

**F. No. J-11011/53/2014-IA II (I)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(I.A. Division)

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Dated: 20<sup>th</sup> November, 2015

To

✓ **M/s Sesa Sterlite Ltd.,**  
Vedanta Aluminum & Power, Alumina Refinery Unit,  
PO: Lanjigarh, Dist. Kalahandi, Odisha, INDIA.

Tel: 06677-247312 Fax: 06677 -247311

**Sub: Expansion of Alumina Refinery (1 MTPA to 4 MTPA) and Captive Power Plant (from 75MW to 285MW) of M/s Sesa Sterlite Ltd. (Formerly M/s Vedanta Aluminium Ltd.) at Lanjigarh, Dist. Kalahandi, Odisha - Environmental Clearance regarding.**

Sir,

This has reference to your letter No. SSL/HSE/ENV/2014/588 dated 19<sup>th</sup> August, 2014 along with copies of EIA/EMP report and subsequent letters dated 22.07.2011, 13.02.2012, 26.04.2012, 10.07.2012, 28.01.2013, 14.08.2013, 07.02.2014, 17.02.2014, 19.08.2014, 19.09.2014, 30.10.2014, 15.11.2014, 08.12.2014, 09.01.2015, 19.06.2015, 27.07.2015 seeking Environment Clearance under the provisions of the EIA Notification, 2006, for the project mentioned above. The proposed project activity is listed at S.No. 3(a) in Metallurgical industries (ferrous & non ferrous) under Category 'A' of the Schedule of EIA notification 2006.

2.0 The Ministry has examined the application. It is noted that M/s Vedanta Aluminum Ltd. (originally M/s Sterlite Industries Ltd.) was granted Environment Clearance on 22.09.2004 for 1 MTPA Aluminum refinery with a 75 MW Captive Power Plant (CPP). Alumina is being produced in the existing refinery using Bayer's process. PP applied for TOR for further expansion from 1 MTPA to 6MTPA, subsequently ToRs were prescribed vide letter of even No. dated 12.03.2006. However, since the expansion project was already been established for a cost of about Rs 4000 crores without environmental clearance, the proposal was deferred until legal action was initiated against the company. On the basis of decision made by MOEFCC, PP applied for TOR afresh on 22.07.2011 for expansion of the Alumina Refinery project from 1 MTPA to 6 MTPA along with expansion of CPP from 75MW to 285MW. Consequently, ToRs were prescribed by the Ministry vide letter dated 02.02.2012 along with conduct of Public Hearing. PP sought a review of the TOR for exemption of P.H. which was further considered in the EAC meetings held on 18<sup>th</sup> November, 2013, 29<sup>th</sup> January, 2014 and on 18<sup>th</sup> March, 2014, wherein the TOR prescribed on 02.02.2012 was revalidated and final ToRs were prescribed vide letter dated 26<sup>th</sup> May, 2014. Certified monitoring report of RO, Bhubaneswar dated 16.06.2014 was also furnished as part of the EIA-EMP Report. Total capital cost of the project is Rs 10,000 crores.



3.0 The expansion project is planned to be executed in three phases. It has been initially stated that Phase – I will achieve a capacity of 2 MTPA, Phase – II will achieve 5 MTPA and Phase – III will achieve 6MTPA. However, consequent to the discussions and clarification sought by the EAC(I) on the phase-wise expansion, the PP submitted a letter dated 09.01.2015 as per which the revised phase-wise expansion programme of the 6MTPA project was provided which is given below

| S.N. | Phase  | Capacity of the Alumina Refinery (MTPA) | Requirement of Bauxite (MTPA) |
|------|--|---|-------------------------------|
| 1.   | Phase – I<br>(Through process improvements)  | 2                                       | 5.2                           |
| 2.   | Phase - II<br>(By adding similar stream of existing plant capacity the capacity will be enhanced by another 2 MTPA)          | 4                                       | 10.4                          |
| 3.   | Phase - III<br>(By adding another similar stream of existing plant capacity the capacity will be enhanced by another 2 MTPA) | 6                                       | 15.6                          |
|      | <b>TOTAL</b>   | <b>6</b>                                | <b>15.6</b>                   |

It has been mentioned that for Phase-I no additional land is required and the capacity of the 2 MTPA will be achieved in 2-3 months from the issuance of EC. Additional land will be required for Phase-II for red mud pond (dry storage for future), ash pond, greenbelt and other associated facilities.

