposal	Proposal seeking prior approval of the Central Government under Section-2 of the Forest (Conservation) Act, 1980 for non-forestry use of diversion of 169.1779 ha of forest land coal mining in respect of Utkal 'E' Coal Mines under Section-2 of Forest (Conservation) Act, 1980 by NALCO -reg.			
2.	Location (i) State (ii) District	Odisha Angul			
3.	Particulars of Forests: (i) Name of Forest Division and Forest area involved. (ii) Legal status/Sy.No.	Angul Forest Division 169.1779 ha			
		S. No.	Forest type	Area (in ha.)	
		1.	Revenue forest	169.0349	
		2.	DLC Forest	0.143	
			Total	169.1779	
5.	Item-wise breakup of the forest land proposed for diversion	Name of the village	Revenue forest	DLC forest	Total
		Nandichhod Oruff Gopiballavpur	107.7986	0.143	107.9416
		Kundajhari Jungle	41.4941	0	41.4941
		Gopinathpur Jungle	19.7422	0	19.7422
		Total	169.0349	0.143	169.1779
6.	Vulnerability to erosion	Tropical Moist Deciduous Forest			
	(i) Vegetation	<i>Shorea robusta</i> (Sal), <i>Delbergia peniculata</i> (Barabakulla), <i>Buchanania lanzan</i> (Chara), <i>Terminalia Tomentosa</i> (Asan), <i>Madhuca indica</i> (Mahula), <i>Anogeissus latifolia</i> (Dhaura), <i>Soymida febrifuga</i>			

	<p>(ii) Density</p> <p>(iii) No. of trees enumerated/to be actually felled</p>	<p>(Rohini), <i>Diospyros melanoxylon</i> (Kendu), <i>Aegle marmelos</i> (Bela), <i>Terminalia chebula</i> (Harida), <i>Syzinium cumini</i> (Jamun), <i>Casearia elliptica</i> (Khakada), <i>Lanea grandis</i> (Mai), <i>Diospyros Montana</i> (Halanda), <i>Terminalia bellerica</i> (Bahad) and <i>Azadirachta indica</i> (Neem).</p> <p>0.4 (Eco-Class value - I)</p> <p>13729 nos of trees above 30 cm girth to be enumerated during the proposed project. The enumeration of trees furnished at Page.36-1c</p>
6.	Whether area is significant from wildlife point of view	No
7.	Whether forms part of National park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve, Elephant Corridor, etc. (if so, details of the area and comments of the Chief Wildlife Warden	No
8.	Whether any RET species of flora and fauna are found in the area. If so details thereof	Rare/ endangered/ unique species of flora and fauna are not found in proposed area. Barking deer, Indian hare and birds like Indian pea fowl, Blue jay, Egrets, Kingfisher and Drongo are noticed.
9.	Approximate distance of the proposed site for diversion from boundary of forest.	
10.	Whether any protected archaeological/ heritage site/defence establishment or any other important monuments is located in the area.	No
11.	Whether any work of in violation of the Forest (Conservation) Act, 1980 has been carried out (Yes/No). If yes details of the same including period of work done, action taken on erring officials. Whether work in violation is still in progress.	No
12.	Whether the requirement of forest land as proposed by the user agency in col. 2 of Part-I is unavoidable and barest minimum for the project, if no recommended area item-wise with details of alternatives examined.	Unavoidable and barest minimum for the project.
13.	Whether clearance under the Environment (protection) Act, 1986 is required?	Yes, Environmental Clearance vide letter No.J-11015/31/2007-IA-II(M) dated 10.12.2009 Page 9/c the DFO has been reported that user agency accorded Environmental Clearance vide letter No.J-11015/31/2007-IA-II(M) dated 10.12.2007 enclosed

14.	Compensatory Afforestation																																									
	(i) Details of non-forest area/degraded forest area identified for CA, its distance from adjoining forest, number of patches, six of each patches.	151.03 ha degraded forest land in Compartment No. II & 243.577 ha in compartment No. III computing to 394.607 ha out of which, 340 ha degraded forest land (ANR with gap plantation) identified in Phuljhari RF of Kaniha Range for raising Compensatory Afforestation in lieu if 169.1779 ha forest land to be diverted for the project. Detailed scheme of CA has been furnished																																								
	(ii) Map showing non-forest/degraded forest area identified for CA and adjoining forest boundaries.	Maps enclosed																																								
	(iii) Detailed CA scheme including species to be planted, implementing agency, time schedule, cost structure, etc.	The scheme for raising Compensatory Afforestation 151.03 ha degraded forest land in Compartment No. II & 243.577 ha in compartment No. III computing to 394.607 ha out of which 340 ha degraded forest land (ANR with gap plantation) identified in Phuljhari RF for raising compensatory Afforestation in lieu of 169.1779 ha forest land to be diverted for the proposed project enclosed																																								
	(iv) Total financial outlay for CA	Total Financial outlay of Rs.3,13,08,049/-																																								
	(v) Certificate from the competent authority regarding suitability of the area identified for CA and from management point of view.	Site suitability certificate has been furnished																																								
15.	Catchment Area Treatment	NA																																								
	Rehabilitation of Oustees																																									
	a) No of families involved	417 families are displaced and 97 families are affected.																																								
	b) Category of families	<table border="1"> <thead> <tr> <th rowspan="2">S. No.</th> <th rowspan="2">Villages</th> <th colspan="5">Population</th> </tr> <tr> <th>SC</th> <th>ST</th> <th>OBC</th> <th>General</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td colspan="7">A. Fully Displaced</td> </tr> <tr> <td>1.</td> <td>Nandichhod Oruff Gopiballavu</td> <td>22</td> <td>195</td> <td>180</td> <td>8</td> <td>405</td> </tr> <tr> <td>2.</td> <td>Gopinathpur</td> <td>0</td> <td>12</td> <td>0</td> <td>0</td> <td>12</td> </tr> <tr> <td></td> <td>Total</td> <td>22</td> <td>207</td> <td>180</td> <td>8</td> <td>417</td> </tr> </tbody> </table>	S. No.	Villages	Population					SC	ST	OBC	General	Total	A. Fully Displaced							1.	Nandichhod Oruff Gopiballavu	22	195	180	8	405	2.	Gopinathpur	0	12	0	0	12		Total	22	207	180	8	417
S. No.	Villages	Population																																								
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	c) Details of rehabilitation plan	Detailed R&R plan has been furnished																																								

