

STATE FOREST HEADQUARTERS, ODISHA  
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS & HoFF  
PLOT NO. GD-2/12, ARANYA BHAWAN, CHANDRASEKHARPUR  
BHUBANESWAR-751023

Email:- [nodal.pccfhoff@odisha.gov.in](mailto:nodal.pccfhoff@odisha.gov.in)

No.

/ 9F (MG) – 337/2021

October 2022

From

Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)  
O/o the PCCF & HoFF, Odisha, Bhubaneswar

To

**The Assistant Inspector General of Forests (FC)**  
Government of India, Ministry of Environment, Forest & Climate Change  
(FC Division), Indira Paryavaran Bhawan, Aliganj, Jorbagh Road  
New Delhi-110003

**Sub:- Proposal for diversion of 697.797 ha forest land for Pottangi Bauxite Mining Lease in village Pottangi of Koraput Forest Division under Pottangi Tahasil, Koraput District by M/s NALCO Ltd – Compliance to GoI observations regarding**

Ref: F.No.8-17/2022-FC dated 27.07.2022 of the Scientist 'D', Government of India, MoEF & CC, New Delhi.

Sir,

In reference to the above mentioned letter on the captioned subject, this is to inform that Government of India, Ministry of Environment, Forest & Climate Change, New Delhi have raised 6 (six) nos. of observations and requested to furnish the compliance. The User Agency has complied all the observations of Govt. of India, MoEF & CC, New Delhi. The point wise compliance basing on the reports of the DFO, Koraput and RCCF, Koraput Circle are as follows: -

(i) *Analysis of the area proposed for diversion and area proposed for CA area using DSS (copy enclosed) analysis revealed the following:-*

(a) *A Kuchha road is observed to be passing through the forest area proposed for diversion. State Government may comment on the present use of the road and alternate road, if any, required to be provided as the area is proposed to be closed for mining.*

**Compliance:** - The RCCF, Koraput Circle has reported that the said roads were constructed by GSI/MECL during exploration stage for preparation of pits & trenches as mentioned in Page No.35, 36 & 48 of the Mining Plan. These roads are not public road as the ML area is situated at an altitude of 1200-1500 Meter above MSL without any habitation. In this regard extract of Mining plan is enclosed as **Annexure-I**.

*(b) Site suitability certificate has been submitted in respect of 294.70 ha of degraded forest land only. Complete certificate for the entire forest land of 1400 ha proposed for raising CA needs to be submitted by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that the site suitability certificate for the entire land of 1400 ha proposed for raising Compensatory Afforestation has already been submitted earlier along with the C.A. Scheme in the Diversion Proposal. The copy of said Site suitability / Land suitability certificate is enclosed as **Annexure-II**. Further, for land identified under Compensatory Afforestation of additional 140 Ha in lieu of MDF as pointed, the DFO, Koraput has submitted site suitability certificate which is appended in the scheme.

*(c) CA has been proposed in 16 patches of the total forest area for Compensatory Afforestation, 139 ha land is classified as moderately dense forest, 458 ha as open forest, 414 ha as scrub and 393 ha as non-forest (land without tree cover) in terms of forest classes. The State Government may, therefore, re-confirm the suitability of such area for raising Afforestation and if required alternate sites, suitable for raising CA may be identified and inform the Ministry. Supporting documents showing details of various attributes such as KML, files, derived from the Differential GPS surveys, CA Scheme suitability certificate etc. should also be furnished.*

**Compliance:** - The RCCF, Koraput Circle has reported that in lieu of 139 ha Moderately Dense Forest (MDF), an additional area of 140.00 ha has been identified and allotted in Godmark PRF under Laxmipur Range of Koraput Forest Division. In this regard Topo sheet, DGPS Maps, KML/ shape file in CD, DSS Analysis report of the said area, CA Scheme and Site suitability Certificate for raising compensatory afforestation are enclosed as **Annexure-III Series**.

The financial outlay of Addl. CA scheme over 140 ha of degraded forest land has been technically approved by the PCCF (FD & Nodal Officer, FC Act) for **Rs.7,88,49,300/-** (Rupees Seven Crore Eighty-Eight Lakh Forty-Nine Thousand and Three Hundreds) which is enclosed as **Annexure-III Series**.

*(iii) As the schedule-I species have been reported in the area, comments of PCCF (Wildlife) and CWLW Odisha on the likely impact of the project on the movement of wildlife in general and elephant in particular needs to be furnished by the State.*

**Compliance:** - The PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar vide his Memo No.6537 dt 15.07.2022 has sought Site Specific Wildlife Conservation Plan from the DFO, Koraput Forest Division. Accordingly, the DFO, Koraput Division has reported that the Site-Specific Wildlife Conservation Plan has been prepared and the same will be forwarded to the PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar through RCCF, Koraput Circle for its approval. The copy of Memo No.6537 dt 15.07.2022 of the PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar is enclosed as **Annexure-IV**. The User Agency has submitted an undertaking duly countersigned by the DFO, Koraput Division to bear the cost of Site Specific Wildlife Conservation Plan which is enclosed as **Annexure-IV A**.

(iv) *As the area has schedule-I and Schedule-II species, comments of PCCF (Wildlife) and CWLW Odisha on the likely impact of the project on the movement of wildlife in general and elephant in particular needs to be furnished by the State.*

**Compliance:** - The PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar vide his Memo No.6537 dt 15.07.2022 has sought Site Specific Wildlife Conservation Plan from the DFO, Koraput Forest Division. Accordingly, the DFO, Koraput Division has reported that the Site-Specific Wildlife Conservation Plan has been prepared and the same will be forwarded to the PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar through RCCF, Koraput Circle for its approval. The copy of Memo No.6537 dt 15.07.2022 of the PCCF (Wildlife) & Chief Wildlife Warden, Odisha, Bhubaneswar is enclosed as **Annexure-IV**. The User Agency has submitted an undertaking duly countersigned by the DFO, Koraput Division to bear the cost of Site Specific Wildlife Conservation Plan which is enclosed as **Annexure-IV A**.

(v) *From the purpose wise breakup of forest land, the following may be ascertained: -*

(a) *40.077 ha has been reported to be scattered between the mineralized zone. Plans, if any proposed by the user agency for the management and upkeep of these areas during the onset of mining operations may be intimated by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that the land use pattern for 40.077 ha as given in the FDP, submitted on 13.11.2017 prior to approval of Mining plan was a tentative one. Subsequently Mining plan has been approved on 27.07.2018 by IBM. NALCO undertakes to abide by the Mining plan stipulation which is enclosed as **Annexure – V A**. The copy of land use pattern as mentioned in the conceptual plan map duly approved by IBM is enclosed as **Annexure-V**.

(b) *An area of 28.326 ha has been proposed for statutory buildings which appears to be exaggerated, therefore, statutory building wise detailed breakup of 28.326 ha of forest land may be informed by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that the area of 28.326 ha proposed for the statutory Building is for entire life of the mine (conceptual period). However, mining operations proposed to be taken up in south Block first and for this an area of 5.333 ha has been demarcated for statutory Buildings. Rest of the area proposed is for other Blocks, which will be used as and when mining is taken up in those blocks in future.

This is reflected in the table given in the Conceptual plan Map enclosed as **Annexure-V** in remarks column. NALCO has given an undertaking duly countersigned by the DFO, Koraput Division to use minimum forest land for infrastructure project which is enclosed as **Annexure-V B**. However, in the undertaking they have mentioned that the construction of Statutory Building is temporary in nature. The same will be demolished / wind up and that area will be utilized for mining purpose as mining activity progress from one block to other.

*(c) Similarly, further details of area proposed for primary crusher and power line corridor may also be provided by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that Land for primary crusher and Power corridor has been estimated and approved by IBM as 10.230 ha. and 12.400 ha respectively. This is indicated in the conceptual plan map duly approved by IBM. Copy enclosed as **Annexure-V.**

*(d) Details of area proposed for Dumping of overburden is not available in the purpose-wise breakup. Comments in this regard may be provided by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that the waste (over burden) is proposed to be back filled into mined out pits. The waste (over burden) generated in the first three years of mining will be dumped temporarily in the portion of the central block adjacent to South Block and used for backfilling of mined out pits in south block in fourth and fifth year and plantation will be taken up subsequently. The proposed dumping of over burden is also available in the conceptual plan map duly approved by IBM (over 5.230 ha.) Copy enclosed as **Annexure-V.**

*(e) A consolidated KML file clearly showing various components of the proposed Mining Project may be submitted by the State.*

**Compliance:** - The RCCF, Koraput Circle has reported that the Consolidated KML file showing project area, safety zone etc. has been uploaded and the same has been enclosed as **Annexure-VI.**

*(vi) Cost benefit Ratio has been estimated as 1:258.356 (pg 233/c) which is exorbitantly high. It seems appropriation of cost and benefits components has not been done properly. The analysis may be revised by the user agency by applying appropriate economic tools to accurately estimate the various parameters and detailed analysis thereof may be submitted to the Ministry.*

**Compliance:** - The RCCF, Koraput Circle has reported that the revised Cost benefit Analysis has been prepared afresh and uploaded on Parivesh portal as per the format given by GoI, MoEF & CC., New Delhi after taking into account the cost of Compensatory Afforestation approved by the Nodal Officer attached with the FDP. Now the ratio comes to 1:26.13. The copy of said Cost Benefit analysis is enclosed as **Annexure-VII.**

*(vii) Mining Plan stated to be approved by the IBM, Bhubaneswar over an area of 697.979 ha has not uploaded online, rather a receipt of Rs.1,75,000/- addressed to NALCO has been submitted, Processing authorities in the State needs to scrutinize the correctness to the documents uploaded online before submitted the proposal to the Ministry and to ensure that correct and legible detail is uploaded online. The State Government may also confirm that land use proposed in the proposal is in conformity with the land use proposed in the approved Mining Plan.*

**Compliance:** - The RCCF, Koraput Circle has reported that the approval letter of Mining Plan by IBM vide letter No.MP/FM/13-012/BHU/2018-19 dated 27.07.2018 is enclosed as **Annexure-VIII**. The hard copy of the Mining Plan is enclosed along with the Diversion Proposal & the same has been uploaded in Part-I of Application Form-A on Parivesh Portal.

In view of the above, the compliance to the observations of Government of India, MoEF & CC, New Delhi is sent herewith for favour of kind information and necessary action.

**Encl: Compliance in one set**

Yours faithfully

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

Memo No. /Dt.

Copy along with the compliance report forwarded to the Dy. Director General of Forests (Central), MoEF & CC, IRO, Bhubaneswar for favour of kind information and necessary action with reference to F.No.8-17/2022-FC dated 27.07.2022 of the Scientist 'D', Government of India, MoEF & CC, New Delhi.

**Encl: Compliance in one set**

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

Memo No. **20422** /Dt. **06.10.2022**

Copy along with the compliance report forwarded to the Additional Chief Secretary to Government, Forest, Environment and Climate Change Department, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to F.No.8-17/2022-FC dated 27.07.2022 of the Scientist 'D', Government of India, MoEF & CC, New Delhi.

**Encl: Compliance in one set**

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

Memo No. /Dt.

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle for information and necessary action with reference to his office Memo No.3132 dated 28.09.2022.

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

Memo No. /Dt.

Copy forwarded to the Divisional Forest Officer, Koraput Forest Division for information and necessary action with reference to Memo No.3133 dated 28.09.2022 of RCCF, Koraput Circle.

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

Memo No. /Dt.

Copy forwarded to the General Manager, M/s NALCO Ltd., NALCO Bhawan, P/1, Nayapalli, Bhubaneswar, Pin-751061 for information and necessary action.