4.0 The total project area is 1552.65 ha, of which the total land area for the existing project is 833.31 ha and the proposed expansion (from 1 MTPA to 6MTPA) would require an additional area of 719.34 ha. The break-up of the existing (1 MTPA) and proposed (6MTPA) proposed project land in terms of agricultural, forest, water bodies, wasteland (as per revenue records), habitation (settlements), etc is as given below:

| S. No | Land Use             | Existing Project (1 MTPA) (in Ha) | Proposed expansion (6MTPA) (in ha) |
|-------|----------------------|-----------------------------------|------------------------------------|
| 1.    | Agriculture          | 609.33                            | 448.50                             |
| 2.    | Wasteland            | 184.48                            | 219.32                             |
| 3.    | Habitation           | 7.69                              | 46.63                              |
| 4.    | GJJLand (Forestland) | 26.123                            | Nil                                |
| 5.    | Water Bodies         | 5.69                              | 4.89                               |
|       | Sub-Total            | 833.31                            | 719.34                             |
|       | <b>TOTAL</b>         | <b>1552.65</b>                    |                                    |

5.0 The details of Plant Facilities vis-a-vis area required for the proposed expansion are given below:

| S.No. | Facility                               | Existing land area (ha) | Addl. Land for Ph. I (ha)                   | Addl. Land for Ph. II (ha) | Addl. Land for Ph. III (ha) | Total Land req. (ha) |
|-------|--|-------------------------|---|----------------------------|-----------------------------|----------------------|
| 1.    | Main Plant with greenbelt              | 420                     | -   | -                          | -                           | 420                  |
| 2.    | Red Mud Storage Pond with green belt   | 211.47                  | 53.5 ha (process of acquisition initiated)) |                            | 518.03 (yet to be acquired) | 783                  |
| 3.    | Ash Pond with Pipeline with green belt | 95.4                    |   |                            | 80 (yet to be acquired)     | 175.4                |
| 4.    | Township & Misc including greenbelt    | 52.5                    |   |                            | 28 (yet to be acquired)     | 80.5                 |
| 5.    | Railway including greenbelt            | 53.8                    |   |                            | 40 (yet to be acquired)     | 93.8                 |
|       | <b>TOTAL</b>                           | <b>833.17</b>           | <b>53.5</b>                                 | <b>-</b>                   | <b>666.03</b>               | <b>1552.7</b>        |

6.0 Of the total project area of 1552.7 ha., 833.17 have been acquired, 53.5 ha is in an advanced stage of acquisition and the balance 666.03 ha is yet to be acquired. Of the 666.03 ha, 221.73 ha is Government land which requires to be allocated by the Govt, of Odisha through their Nodal Agency - IDCO and the balance 444.3ha is private land which requires being acquired by the Govt, of Odisha through IDCO. The additional area of 719.34ha required for storage of red mud for the 6MTPA expansion project is part of the 1552.65 ha of the total land area. No forestland is envisaged in the proposed land (666.03ha) to be acquired. It was stated that three villages falling in 53.5ha namely - Rengopali, Kothuduar and Bandhaguda are under Rehabilitation by the IDCO, for which Section 4 Notification is completed and Section 6 Notification by the Govt, of Odisha is awaited.

7.0 The PP has further stated in the letter dated 09.01.2015 that for the implementation of Phase-I no additional land is required. In regard to Phase-II, the process of acquiring 53.5 ha has been initiated through Section 4 Notification completed under the Land Acquisition Act. In regard to Phase-III, a total area of 666.03 ha is required for the Red Mud Storage Pond, Ash Pond, Township and Railways.