	Employment likely to be generated a) Whether the project is likely to generate employment b) Permanent/ Regular Employment (Number of person) c) Temporary Employment (Number of person-days)	Yes, 50 persons directly 200 persons indirectly
16.	Compliance of Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	Collector, Angul has issued certificate of Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 for 169.1779 ha area
17.	Site Inspection Report by DFO	Site inspection report has been furnished by
18.	Cost Benefit Ratio	1:10.586
19.	Total Cost of the Project	33700 lakhs
20.	Total period for which the forest is proposed to be diverted (In years)	
21.	Recommendation i. DFO ii. RCCF iii. PCCF/Nodal Officer iv State Government	Recommended Recommended Recommended Recommended
22.	District Profile (i) Total Geographical area of the district/division (ii) Total Forest area/ Divisional Forest area (iii) Total area diverted since 1980 (iv) Total CA stipulated since 1980 (Forest land) a. Forest land including penal CA b. Non Forest Land (v) Progress of Compensatory Afforestation a. Forest land b. Non Forest land	637500 ha 271682.00 ha 4196.3960 ha (for 55 proposals) 2437.81 ha 1596.284 ha 1339.43 ha 953.9 ha

3. Other information provided by the State Government vide letter dated 25.06.2020:

Brief Description: National Aluminium Company Limited (NALCO) is operating a multi-locational Bauxite Mines-Alumina complex along with the Captive Power Plant, in the State of Odisha. The plant was commissioned in 1987. A major expansion programme (1st Phase) was started in 1997/1998 and the same has already been completed by end of 2003.

The plant capacity and location of various units of the complex after Phase-1 expansion are as under:

Production	Unit	2015-16	2016-17	2017-18
Bauxite	MT	63,40,142	68,25,000	70,25,109
Alumina Hydrate	MT	19,53,000	21,00,100	21,05,500
Aluminium	MT	3,72,183	3,87,422	4,25,515
Thermal Power	MU	5,841	6,066	6,547
Wind Power	MU	156	198	243

A proposal for expansion of NALCO's smelter capacity and allied units have been approved by Government of India vide letter dated 26.10.2004. The additional capacities under 2nd phase will be as below:

Mine : 1.50MMTPY Bauxite
Alumina : 525.000 TPY Alumina
Hydrate
Smelter : 115.000 TPY Aluminium
CPP : 2x120 MW power

The Port facilities at Vizag will be marginally augmented to handle additional loads for export of alumina & import of caustic soda lye.

Utkal-E Block in Talcher Coalfield has been allotted by Ministry of Coal, Government of India to M/s NALCO vide letter No.47011/7(60)/93-CPA/CPAM/CA dtd.27.08.2005.

The coal mine is to be used as the captive source for the expansion power plant of NALCO in Angul District i.e. 9th & 10th units of 120 MW each. The grade of coal is expected to be 'G'. The annual requirements of coal will be 2.00 million tonnes at 90% PLF of the Power Plant.

Utkal-F. Block, forming a part of larger Utkal block lies in the south-central part of the Talcher Coalfield which has now occupied a premier position with its vast extent of 1860 sq. km., as far as availability of power grade coal is concerned in this part of the country.

On the basis of regional exploration in the south-central part of the coalfield a potential area about 22 sq. km named as Utkal Block was identified. Subsequently the Utkal block was sub-divided into 7 blocks namely, Utkal A, B I, B2, C, D, E & F. All these blocks were identified by the Ministry of Coal, Govt. of India for captive mining. Although, regional exploration in larger Utkal block was carried out by Mineral Exploration Corporation Limited at the instance of Central Mine Planning and Design Institute Limited from Feb'84 and detailed exploration by CMPDI commenced in April, 1989, it was only in Nov'03 that Utkal-E block was taken up, independently for detailed exploration by CMPDI after the advice from MOC, to explore this block on top priority. Accordingly, CMPDIL deployed one drill from Regional Institute-VI, Singrauli, RI-VI mobilized two of its drilling rigs and started drilling w.e.f. 10.12.03.

The detailed exploration in Utkal block was undertaken to make qualitative and quantitative assessment of the coal resources available with a view to establish the quarriable potentialities and firm up the structural set-up. The present investigations were restricted upto Seam IIA because Seam I, belonging to Karhabari formation, occurs in 3 or more, less than 1 m thick splits and shows impersistent development in nearby blocks.

Utkal-E block is located in between Utkal-F block in the west & Utkal-D block, in the east, in the south-central part of Talcher Coalfield (Plate-I, Fig. I). It lies between latitude N 20°55' 42" to N 20°57' 43" North and longitude E 84°55' 49" to E 84°59' 37" East. Administratively, it is under the jurisdiction of Chhendipada Tahasil, Angul district. Survey of India toposheet No.73/D13 on RF 1:50,000 (2 cm to 1 km) and special toposheet No.L2 on RF 1:10,000 (10 cm to 1 Km) covers the block area.