*[Signature]* 06/10/22  
Principal Chief Conservator of Forests  
(Forest Diversion and Nodal Officer, FC Act)

05D-CM-55(10)

**Diversion of 697.979 Ha. of forest land for Pottangi Bauxite Mining Lease in Village Pottangi under Pottangi Tahasil of Koraput District in favour of M/s NALCO Ltd.(Proposal No.FP/OR/MIN/29981/2017).**

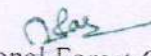
Condition No.	Conditions and Compliance.
<b>i.(a)</b>	A Kuchha road is observed to be passing through the forest area proposed for Diversion. State Government may comment on the present use of the road and alternate road, if any, required to be provided as the area is proposed to be closed for mining.
<b>Compliance.</b>	The said Roads were constructed by GSI/MECL during exploration stage for preparation of pits & trenches as mentioned in Page No.35, 36 & 48 of the Mining Plan. These roads are not public road as the ML area is situated at an altitude of 1200-1500 Meter above MSL without any habitation. (Copy enclosed as <b>Annexure-I</b> ). Copy of Mining Plan enclosed.
<b>(b)</b>	Site suitability certificate has been submitted in respect of 294.70 ha. of degraded forest land only. Complete certificate for the entire forest land of 1400 ha proposed for raising CA needs to be submitted by the State.
<b>Compliance.</b>	The site suitability certificate for the entire land of 1400 ha. proposed for raising Compensatory Afforestation has been submitted along with the C.A. Scheme in the Diversion Proposal. The copy of said site suitability / Land suitability certificate is enclosed as <b>Annexure-II</b> . It is committed that, before Plantation if any illegal encroachment/shifting cultivation found in the allotted area for C.A. then that will be removed and Plantation will be undertaken as per the Scheme approved by office of the P.C.C.F., & HoFF, Govt. of Odisha with the cost to be provided by user agency.
<b>(c)</b>	CA has been proposed in 16 patches of the total forest area for Compensatory Afforestation, 139 ha land is classified as moderately dense forest, 458 ha as open forest, 414 ha as scrub and 393 ha as non-forest (land without tree cover) in terms of forest classes. The State Government may, therefore, re-confirm the suitability of such area for raising Afforestation and if required alternate sites, suitable for raising CA may be identified and inform the Ministry, Support documents showing details of various attributes such as KML, files, derived from the Differential GPS surveys, CA Scheme suitability certificate etc. should also be furnished.
<b>Compliance.</b>	In lieu of 139 ha Moderately Dense Forest (MDF) an additional area of 140.00 ha. has been identified and allotted in Godmak PRF under Laxmipur Range of Koraput Forest Division. In this regard Topo sheet, DGPS Maps, KML/ shape file in CD, DSS Analysis report of the said area, CA Scheme and Site suitability Certificate for raising compensatory Afforestation is enclosed as <b>Annexure-III</b> .
<b>(iii)</b>	As the schedule-I species have been reported in the area, comments of PCCF (Wildlife) and CWLW Odisha on the likely impact of the project on the movement of wildlife in general and elephant in particular needs to be furnished by the State.
<b>Compliance.</b>	As the Mining Lease area is having Schedule-I & Schedule-II species, Site Specific Wild Life Conservation Plan has been prepared and will be submitted to R,C.C.F. Koraput Circle soon for its onward transmission to P.C.C.F (Wildlife) & CWLW, Odisha for approval. In this regard memo No.2449 dtd.07.09.2022 of D.F.O. Koraput Division asking for Site Specific Wildlife Conservation Plan is enclosed as <b>Annexure-IV</b> .

(iv)	As the area has schedule-I and schedule-II species, comments of PCCF (Wildlife) and CWLW, Odisha on the likely impact of the project on the movement of wildlife in general and elephant in particular needs to be furnished by the State.
<b>Compliance.</b>	Similar as above explained in the point No.iii.
(v)	From the purpose wise breakup of forest land, the following may be ascertained:-
(a)	40.077 ha has been reported to be scattered between the mineralized zone. Plan if any proposed by the user agency for the management and upkeep of these areas during the onset of mining operations may be intimated by the State.
<b>Compliance.</b>	The land use pattern for 40.077 Ha. as given in the FDP, submitted on 13.11.2017 prior to approval of Mining plan was a tentative one. Subsequently Mining plan approved on 27.07.2018 by IBM. Nalco undertake to abide by the Mining plan stipulation. The copy of land use pattern as mentioned in the conceptual plan approved by IBM is enclosed as <b>Annexure-V.</b>
(b)	An area of 28.326 ha has been proposed for statutory buildings which appears to be exaggerated, therefore, statutory building wise detailed breakup of 28.326 ha of forest land may be informed by the State.
<b>Compliance.</b>	The area of 28.326 ha proposed for the statutory Building is for entire life of the mine (conceptual period). However, mining operations proposed to be taken up in south Block first and for this an area of 5.333 ha. has been demarcated for statutory Buildings. Rest of the area proposed is for other Blocks, which will be used as and when mining is taken up in those blocks in future. This is reflected in the table given in the Conceptual plan Map enclosed as <b>Annexure-V</b> in remark column. NALCO has given an undertaking to use minimum forest land for infrastructure project. However, in the undertaking they have mentioned the construction of Statutory Building is of temporary in nature. The same will be demolished / wind up and that area will be utilized for mining purpose as mining activity progress from one block to other.
(c)	Similarly, further details of area proposed for primary crusher and power line corridor may also be provided by the State.
<b>Compliance.</b>	Land for primary crusher and Power corridor has been estimated and approved by IBM as 10.230 ha. and 12.400 ha respectively. This is indicated in the conceptual plan approved by IBM. Copy enclosed as <b>Annexure-V.</b>
(d)	Details of area proposed for Dumping of overburden is not available in the purpose-wise breakup. Comments in this regard may be provided by the State.
<b>Compliance.</b>	The waste (over burden) is proposed to be back filled into mined out pits. The waste (over burden) generated in the first three years of mining will be dumped temporarily in the portion of the central block adjacent to South Block and used for backfilling of mined out pits in south block in fourth and fifth year and plantation will be taken up.' The proposed dumping of over burden is also available in the conceptual plan approved by IBM (over 5.230 ha.) Copy enclosed as <b>Annexure-V.</b>





(e)	A consolidated KML file clearly showing various components of the proposed Mining Project may be submitted by the State.
<b>Compliance.</b>	The Consolidated KML file has been uploaded and the same has enclosed as <b>Annexure-VI.</b>
(vi)	Cost benefit Ration has been estimated as 1:258.356 (pg 233/c) which is exorbitantly high. It seems appropriation of cost and benefits components has not been done properly. The analysis may be revised by the user agency by applying appropriate economic tools to accurately estimate the various parameters and detailed analysis thereof may be submitted to the Ministry.
<b>Compliance.</b>	The revised Cost benefit Ratio has been prepared a fresh and uploaded on Parivesh portal as per the format given by MoEF & CC., GoI after taking into account the cost of Compensatory Afforestation approved by the Nodal Officer attached with the FDP. Now the ratio comes to 1:26.13. The copy of said Cost Benefit analysis is enclosed as <b>Annexure-VII.</b>
(vii)	Mining Plan stated to be approved by the IBM, Bhubaneswar over an area of 697.979 ha has not uploaded online, rather a receipt of Rs.1,75,000/- addressed to NALCO has been submitted, Processing authorities in the State needs to scrutinize the correctness to the documents uploaded online before submitted the proposal to the Ministry and to ensure that correct and legible detail is uploaded online. The State Government may also confirm that land use proposed in the proposal is in conformity with the land use proposed in the approved Mining Plan.
<b>Compliance.</b>	The approval letter of Mining Plan by IBM letter No.MP/FM/13-012/BHU/2018-19 dated 27.07.2018 is enclosed as <b>Annexure-VIII.</b> The hard copy of the Mining Plan is enclosed along with the Diversion Proposal & the same has been uploaded.

  
 Divisional Forest Officer,  
 Koraput Forest Division.  
**Divisional Forest Officer**  
**Koraput Forest Division**

Division of Forest Service  
Washington, D.C.

**FORM - A**

①

Form for seeking prior approval of Central Government under section 2 of the Forest(Conservation) Act,1980 for  
Diversion of fresh forest area

**PART - I**

(To be filled up by User Agency)

**A. General Details****A-  
1. Project Details**

(i). Proposal No. : FP/OR/MIN/29981/2017

(ii). Name of Project for which Forest Land is required : Pottangi Bauxite Mines

(iii). Short narrative of the proposal and Project/scheme for which the forest land is required :  
Proposal for diversion of 697.979 ha of forest land in village Pottangi of Koraput district Odisha

(iv). State : Orissa

(v). Category of the Proposal : Mining

(vi). Shape of forest land proposed to be diverted : Non Linear

(vii). Estimated cost of the Project(Rupees in lacs) : 143690

(viii). Area of forest land proposed for diversion(in ha.): 697.979

(ix). Non-forest land required for this project(in ha.): 0

(x). Total period for which the forest land is proposed to be diverted(in years): 50

**A-  
2. Details of User Agency**

(i). Name : NATIONAL ALUMINIUM COMPANY LIMITED

(ii). Address1 : Nalco Bhawan, P/1, Nayapalli Bhubaneswar

(iii). Address2 : NIL

(iv). State : Orissa

(v). District : Khordha

(vi). Pin : 751061

(vii). Landmark : NIL

(viii). Email address : kalikinkar.panda@nalcoindia.co.in

(ix). Landline Telephone No. : 674-2300633

(x). Fax No. : 674-2301200

(xi). Mobile No. : 9437029513

(xii). Website (if any) : www.nalcoindia.com

(xiii). Legal status of User Agency : Central PSU

A-  
3. Details of Person Making Application

(i). First Name: Sanjay

(ii). Middle Name: Krishna

(iii). Last Name: Patel

(iv). Gender: Male

(v). Designation: GeneralManager

(vi). Address 1: Nalco Bhawan, p/1, Nayapalli Bhubaneswar

(vii). Address 2: NIL

(viii). State: Orissa

(ix). District: Khordha

(x). Tehsil: Khordha

(xi). Pin: 751061


(xii). Landmark: NIL

(xiii). Email Address: kalikinkar.panda@nalcoindia.co.in

(xiv). Landline Telephone No.: 674-2300633

(xv). Fax No.: 6742301200

(xvi). Mobile No.: 9437029513

(xvii). Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency: 

## B. Details of land required for the Project

B- Details of proposal seeking prior approval of Central Government under the Act for  
1. diversion of forest land for the Project already submitted in the past

List of proposal submitted in Past							
S.no	Proposal Status.	Proposal No.	Moef File No.	Area Proposed for Diversion(Ha.)	Area Diverted(Ha.)	Date of In-Principle Approval	Date of Final Approval
<b>NIL</b>							

B-  
2. Details of forest land proposed to be diverted

### B-2.1 Details of Divisions involved

Details of Divisions involved			
S.no	Division Name	Forest Land(ha.)	Non-Forest Land(ha.)
1.	Koraput	697.979	0
Total		697.979	0

### B-2.2 Details of Districts involved

District wise breakup			
S.no	District Name	Forest Land(ha.)	Non-Forest Land(ha.)
1.	Koraput	697.979	0
Total		697.979	0

### B-2.3 Village wise breakup




Villages wise breakup			
S.no	Village	Forest Land(ha.)	Non-Forest Land(ha.)
1	Pottangi	491.042	0
2	Galigabeda	206.937	0
<b>Total</b>		<b>697.979</b>	<b>0</b>

### B-2.4 Component wise breakup


Component wise breakup			
S.no	Component	Forest Land(ha.)	Non-Forest Land(ha.)
1	Mining & Backfilling	564.177	0
2	Waste/Soil Dump	5.23	0
3	Statutory buildings/Infrastructure	28.326	0

4	Power Corridor	12.4	0
5	Primary Crusher/Conveyor belt	10.23	0
6	Road	8.139	0
7	Safety Zone	23.4	0
8	Scattered Patches between mineralised zones propos	46.077	0
<b>Total</b>		<b>697.979</b>	<b>0</b>

### C. Maps of forest land proposed to be diverted

Division 1. : Koraput		
(i). Area of forest land proposed to be diverted(in ha.) : 697.979		
(ii). Nature of the Project: Non Linear		
(a). No. of patches : One		
Patch wise details		
Patch No.	Area of Patch(in ha.)	Kml File of PatchesTo view KML file on google the same may be downloaded and then open if in google earth install in your computer.
1.	697.979	 <a href="#">View File</a>
(iii). Copy of Survey of India Toposheet indicating boundary of forest land proposed to be diverted: 		
(iv). Scanned copy of the Geo-referenced map of the forest land proposed to be diverted prepared by using GPS or Total Station: 		

### D. Justification for locating the Project in forest land and details of alternatives examined:

(i). Copy of note containing justification for locating the Project in forest land: 

### E. Employment likely to be generated

(i). Whether the Project is likely to generate employment ?: Yes

(ii). Permanent/Regular Employment(Number of persons): 551


(iii). Temporary Employment(Number of person-days): 1000

### F. Displacement of People due to the Project, if any.

(i). Whether Project involves displacement?: No

### G. Details of Cost-Benefit analysis for the Project

(i). Whether the Project requires Cost-Benefit analysis?: Yes

(a). Copy of Cost-Benefit analysis: 

#### H. Status of Environmental Clearance

(i). Whether the Project requires Clearance under the Environment (Protection) Act 1986 ? : Yes

(a). Status of the Environmental Clearance to the Project: EC under process

(ii). Environmental Clearance File No.: To be assigned

#### I. Status of Wildlife Clearance


(i). Whether the Project or a part thereof is located in any Protected Area or their Eco sensitive zone? : No

#### J. Applicability of special provisions governing Scheduled Areas

(i). Whether the Project or a part thereof is located in a Scheduled Area? : No

#### K. Status of settlement of rights under the Forest Rights Act, 2006 on the forest land proposed to be diverted

(i). Whether the process for settlement of Rights under the Forest Rights Acts 2006 on the forest land proposed to be diverted has been completed? : Yes

(a). Copy of documentry evidence in support of settlement of rights under the Forest Rights Act, 2006 on the forest land proposed to be diverted: 

#### L. Details of land identified for Compensatory Afforestation

(i). Whether non-forest or Revenue forest land is required to be provided by User Agency?: Not Applicable

(ii). Whether the area of non-forest land or Revenue forest land required to be provided by User Agency for raising Compensatory Afforestation is less than area of forest land proposed to be diverted ? : Not Applicable