8.0 The year-wise production of alumina from the existing project is given below:

| S. No | Year          | Calcined Alumina Production (Tonnes) |
|-------|---------------|--------------------------------------|
| 1     | 2009-10       | 7,92,195                             |
| 2     | 2010-11       | 7,06,640                             |
| 3     | 2011-12       | 9.1 1,621                            |
| 4     | 2012-13       | 5,27,052                             |
| 5     | 2013-14       | 5,24,060                             |
| 6     | 2014-Sept. 14 | 4,59,600                             |

9.0 The facilities for the proposed expansion will be accommodated within the vacant area lying within the existing plant area. Additional land will be required for Red Mud Pond, Ash Pond as existing ponds may suffice for an additional 10 years for the expansion project. To ensure storage space for another 25 years, additional land would be required. In addition to the above, additional land is required to ensure availability of 33% area for green belt across various facilities.

10.0 In regard to bauxite linkage, it was informed that about 2.6-2.8 MTPA of bauxite is required to produce 1 MTPA of alumina. The total bauxite requirement for the expanded capacity (6MTPA) project will be 15.6 MTPA which is to be met from own mines and from other sources. As against the total requirement of bauxite of 15.6 MTPA a total of 2.80 MTPA would be met from domestic sources, and 9.15 MTPA would be met from others (domestic) and from sources which export bauxite (3.41 MTPA). There is no immediate committed availability of bauxite for the proposed expansion.

11.0 For this, OMC has entered into an MOU with M/s Sesa Sterlite Ltd. for supplying 150 MT of bauxite for the refinery. The company has also applied to Govt, of Odisha for 42 bauxite mines in Odisha having a cumulative bauxite deposit capacity of more than 1.8 billion tonnes of bauxite. These are at various preliminary stages of application. Bauxite for the existing project is also being procured from their sister concern - M/s BALCO and other companies.

12.0 The status of existing captive bauxite mines for which EC has been obtained is given below:

| S.N | Name of Bauxite Mine   | Name of Company | Capacity (MTPA) | Date/Status of EC |
|-----|--|-----------------|-----------------|-------------------|
| 1.  | Mampat Bauxite Mine. dist. Sarguja. Chhattisgarh                       | BALCO           | 0.75            | 17.09.2008        |
| 2.  | Bodai Daldali Bauxite Mine. Dist. Kawardha. Chhattisgarh               | BALCO           | 1.25            | 09.04.2010        |
| 3.  | Expansion of Wandhi-I and Wandhi-II Bauxite Mine. dist. Kutch. Gujarat | GMDC            | 0.125 + 0.125   | 10.11 2006        |
|     | TOTAL  |                 | 2.25 MTPA       |                   |

13.0 The State-wise procurement plan of bauxite is MP (0.15 MTPA). Jharkhand (0.50MTPA). Chhattisgarh (1.9MTPA), AP (0.8MTPA), West Coast (4.15MTPA). Odisha (0.65MTPA) amounting to a total quantity of 8.15 MTPA. The Procurement plan through imports is Guinea (4 MTPA), Australia (2.5 MTPA), Sierra Leone (1 MTPA). Indonesia/Malaysia (2 MTPA) amounting to a total of 9.5MTPA.

14.0 The 6 MTPA of bauxite will produce 7.2 MTPA of red mud. The calendar plan for storage of red mud generated from refinery is as given below:

| Year                 | Alumina Production (MT) | Red-Mud Generation (MT) | Red-Mud Volume (m3) | Height increase (in m) of Red Mud Pond |
|----------------------|-------------------------|-------------------------|---------------------|--|
| 1 <sup>st</sup> Year | 1.5                     | 1.8                     | 692308              | 0.4                                    |

|   |     |       |          |              |
|---|-----|-------|----------|--------------|
| 2 <sup>nd</sup> Year                    | 3   | 3.6   | 13846154 | 0.8          |
| 3 <sup>rd</sup> Year                    | 4   | 4.8   | 1846154  | 1.0          |
| 4 <sup>th</sup> Year                    | 5   | 6     | 2307692  | 1.3          |
| 5 <sup>th</sup> Year                    | 6   | 7.2   | 2769231  | 1.5          |
| 6 <sup>th</sup> Year                    | 6   | 7.2   | 2769231  | 1.5          |
| 7 <sup>th</sup> - 15 <sup>th</sup> Year | 6x9 | 7.2x9 | 24923079 | 1.5x9 - 13.5 |

15.0 In order to store an annual production of 7.2 million tonnes of red mud, adequate storage area of 783 ha is required. It was stated that Grama Sabha Resolutions have been passed in respect of acquisition of land of 3 villages required for storage of red mud. The company has developed a high pressure filtration system by which red mud slurry will be converted into red mud powder, which can be used by cement manufacturers. The stock piles will be stored in areas which are lined. The red mud will not be in a slurry form but in cake form. The entire amount of red mud generated from the project is proposed to be sold to cement industry and a plan for utilisation of red mud has also been prepared. Under the Plan, an MOU with CVKI has been signed for supply of red mud for a minimum period of 2 years.