Angul, the nearest township and district HQ is located, at a distance of about 26 km from the block towards south-east on National Highway No.42 (Bhubaneswar-Sambalpur). Tahasil HQ, Jarpara around 10 km south-west of block is approachable by an un-metalled road. Block is approachable from village Raijharan located towards east, at a distance of 3 km on the metalled road joining Chhendipada to Angul through village Dubamalia. An un-metalled jeepable road traverses the entire block from south to north. A few kacha cart track and forest road also pass through the block. Angul Railway Station, about 26 km from the block, on Sambalpur-Talcher-Bhubaneswar rail line of South-Eastern Railways, is the nearest rail head. Paradip Port and Biju Pattnaik International Airport are the nearest water air terminals respectively. Bhubaneswar, the State Capital, is around 170 km from the area.

Utkal-E block, covering a surface area of 4.60 sq. km is rectangular in shape, having about 3.5 km length in north-south direction and approximately 1.3 km width in east-west direction. Block boundaries are as follows:

- On the North : Southern bank of Singhada Jhor
- On the South : An orbitary east-west line drawn 260 m south of boreholes CMTU-090 & 094, JOINING SOUTH-WESTERN AND SOUTH-EASTERN corners of Utkal-D and Utkal-F blocks Respectively
- On the East : Western boundary of Utkal-D block
- On the West : Eastern boundary of Utkal-F block

As the overburden volumes will be relatively smaller, waste disposal would not pose any major problems. Suitable steps will be adopted for waste rock disposal, including back filling of worked-out areas.

Coal will be transported to CPP or loaded into Railway Wagons at a suitable siding, close to Utkal-E Block from where these wagons will be hauled by East Coast Railway, via Angul to the Captive Power Plant (CPP).

The Divisional Forest Officer, Angul Forest Division has reported that, the total land involved in this project is 523.7325 ha comprising of 169.1779 ha of forest land (169.0349 ha of Revenue Forest + 0.143 ha of DLC Forest) and 354.5546 ha of non-forest land (132.0581 ha of Government non-forest land + 222.4965 ha of Private non-forest land). The authenticated land schedule of forest and non-forest land involved in the project furnished by the Tahasildar Chhendipada.

The Divisional Forest Officer, Angul Forest Division has reported that, the applied area does not form part of any National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve. No rare/

endangered/ unique species of flora & fauna found in the proposed area for diversion. There is no archaeological monument within the applied area or there is any heritage site or defence establishment or other important monument. The project will provide direct employment to 50 persons and indirect employment to 200 persons. The total cost of the project is Rs.337.00 Crores.

Justification for locating in forest area: This is a site specific project, Ministry of Coal, Government of India vide their letter No.47011/7(60)/93-CPA/CPAM/CA dated 27.08.2005 allocated the coal block Utkal-E to NALCO Ltd. for expansion of power plant of NALCO in Angul District i.e. 9th & 10th units of 120 MW each.

Forest Land: The Divisional Forest Officer, Angul Forest Division has reported that, the total land involved in this project is 523.7325 ha comprising of 169.1779 ha of forest land (169.0349 ha of Revenue Forest + 0.143 ha of DLC Forest) and 354.5546 ha of non-forest land (132.0581 ha of Government non-forest land + 222.4965 ha of Private non-forest land). The authenticated land schedule of forest and non-forest land involved in the project furnished by the Tahasildar Chhendipada are enclosed at Page No.1-209 of Volume-II/DP.

The break-up of total land involved in this project under Angul Forest Division is given below:

Forest Division	Forest land involved (in ha)				Non-Forest land involved (in ha)			Grand Total (in ha)
	RF	DLC	Revenue Forest	Total	Govt. land	Pvt. Land	Total	
Angul	-	0.143	169.0349	169.1779	132.0581	222.4965	354.5546	523.7325
Grand Total (in ha)	-	0.143	169.0349	169.1779	132.0581	222.4965	354.5546	523.7325

The village wise break-up of the total forest and non-forest land involved in this project under Angul Forest Division is given below:

Forest Division	Forest land involved (in ha)				Non-Forest land involved (in ha)			Grand Total (in ha)
	RF	DLC	Revenue Forest	Total	Govt. land	Pvt. Land	Total	
Nandichhod urof Gopivallavapur	-	0.1430	107.7986	107.9416	45.7145	128.8172	174.5317	282.4733
Kundajhari Jungle	-	-	41.4941	41.4941	10.8738	22.3606	33.2344	74.7285
Kosala	-	-	-	-	13.8745	3.0175	16.892	16.892
Korada	-	-	-	-	61.5953	58.2114	119.8067	119.8067
Gopinathpur Jungle	-	-	19.7422	19.7422	-	10.0898	10.0898	29.832
Grand Total (in ha)	-	0.1430	169.0349	169.1779	132.0581	222.4965	354.5546	523.7325

The purpose wise breakup of the total forest land for the project alongwith non-Govt. land are furnished below:

Purpose	Area (in ha)
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Sl. No.		Revenue Forest	Non-Forest	Grand Total
1.	Mining	42.2279	164.0486	206.2765
2.	Dumping	101.7700	148.1170	249.8870
3.	Top Soil Stack	1.8700	0.00	1.8700
4.	Road & Corridor	2.0440	3.1530	5.1970
5.	Office, R.S. & Other infrastructure	13.0000	5.2490	18.2490
6.	Barrier & Embankment	4.3200	9.5800	13.9000
	Total (A)	165.2319	330.1476	495.3795
Safety Zone				
7.	7.5 Safety Zone Area barrier along the lease boundary	2.7300	6.4430	9.1820
8.	Singra Johr & its 50 m Safety Zone barrier	1.2070	9.4990	10.7060
9.	Magazine & its Safety Zone area	0.000	8.4650	8.4650
	Total Safety Zone area (B)	3.9460	24.4070	28.3530
	Grand Total (A+B) (in ha)	169.1779	354.5546	523.7325

The Safety Zone area has been depicted in Plate No. IV and is enclosed in the DP. The DGPS maps of the proposed diversion of forest land of the project signed by the User Agency, authenticated by ORSAC and countersigned by the Divisional Forest Officer Angul Forest Division is enclosed with the diversion proposal (Plate No.2/DP). The soft copy in CD form of Shape & KML file are appended to the DP.

Flora & Fauna: As per Part-II and site inspection report of DFO, Angul Forest Division at Page No.18-20/DP and Page No.21-22/DP, according to champion & Seth classification of forest type, the applied area comes under Tropical Moist Deciduous forest. The said forest land has been put under Eco-value-class-I with canopy density is 0.4. The forest comprises predominantly by Sal (*Shorea robusta*), Barabakulia (*Dalbergia paniculata*), Char (*Buchnanania lanzan*), Asan (*Terminalia tomentosa*), Mahula (*Madhuca indica*), Dhaura (*Anogeissus latifolia*) Rohini (*Soymida febrifuga*), Kendu (*Diospyros melanoxylon*), Bela (*Aegle marmelos*), Harida (*Terminalia chebula*), Jamu (*Syzygium cumini*), Khakada (*Casearia elliptica*), Mai (*Lannea coromandelica*), Halanda (*Adina cordifolia*), Bahada (*Terminalia belerica*), Neem (*Azadirachta indica*) etc.

The wild fauna like Elephant, Barking Deer, Indian Hare and birds like Indian pea fowl, Blue jay, Egrets, Kingfisher, Drongo etc are noticed in the proposed diversion area.

Site Specific Wildlife Conservation Plan: The User Agency has furnished an undertaking to submit the approved Site Specific Wildlife Conservation Plan for Utkal-E Coal Block of NALCO before Stage-11 Forest Clearance approval which is enclosed at Page No.27 A/DP.

Tree Enumeration: The Divisional Forest Officer, Angul Forest Division has reported that, sample enumeration of trees have been carried out over 16 sample plots of 2 ha each in Revenue forest area & DLC forest over 169.1779 ha and 13,729 no. of trees above 30 cm girth have been enumerated and required to be felled in the Revenue Forest land proposed to be diverted. The details of which are furnished below:

Name of the Village	Area (in ha)	No. of Sample plots of 2 ha each Carried out	Area of sample plots involved (in ha)	No. of trees enumerated	No. of trees enumerated per ha	Total No. of trees available/enumerated in forest area	Total No. of trees to be felled
Nandichhod urof Gopiballavpur	107.9416	9	18	1051	58.39	6303	6303
Kundajhari Jungle	41.4941	5	10	1767	176.7	7332	7332
Gopinathpur	19.7422	2	4	19	4.75	94	94
Total (in ha)	169.1779	16				13729	13729

The species wise and diameter class wise abstract of enumerated trees in respect of revenue forest land involved in the project are enclosed at Page No.210-288 of Volume-II/DP.

The tree enumeration has not been carried out non-forest area involved in the project, but the user agency has furnished an undertaking to take up tree enumeration work in the non-forest area after Stage-1 approval under supervision of DFO, Angul Division which is enclosed at Page No.109/DP.

Certificate under FRA, 2006: In compliance with the provisions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, the required Certificate has been issued by the Collector, Angul over 169.1779 ha of forest land proposed for coal mining in respect of Utkal 'E' Coal Mines). The copy of the certificate issued by the Collector, Angul, copies of the proceedings of DLC, SDLC and Gram Sabha Resolutions both in Odia & English version are enclosed at Page No.64-88E/DP.

Cost Benefit Analysis: The total Benefit of the proposal comes to Rs.36448.75 lakhs and the loss of forest including environmental loss, NPV cost, the mandatory payments etc comes to Rs.3443.02 lakhs. Hence, the cost benefit ratio comes to 1:10.586 which is enclosed at Page No.28-29/DP.

Resettlement and Rehabilitation: The Divisional Forest Officer, Angul Forest Division has reported that, 417 no. of project displaced families and 811 no. of project affected families are affected by Utkal-'E' Coal Mine Project. The R&R Site, for Utkal-E Coal Block displaced families, is identified at Kosala Mouza under Chhendipada Tahasil in Angul District which is about 5 kms. from village Kosala adjacent to State Highway 63 (Angul-Chhendipada) and approx. 1.5 kms from the western side of Phuljhari Chhak. The total land for R&R colony measures Ac. 67.27. The layout plan showing the plots to be allotted for rehabilitation of displaced persons in the R&R site is enclosed at Page No.61/DP. The approved R&R plan duly authenticated by Collector Angul District is enclosed at Page No.38-63/DP.