(iii) . Reason for not providing Non-Forest Land: Not Applicable

#### M. Mining Details


M-  
1. Details of Mineral Concessions

(i). Whether the forest land is aquired under Coal Bearing Areas Act: No



(a). Reference number of Letter of Intent for grant of mining lease.(approval letter of the State Mines and Geology Department): 5734/SM

(b). Date of issue of the Letter of Intent(LOI) for grant of mining lease: 12 Jul 2016

(c). Copy the Letter of Intent(LOI): 


(d). Total area of the mining lease(in ha.): 697.979


(e). Area of forest land located in the mining lease(in ha.): 697.979

M-  
2. Details of Mining Plan


(i). Date of approval of mining plan: 27 Jul 2018


(ii). Approval authority: IBM, Bhubaneswar

(iii). Copy of approval of mining plan: 

(iv). Copy of approved mining plan: 

(v). Nature of mining (underground/opencast): Opencast

(vi). Copy of the detailed land use plan in 1:4,000 scale prepared by using GPS or Total Station : 

(vii). Copy of map of the outer boundary of mining lease area:  [View file](#)

M-  
3. Details of prospecting undertaken to assess mineral reserves

(i). Whether detailed prospecting to assess mineral reserve in the lease has been undertaken: No

M-  
4. Details of extension (if any) of original prospecting licence issued in the past

(i). Whether detailed prospecting to assess mineral reserve in the lease has been undertaken: No

M-  
5. Brief details of prospecting activities undertaken in the mining lease :

(i). Detail of prospecting activity under taken in the mining lease: M/s GSI has drilled 69 core boreholes with a meterage of 1929.39m during 1972-77. M/s MECL has drilled 169 nos. of vertical core drill holes (4542.65m) and 12 nos. of inclined core drill holes (619m)

M-5.1 Details of bore holes drilled for prospecting :

Bore holes drilled for prospecting				
S.no	No. of Bore holes (in forest land)	Diameters(in inch.) forest land	No. of Bore holes (in non-forest land)	Diameters(in inch.) non-forest land

1	264	2.15	0	0
---	-----	------	---	---

M-5.2 Estimated Reserve along with accuracy and confidence level

Estimated Reserve along with accuracy and confidence level						
Minerals	Estimated Reserve (million tones)	% accuracy (+ -)	% confidence level	Estimated Reserve (million tones)	% accuracy (+ -)	% confidence level
Bauxite	42.779	2	98	0	0	0

M- Details of approval under the Forest (Consevation) Act, 1980 obtained for undertaking 6. prospecting activities in the forest land located in the mining lease

(i). Whether approval under the Forest (Conservation) Act, 1980 for undertaking prospecting activities in the forest land located in the mining lease have been obtained No

Details of approval under the Forest(Consevation) Act,1980					
S.no	MoEF File No	Date of approval	Area of forest land diverted(in ha.)	From Date	To Date
NIL					

M-7. Mineral wise details

(i). No. of minerals: NIL

Mineral wise details						
Minerals	Estimated reserve in non forest land(million tons.)	Estimated reserve in forest land(million tons.)	Estimated annual extraction(million tons.)	Estimated life of mine(Yrs.)	Total estimated extraction during mining lease period(million tons.)	Estimated mineral reserve at the end of mining lease(million tons.)
Bauxite	0	42.779	3.5	12.51	42.779	0

M-7.1 Proposed use of the minerals proposed to be raised from the mining lease















(i). Proposed use of the minerals proposed to be raised from the mining lease: NIL

(a). Copy note containing details of the linked end-use Project: No Data

(ii). Copy note containing details of the plan for the transportation of the minerals proposed to be raised from the mining lease: No Data

Additional information Details

Documents		
S.No	Documents	Remarks

1		TOR copy
2		undertaking for R & R policy
3		undertaking for payment of NPV
4		Certificate for Non-avail of non-forest land for the project
5		certificate of minimum use of forest land
6		application letter to Collector Koraput for FRA
7		Letter to DFO, Koraput
8		Letter to DFO, Koraput
9		Compliance against DFO EDS vide Memo No. 5151 dt. 24.09.20
10		EDS reply has been complied vide this office letter dated 22.02.2021
11		EDS has been complied.
12		DGPS map authentication by ORSAC for CA land.
13		EDS has been complied vide this office letter dated 25.06.2022
14		EDS has been completed vide this office letter dated 11.08.2022

Print page



Chittaranjan Pati  
General Manager (Mech.),  
Pottangi Mines Project  
M&R Complex, NALCO  
Damanjodi - 763008

**PART-II**

(To be filled by the concerned Deputy Conservator of Forest)

State Serial No. of proposal : OR-065/2017

## 1. Location of the project/Scheme : Orissa

- (i) State / Union Territory : Orissa  
(ii) District : Koraput  
(iii) Forest Division : Koraput  
(iv) Area of forest land proposed for diversion (in ha.) : 697.979  
(v) Category of the Proposal: Mining

## 2. Legal status of forest land proposed for diversion :

S. No.	Division	Forest Land(ha.)	Legal Status
1	Koraput	697.979	Proposed Reserved Forests (Sec-4 of IFA)
<b>Total</b>		<b>697.979</b>	

Division 1. : Koraput

## 3. District wise area to be diverted in the division :

S. No.	District	Area(ha.)
1	Koraput	697.979
<b>Total</b>		<b>697.979</b>

## 4. Details of Vegetation available in the forest land proposed for diversion :

## (i) Density of vegetation

S. No.	Area(in ha.)	Density	Eco-Class
1	697.979	0.1	Eco 3
<b>Total.</b>	<b>697.979</b>		

## (ii) Species-wise local/scientific names and girth-wise enumeration of trees at FRL :

S. No.	Scientific Name	Local Name	(0-30)cm.	(31-60)cm.	(61-90)cm.	(91-120)cm.	(121-150)cm.	(>150)cm.
1	Dalbergia sisoo	Sisoo	0	10	3	4	1	1
2	Pterocarpus Marsupium	Bija	0	1	2	0	0	0
3	Mangifera indica	Amba	0	48	26	20	15	5
4	Syzygium cumini	Jamu	0	81	20	6	4	0
5	Artocarpus integrifolia	Panasa	0	23	11	22	1	4
6	Diospyros melanoxylon	Kendu	0	4	0	0	0	0
7	Terminalia belerica	Bahada	0	9	6	1	0	0
8	Emblca officinalis	Amla	0	18	3	0	0	0
9	Pongamia Pinnata	Karanja	0	4	2	0	1	0
10	Cassia fistula	Sunari	0	11	0	0	0	0
11	Terminalia chebula	Harida	0	2	2	0	0	0
12	Schleichera oleosa	Kusuma	0	5	3	0	0	0
13	Grewia Tiliaefolia	Dhamana	0	2	4	2	0	0
14	Michelia champaca	Champa	0	3	0	0	0	0
15	Others	Malanga	0	10	5	1	1	0
16	Others	Dimiri	0	9	5	0	0	0
17	Others	Jhadu	0	1	0	0	0	0

Total	0	241	92	56	23	10
Sub Total (No of Trees.)	422					

5. Working plan prescription for the forest land proposed for diversion : No Data

6. Brief note on vulnerability of the forest area to erosion :

The area proposed is quite vulnerable to erosion. the boundary of lease area is highly steep and vulnerable to erosion. green belt is required.

7. Approximate distance of the proposed site for diversion from boundary of forest(in km.) : 0.0

8. Significance of the forest land proposed for diversion from wildlife point of view :

(i). Details of wildlife present in and around the forest land proposed for diversion : Barking Deer, Hare, Porcupine, Wild Boar, Sloth Bear, Mongoose, Fox, Wolf, Wild cat, Jackle etc.

(ii). Whether forms part of national park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, wildlife migration corridor etc. : No

(iii). Whether the forest land proposed for diversion is located within eco-sensitive zone(ESZ) of the Protected Area notified under Wildlife(Protection) Act, 1972 (Note: In case, ESZ of a Protected Area is not notified, then, 10kms distance from boundary of the Protected Area should be treated as ESZ): No

(iv). Whether any national park, wildlife sanctuary, biosphere reserve, tiger reserve, elephant corridor, wildlife migration corridor etc., is located within 1 Km. from boundary of the forest land proposed for diversion : No

(v). Whether any rare/endangered/unique species of flora and fauna found in the area : No

9. Details of any protected archaeological/heritage site/defence establishment or any other important monument located in the area, if any :

(i). Whether any protected archaeological/heritage site/defence establishment or any other important monument is located in the area : No

10. Comment as to the reasonability of the extent of the forest land proposed for diversion :

(i). Whether the requirement of forest land as proposed by the user agency is unavoidable and bare minimum for the project : Yes

11. Details of violation(s), if any ,committed :









(i). Whether any work in violation of the Act or guidelines issued under the Act has been carried out : No

12. Whether work in violation is still in progres(Yes/No) : No Data

13. Details of compensatory afforestation scheme :

(i). Patch wise details for Degraded Area (To be earmarked by DFO)

(i). Total Financial Outlay for C.A(lacs): 13888.5423

Patch Wise Details						
S.no	Patch No.	Area(ha.)	Name of PF/RF	Range	Compartment No	Uploaded KML file of patch
1	1	100	Janiguda PRF	korapur	1	 <a href="#">View file</a>
2	2	100	Kankadabari RF	korapur	1	 <a href="#">View file</a>
3	4	50	Kasandi PRF	Similiguda	1	 <a href="#">View file</a>
4	5	90	Ampavali RF	Similiguda	1	 <a href="#">View file</a>
5	6	100	Malibhimdol RF	Balda	1	 <a href="#">View file</a>
6	7	100	Malibhimdol RF	Balda	1	 <a href="#">View file</a>
7	13	100	Hatimali DPF	Laxmipur	1	 <a href="#">View file</a>
8	14	120	Godmark PRF	Laxmipur	1	 <a href="#">View file</a>
9	3	40	Nandapur Extn. PRF	Similiguda	1	 <a href="#">View file</a>
10	16	140	Godmark PRF	Laxmipur	1	 <a href="#">View file</a>
11	8	100	Ghodabeda PRF	Lamtaput	1	 <a href="#">View file</a>
12	9	90	Raisil RF	Laxmipur	1	 <a href="#">View file</a>

13	10	100	Jamuguda PRF ✓	Narayanapatna	1		<a href="#">View file</a>
14	12	60	Hatibari RF ✓	Balda	1		<a href="#">View file</a>
15	15	150	Gouda Ramji DPF ✓	Laxmipur	1		<a href="#">View file</a>
16	11	100	Totaguda PRF ✓	Laxmipur	1		<a href="#">View file</a>

(ii). Copy of CA scheme details:

(iii). Scanned copy of the Geo-referenced map of the forest land proposed for C.A. prepared by using DGPS or Total Station:

(iv). Copy of Survey of India Toposheet indicating boundary of forest land proposed for C.A.:

(V). Copy of NOC from Competent Authority :

Additional information Details :

S. No.	Documents	Remarks
1		Conceptual plan map sowing the ML aea with various component as approved by IBM as a part of mining plan. KML file is attached in the hard of the compliance.
2		EDS has been complied
3		EDS has been complied.

14. District Profile :

S.no	District Name	Geographical area of the district (in ha.)	Forest area of the district (in ha.)	Total forest area diverted since 1980 (in ha.)	No. of Approved Cases	Forest Land including penal C.A. (in ha.)	Progress of compensatory afforestation as on(date)	A) Forest land (in ha.)	B) Non-forest land (in ha.)
1	Koraput	880700	187953	3142.032	11	1815.428	31/12/2020	1742.583	879.443

15. Site inspection report of the DFO/CCF/Nodal Officer highlighting important facts pertaining to the forest land :

Division Name	Circle	Site inspected By	Whether site inspected	No. of times site visited	Site inspection report	Date of visit
Koraput	Koraput	DFO	Yes	Two		12/02/2020,09/10/2020
	Koraput	CF	Yes	One		06/03/2021

(Specific recommendation of the DFO/CCF/Nodal Officer with(Part II,III &amp; Part IV))

16. Specific recommendation of the DFO/CCF/Nodal Officer for acceptance or otherwise of the proposal with reason :

Division	Circle	Recommendation By	Recommendation	Reason	Letter	Whether CF agreed
Koraput	Koraput	DFO	Recommended	For compliance of stage one approval of the proposal for diversion of 697.979 Ha. of forest land for Bauxite mines by MS NALCO pvt. ltd, bbsr in pottangi Bauxite mines.		
	Koraput	CF	Recommended	The project will produce bauxite ore and provide employment for both technical and non technical		Yes

				persons. Hence, the proposal is recommended.	
		Nodal Officer	Recommended	Recommended for diversion of 697.979 ha of forest land for Bauxite mining in Pottangi Bauxite Mining lease in village Pottangi under Koraput Forest Division of Koraput District, Odisha by M/s NALCO Ltd for approval under Section 2 ii of Forest conservation Act, 1980.	