16.0 Some cement companies such as ACC (Bargarh Unit), Bharathi Cement Corporation, Hyderabad, Ambuja Cements, Bhatapara have placed orders for use of red mud in manufacture of cement. It was clarified that the quality of cement manufactured with red mud as raw material mix is not different from the cement with regular raw material mix. Moreover, the alkalinity of red mud (3-4% in red mud cake) helps in neutralizing the sulphur present in the pet coke. The red mud will have moisture and will not be in powder form but in cake form. The red mud from the storage area shall not be let off along with the rainwater particularly during rainy season and an effective drainage plan has to be prepared to ensure that rainwater entering the project area is not contaminated with red mud.

17.0 In regard to coal requirement, the 6 MTPA expansion project will require 4 MTPA of coal and the balance is to be obtained by heat recovery from steam generation. For the existing project of 1 MTPA, 0.6 MTPA of coal is being sourced from MCL mines. PP has applied for coal linkage from the Ministry of Coal; however, further processing for FSA is held up for want of environmental clearance from the Ministry of Environment and Forests. On receipt of EC, the matter shall be taken up with the Ministry of Coal for enhancing the coal linkage quantity.

18.0 Ash pond created for the existing project will be used for disposal of ash from the Captive Power Plant for the expansion project. Ash will be evacuated through HCSD.

19.0 For the existing 1 MTPA project, the State Government has sanctioned a total quantity of 30,000 m<sup>3</sup>/d from River Tel, of which the present project is utilising only 14,000 m<sup>3</sup>/d and the balance is being met by various water conservation measures. The Expansion project will require a total quantity of 56,250 m<sup>3</sup>/d for which an agreement is in place. The additional water requirement for the project is 26,250 m<sup>3</sup>/d, which will be sourced from River Tel. It was stated that the State Irrigation Dept has prepared a Report as per which the total drawl of water from River Tel during lean season is less than 1% of the total flow of the river. As per the Data furnished by the Central Water Commission vide their letter No. TD/905/CE/Vol.IV/2014/2043 dated 10.11.2014, the average discharge water flow in River Tel at Kantamal during lean period is 133.74 cumecs, and the maximum water requirement would be only 4% of the total water discharge flow.

20.0 The requirement of make-up water at present is 0.20 cumecs and on full expansion to 6MTPA, it will be 0.65cumecs. It was stated that 4 surface water reservoirs have been created for harvesting rainwater. The existing raw water reservoir (2.1 lakh m<sup>3</sup> capacity), storm water pond (75,000m<sup>3</sup> capacity), caustic water pond (94,350m<sup>3</sup> capacity), red mud pond (7.2 lakh m<sup>3</sup> capacity), process water lake (21.4 lakhm<sup>3</sup> capacity). Ash water Lake (7.1 lakh m<sup>3</sup> capacity) totalling 39 lakh m<sup>3</sup> will be utilized as rain water harvesting pond. In addition, about 1 lakh m<sup>3</sup> of rainwater will be harvested from township which will be recharged to groundwater and can meet the domestic requirement of 2300 people for a complete year. All these water harvesting measures will enable a reduction of about 40% of fresh water consumption. The company will construct separate RCC drains for carrying storm water inside the plant. Decanted water from red mud pond is collected in the Process Water Lake during the monsoon and the same water recycled back to the process through pumping arrangements.

The plant will operate on a zero-discharge concept and all treated water would be recycled and reused.