DGPS Map: Ministry of Environment and Forests, Government of India in their letter F.No.11-9/98-FC dated 08.07.2011 have issued guidelines that all applications seeking prior approval of the Central Government under Forest (Conservation) Act, 1980 for diversion of forest land for non-forest purpose must be accompanied with Geo-referenced boundary in shape file pertaining to forest land proposed for diversion. These documents/ Maps are required to ensure accurate delineation of the forest area to be diverted. The User Agency in compliance to, this order, has submitted the required DGPS map of the

forest area duly authenticated by ORSAC and countersigned by DFO, Angul Forest Division for the proposed diversion of 169.1779 ha of forest land, which is enclosed at Plate-2/DP along with the soft copy in CD form of Shape file & KML file enclosed to the DP.

Compensatory Afforestation: The forest land applied for diversion under Section-2 of FC Act is 169.1779 ha. Hence an area of 340.00 ha of degraded forest land has been identified in Phuljhari RF under Kaniha Range of Angul Forest Division for diversion of 169.1779 ha of forest land for coal mining in respect of Utkal 'E' Coal Mines under section-2 of FC Act, 1980 by NALCO.

A compensatory afforestation scheme has been prepared by DFO, Angul Division in which it has been proposed to take up ANR Plantation over 340.00 ha @ 600 plants per ha with 10 years maintenance along with provision of Bamboo Twig fencing around the plantation which is enclosed at Page No.90-105/DP. The DFO Angul Forest Division has furnished the land suitability certificate which enclosed at Page No.91/DP. The species selected for plantation under compensatory afforestation scheme include *Tectona grandis* (Teak), *Dalbetgia sisoo* (Sisoo), *Terminalia belerica* (Bahada), *Azadirachta indica* (Neem), *Embllica officinalis* (Anla), *Acacia auriculoformis* (Acacia), *Casia siamea* (Chakunda), Bambo (*Bambusa vulgaris*), *Acacia catechu* (Khair), *Mangifera indica* (Amba), *Madhuca indica* (Mahul), *Pongamia pinnata* (Karanja) etc. The compensatory afforestation has been technically approved by PCCF (FD & NO, FC Act) with a total financial outlay of Rs.3,18,65,700/- at current wage rate of Rs.298/- per manday which is enclosed at Page No.105A/DP.

The DGPS map and Survey of India Toposheet No. F45N4 of 1:50,000 scale indicating identified Compensatory Afforestation land have been countersigned by DFO Angul Forest Division are enclosed as Plate No.5B & 5A/DP. The User Agency has furnished an undertaking to pay the entire amount for compensatory afforestation in lieu of the forest land to be diverted for coal mining in respect of Utkal 'E' Coal Mines under section-2 of FC Act, 1980 by NALCO as per prevailing wage rate at the time of plantation which is enclosed at Page No.106/DP.

Net Present Value: The User Agency has furnished an undertaking to pay the NPV of the forest land proposed to be diverted as per demand of DFO, Angul Forest Division which is enclosed at Page No.107/DP. The User Agency has also furnished an undertaking to pay the additional amount of NPV if so, determined as per the decision of the Hon'ble Supreme Court which is enclosed at Page.108/DP.

Mining Plan: The Mining Plan in respect of Utkal-E Coal Block of M/s NALCO has been approved by Government of India, Ministry of Coal vide Letter No.47011/7(60)/93-CPA/CPAM/CA-I dtd.31.07.2006. The copy of the approved scheme is enclosed at Page No.289-532 of Volume-II/DP.

Environmental Clearance: The DFO Angul Forest Division has reported that the User Agency has obtained Environmental Clearance vide letter No.J-11015/31/2007-IA-II (M) dated 10th December 2009 of the Government of India, MoEF & CC Division) which is enclosed at Page No.30-37/DP.

Consent to Establish for SPCB, Odisha: The State Pollution Control Board had earlier accorded their consent to establish in favour of the project vide letter No.20080/1ND-II.NOC-4476 dated 01.11.2013 which was valid till 14.01.2019 enclosed at Page No.121/DP.

Violation: The Divisional Forest Officer, Angul Forest Division in his site inspection report at Page No.21-22/DP reported that, no violation has been committed by the User Agency under Forest (Conservation) Act, 1980.

PCCF, Odisha has recommended this proposal subject to the following conditions:

- The User Agency shall pay the evaluated royalty of enumerated trees before commencement of work on Stage-II approval
- Safety zone shall be maintained as such and in no circumstance, shall be used for mining purposes.
- The user agency shall deposit cost of afforestation in degraded forest over an area equal to 1.5 times of the forest land under Safety zone area.
- The User Agency shall bear the cost of fencing, protection and regeneration of the Safety Zone.
- The user agency shall contribute towards cost of Site Specific Wildlife Conservation Plan and Regional Wildlife Management Plan at revised rate.
- Trees should be felled in phased manner as per the requirement in the approved Mining Plan with prior permission of DI-U, Angul.
- The user agency shall undertake demarcation of the A lease/safety zone area on the ground, posting four feet high cement concrete pillars embedded two feet inside the soil with serial number, forward and backward bearings, and distance from pillar to pillar, The user agency shall also submit the map of lease area showing different kinds of forest land using DGPS survey data and latitude and longitude of each pillar to the Divisional Forest Officer, Angul for his reference before commencement of work on final forest clearance.
- NPV, as due shall be deposited by the User Agency.