**Specific recommendation of the State Government(Part V)**

17. Specific recommendation of the State Government for acceptance or otherwise of the proposal with reason ( Part V) :

State	Recommendation By	Recommendation	Recommendation Date	Remarks	Signing Authority	Notification	Recommendation Letter
Orissa	State Secretary	Recommended	08/07/2022	Recommended	State Govt. Officer	No Data	

Print page

  
 26/9/2022  
 Divisional Forest Officer  
 Koraput Forest Division



2.0 MINING:

OPEN CAST MINING:

NALCO is expanding its refinery capacity by proposing 5th stream of the alumina refinery at Damanjodi for additional production of 1.0 MTPA of alumina. To cater the raw material requirement of this project, the annual requirement of bauxite for production of one million tons of alumina works out to about 3.50 million tons/annum. Mining activity in this lease is proposed to be in line with this scale of operation.

- a) Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections.

This is a new mining area and it is proposed to operate after execution of mining lease. Considering the major factors like topography, estimated reserve & grade, thickness and nature of ore/overburden, fully mechanized opencast of mining (trench method) is proposed with the deployment of heavy earth moving machineries (HEMM) like ripper dozer, blast hole drill, front-end loader, back-hoe, dumper, semi mobile crusher with conveyor, double roll toothed crusher etc.

Lessee is proposing to produce a maximum quantity of 3.50 million tonnes of Bauxite from one end of the mining lease, that is from south block itself as this block is sufficiently explored and it contains good amount of mineral reserves under minable category (40.625MT) which is sufficient for this plan period.

Before commencement of mining operation, a suitable access road of 10m width to the Pottangi mine will be developed for regular transportation of employees from the township at Damanjodi, maintenance of overland conveyor installation and also to maintain a regular surface linkage between the mine and the alumina refinery. There are two approach roads to this lease area. One approach road at Eastern side is from Turria village and another approach road at Western side is from Marla village. The present approach road of 6.1kms

गौतम दास/Goutam Das  
उप महाप्रबंधक (विद्युत)/D.G.M. (Elect.)  
परियोजना-गणत/Project-Mines Division  
एनएलसी लिमिटेड  
National Aluminium Company Ltd  
Bhubaneswar-751013

QP: Sripad Pujar, BVR Achur & Sujit Kumar Mohanty

16/01/18

35

Divisional Forest Officer  
Koraput Forest Division

  
K. K. PANDA  
Authorised Signatory  
National Aluminium Company Ltd  
Bhubaneswar-751013





made during the exploration programme of GSI/MECL is of 3 meters width and is completely damaged. The same existing approach road will be 10 meters width and will be extended about additional 16.15 km to connect the five blocks for Excavation/Exploration purpose. Conceptual plan shows the approach/haulage road.



Following considerations are made for mine planning:

- Eight months of dry season and four months of rainy/monsoon season per year.
  - Three hundred fifty effective working days per year
  - Two operating shifts per day, each of 8 hours duration.
  - Effective working hours at 12 per day during dry season and 8 per day during monsoon.
- b) Indicate year-wise tentative Excavation in Cubic Meters indicating development, ROM, pit wise as in table below.

I. Insitu tentative Excavation

APPROVED

*(Signature)*  
27/07/18

क्षेत्रीय खान नियंत्रक  
REGIONAL CONTROLLER OF MINES  
भारतीय खान ब्यूरो  
MINING BUREAU OF MINES  
भुवनेश्वर / BHUBANESWAR

Table-33: Year wise working details -in C

Year	Pit No.	Total tentative Excavation	Top Soil	OB/SB /IB	ROM		Mineral rejects	ROM/Waste Ratio
					Bauxite	Mineral Reject		
1	2	3	4	5	6	7	8	9
First		15.83.000	76.800	88.700	1.417.500	-	-	1: 0.11
Second		18.51.210	90.890	127.920	1.632.400	-	-	1: 0.13
Third	One	19.73.990	43.070	117.420	1.813.500	-	-	1: 0.09
Fourth		19.82.910	24.900	144.510	1.813.500	-	-	1: 0.09
Fifth		20.37.900	31.900	192.500	1.813.500	-	-	1: 0.12

*(Handwritten mark)*

मौतम दास/Geopras  
उप महाप्रबंधक (खान/Projects)  
परियोजना-खान/Projects  
नेशनल एल्यूमीनियम कंपनी  
National Aluminium Company Ltd.  
भुवनेश्वर/Bhubaneswar-751013

Tentative tonnage of the ore arrived by computing approximate bulk density and recovery factor as these data are variable and may be established on time series.

The recovery of Bauxite has been considered as 100 % as the average grade of bauxite in the ore zone is about 45.6% Al<sub>2</sub>O<sub>3</sub> which is way more than threshold value and total excavation of ore zone will be used as ROM.

*(Signatures)*  
16/7/18

*(Signature)*

10

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

468

Table-47: Proposed Protective Measures

Year	Items	Dimension*	Location
FIRST	Stone Masonry Check dam	25 m x (1-3m) x 2m	Near BP 91
		25 m x (1-3m) x 2m	South block southern valley
		25 m x (1-3m) x 2m	Near BP 8
		25 m x (1-3m) x 2m	Near BP 88- Western valley
	Retaining Wall	389m x (2m-1m) x 1m	Western side of Proposed Dump
	Retaining Wall	410m x (2m-1m) x 1m	Western side of Proposed Dump
	Garland Drain	2470m x (2m-1m) x 1m	Around the proposed working Pit-South block
	Garland Drain	394m x (2m-1m) x 1m	Western side of Proposed Dump
SECOND	Stone Masonry Check dam	413m x (2m-1m) x 1m	Eastern side of proposed Dump
		25 m x (1-3m) x 2m	Near BP 81- outside lease area
		25 m x (1-3m) x 2m	Western side of Proposed conveyor belt-western valley
		25 m x (1-3m) x 2m	Eastern valley of West Extension Block

\*Dimension parameters- Length x (bottom width -top width) x height

Table-48: Proposed Plantation details

Year	Area in Ha	No. of Plants	Location
First	5.76	14,400	South & Central block safety zone
Second	9.07	22,675	North & west extn safety zone
Third	8.57	21,425	East extn safety zone
Fourth	5.62	14050	Part backfilled area
Fifth	12.92	32,300	Part backfilled area

Table-49: Land Use Pattern

Type of land use	Existing (ha)	This Plan period(ha)	Conceptual (ha)
Mining & Backfilling	0.113*	46.113#	354.777
Waste /Soil Dump	-	5.23	-
Statutory buildings/Infrastructre	-	33.859	28.326
Power Corridor	-	12.40	12.40
Primary Crusher/Conveyor belt (including temporary mineral stocks)	-	10.23	10.23
Roads	1.840	16.150	8.139
Safety zone/Greenbelt	23.400	23.400	284.107
Area untouched	672.626	550.597	--
<b>Total</b>	<b>697.979</b>	<b>697.979</b>	<b>697.979</b>

Note:

\*This area includes pits/trenches made by GSI/MECL

# This area includes 21.33 ha of backfilling area and further this area involve about 18.44 ha plantation.

B. UNDERGROUND MINING:

Not applicable

QP: Sripad Pujar, B.R. Achar & Sujit Kumar Mohanty

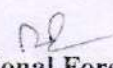
 16/02/18  
**K. K. PANDA**  
Authorised Signatory  
National Aluminium Company Ltd  
Bhubaneswar-751013



Annex-II  
91  
462

## LAND SUITABILITY CERTIFICATE

This is to certify that 1400 Ha. of degraded forest land in Janiguda PRF-100 Ha, Kankadabari RF- 100 Ha of Koraput Forest Range, Nandapur Ext. PRF-40 Ha, Kasandi PRF-50 Ha, Ampavali RF-90 Ha of Semiliguda Forest Range, Malibhimdol RF-200 Ha, Hatibari RF-60 Ha of Balda Forest Range, Ghodabeda PRF-100 Ha of Lamtaput Forest Range, Jamuguda PRF-100 Ha of Narayanpatna Forest Range and Raisil RF-90 Ha, Totaguda PRF-100 Ha, Hatimali DPF- 100 Ha Godmak PRF-120 Ha and Gouda Ramji DPF-150 Ha of Laxmipur Forest Range in Koraput Forest Division identified for Compensatory Afforestation in lieu of 697.979 ha. of forest land for diversion of Pottangi Bauxite mines by M/s. NALCO is suitable for plantation from management point of view and the degraded Forest land are free from encroachments and encumbrances. No plantation has been carried out in the particular area previously.

  
Divisional Forest Officer  
Koraput Forest Division  
Divisional Forest Officer  
Koraput Forest Division

  
K. K. PANDA  
Authorised Signatory  
National Aluminium Company Ltd  
Bhubaneswar-751012



1900

U.S. GOVERNMENT  
PRINTING OFFICE  
WASHINGTON, D.C.

**SCHEME FOR ADITIONAL COMPENSATORY  
AFFORESTATION OVER  
140 Ha. AT GODMAK PRF OF LAXMIPUR  
RANGE  
UNDER  
KORAPUT FOREST DIVISION  
FOR DIVERSION OF 697.979Ha. OF FOREST LAND  
FOR  
POTTANGI BAUXITE MINES  
UNDER POTTANGI TAHASIL, DIST. KORAPUT  
(ODISHA)  
OF  
M/s. NATIONAL ALUMINIUM COMPANY LIMITED,  
BHUBANESWAR (ODISHA)**



# **SCHEME FOR ADDITIONAL COMPENSATORY AFFORESTATION FOR DIVERSION OF FOREST LAND FOR POTTANGI BAUXITE MINES, KORAPUT**

## **Introduction:**

This scheme is prepared for Additional Compensatory Afforestation in Forest land in view of diversion of forest by M/s. National Aluminium company limited (NALCO) as required under section 3 of forest (Conservation) act-1980. NALCO is a Navaratna Public Sector Undertaking under Ministry of Mines, Govt of India, with its registered office at Bhubaneswar, Odisha. The Mines and Alumina Refinery is one of the largest integrated Bauxite-Alumina-Aluminium-Power Complex in the country. The Company Has a 2.275MTPA Alumina Refinery along with a 6.825 MTPA Bauxite Mine (Panchpatmali) located near Damanjodi in Koraput district of Odisha. NALCO is expanding its Alumina refinery capacity by proposing 5<sup>th</sup> stream of the alumina refinery at Damanjodi for additional production of one million tons per annum (MTPA) of alumina. To cater the raw material requirement of this project, the Pottangi bauxite deposit near Pottangi Village of Koraput district, Odisha has been identify by NALCO for mining lease which was discovered by the Geological Survey of India (GSI) in Nov-1971. The Mining Plan has been prepared for 697.979Ha and submitted under Rule 16(1) of Minerals (other than Atomic and Hydrocarbons Energy Mineral) Concession Rule 2016 along with Progressive Mine Closure Plan under Rule 23 of MCDR 2017 for approval. Govt of Odisha has granted the lease in favour of NALCO for a period of 50 years and issued a fresh letter of Terms and Conditions governing the grant of mining lease vide letter no 3794/SM dated 14.05.2018.

The mine is proposed over a total area of 697.979 Ha. Coming under forest category. However, the M/s. NALCO has agreed of provide fund for raising of Additional Compensatory plantation over 140 Ha. having forest land in lieu of 697.979 Ha. Forest land of Koraput Division.

## **DETAILS OF LAND FOR ADDITIONAL COMPENSATORY AFFORESTATION:**

The identified Degraded Forest land for Additional Compensatory Afforestation has been listed below. The DFO, Koraput Forest Division vide her letter No. 4231 dated 07.09.2022 allotted 140 Ha. of Degraded Forest land for Compensatory Afforestation purpose.

Land schedule **(140 Ha.)** of land prepared for Additional Compensatory Afforestation ANR with gap. @ 500/Ha.

Sl. No.	Name of the Range	Name of Forest Block	Area in Ha.	Remarks
1	Laxmipur	Godmak PRF	140	Suitable for ANR with Gap Plantation @500 Plants/Ha
<b>Total</b>			<b>140</b>	

### **VEGETATION DENSITY:**

The density of the crop of the above selected compensatory afforestation area of Block Plantation site is 0.05 where it is 0.1 to 0.3 in ANR Plantation sites .

### **DESCRIPTION OF EXISTING VEGETATION**

This area is covered with unwanted obnoxious weeds like Eupatorium and Lantana along with some pole crops in scattered manner. No prominent economic species are available within the proposed site. However, saplings and bushy growth of Mersunga leaf plant (*Murraya coinghii*), Mango (*Mangifera indica*), Jackfruit (*Artocarpus heterophyllus*), Poksungha (*Chromelana Sp.*), Khakada (*Gelonium multiflorum*), Asan (*Terminalia alata*), Naguari (*Lantana camara*), Begunia (*Vitex negundo*), Palas (*Butea monosperma*) etc are existing now Besides, some shrubs/ herbs of Bhuin-neem (*Andrographis paniculata*), Kurei (*Hollarhena anti-dysenterica*), Kendu (*Dyospyrus melanoxylon*) etc are also noticed in some patches. The growth of the weeds and bushes are too much congested.