21.0 Material transportation will be done by rail for which a dedicated railway line for transportation of both raw materials and products will be established. A total of 215.20 ha of green belt has been already developed of the total 512.37 ha (33%) of the total project are of 1552.65 ha. Further land to be covered under greenbelt after acquisition of land, particularly for developing plantation along the remaining boundary wall of 3km of the 8km in a width of 15-20m. It was further stated that there are a few patches of Gramya Jungle Jagya (GJJ) land (which is forestland) of a total area of 26.123 ha inside the existing 1 MTPA Alumina Refiner, which is being maintained as part of the green belt as mandated by Govt, of Odisha as per their letter No. 9580 dated 06.05.2013. Further vide letter No. 5-ORC264/2015-BHU dated 14<sup>th</sup> October, 2015 the MoEFCC after due consideration of the proposal of the State Government and on the basis of decision of Regional Empowered Committee held on 14.10.2015 has conveyed 'in-principle' approval for diversion of 26.244 (64.85 acres) of Revenue forest land located inside Lanjigarh Aluminium Refinery Complex in Kalahandi District, Odisha for maintaining it as Green belt by M/s Vedanta Aluminium Ltd, Odisha, subject to fulfillment of certain conditions.

22.0 Public Hearing was conducted on 30.07.2014. It was clarified that as per the EIA Notification 2006, the EIA Reports were submitted by the PP in the offices of the Member-Secretary, OPCB, Bhubaneshwar, MOEF RO. BBSR. District Collector Kalhandi, GM (DIC). Knihnndi. Chairman Jilla Parishad Kalhandi. BDO Lanjigarh Block. RO. SPCB Rayagada and the Executive Summary Reports of the EIA in both Odia and English were circulated by the SPCB in all the 21 Gram Panchayat Offices of Lanjigarh Block. The date and venue of the Public Hearing were published in the English and Odia daily namely "The Samaj" and the "Sunday Statesman" dated 29.06.2014. i.e. 31 days before the date of Public Hearing by the SPCB.

23.0 Issues raised in the Public Hearing held on 30.07.2014 covered sectors/issues of education, provision of drinking water facilities, provision of electricity, health care, R&R issues, availability of bauxite for the refinery without having any captive mines and peripheral infrastructural development for the nearby villages. It was stated that the total manpower requirement for the existing-cum expansion project is about 1500 persons for direct employment in the factory and about 4000 for the associated partners of the project. There were complaints on pollution due to red mud, however it was clarified that the nearest

nallah is about 1 km away and is not being contaminated from the company's red mud generation. It was informed that an amount of Rs 51.32 crores has been spent on various activities during the period of 2010-2013-14. PP is committed to spend an amount of 2-3% of total project cost over a span of 10 years over and above the 2% of the net retain profits to be spent on CSR under the Companies Act.


24.0 The EAC(I) considered the representations received on the project by an e-mail dated 17.09.2014 from Shri Prafulla Somantara, President, Lok Shakti Abhiyan, Bhubaneswar along with a letter dated 17.09.2014, wherein issues such as bauxite linkage, water source from Tel River vis-à-vis competing users, illegal expansion of alumina refinery project, impact of TPP, fly ash generation and land acquisition have been raised. An e-mail dated 13<sup>th</sup> November 2014 (one day before the EAC meeting) was sent to all EAC members by Amnesty International India raising issues regarding the project. Copy of their letter received by e-mail was also circulated to the EAC during the meeting and also handed over to the project proponent and considered in the EAC(I) meetings.

25.0 The Committee noted that the Phase - I can be implemented with the existing land available with the PP. In regard to Phase - II, the proposed acquisition of 53.4 ha for the red mud storage is sufficient for expansion to 4 MTPA. In regard to Phase - III (6 MTPA), land is yet to be acquired. Thus, the existing land and the proposed acquisition of 53.4ha for the red mud storage is sufficient for expansion to Phase - II to 4 MTPA. The Committee also noted that the PP does not have sufficient capacity of captive bauxite mines and the annual bauxite requirements for the expansion project is largely to be met from sources outside - domestic as well as imports.