4. After examining the proposal, the Ministry vide its letter dated 12.07.2020 requested the Govt. of Odisha for reply on certain observation. Govt. of Odisha vide their letter No.18235/9F(MG)-308/2020 dated 16.10.2020 forwarded the point wise reply on the shortcomings raised by this Ministry on 12.07.2020 as detailed below:

S. N	Observation of Ministry	Response of State Govt.
i.	KML file of 169.1779 ha forest land applied for diversion has not been uploaded on Parivesh portal.	In compliance to this observation, it is reported by the PCCF & Nodal Officer (FCA), Govt of Odisha that RCCF, Angul has submitted the KML file of 169.1779 ha forest land applied for diversion in respect of Utkal- 'E' Coal Block of NALCO in shape of CD.
ii.	In instant proposal Compensatory Afforestation (CA) has been proposed on degraded forest land (DFL). The total CA area proposed is 394 ha in lieu of diversion of 169.1779 ha of forest land. Out of total CA area, 145 ha falls in Moderate Dense Forest (MDF) which is not suitable for CA purpose in accordance with the latest guidelines issued by this Ministry.	In compliance to this observation, it is reported by the PCCF & Nodal Officer (FCA), Govt of Odisha that RCCF, Angul informed that the DFO, Bolangir Division has identified 340 ha of degraded forest land in Barghati RF of Saintala Range under Bolangir Division for raising compensatory afforestation in lieu of the degraded forest land earlier identified in Parjang RF of Angul Forest Division against the 169.1779 ha of forest land proposed to be diverted for Utkal-'E' Coal Block by NALCO. Accordingly, the CA scheme prepared by the DFO, Bolangir Division in ANR module @600 plants per ha in the prevailing wage rate of Rs. 303.40 per man day along with Topo map & DGPS map and KML file in form of CD. Further, the financial outlay for CA scheme over an area of 340 ha of degraded forest land identified in Barghati RF under Saintala Range in Bolangir Forest Division pertaining to the above project is technically approved by PCCF (FD & No, FC Act) amounting to Rs. 4,35,63,000/- .

iii.	The present status on FRA (Forest Right Act) application may be furnished.	In compliance to this observation, it is reported by the PCCF & Nodal Officer(FCA),Govt of Odisha that RCCF, Angul has forwarded the certificate under Forest Rights Act, 2006 issued by the Collector, Angul in favour of Utkal- 'E' Coal mines project of NALCO, Angul over 169.1779 ha (Pg.710/ToC) along with copy of proceeding of SDLC, DLC & Gram Sabha resolution, which are enclosed as Pg.710-739/ToC.
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5. Shape/kml file analysis by the DSS cell of FC Division. DSS report may kindly be seen [Summary of DSS Analysis Report: Summary of DSS Analysis Report:](#)

I. In Case of Land proposed for Diversion:

- (i) Proposed forest area for diversion falls under Dhenkanal district of Odisha State.
- (ii) Calculated area of Shape file/ KML file of Forest land proposed for diversion is found 169.219 ha. (software calculated). The total area of Mining lease is found 523.039 Ha. The area of the Forest land applied for diversion and the Mining lease area are found correct as per the area figure given in the proposal.
- (iii) The instant project is located at a distance of 10.29 Km from the Similipal-Satkosia Tiger Corridor. Although there is no wildlife sanctuary/ National park is located within 10 km distance from the instant project.
- (iv) Proposed area for Diversion classified as Not-inviolate area or Not In High Conservation value (Not in HCV) based on Decision Rule No. 1 & 2.
- (v) Forest Cover: Out of total 170 Ha (as per DSS Calculated) forest area proposed for diversion, 1 ha of land is characterized with Moderately Dense Forest, 14 ha. of land as Open forest and remaining 155 ha. of land as Non Forest (land devoid of tree cover) in terms of forest classes (as per the ISFR 2019) based on the interpretation of satellite data period 2017-2018.
- (vi) Forest Types details: 5/DS1 Dry Deciduous Scrub: 1 ha, 5B/C1 c Dry Peninsular Sal Forest: 7 ha & Non-Forest: 162 ha.
- (vii) The Map showing the purpose wise break-up of the total forest land for the project along with non-Govt. land is not provided by the User agency.

II. In Case of Compensatory Afforestation Land:

- (i) The CA site has been proposed in a single patch in Degraded Forest land and the CA site is located in Barghati R.F. of Saintala Range in Bolangir forest Division, Bolangir District of Odisha State.
- (ii) Calculated area of CA land is found 340.258 Ha (software calculated) which is found correct as per the requirement.
- (iii) As per the Google earth imagery dated 25.11.2018, the proposed CA site in Degraded forest land (DFL) is found free from encroachment and human encumbrances.
- (iv) *Through time series data for the period 07.05.2012 & 17.05.2014 available on the Google earth, it is learnt that the Plantation activities had already been carried out in past in the proposed CA site i.e. Barghati R.F. Accordingly, out of 340 ha. area proposed for CA, 9.26 ha. area is having plantation work done in the past. Please see map at Annexure-II.*
- (v) Out of total 340 ha area proposed for CA, 285 ha. of land having the canopy density of Open forest and remaining 55 ha of land as Non-Forest (land devoid of tree cover) in terms of forest classes (as per the ISFR 2019) based on the interpretation of satellite data period 2017-2018.
- (vi) It is learnt that, out of 340 ha area proposed for CA, 285 ha of land is falling under the Open forest (OF) category as per the DSS whereas the Google earth imagery dated 25.11.2018 shows the presence of Moderately Dense forest (MDF) in large area of the proposed CA site. Thus, the discrepancy in nature of forest density is observed between the DSS & the Google earth imagery which needs to be clarified through

field verification. Moreover, the State Govt. of Odisha has proposed ANR plantation over 340 ha @ 600 plants per Ha.