### **Description of the Area:**

- (i) **Topography:** The terrain of the above degraded Forest area are gently slope to hilly with some where good soil and drainage.
- (ii) **Climatic Condition:** The climatic condition of the area favouring growth of dry deciduous forest having average annual rain fall of 75 – 100 cm. and maximum temperature 45°C. The summer season is from March to June, rainy season is from July to September and winter from November to February.
- (iii) **Slope:** The slopes are gentle to moderate, rarely steep. When the slopes are gentle to moderate, they are congenial for formation of thick bauxite profile. The slope gradient varies from 1:6 to 1:12. The peak portions of the deposit are occupied by khondalites forming the ridges.

- (iv) **Drainage Pattern:** The drainage pattern is of dendritic type.
- (v) **Temperature:** The area enjoys a tropical climate. Lying at an altitude of over 1000m. Above M.S.L., Pottangi area has a pleasant climate during summer. The temperature in May rarely exceeds 40<sup>0</sup>C. The winter months are pretty cold and in December-January, the temperature often drops down to 5<sup>0</sup>C.

### **SURVEY & DEMARCATION**

The area is to be surveyed in field with reference to the Forest map using G.P.S. system and the survey as well as posting of RCC Pillar will be done by the user agency.

The plantation area to be indicated by sign boards at corners or at point of intersection with roads, inspection paths and boundary lines. The sign boards would contain the name of the plantation site, area, year of planting, planting module, no. of seedlings planted, funding agency & other details, if necessary.

### **Technical Details:-**

#### **OBJECTIVE OF THE SCHEME -**

It is mandatory requirement under the provision of Forest (Conservation) Act, 1980.

- (i) To replenish the loss of forest land to be diverted for non-forestry purpose i.e. mining of Bauxite.
- (ii) To generate employment to the villagers living around the identified area.
- (iii) To increase the ground water table through Soil & Moisture Conservation.
- (iv) To increase the bio-diversity for improvement of the local ecology.
- (v) To fulfil the requirement of fuel wood & small timber of the local inhabitants.
- (vi) To provide a green clothing to the area by means of artificial regeneration or plantation in-order to reduce soil erosion.
- (vii) The pattern of plantation will be "ANR with 500 plants per Ha" is to be carried out on the selected Additional CA area.

#### **PLANTATION TECHNIQUE**

The area should be well demarcated before raising plantation by G.P.S. survey and fixing of Boundary pillar (where missing) by engraving thereon the co-ordinates and distance to next pillar. As far as possible weeds will be removed especially prior to flowering time in-order-to prevent fruiting and dispersal of seeds. Preferably indigenous species are to be planted in the area coupled with soil and moisture conservation measures.

## **PLANTING & POST-PLANTING:**

### **RAISING OF NURSERY**

18 Month old Seedlings will be planted on the selected Additional CA site where the seedlings for the plantation shall be raised in the different Permanent Central nursery's of concerned CA Plantation Range of Koraput Forest Division and transportation of seedlings shall be done from each CN to Plantation site during planting period. Further 10% extra seedlings shall be raised to compensate and mitigate the eventuality of seedling casualty in the nursery. Standard nursery practices shall be followed for raising of seedlings in polythene bags. Permanent gaps need to be assessed well in advance where plantation can be done. Species like *Gmelina arborea* (Gambhar), *Terminalia alata* (Asan), *Pongamia glabra* (Karanj), *Embllica officinalis* (amla), Kurum (*Adina cordifolia*), *Tectona grandis* and other species as per the suitability of the sites will be preferred to be raised and planted on the sites.

### **ALIGNMENT AND STACKING**

Alignment, stacking and pitting will be taken up in the month of January-February, pits of size 45cm X 45cm X 45cm will be dug maintaining a spacing of 2.5 mt. x 2.5 mt in all selected CA sites of AR & ANR before going to pitting.

### **PLANTING**

The seedlings will be planted in dug out pits of 45 cm<sup>3</sup> maintaining a spacing of 2.5 mt between the pits i.e. @500 Plants/Ha in the ANR Plantation sites. Plantation should be taken up after first regular shower of monsoon and should ideally be completed by end of July. NPK/DAP/etc. will be applied as per the plantation guideline in the norm for basal dose. Anti- termite and insecticide applied per pit while planting. Casualty replacement whenever required during the planting year and in the subsequent years upto third year should be undertaken for which the seedlings shall be raised and kept in stock at site as well as in the Central Nursery of the Ranges.

### **CHOICE OF SPECIES**

Species like *Artocarpus hetrophylla* (Jackfruit), *Bombax ceiba* (Simili), *Cassia fistula* (Sunari), *Dendrocalamus strictus*. (Bamboo), *Gmelina arborea* ( Gambhari ), *Azadirachta indica* (Neem), *Madhuca latifolia* (Mahula), *Terminalia chebula* (Harida), *Terminalia belerica* (Bahada) *Mangifera indica* (Aamba-Local variety), *Albizzia procera/Lebbek* (Sirisa), *Embllica officinalis* (Amla), *Pongamia pinnata* (karanja), *Terminalia arjuna* (Arjuna), *Aegle marmelos* (Bela), *Dalbergia sishoo* (Bali Sisoo), *Samania saman* (Bada Chakunda), *Syzygium cumini* (Jamun), *Tamarindus indica* (Tentuli), *Terminalia tomentosa* (Asan), *Ziziphus mauritiana* (Bara Koli), *Swietenia mahagoni* (Mehagani), *Bauhinia vahlii* (Siali), *Simaruba glauca* (Simaruba), *Tectona grandish* (Saguan).

Acacia auniciloformin, Acacia Magnum, Silver Oak etc. and species as per the suitability of the sites will be choised and select during the planting period.

### **PLANTING TECHNIQUES & MODEL**

Out of the above species the intensity of plantation for Fuel yielding and Timber species will be planted 35:35 % and Bamboo and Fruit yielding species in 10:20 ratio.

The planting of species shall be planted in such a manner that the long term fruit, timber yielding species/Bamboo shall be surrounded with short term fuel wood yielding species. The species should be planted alternate to each other & no repetition of species in close of pits shall be done.

### **WEEDING, SOIL WORKING AND MANURING**

For establishment and better growth of the planted seedlings, weeding, soil working and manuring are necessary. It is prescribed to carry out one weeding, one soil working and manuring during the first year alongwith soil moisture conservation in the form of staggered trenches. One weeding, one soil working and application of fertilizer in second year of plantation Weeding and manuring for the first and second year shall be carried out during August- September along the contour. Application of vermin compost shall be given preference. First weeding shall be carried out after the first pair of leaf of the planted species have come up preferably in August. The detailed cost estimate of various operations to be taken up in ANR plantation has been furnished below. Fire line should be drawn in order to avoid damage to the plants during fire season (February to June).

### **POINTS OF IMPORTANCE:**

While taking up plantation, the following vital points shall be taken up for consideration:

- All care should be taken to raise healthy seedlings of minimum 60cm to 1 Mtr height and 10% extra of the required stock has to be raised. Pitting shall be invariably done during January-February, when the soil is moist by fall of dew. The sites being the hilly slopes, pits shall be dug along the contours and alternate liens should be staggered. Planting shall be done at the onset of monsoon.
- Basal dose fertilizer and insecticide can be applied at the time of planting. Casualty replacement, weeding and soil working, application of fertilizer and insecticides shall be taken up as per the provisions made in the cost- norm at the proper time. Engaging requisite watchers as per norm is mandatory.

- All out efforts be taken to keep the plantation free from grazing, fire and other biotic interference.

The Schedule of operation for preparation of site, pre-planting, planting, post-planting are prescribed herewith:-

OPERATIONS	PERIOD OF COMPLETION
i. Advance preparation of site.	End of October
ii. Alignment & Digging of pits	End of February
iii. Stacking	End of February
iv. Planting.	1 <sup>st</sup> week of July
v. Casualty replacement	End of July
vi. Soil working, weeding, manuring	End of August
vii. Soil & water conservation measuring	End of September
viii. Fire line tracing	During December
ix. Watch & Ward	July to March

**Post planting operation  
in 2<sup>nd</sup> year.**

- a. Casualty replacement, 1<sup>st</sup> weeding soil Working & manuring. : End of July
- b. Fire line tracing : During December
- c. Watch & Ward : Throughout the year

**In 3<sup>rd</sup> year.**

- a. Weeding, soil working and application of manure : End of July
- b. Fire line tracing : December
- c. Watch & Ward : Throughout the year

**In 4<sup>th</sup> year**

- a. Fire line tracing : End of December
- b. Pruning : September
- c. Watch & Ward : Throughout the year

**5<sup>th</sup> year to 10<sup>th</sup> year**

- a. Fire line tracing : End of December
- b. Pruning : September
- c. Watch & Ward : Throughout the year

**WATERING:**

The watering provision is to be provided to all ANR Additional CA plantation sites for the period from November to March in 1<sup>st</sup> year, April to June and November to March from 2<sup>nd</sup> year to 5<sup>th</sup> year maintenance by the help of diesel pump sets to provide better growth of the plantation and to avoid damage due to hot sunlight or scarcity of water as well as to success of the plantation. The cost norm of watering model W-II/ Ha is enclosed.

**WATCH & WARD:**

The important element of successful plantation is Protection. Watchers are to be engaged on daily wage basis for **ten years** but they should assigned with specific work and their involvement in protecting the plantation should be ensured. It is suggested not to engage a particular person for the entire ten years but considering the work efficiency the person, if not found suitable should be changed. Since in all plantation sites enough care should be taken to engage efficient worker for protection as there is every possibility of damage by grazing. Therefore, in the planting design non browsable tree species like Simaruba should be planted in three four rows to-wards periphery of the plantation at the foot hill before Agave Plantation.

### **FENCING:**

To protect the plantation from grazing and other biotic interference, it will be provided Bamboo twigs and thorns fencing along the periphery of ANR Plantation sites of the degraded Forest Land for better protection as well as survival of the Plantations. The cost estimate for Bamboo Twig fencing/Ha has been enclosed.

### **CONTROL MEASURES:**

- 1) The nursery journal, the plantation journal and other records shall be maintained separately in accordance with the provision of "The Orissa Forest Plantation Manual 1977" indicating the physical and financial achievements. Necessary entries with regard to plantation activities undertaken shall be entered in the journals and shall be produced before the inspecting officers. In case of any eventuality like cyclone, thunder storm, hail storm etc. if caused destruction to the plantation, this should also be noted. It is also necessary to note the distribution of rain fall which not only helps in the growth of plants at site but also acts as a guideline for the ensuing years nursery schedule to be formulated.
- 2) For protection, measures shall be taken to save the plantation from fire incidence and prevent accidental trespass of cattle, goat etc. to the premises of the nursery. Boundary area will be scrapped to a width of 2 mtr. During February / March the cut materials are to be burnt under strict supervision.

### **SOIL MOISTURE CONSERVATION:**

Soil and moisture conservation activities are essentially required to be dove-tailed to plantation activities in order to improve water availability in Forest. In order to achieve the objective and implement the programme efficiently a well planned strategy is essential. The natural slope of the Forest land selected for Compensated Afforestation varies from 0 degree to 35 degree being the foothill. The areas selected for the catchment where the precipitation touches the ground and subsequently drained through the drainage line. So this becomes the focus area of the soil moisture conservation programme. The intervention suggested below is aimed at capturing the rain water to enhance the retention period and to increase the quantum of infiltration.

**Further the additional soil moisture conservation measures is to be provided for the Moderate Dense Forest (MDF) area as per the DSS identification of MoEF and CC (Forest Conservation Nodal) New Delhi to avoid the soil erosion and to conserve the soil as well as moisture of the Forest area for which additional cost has been provided in the scheme.**

### **Forest floor treatment:**

- **Staggered Trenches-** The staggered trenches are primarily aim to break the runoff which otherwise will form reels and gullies. Such reels when conversed will form gullies. Continuous gullies when joined together will form a ditch. Therefore it is aimed at excavating staggered trenches as per the field requirement during execution of works. Each such trench will be 2 m (length) X 0.5 m (width) x 0.5m (depth). These trenches will conserve rain water of this region and facilitates its percolation. Therefore while aligning such trenches adequate care should be taken so that gullies are not formed by the water flowing downhill from the wedges of trench.
- **Graded Earthen Bund-** Earthen graded bunds can be erected on the low slope (<5%) Forest and pediments of hills. These bunds would be 1.5 Meter high (minimum) and follow a longitudinal slope of 0.2% to 0.5%. The purpose of these bunds is to guide the runoff along a longer path to increase time of concentration and promote infiltration. Preferably burrow pits to be located on the upstream.

This can be laid on the border of Forest land or it can be on the where the hill slope ends and pediment begins. This bund will prevent direct entry of runoff from hills/forest into cultivable land. Its main purpose is to delay the runoff and increase the time of concentration substantially. The alignment of the bund will be such that the flow path will be as wide as possible. This will provide sufficient width for the rain water to flow at shallow depth thus facilitating quick infiltration. Earth borrowed from the pits dug from the upstream should meet the requirement of earth work for the graded bund.