26.0 The proposal was considered in the 23<sup>rd</sup> meeting of EAC(I) held on 18<sup>th</sup> and 19<sup>th</sup> September 2014, 27<sup>th</sup> meeting held on 13<sup>th</sup> - 14<sup>th</sup> November 2014 and 31<sup>st</sup> meeting of EAC(I) held on 8<sup>th</sup> - 9<sup>th</sup> January, 2015. Based on the information submitted by PP and presentation made along with consultant the Committee after deliberations, recommended the project for Phase - I (2 MTPA) and Phase - II (4 MTPA) for environmental clearance subject to stipulation of the following specific conditions and any other mitigative measures. The Committee further recommended that the EC can be granted to the project only after furnishing of Stage-I Forestry clearance for the extent of forestland/GJJ found within the project area of 1552 ha. The Committee also recommended that the project need not go through a fresh appraisal process again for the Phase - III expansion from 4 to 6 MTPA since the present EC application submitted by the PP has considered the impacts of the 6 MTPA project, EC for Phase-III expansion to 6 MTPA project be granted as an amendment after ascertaining the land acquisition details and without the requirement of going through the whole EIA process afresh.

27.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry) and on receipt of Stage - I Forest Clearance and hereby decided to grant Environmental Clearance under the provisions of EIA Notification dated 14<sup>th</sup> September 2006 to the above mentioned proposal for Expansion of Alumina Refinery (1 MTPA to 4 MTPA) and Captive Power Plant (from 75MW to 285MW) subject to strict compliance of the conditions mentioned in the Stage - I forest clearance letter No. 5-ORC264/2015-BHU dated 14<sup>th</sup> October, 2015 along with following Specific and General conditions:

**A. SPECIFIC CONDITIONS:**

- i. The project proponent should install 24x7 air and water monitoring devices to monitor air emission and effluent discharge, as provided by CPCB and submit report to Ministry and its Regional Office.
- ii. The environmental clearance is for Phase-I (2 MTPA) and Phase-II (4 MTPA) of the project only. No expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.
- iii. The complete details of land acquisition for 883 ha required for Phase-I and II shall be furnished to MOEF&CC and to RO, Bhubaneswar as part of the Compliance Report.
- iv. The land acquisition of 53.4 ha required for Phase-II shall be completed and details furnished to MOEF&CC, its RO at Bhubaneswar and to Odisha SPCB for grant of CTO before commissioning the 4MTPA expansion project.
- v. For Phase-III (6 MTPA), the proponent shall obtain an amendment of EC after completion of land acquisition of the balance area of 666.03ha details of which will be furnished to MOEF&CC.
- vi. Electrostatic precipitator(s) shall be provided to kiln and boiler stacks to control gaseous emissions within 50 mg/Nm<sup>3</sup>. The height of the stacks shall be as per the CPCB guidelines. Gaseous emissions should be regularly monitored and records maintained and reports submitted to this Ministry including its Regional Office as part of the compliance report.
- vii. The estimated 4.8MTPA of red mud generated in Phase-I and II shall be stored in the red mud pond only designed as per the CPCB guidelines with proper leachate collection system and ground water all around the red mud disposal area shall be monitored regularly and report submitted to the Odisha PCB/CPCB and Regional Office of the Ministry at Bhubaneswar. Proper care shall be taken to ensure no run off or seepage from the red mud disposal site to natural drainage. Sewage sludge shall be used as manure within the premises.
- viii. The red mud generated will have moisture and will not be in powder form but in cake form. The red mud from the storage area shall not be let off along with the rainwater particularly during rainy season and an effective drainage plan has to be prepared to ensure that rainwater entering the project area is not contaminated with red mud.
- ix. The red mud slurry shall be converted into red mud powder using a high pressure filtration system by which, the red mud shall not be in a slurry form but in cake form and thereafter sold for use by cement manufacturers. The stock piles shall be stored in areas which shall be lined.
- x. A plan for utilization of red mud generated shall be implemented. Under the Plan, the entire amount of red mud generated from the project would be sold to cement industry. MOU shall be signed with potential buyers including cement companies for long-term supply of red mud.
- xi. Coal linkage shall be firmed up and details furnished as part of the Compliance report. The details of coal linkage (source and quantity)/procurement details for Phase-I and Phase - II of the project shall be furnished as part of the compliance report to 



MOEFCC and to RO, Bhubaneswar. Details of coal characteristics also shall be furnished along with specific quantity from domestic market/linkage/imports.