(vii) Patch-wise details of proposed CA patches w.r.t density classes (based on interpretation of satellite data period 2017-18) as per ISFR 2019, is as follows:

S.no	District	Range	Name of PF/RF	Forest Compt. No.	Area (in ha.)	VDF	MDF	OF	NF
1	Bolangir	Saintala	Barghati R.F	N/A	340	0.00	0.00	285	55
		Total			340	0.00	0.00	285	55

6. Ministry vide its letter dated 16.12.2020 requested the Regional Office, Bhubaneswar to carry out site inspection of the proposal area.

7. Now, Regional Office, Bhubaneswar carried out site inspection of the proposal and uploaded SIR on web portal on 18.01.2021. The SIR reproduced as below:

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

The entire forest land of 169.1779 ha comes within the Angul Forest Division. The break up is as follows.

Type of Forest	Area in ha
Reserved Forest	-
DLC Forest	0.143
Revenue Forest	169.0349
Total	169.1779

Item-wise break-up details of the forest land proposed for diversion (in ha):

Sl. No.	Pattern of utilization	Forest land (in ha)
1	Mining	42.2279
2	Dumping of over burden	101.7700
3	Top Soil Stack	1.8700
4	Road & Corridor	2.0440
5	Office, R.S. & Other infrastructure	13.0000
6	Barrier & Embankment	4.3200
	Sub-total	165.2319
7.	Safety zone Area (7.5 m SZ along ML boundary, Singra Johr & its 50 m SZ barrier, etc.)	3.9460
	TOTAL	169.1779

ii.

iii.

Whether proposal involves any construction of buildings (including residential) or not. If yes, details thereof: No.

iv.

Total cost of the project at present rates: The total cost of the project is Rs. 3443.02 Lakhs.

v.

Wildlife:

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

The area does not form part of any National Park/Sanctuary/Biosphere reserve. It also does not come under any recognized wild life corridor.

vi. **Vegetation:** The area represents degraded forests of Tropical Moist Deciduous Forests with canopy density of 0.4 eco value Class-0.4. The area is dominated by Sal.

Total number of trees to be felled.

Total 13,729 nos. of trees will be felled in the whole area. The number of trees to be felled is as per sample enumeration carried out over the area on sample plots of 2 ha each. Tree enumeration not carried out over non-forest land and shall be carried out after Stage-I by the UA.

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

The removal of trees shall have an impact on soil erosion of the area.

Important species:

The area consists of vegetation of dry deciduous species like Sal (*Shorea robusta*), Barabakulia (*Dalbergia paniculata*), Char (*Buchnanania lanzan*), Asan (*Terminalia tomentosa*), Mahula (*Madhuca indica*), Dhaura (*Anogeissus latifolia*), Rohini (*Soyamida febrifuga*), Bela (*Aegle marmelos*), Hairda (*Terminalia chebula*), Jamun (*Syzigium cumini*), Khakada (*Casearia eliptica*), Mai (*Lannea cormoandelica*), Halanda (*Haldinia cordifolia*), Bahada (*Terminalia belerica*), Neem (*Azadirachta indica*) and Kendu (*Diospyrus melonxylon*) and other miscellaneous species with crop density of around 0.4.

Number of trees of girth below 60 cm. 8130

Number of trees of girth above 60 cm. 5599

Background note on the proposal:

M/s NALCO is operating a multi-locational Bauxite Mines – Alumina Complex along with the CPP, in the State of Odisha. The plant was commissioned in 1987. A major expansion programme (1st Phase was started in 1997/1998 and the same has already been completed by the end of 2003.

The plant capacity and location of various units of the complex after Phase-I expansion are given below:

Year	Bauxite (MT)	Alumina Hydrate (MT)	Aluminium (MT)	Thermal Power (MU)	Wind Power (MU)
2015-16	6340142	1953000	372183	5841	156
2016-17	6825000	2100100	387422	6066	198
2017-18	7025109	2105500	425515	6547	243

vii.

A proposal for expansion of NALCO's smelter capacity and allied units have been approved by Govt. of India vide letter dated 26.10.2004. The additional capacities under 2nd phase will be as follows:

Mine : 1.50 MMTPY of Bauxite
Alumina Plan : 525.000 TPY of Alumina
Smelter Plant : 115.000 TPY of Aluminium
CPP : 2 x 120 MW Power

The port facilities at Vizag will be marginally augmented to handle additional loads for export of Alumina & import of Caustic soda lye.

Utkal-E Block in Talcher Coalfield has been allotted by Ministry of Coal, Govt. of India to M/s NALCO vide letter No. 47011/7(60)/93-CPA/CPAM/CA dated 27.08.2005.

The coal mine is to be used as the captive source for the expansion of power plant of NALCO in Angul district i.e. 9th & 10th units of 120 MW each. The grade of coal is expected to be 'G'. The annual requirements of coal will be 2.00 million tonnes at 90% PLF of the power plant.

Utkal –E Block, forming a part of larger Utkal Block lies in the South-central part of the Talcher Coalfield which has not occupied a premier position with its vast extent of 1860 sq. KM, as far as availability of power grade coal is concerned in this part of the country.

On the basis of regional exploration in the south-central part of the coalfield, a potential area about 22 sq. KM named as Utkal Block was identified. Subsequently, the Utkal block was sub-divided into 7 blocks viz. A, B1, B2, C, D, E & F. All these blocks were identified by the Ministry of Coal, Govt. of India for captive mining. Although, regional exploration in larger Utkal block was carried out by Mineral Exploration Corporation Limited at the instance of Central Mine Planning and Design Institute Limited from Feb'84 and detailed exploration by CMPDI commenced in April, 1989, it was only in November, 2003 that Utkal-E block was taken up, independently for detailed exploration by CMPDI after the advice from Ministry of Coal, to explore this block on top priority. Accordingly, CMPDI deployed one drill from Regional Institute-VI, Singrauli, RI-VI mobilised two of its drilling rigs and started drilling w.e.f. 10.12.2003.