The burrow pits of this bund will be discontinuous and act as soak pits to enhance infiltration. Burrow pits may be located on the downstream side if sufficient earth is not available on the upstream.

The top of the bund should have longitudinal slope of 0.2 to 0.5% so that the flow path is non-silting & non-erosive. If required Loose Boulder spurs would be put up across the flow path to control the longitudinal slope.

It may be noted that this bund is not to retain water for very long as in case of reservoir bunds. Its purpose is to change the direction of flow of runoff. Stone pitching on the upstream side may be necessary to prevent scouring by runoff coming downhill.

### **DRAINAGE LINE TREATMENT:**

Drainage line treatment can be done on the site by Construction of Loose Boulder Structure , Wire mesh structure etc. as per the requirement of the sites where the structure is to be created across the drainage line for retention of run-off and reduction of velocity. Such structure should preferably have top width of 1m with upstream slope of 1:1 ration and downstream ration of 1:5 ratios.



### **PEOPLE'S PARTICIPATION:**

In order to involve the adjoining villages in the protection of plantation, meetings are to be conducted in the adjoining villages and efforts to be made to constitute VSS who will be assigned with the task of protection and management of the compensatory Afforestation with sharing benefit as per JFM Resolution 1993 for all plantation site. For the above purpose supporting activities like livelihood improvement/Socio economic development of the VSS members, strengthening of the local level institution, Capacity Building and local level training and Entry Point Activities (EPA) is to be conducted on every VSS of the plantation site. For the success of the above and to create Assets for the communities bonafide requirement and to improve the socio economic status during the project implementation period will be meet from 5 % funds of the CA cost is to be provided by the User Agency as per the direction of the Divisional Forest Officer, Koraput to meet the VSS's fulfilment.

### **MONITORING & EVALUATION:**

The Range Officer of Laxmipur Range will undertake field checks of the works of the additional CA sites and will be cross checked by the Asst. Conservator of Forests (ACFs) and Divisional Forest Officer, Koraput Forest Division. GPS co-ordinates along with other required informations of Addl CA and other activities will be uploaded in the e-Green watch Portal of NIC, MoEF, and CC, Govt. Of India for the purpose of online monitoring Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored a recorded in the plantation journal by the field staffs of project implanting Ranges and reported to the Divisional Forest Officer for necessary action. The same will be reported to higher authorities for monitoring and evaluation of the activities every year.


Funding Agency : M/s National Aluminium Company Limited (NALCO)

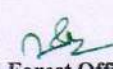
Proposed Monitoring Mechanism : The Scheme shall be executed by the Divisional Forest Officer, Koraput Forest Division with his staff and all Prescribed records are to be maintained.

Total Cost of the Project : Total Cost of the project is Rs. 12,69,94,830/- (Rupees Twelve Corer Sixty Nine Lakh Ninety Four Thousand Eight Hundred Thirty) only as detailed in the Total Project Cost which shall be payable by the user agency as per the advice of the concerned authority.

**READY RECKONER (FINANCIAL OUTLET) FOR ADDITIONAL COMPENSATORY  
AFFORESTION SCHEMES AT GODMAK PRF FOR THE FY 2022-23**


Sl No	CA-Code	Core Plantation	Watering	Fencing	SMC	Total Cost per Ha	Total CA Area in Ha	Grand Total Cost
			Diesel Pumpset with manual	Bamboo Twigs				
<b>CA 500+WATERING+FENCING</b>		<b>CA (ANR) 500</b>						
1	ANR500 + DP+ BT+ SMC	1,42,904	5,02,209	1,04,966	37,415	7,87,494	140	11,02,49,160
<b>Grand Total</b>								<b>11,02,49,160</b>

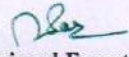
  
 Asst. Conservator of Forests  
 Koraput Forest Division  
~~Asst. Conservator of Forests~~  
 Koraput Forest Division  
**KORAPUT**

  
 Divisional Forest Officer  
 Koraput Forest Division  
~~Divisional Forest Officer~~  
 Koraput Forest Division

**TOTAL PROJECT COST OF THE ADDITIONAL  
COMPENSATORY AFFORESTATION  
PLANTATION SCHEME**

Sl. No	Plantation Type	Extent area in Ha/Rmt etc	Cost Norm per Ha (Rs)	Total Cost (Rs)	Remarks
1	ANR With Gap Plantation @500 Plants/Ha including cost of Plantation+ Diesel Pump & Manual Watering + Bamboo Twig Fencing + Soil Moisture Conservation (SMC)	140 Ha	7,87,494/-	11,02,49,160	To be Deposited s per the direction of the authority.
<b>Sub Total (1)</b>		<b>140 Ha</b>	--	<b>11,02,49,160</b>	
2	Additional Soil Moisture Conservation of the MDF area over 139 Ha as per DSS Reorts @37,415/- Ha			52,00,685	
<b>Sub Total (1+2)</b>				<b>11,54,49,845</b>	
3	10 % of the total Plantation cost towards Strengthening of the VSS of the adjoining CA sites with provision of EPA activities/ Incentive etc			1,15,44,985	
<b>Grand Total</b>				<b>12,69,94,830</b>	
<b>(Rupees Twelve Crore Sixty Nine Lakh Ninety Four Thousand Eight Hundred Thirty) only.</b>					

  
 Asst. Conservator of Forests  
 Koraput Forest Division  
 Koraput Forest Division  
**K O R A P U T**

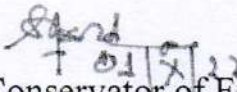
  
 Divisional Forest Officer  
 Koraput Forest Division  
 Divisional Forest Officer  
 Koraput Forest Division

Financial Outlay for **Compensatory Afforestation Scheme** over an area of **140.0 ha Degraded Forest land** identified in **Godmark PRF** of Laxmipur Range under **Koraput Forest Division** in lieu of diversion of 697.979 ha of forest land for **Pottangi Bauxite Mine of M/s NALCO Ltd.** as per approved One-time Cost Norm

Sl. No.	Description	Amount (Rs.)
1.	Cost of ANR Plantation without provision of fencing @ 500 seedlings per ha with 18 months old seedlings over 140.0 ha @ Rs.1,42,904/- per ha with 10 years maintenance	2,00,06,560.00
2.	Cost of SMC activities like staggered trenches, percolation pits, contour trench, graded earthen bund, LBCD, wire mesh LBCD, Sub-Surface Dyke and WHS as per the slope and site requirement @ Rs.37,415.00 per ha over 140.0 ha with 5 years maintenance	52,38,100.00
3.	Cost of fencing with Bamboo Twigs & Thorns over 140.0 ha @ Rs.1,04,966/- per ha with 5 years maintenance	1,46,95,240.00
4.	Cost of Diesel Pump set with manual watering to CA Plantation with 5 years maintenance over 140.0 ha @ Rs.5,02,209/- per 1000 plant/ ha	3,51,54,630.00
	<b>Total</b>	<b>7,50,94,530.00</b>
5.	5% of total Plantation Cost towards EPA/ Incentive to VSS including monitoring and evaluation (As proposed by DFO, Koraput Division)	37,54,727.00
	<b>Grand Total</b>	<b>7,88,49,257.00</b> <b>Or rounded off to</b> <b>7,88,49,300.00</b>

(Rupees Seven Crore eighty eight lakhs forty nine thousand and three hundred) only

Approved


  
 Principal Chief Conservator of Forests  
 Forest Diversion & Nodal Officer, FC Act

Principal Chief Conservator of Forests  
 (Forest Diversion & Nodal Officer FC Act)  
 O/o. the P.C.C.F Odisha, Bhubaneswar

**Financial out let for Additional Compensatory Afforestation Scheme over 140 Ha. at Godmark PRF of Laxmipur Range of Koraput Forest Division as per Matrix of CA Plantation for 2022-23**

Sl. No.	Description	Amount in Rs.
1	Cost of ANR plantation @500 Planta/ha with 18 month old seedlings over 140 ha. @ 142904/- per ha. with 10 years maintenance.	2,00,06,560.00
2	Cost of Fencing with Bamboo Twig over 140 ha. @ 104966/- per ha.	1,46,95,240.00
3	Soil Moisture Conesevation work over 140 ha @ Rs. 37415/- per ha .	52,38,100.00
4	<b>Watering provision to Plantation</b>	
	Water provision to CA Plantation through Diesel Pumpset fitted with Borewell. over 140 ha. @ Rs. 502209/-	7,03,09,260.00
	<b>Sub Total</b>	<b>11,02,49,160.00</b>
5	Additional Soil Moisture Conesevation work @ Rs. 37415/- per ha over 139 ha. (MDF Area)	52,00,685.00
	<b>Total</b>	<b>11,54,49,845.00</b>
6	10% of the total plantation cost towards EPA/ incentive to VSS including Monitoring & Evaluation	1,15,44,984.50
	<b>Grand Total</b>	<b>12,69,94,829.50</b>
	<b>Or say</b>	<b>12,69,94,830.00</b>
<b>Rupees Twelve Crore Sixty Nine Lakhs Ninety Four Tousand Eight Hundred Thirty Only.</b>		

  
**Asst. Conservator of Forests**  
**Koraput Forest Division**  
**KORAPUT**

  
**Divisional Forest Officer**  
**Koraput Forest Division.**  
**Divisional Forest Officer,**  
**Koraput Forest Division**

**COST NORM FOR RAISING 1000 SEEDLINGS (18 Month)  
WAGE RATE Rs.326/- PER DAY**

Sl. No	Items of work	Preferable Period of Execution	Unit	Unit Cost	No./ Quantity	Labour cost @ Rs.315/- per day	Material cost	Total cost
							(Rs)	(Rs.)
1	2	3	4	5	6	7	8	9
<b>A. 1st Financial Year (Seedling Cost for 3 Months)</b>								
1	Cost of Polythene (9"*5"*200)300 Nos/Kg =3.33 Kg@ 208/- per Kg (Including GST)	Nov-Dec	Kg	208	3.33	-	693.00	693.00
2	Procurment of raw & crude Polypot Mixture (Soil, Sand & CDM in ratio (2:1:1)							
	(i)Soil	Nov-Dec	Cft	10	22	-	220.00	220.00
	(ii)Sand	Nov-Dec	Cft	16	11	-	176.00	176.00
	(iii)CDM	Nov-Dec	Cft	25	11	-	275.00	275.00
	(iv)Insecticides/ Bio-Pesticide	Nov-Dec	Kg	150	2	-	300.00	300.00
3	Preparation of Soil Mixture Includes Pulverisation and straining & Mixing ingredients in proper ratio (2:1:1)	Nov-Dec	MD	326	2	652.00	-	652.00
4	Filling of Polypot Bags & Setting in the beds	Nov-Dec	MD	326	3	978.00	-	978.00
5	Collection of seeds grading & Treatment	Dec	MD	326	2	652.00	-	652.00
6	Preparation of germination Bed & Sowing of Seeds	Jan	MD	326	0.5	163.00	-	163.00
7	Dibbling of Seeds/ Pricking out the seedlings from germination beds and Transplanting in the poly bags and Providing sheds.	Jan	MD	326	2	652.00	500.00	1,152.00
8	Watering (Jan to March)	Jan-Mar	MD	326	9	2,934.00	-	2,934.00
9	Maintenance of Nursery including Fencing	Jan-Mar	MD	326	4	1,304.00	500.00	1,804.00
10	Contingencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint. of Nursery, etc.)		-	-	-	-	460.50	460.50
	<b>Total</b>				<b>22.5</b>	<b>7,335.00</b>	<b>3,124.50</b>	<b>10,459.50</b>
<b>B. 2nd Financial Year (Shifting of Seedlings to larger Polythene bags to avoid root coiling &amp; better growth)Apr to March)</b>								
1	Waering for 3 Months (April to June)	April-June	MD	326	9	2,934.00	-	2,934.00
2	Cost of Insecticides/Bio pesticides	May-June	Kg/Lts	326	0	-	400.00	400.00
3	Application of insecticides/Bio Pesticides	May-June	MD	326	1	326.00	-	326.00
4	Cost of Polypot (12"*10"*300)60 Nos/Kg =17 Kg@ 208/- per Kg (Including GST)	May-June	Kg	208	17	-	3,536.00	3,536.00
5	Procurment of raw & crude Polypot Mixture (Soil, Sand & CDM in ratio (2:1:1)							
	(i)Soil	Apr/May	Cft	10	100	-	1,000.00	1,000.00
	(ii)Sand	Apr/May	Cft	16	50	-	800.00	800.00
	(iii)CDM	Apr/May	Cft	25	50	-	1,250.00	1,250.00
	(iv)Insecticides/ Bio-Pesticide	Apr/May	Kg	150	3	-	450.00	450.00

6	Preparation of Potting Mixture Includes Pulverisation and straining	Oct-Nov	MD	326	6	1,956.00	-	1,956.00
7	Filling of Polypot Bags including re-potting and setting	Oct-Nov	MD	326	35	11,410.00	-	11,410.00
8	Watering (Oct to March)	Oct-Mar	MD	326	19	6,194.00	-	6,194.00
9	Sorting, weeding, grading and re-setting over one year period	Apr-Mar	MD	326	15	4,890.00	-	4,890.00
10	Contigencies (Watercan, Buckets, Nursery Shed, Electric Charges/ Desel Charges/ Maint. of Pump Set/ Maint. of Nursery, etc.)		-	-	-	-	400.00	400.00
<b>Total</b>					<b>85</b>	<b>27,710.00</b>	<b>7,836.00</b>	<b>35,546.00</b>