- xii. All the fly ash generated from the Alumina Refinery shall be properly stored in ash storage pond and provided to cement and brick manufacturers for further utilization. Ash pond created for the existing project shall be used for storage of ash for the expansion project. Ash shall be evacuated through High Concentration Slurry Disposal (HCSD).
- xiii. Green belt shall be developed in 33% area to mitigate the effects of fugitive emissions as per the CPCB guidelines. Plant species from local area shall be selected in consultation with DFO for green belt development.
- xiv. Rehabilitation and Resettlement Plan for the project affected population including tribal population should be implemented as per the policy of the Govt, of Odisha.
- xv. For undertaking Phase-I and Phase-II of the project, the project proponent shall finalize the MOUs/Agreements for firm availability of bauxite of 5.2 MTPA for Phase – I and 10.4 MTPA for Phase – II and details furnished to MOEFCC and its RO at Bhubaneswar.
- xvi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.
- xvii. The gaseous emissions ( $PM_{10}$ ,  $PM_{2.5}$ ,  $SO_2$ ,  $NO_x$ ) from various process units shall conform to the standards prescribed by the concerned authorities from time to time. The OPPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. The particulate emissions from the plant shall not exceed  $50 \text{ mg/Nm}^3$ . At no time the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.
- xviii. In-plant control measures for checking fugitive emissions from spillage/raw materials handling etc. should be provided and particulate matter from Bauxite transport and crushing shall be provided with highly efficient bag filters and covered conveyers and adequate water sprinkling shall be done.
- xix. The additional water requirement to be met from River Tel for Phase-I and Phase -II shall not exceed the quantity sanctioned by the State Government from River Tel
- xx. The requirement of make-up water at present is 0.20 cumecs and shall not exceed 0.40 cumecs for the Phase-II expansion. The total make-up water requirement for the 6 MTPA project shall not exceed 0.6 cumecs.

- xxi. The existing raw water reservoir (2.1 lakh m<sup>3</sup> capacity), storm water pond (75.000m<sup>3</sup> capacity), caustic water pond (94,350m<sup>3</sup> capacity), red mud pond (7.2 lakh m<sup>3</sup> capacity), process water lake (21.4 lakh m<sup>3</sup> capacity). Ash water Lake (7.1 lakh m<sup>3</sup> capacity) totaling 39 lakh m<sup>3</sup> shall be utilized as rain water harvesting ponds. In addition, about 1 lakh m<sup>3</sup> of rainwater shall be harvested from township which will be recharged to groundwater to meet the domestic requirement of an estimated 2300 people for a complete year. With this water harvesting measures the PP shall reduce fresh water consumption to an extent of about 40%.
- xxii. The plant will operate on a zero-discharge concept and all treated water shall be recycled and reused. No effluents shall be discharged outside the premises during the non-monsoon period and during the monsoon period water should be discharged only after proper treatment and meeting the norms of the OPCB/CPCB. There shall be separate drain for storm water/rainwater. The company shall construct separate RCC drains for carrying storm water inside the plant. Decanted water from red mud pond is collected in the Process Water Lake during the monsoon and the same water recycled back to the process through pumping arrangements. The concrete drains shall be de-silted and regular supervision of the areas shall be carried out so that blocking of drains may be avoided for quick discharge of rainwater.
- xxiii. Of the total area of 1552.65 ha., an area of 512.37 ha (33%) shall be developed into green belt. Of this, a total of 215.20 ha of green belt have been developed and the balance area of 297.17 ha shall also be brought under plantation, which includes plantation in a width of 15-20m along the remaining boundary wall of 3km of the 8km.
- xxiv. Material transportation shall be by rail for which a dedicated railway line for transportation of both raw materials and products shall be established. Material handling areas shall have DFS.
- xxv. The company shall comply with all the commitment made during public hearing/public consultation.
- xxvi. The details of quantity and source of bauxite procured shall be submitted as part of the six-monthly compliance report.
- xxvii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxviii. At least 2.5 % of the total cost of the project (Rs 10,000 crores) shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent shall prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013

which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. Bhubaneswar. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.

B. GENERAL CONDITIONS:

- i. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.
- ii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM 2.5, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/CPCB once in six months.
- iii. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose
- iv. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 v;z. 75 dBA [daytime] and 70 dBA (nighttime).
- v. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the factories Act.
- vi. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- vii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socioeconomic development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc.
- viii. Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.