The detailed exploration in Utkal Block was undertaken to make qualitative and quantitative assessment of the coal resources available with a view to establish the quarriable potentialities and firm up the structural set-up. The present investigations were restricted upto to Seam IIA because Seam I, belonging to Karhabari formation, occurs in 3 or more, less than 1 m thick splits and shows impersistent development in nearby blocks.

Utkal-E block is located between Utkal-F block in the west & Utkal-D block, in the east, in the south-central part of Talcher Coalfield. Administratively, it is under the jurisdiction of Chhendipada Tahasil, Angul District. Angul is the nearest township and district headquarter located at a distance of about 26 KM from the block towards south-east on NH-42, 10 KM from Tahasil headquarter Jarapara on south-west with an un-metalled road. The block is at a distance of 3 KM from village Rajjharan located towards east with metalled road joining Chhendipada to Angul through village Dubamalia. Angul Railway Station is the nearest railway station, is about 26 KM from the block, on Sambalpur-Talcher-Bhubaneswar rail line of South-Eastern Railways. Paradip Port & Biju Pattnaik International Airport are the nearest water & air terminal. The State Capital Bhubaneswar is around 170 KM from the area.

Utkal –E block, covering a surface area of 4.60 sq. KM is a rectangular in shape having about 3.5 km length in north-south direction and approximately 1.3 km width in east-west direction.

It is reported that the total land involved in this project is 523.7325 ha comprising of 169.1779 ha of forest land (169.0349 ha of Revenue & 0.143 ha of DLC) and 354.5546 ha of non-forest land (132.0581 ha of Govt. non-forest land & 222.4965 ha of private forest land). The project will provide direct employment to 50 numbers of persons and indirect employment to 200 persons.

Compensatory afforestation:

viii.

As reported by the State Govt., 340 ha of degraded forest land has been identified in Barghati RF of Saintala Range under Bolangir Division for raising CA in lieu of the degraded forest land earlier identified in Parjang RF of Angul Forest Division against the 169.1779 ha of forest land proposed to be diverted for Utkal-E block by M/s NALCO. Accordingly, a CA Scheme has been prepared by the DFO, Bolangir Division in ANR module @ 600 plants per ha in the prevailing wage rate of Rs. 303.40 per man day. Further, the financial outlay for CA scheme over an area of 340 ha of degraded forest land identified for CA has been technically approved by the PCCF (FD & NO, FC Act) amounting to Rs. 4,35,63,000/-.

Whether land for compensatory afforestation is suitable from plantation and management point of view or not: Yes.

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

Yes.

Whether land for compensatory afforestation is important from Religious/Archaeological point of view: No.

Land identified for raising compensatory afforestation is in how many patches, whether patches are compact or not: One Patch.

Map with details: Enclosed in the proposal.

Total financial outlay: ₹ 4,35,63,000/-.

ix. **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.

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

x. A total of 417 number of families have been displaced and 811 numbers of families have been affected due to Utkal-E block Coal Mine project. The R&R Site, for Utkal-E Coal Block displaced families have been identified at Kosala Mouza under Chhendipada Tahasil in Angul District which is about 5 KMs from village Kosala adjacent to State Highway-63 (Angul-Chhendipada) and approx. 1.5 km from the western side of Phuljhari Chhak. The total land for R&R colony measures 67.27 Acres.

Reclamation plan:

xi. Enclosed in the proposal in Chapter V as well as Chapter XI under Progressive Mine Closure Plan but does not contain details like annual backfilling as well as financial outlay to be made for reclamation.

Details and financial allocation: Please refer to para 11.

xii. **Details on catchment and command area under the project:** NA

Catchment area treatment plan to prevent siltation of reservoir: NA

xiii. **Cost benefit ratio:**

Total loss per annum due to loss of environment loss, ₹ 3443.02 Lakhs.

NPV cost, CA, SZ & other mandatory payments.

Total benefit to the economy due to annual production ₹ 36448.75 Lakhs

of iron ore.

Hence, the cost benefit ratio of the mining project. 1:10.586

xiv. **Recommendations of the Principal Chief Conservator of Forests/State Government:** Recommended.

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

xv. The area is part of Talcher coal Block. This block is divided into A, B, C, D, E and other blocks. This particular block is allotted to NALCO for its CPP. The UA has not submitted the reclamation plan in details. The reclamation which is dealt in Chapter-5 of the mining plan submitted by CMPDI and approved by Coal India contains details of year wise OB dump generation but does not contain details of area to be backfilled and reclaimed. These details are missing in Progressive mine Closure Plan too. This case is recommended subject to the condition that before final approval the reclamation Plan should be incorporated with backfilling details year wise and financial expenditure to be incurred annually. The revised Mining plan should be submitted before final approval.

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:

xvi. This is a mining project and it is site specific.

- xvii. Utility of the project:**
Numbers of Scheduled Caste/Scheduled Tribes to be benefited by the project: NA
- xviii. Whether land being diverted has any socio-cultural/ religious value: No.**
Whether any sacred grove or very old growth trees/forests exist in the areas proposed for diversion: No.
Whether the land under diversion forms part of any unique ecosystem: No.
- xix. Situation with respect to any Protected Area: NA.**
- xx. Any other information relating to the project: No other information is available as on date.**

In view of the above, it is proposed that the proposal may be submitted to the FAC in its forthcoming meeting scheduled for 27.01.2021.