**C. 3rd Financial Year (Maintenance upto Planting) April-June**

1	Watering (Apr to June)	Apr-June	MD	326	12	3,912.00	-	3,912.00
2	Weeding, shifting and grading	Apr-June	MD	326	4	1,304.00	-	1,304.00
3	Cost of Insecticides/Bio pesticides	Apr-June			0	-	400.00	400.00
4	Application of insecticides/Bio Pesticides	Apr-June	MD	326	1	326.00	-	326.00
5	Contigencies		-	-	-	-	230.00	230.00
<b>Grand Total</b>					<b>17</b>	<b>5,542.00</b>	<b>630.00</b>	<b>6,172.00</b>

**ABSTRACT**

Item of Works		MD	Labour cost @ Rs.326/- per day	Material Cost in Rs.	Total Cost in Rs.
A	1st Financial Year (3 Months)	22.5	7,335.00	3,124.50	10,459.50
B	2nd Financial Year (12 Months)	85	27,710.00	7,836.00	35,546.00
C	3rd Financial Year (3 Months)	17	5,542.00	630.00	6,172.00
<b>Total</b>		<b>124.5</b>	<b>40587.00</b>	<b>11590.50</b>	<b>52,177.50</b>

**Cost per 18 Months old Seedlings = 52177.50/1000=52.17**



**COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 500 PLANTS PER HECTARE (18 Months old Seedlings) WAGE RATE Rs.326/- PER DAY**

Sl. No	Items of work	Preferable Period of Execution	No of Mandays	Labour cost @ Rs.326/- per day	Material cost	Total cost
					(Rs)	(Rs.)
1	2	3	4	5	6	7
<b>0<sup>th</sup> year (Advance work) Pre-Planting Operation</b>						
1	Survey, demarcation and pillar posting	Nov/Dec	2	652	0	652
2	Preparation of Treatment Map (Digital Map)	Nov/Dec	1	326	100	426
3	Site preparation	Nov/Dec	2	652	0	652
4	Silvicultural Operations including clearance of weed, cutting of climber, High stump cutting, singling of shoots & removal of cut out after drying from the field to blank space.	Jan/Feb	15	4890	0	4890
5	Alignment and stacking for digging of pits	Feb/Mar	1	326	0	326
6	Digging of pits (45 cm x 45 cm x 45 cm) in hard and gravelly soil	Feb/Mar	20	6520	0	6520
	<b>Total</b>		<b>41</b>	<b>13366</b>	<b>100</b>	<b>13466</b>
<b>1ST YEAR/PLANTING YEAR</b>						
1	Refilling of pits by altering the dugout soil of the pits, application of Organic compounds/ CDM/FYM and Mixing the same perfectly.	June/July	4	1304	2500	3804
2	Transportation of 18 Month old poly pot seedlings in Hired Truck/ Tractor from the Permanent/Megha Nursery to Planting Site including loading and unloading (Average Lead of 10 RKM) & Stacing the seedlings @ Rs.6/- per seedlings (550 Nos)	July/Aug	0	0	3300	3300
3	Watering the Polypot Seedlings at Planting site of plantation	July/Aug	1	326	0	326
4	Convence of Polythene bag seedlings on Headload from the stacking site to indivisual dugut pits within the Planting site, applying insecticides, Fertilizers and Planting after scooping the soil with other applied materials and pressing the soil prperly around the planted seedlings	July/Aug	11	3586	0	3586
5	Cost of insecticide and fertilizer					
	(a) NPK/ Bio Fertilizer @ 50 gms per plant as basal dose = 25Kg @ Rs.30/- per kg = Rs. 750.00					
	(b) Urea/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs.375.00	July/Aug	0	0	1500	1500
	(c) Insecticides/ Bio pesticides @ 5 gms/plant =2.5 Kg @Rs.150/- per kg= Rs 375.00					
6	Casualty replacement@ 10% (50 Nos)	July/Aug	1.5	489	0	489
7	1st weeding & Manuring	Aug/Sept	5	1630	0	1630
8	2nd weeding, Soil Working ( 1 Mtr diameter around the plant) & Manuring	Oct/Nov	8	2608	0	2608
9	Fire line tracing & inspection path	Feb/Mar	3	978	0	978
10	Watch & Ward including watering as per requirement	Aug-Mar	8	2608	0	2608
	<b>Total</b>		<b>41.5</b>	<b>13529</b>	<b>7300</b>	<b>20829</b>

**2ND YEAR MAINTENANCE**

1	Transportation of 50 Nos. of seedlings from Nursery to Planting Site including loading and unloading & Conveyance by tractor @ Rs.6/- per seedlings (50 Nos)	July	0	0	300	300
2	Casualty replacement@ 10% (50 Nos)	July	1.5	489	0	489
3	Cost of insecticide and fertilizer					
	(a) cost of insecticides/ Bio Pesticides (Themet/Forate) @ 5 Gms/Plant = 0.25 Kg @Rs.150/- Per Kg = Rs.37.50	July/Aug	0	0	1437.5	1437.5
	(b) Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes @ Rs. 1400/-					
4	Weeding ( complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	8	2608	0	2608
5	Fire line tracing ( 2 Mtr Wide Fireline) and inspection path	Feb/Mar	3	978	0	978
6	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	<b>Total</b>		<b>24.5</b>	<b>7987</b>	<b>1737.5</b>	<b>9724.5</b>

**3RD YEAR MAINTENANCE**

1	Cost of Fertilizers Urea/NPK/Bio Fertilizer/Vermicompost/ Mo Khata/ any other Fertilizes= @ Rs. 1400.00	July/Aug	0	0	1400	1400
2	Weeding ( complete weeding), Manuaring and Soil Working (1 Mtr diameter around the plant)	Sept/Oct	8	2608	0	2608
3	Fire line tracing ( 2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	978	0	978
4	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	<b>Total</b>		<b>23</b>	<b>7498</b>	<b>1400</b>	<b>8898</b>

**4TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline) & inspection path	Feb/Mar	3	945	0	945
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3780	0	3780
	<b>Total</b>		<b>15</b>	<b>4725</b>	<b>0</b>	<b>4725</b>

**5TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	<b>Total</b>		<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**6 TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	<b>Total</b>		<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**7 TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirment	Apr-Mar	12	3912	0	3912
	<b>Total</b>		<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**8 TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirement	Apr-Mar	12	3912	0	3912
<b>Total</b>			<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**9 TH YEAR MAINTENANCE**

1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirement	Apr-Mar	12	3912	0	3912
<b>Total</b>			<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**10 TH YEAR MAINTENANCE**


1	Fire line tracing ( 2 Mtr Wide Fireline over 400 M length) including Maint. of inspection path	Feb/Mar	3	978	0	978
2	Watch & Ward including watering as per requirement	Apr-Mar	12	3912	0	3912
<b>Total</b>			<b>15</b>	<b>4890</b>	<b>0</b>	<b>4890</b>

**YEAR WISE ABSTRACT OF COST NORM (SHOWING SEEDLING COST SEPARATELY)**

Sl. No	Year	No. Person Day	Labour Cost @Rs.326/- per day	Material Cost in Rs.	MELD & Other Contingency 5 % of (4+5)	Cost of Seedlings @ Rs. 52.17 per seedlings	Total Cost in Rs.
1	2	3	4	5	6	7	8
1	0th Year	41	13,366.00	100.00	673.00	0	14,139
2	1st Year	41.5	13,529.00	7,300.00	1,041.00	28,694.00	50,564
3	2nd Year	24.5	7,987.00	1,737.50	486.00	2,609.00	12,820
4	3rd Year	23	7,498.00	1,400.00	445.00	0	9,343
5	4th Year	15	4,890.00	-	245.00	0	5,135
6	5th Year	15	4,890.00	-	245.00	0	5,135
7	6th Year	15	4,890.00	-	245.00	0	5,135
8	7th Year	15	4,890.00	-	245.00	0	5,135
9	8th Year	15	4,890.00	-	245.00	0	5,135
10	9th Year	15	4,890.00	-	245.00	0	5,135
11	10th Year	15	4,890.00	-	245.00	0	5,135
<b>Total</b>		<b>235</b>	<b>76,610.00</b>	<b>10,537.50</b>	<b>4360.00</b>	<b>31,303.00</b>	<b>1,22,811</b>

LAND SUITABILITY CERTIFICATE

This is to certify that 140 Ha. of degraded forest land in Godmak PRF of Laxmipur Forest Range under Koraput Forest Division identified for Addl. Compensatory Afforestation in lieu of 697.979 ha. of forest land for Diversion of Pottangi Bauxite Mines by M/s. NALCO is suitable for plantation from management point of view and the degraded forest land is free from encroachment and encumbrances. No plantation has been carried out in the particular area previously.


  
Divisional Forest Officer,  
~~Koraput Forest Division.~~  
~~Divisional Forest Officer.~~  
Koraput Forest Division

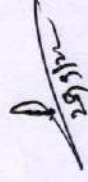
## CERTIFICATE ON DSS ANALYSIS FOR CA/ACA/PCA

This is to certify that DSS Analysis of land identified for CA/ACA/PCA and subsequent ground truthing have been done. To outcome is as mentioned below:

Sl. No.	Name of the Range	Name of the Forest Block (RF/PRF/PF/D PF/Revenue Forest)	Area identified for CA/ACA/PCA (in Ha.)	Classification of identified Land (in ha.)						Area suitable for Plantation (in Ha.)			Plantation Model (AR/ANR)	Remarks		
				Very Dense Forest	Moderately Dense Forest	Open Forest	Non-Forest	Scrub	Waer	Total	Open Forest	Non-Forest			Scrub	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Laxmipur	Godmark PRF	144	0	0	11	38	95	0	144	11	34	95	140	ANR	Suitable for ANR With Gap Plantation @500 plants/Ha.

**N.B. CA land over 144 Ha. identified in Godmark PRF and CA is proposed over 140 Ha.**

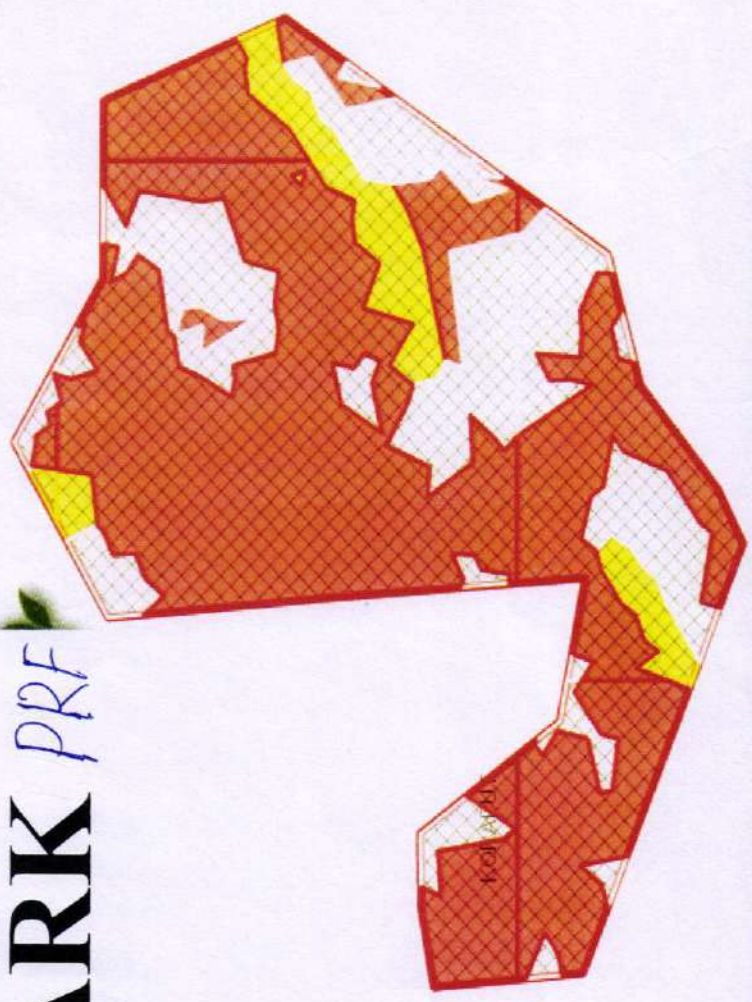
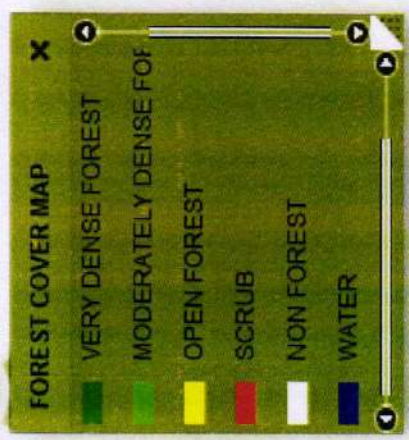
  
 Divisional Forest Officer,  
**Koraput Forest Division,**  
 Koraput Forest Division



Regional Chief Conservator of Forests,  
 Koraput Circle, Koraput  
**Regional Chief Conservator of Forests**  
**KORAPUT CIRCLE**



# GODMARK PRF



**Forest Cover Map**

FCM Without Grid Result			
NON FOREST	OPEN FOREST	SCRUB	
0.38	0.11	0.95	

Koraput  
DFO Office

*[Signature]*  
 Asst. Conservator of Forests  
 Koraput Forest Division  
 K O R A P U T

*[Signature]*  
 Divisional Forest Officer  
 Koraput Forest Division





IF - Project  
16/7/22



**OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE)  
& CHIEF WILDLIFE WARDEN, ODISHA**

Government of Odisha, Forest, Environment & Climate Change Department  
PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR- 751007  
Phone: 0674-2602250, Website: [www.wildlife.odisha.gov.in](http://www.wildlife.odisha.gov.in), Email: [odishawildlife@gmail.com](mailto:odishawildlife@gmail.com)

Memo No. 6537 / CWLW-FDWC-FD-0042-2022  
Bhubaneswar, Dated 15 July, 2022

To  
The Divisional Forest Officer  
Koraput (T) Division

Sub: Proposal for diversion of 697.979 ha of forest land for Pottangi Bauxite Mining Lease in village Pottangi of Koraput Forest Division under Pottangi Tahasil of Koraput District by M/s NALCO Ltd.

Ref: Memo. No.11958/FE&CC dt 08.07.2022.

I am directed to request you to submit Site-specific Wildlife Conservation Plan as per the revised guidelines communicated in this office Memo. No.3332 dt.16.04.2022.

(Signature) 15/07/2022  
Conservator of Forests (ET)

Memo No. 6538 dt 15/07/2022

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle for information and necessary action with reference to the memo mentioned under reference.

(Signature) 15/07/2022  
Conservator of Forests (ET)



Annex - 10 #



Ref. No. :


Tel. No.

Date :

### UNDERTAKING

We undertake to deposit the cost towards the Site Specific Wild Life Conservation Plan prepared for Pottangi Bauxite Mines as approved by PCCF. Cum Chief Wildlife Warden, Odisha, Bhubaneswar.

  
Divisional Forest Officer  
Koraput Forest Division

  
के. के. पंडा / K. K. Panda  
कार्यापालक निदेशक (परियोजना-खान) प्रभारी  
Executive Director (Project-Mines) /c.  
परियोजना एवं तकनीकी विभाग / Project & Technical Deptt.  
नेशनल एल्युमिनियम कम्पनी लिमिटेड  
National Aluminium Company Ltd.  
भुवनेश्वर / Bhubaneswar-751013

नेशनल एल्युमिनियम कम्पनी लिमिटेड  
(भारत सरकार का एक उद्यम)  
खान एवं परिशोधन संकुल  
दामनजोड़ी - ७६३००८, कोरापुट, ओडिशा, भारत

**NATIONAL ALUMINIUM COMPANY LTD.**

(A Government of India Enterprise)

MINES & REFINERY COMPLEX

Damanjodi - 763 008, Koraput, Orissa, India

Fax : 06853-254361, 253231, 254251, 254214

Regd. Office : P/1, Nayapalli, Bhubaneswar - 751 013, Ph. : 0674 - 2301988-99

An ISO 9002 & ISO 14001 Certified Organisation

Ref. No. :

Tel. No.

Date :

V (a)

**UNDERTAKING**

As mentioned in the forest diversion proposal, the proposed area of 40.077 Ha. was found to be scattered between the mineralized zone as calculated by our mining experts. However we undertake to follow the land use pattern strictly as mentioned in the conceptual plan in the Mining Plan approved by IBM.

  
Divisional Forest Officer  
Koraput Forest Division

  
Authorised Signatory  
Chittaranjan Pati  
General Manager(Mech.)  
Pottangi Mines Project  
M&R Complex, NALCO  
Damanjodi-763008

नेशनल एल्युमिनियम कम्पनी लिमिटेड  
(भारत सरकार का एक उद्यम)  
खान एवं परिशोधन संकुल  
दामनजोड़ी - ७६३००८, कोरापुट, ओडिशा, भारत  
Fax : 06853-254361, 253231, 254251, 254214

**NATIONAL ALUMINIUM COMPANY LTD.**  
(A Government of India Enterprise)  
MINES & REFINERY COMPLEX  
Damanjodi - 763 008, Koraput , Orissa, India

Regd. Office : P/1, Nayapalli, Bhubaneswar - 751 013, Ph. : 0674 - 2301988-99

An ISO 9002 & ISO 14001 Certified Organisation

Ref. No. :

Tel. No.

Date :

V (b)

**UNDERTAKING**

FOR USE OF MINIMUM ML AREA FOR STATUTORY BUILDING

We do hereby undertake to use minimum forest land for construction of statutory building as per approved mining plan which are purely on temporary basis.

  
Divisional Forest Officer  
Koraput Forest Division

  
Authorised Signatory  
Chittaranjan Pati  
General Manager(Mech.)  
Pottangi Mines Project  
M&R Complex, NALCO  
Damanjodi-763008.

नेशनल एल्युमिनियम कम्पनी लिमिटेड  
(भारत सरकार का एक उद्यम)  
खान एवं परिशोधन संकुल  
दामनजोड़ी - ७६३००८, कोरापुट, ओडिशा, भारत  
Fax : 06853-254381, 253231, 254251, 254214


NATIONAL ALUMINIUM COMPANY LTD.  
(A Government of India Enterprise)  
MINES & REFINERY COMPLEX  
Damanjodi - 763 008, Koraput , Orissa, India

Regd. Office : P/1, Nayapalli, Bhubaneswar - 751 013, Ph. : 0674 - 2301988-99

An ISO 9002 & ISO 14001 Certified Organisation

**Table B- Estimation of cost of forest diversion (as per MoEF & CC Guideline dated 1<sup>st</sup> Aug 2017 related to cost benefit analysis)**

Sl. No.	Parameters	Remarks (Rupees in lakhs)
1	Ecosystem Services losses due to proposed forest diversion. NPV of the forest land being diverted i.e. (Eco class value-III Tropical Dry Deciduous Open Forest) Forest land 697.979 ha @ Rs. 9,57,780 lakhs	<b>Rs. 6685.10</b>
2	Loss of animal husbandry productivity including loss of fodder (10% of NPV)	<b>668.510</b>
3	Cost of human resettlement.	No R & R is involved
4	Loss of public facilities & administration infrastructure (Roads, building, school, dispensary, electric lines, railway etc.) on forest land.	Not applicable, Since these facilities are not available inside the forest area for proposed diversion.
5	Possession value of forest land diverted (30% of environmental cost (NPV) due to loss of forest or circle rate of adjoining area in the district should be added as a cost component as possession value of forest land whichever is maximum).	<b>2005.531</b>
6	Cost of suffering of oustees	Not applicable since there will be no displacement of peoples.
7	Habitat Fragmentation Cost (While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule)	<b>3342.552</b>
8	Compensatory Afforestation and Soil & Moisture Conservation Cost	<b>12618.5940</b>
<b>Total Loss (Against the proposed forest land diversion)</b>		<b>Rs. 25320.287</b>

  
 Chittaranjan Pati  
 General Manager (Mech.)  
 Pottangi Mines Project  
 M&R Complex, NALCO  
 Damanjodi - 763008

  
 Asst. Conservator of Forests  
 Koraput Forest Division  
**KORAPUT**

  
 Divisional Forest Officer  
 Koraput Forest Division

Page No. \_\_\_\_\_

11

Signature of \_\_\_\_\_  
General Manager (Mech)

Signature of \_\_\_\_\_  
General Manager (Mech)

Chittaranjan Pati  
General Manager (Mech)  
Pottangi Mines Project  
M&R Complex, NALCO  
Damanjodi - 763008

**Table C- Estimation of Benefit of Forest Diversion in Cost Benefit Analysis (as per MoEF & CC Guideline dated 1<sup>st</sup> Aug 2017 related to cost benefit analysis)**

Sl. No.	Parameters	Remarks (Rupees in lakhs)
1	Increase in Productivity attribute to the specific project considering average Bauxite Oore price @ Rs. 1300 per tonne X 40 MT.	520000.00
2	Benefit to economy due to the specific project	52000.00
3	No of population benefited due to specific project 50000	
4	Economic benefit due to direct and indirect employment due to the project Direct: 551 (Approx) Indirect: 1000 (Approx)	
5	Economic benefits due to Compensatory Afforestation. (The benefit from such Compensatory Afforestation accruing over next 50 years magnetized and discounted to the present value should be included as benefit by Compensatory Afforestation). For next 50 years the estimated cost of NPV for present value is taken as benefit by Compensatory Afforestation i.e. Present value x (i + i) <sup>N</sup> = 12618.5940 x (1+0.04) <sup>50</sup> (i = interest, N=Time)	89676.3518
	<b>Grand Total</b>	<b>Rs. 661676.3518</b>

**COST BENEFIT RATIO OF THE PROJECT**


**Benefit - 661676.3518**

**Loss - 25320.287**

**Ratio - 1: 26.13**

  
**Chittaranjan Pati**  
 General Manager (Mech.)  
 Pottangi Mines Project  
 M&R Complex, NALCO  
 Damanjodi - 763008

  
**Asst. Conservator of Forests**  
 Koraput Forest Division  
 KORAPUT

  
**Divisional Forest Officer**  
 Koraput Forest Division  
 Koraput Forest Division

Handwritten signature and illegible text.

Handwritten signature and illegible text.

Chittaranjan Pail  
General Manager (M&R)  
Pottangi Mines Project  
M&R Complex, NA/CO  
Damrajodi - 763008





भारत सरकार GOVERNMENT OF INDIA  
खान मंत्रालय MINISTRY OF MINES  
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES  
क्षेत्रीय खान नियंत्रक के कार्यालय  
OFFICE OF THE REGIONAL CONTROLLER OF MINES



Annexure VIII.

BY REGD PARCEL  
Phone 0674-2352463  
TeleFax 0674-2352490  
E-mail to bhubaneswar@ibm.gov.in  
Plot No. 149, Pokhariput  
BHUBANESWAR-751020

No. MP/FM/13-ORI/BHU/2018-19

Date: 27.07.2018

To

✓ Shri Sanjay Krishna Patel, General Manager & Power of Attorney Holder,  
M/s NALCO Ltd, NALCO Bhawan, P/1,  
Nayapalli, Bhubaneswar,  
Odisha- 751013

Sub: Approval of Mining Plan of Pottangi Bauxite Mine along with Progressive Mine Closure Plan (PMCP), over an area of 697.979 ha in Koraput district of Odisha State, submitted by M/s National Aluminium Company Ltd under Rule 16 of Mineral Concession Rules, 2016.

- Ref: -
- Your letter No. NBC/P&T/1249 dated 28.05.2018 received on 19.06.2018.
  - This office letter of even no. dated 19.06.2018.
  - This office letter of even no. dated 19.06.2018 addressed to the Director of Mines, Govt. of Odisha, copy endorsed to you.
  - This office letter of even no. dated 03.07.2018.
  - Your letter No. NBC/P&T/1312 dated 09.07.2018 received on 19.07.2018.

Sir,

In exercise of the power delegated to me vide Gazette Notification No. S.O. 1857(E) dated 18.05.2016, I hereby **Approve** the Mining Plan including Progressive Mine Closure Plan of Pottangi Bauxite Mine over an area of 697.979 ha of M/s National Aluminium Company Ltd in Koraput district of Odisha State submitted under Rule 16 of Mineral Concession Rules, 2016. This approval is subject to the following conditions:

- The Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.
- The proposals shown on the plates and/or given in the document is based on the lease map /sketch submitted by the applicant/ lessee and is applicable from the date of approval.
- It is clarified that the approval of aforesaid Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under, Mines Act, 1952 and Rule & Regulations made there under.
- Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground and does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant / lessee.

History VII

- V. At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.
- VI. If this approval conflicts with any other law or court order/ Direction under any statute, it shall be revoked immediately.

Encl: - One copy of  
of Mining Plan

भवदीय / yours faithfully,

  
(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

Copy for kind information to:-

1. The Director of Mines, Directorate of Mines, Government of Odisha, Heads of the Department Building, Bhubaneswar- 751001, Odisha along with one copy of Mining Plan by **REGISTERED PARCEL**. It is requested to advise the applicant/ lessee to submit the financial assurance to the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar, to comply with the provisions of Rule 27 of Mineral Conservation & Development Rules 2017 before executing the mining lease deed. The lease deed shall be executed only after receiving a confirmation letter from the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar.
2. Shri Sripad Pujar, Shri B V R Achar & Shri Sujit Kumar Mohanty, Plot No. 32, Annapurna Badavane, Hospate, Dist- Ballari, Karnataka-583201.

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional Controller of Mines

