

F. No. J-11011/81/2003-IA-II (I)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodhi Road,
New Delhi - 110003

Dated: October 20, 2010

To

The Director (Business Development)
M/s Vedanta Aluminium Limited
Via-Viswanathpur, AT/PO: Lanjigarh
District Kalahandi - 766 027
Orissa

Sub : Direction under Section 5 of the Environment (Protection) Act, 1986 regarding 1MTPA Alumina Refinery and 75 MW Captive Power Plant at Lanjigarh in Dist. Kalahandi in Orissa by M/s Vedanta Aluminium Limited.

Whereas Show Cause Notice under Section 5 of the Environment (Protection) Act, 1986 vide letter dated 31st August, 2010 was issued for revocation of the environmental clearance for non-compliance to the conditions stipulated while according environmental clearance to the 1MTPA Alumina Refinery and 75 MW Captive Power Plant at Lanjigarh in District Kalahandi, Orissa; and

2. Whereas you had provided reply vide letter no. VAL/MK/MOEF/10/001 dated 15th September, 2010 to the Show Cause Notice issued by the Ministry vide letter dated 31st August, 2010 and while submitting the reply you had requested for personal hearing before taking a final decision on a project; and

3. Whereas on your request, the Ministry vide communication of even no. dated 21st September, 2010 informed that the personal hearing in the matter had been fixed at 2:30 PM on 30th September, 2010 in the Conference room 623, 6th Floor, Ministry of Environment and Forests, Paryavaran Bhawan CGO Complex, Lodhi Road, New Delhi and you were also asked to bring documents /proof/information regarding various issues with respect to 1 MTPA Alumina Refinery and 75 MW Captive Power Plant; and

4. Whereas the personal hearing took place at 2:30 PM on 30th September, 2010 in the Ministry, the Minutes of the hearing, which are enclosed at Annexure I and as decided in the meeting, certain additional documents sought have been submitted by you vide letter dated 4th October, 2010; and

5. Whereas the written response submitted by you, the personal hearing, which took place on 30th September, 2010 and the additional written submission made by you have been considered and certain conclusions reached, as given in the Note at Annexure II.

6. Now, therefore, based on the response provided by you vide your letter dated 15th September, 2010 in response to the Show Cause Notice issued by the Ministry vide letter dated 31st August, 2010, personal hearing held on 30th September, 2010 and additional documents submitted by you vide letter dated 4th October, 2010 and analysis made by the Ministry, the competent authority has approved that the following directions be given in accordance with the Section 5 of the Environment (Protection) Act, 1986 read with Rule 4 of the Environment (Protection) Rules, 1986:

(i) M/s Vedanta Aluminium Limited shall immediately install Piezometers around the red mud and ash ponds to monitor the ground water level, fluctuations and the quality parameters on quarterly basis. This analysis of water quality shall be done from a laboratory notified under Environment (Protection) Act, 1986 and the data generated shall be displayed on the website of the company as well as at important places for public information and the data submitted to the Regional Office of the Ministry at Bhubaneswar.

(ii) The bauxite shall be sourced from only those mines, which have prior environmental clearance.

(iii) M/s VAL shall cover 25% of the Plant area by raising green belt within two years. The selection of the plant species shall be as per the agro-climate zone, preferably with the native species. The Company shall submit detailed plan for Green Belt Development and Plantation within 90 days showing the area to be covered, plant density and plant species to the MoEF and Regional Office and complete implementation within a period of two years.

(iv) Design efficiency parameters of all the scrubbing systems shall be evaluated and any such rectification required shall be implemented immediately. All the approach roads including the roads within the plant

shall be blacktopped and regular water sprinkling on the roads shall be ensured.

(v) The Company shall immediately undertake continuous monitoring of ambient air quality and stack emissions for all the parameters and real time data shall be displayed at convenient location near the main gate of the Company in public domain. The data generated shall also be submitted to the Regional Office of the Ministry/CPCB/SPCB.

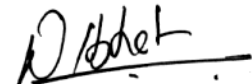
(vi) The Company shall undertake measures for energy conservation and make all possible efforts to achieve by December, 2012 caustic consumption, fuel oil consumption, lime consumption and electricity consumption following best technology to reduce the impact on the natural resources. The indicative parameters for 1 MTPA Alumina Refinery are given below:

- a) The caustic consumption 65 kg/ton from the existing 115.2 kg/ton;
- b) The lime consumption shall be 50 kg/ton of alumina;
- c) The fuel oil consumption shall be 90 litres/ton; and
- d) Extraction efficiency above 95%.

7. The Company shall comply with all the conditions stipulated in the Environmental Clearance issued for the project in vide letter No. J.11011/81/2003-IA-II(I) dated 22nd September, 2004.

8. The Company shall submit un-revocable Bank Guarantee for an amount of Rs. 10 crores valid for a period of three years within 15 days to the State Pollution Control Board (SPCB), Orissa for implementation of all Environmental Protection Measures.

In case of non-compliance of the above Directions, the Ministry will be constrained to take action under various provisions of the Environment (Protection) Act, 1986.



(Dr. Nalini Bhat)
Scientist 'G'

Encl.: As above

Copy to:

1. Secretary (Environment), Government of Orissa, Bhubaneswar.
2. The Chairman, Orissa State Pollution Control Board, A-118, Neelkanta Nagar, Unit (vii), Bhubaneswar.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan East Arjun Nagar, New Delhi - 110032.
4. Chief Conservator of Forests, Ministry of Environment and Forests, Eastern Regional Office, A/3 Chandrasekharpur, Bhubaneswar-751023.
5. Scientist 'F' (Monitoring Cell)/ Monitoring File/Guard File
6. The Chief Operating Officer, M/s Vedanta Aluminium Limited, Via-Viswanathpur, PO: Lanjigarh, Dist. Kalahandi, Orissa Pin - 766027
7. Ministry's website.

ANNEXURE - I

MINUTES OF THE HEARING HELD AT 2.30 PM ON 30.9.2010 IN ROOM NO. 623, 6TH FLOOR IN THE MINISTRY OF ENVIRONMENT AND FORESTS ON THE CLARIFICATIONS FURNISHED IN RESPONSE TO THE SHOW CAUSE NOTICE DATED 31.8.2010 BY M/S VEDANTA ALUMINUM LIMITED (VAL), LANJIGARH, ORISSA REGARDING 1 MTPA ALUMINA REFINERY AND 75 MW CAPTIVE POWER PLANT.

The Ministry of Environment & Forests issued show cause notice on 31st August, 2010 to M/s Vedanta Aluminium Limited (VAL) under Section 5 of the Environment (Protection) Act, 1986 for revocation of the environmental clearance in view of the non compliance to the conditions stipulated while according environmental clearance to the 1 MTPA Alumina Refinery and 75MW Captive Power Plant at Lanjigarh, District Kalahandi, Orissa by M/s VAL.

2. M/s VAL vide their letter No. BAL/MK/MOEF/10/001 dated 15.9.2010 submitted their reply in response to the show cause notice issued by the Ministry. While furnishing the reply M/s VAL requested for personal hearing before taking a final decision on the project.

3. Subsequently, the Ministry while acknowledging the receipt of M/s VAL's letter dated 15.9.2010 informed them to present their case before the Ministry by duly authorized officers of the company on 30.9.2010. M/s VAL were also requested to bring documents / proofs / information on certain issues.

4. The hearing took place at 2.30 pm on 30.9.2010. Dr. Nalini Bhat, Scientist 'G' heard the matter. Dr. P.L. Ahujarai, Scientist 'F', Dr. V.P. Upadhyay, Scientist 'F', Regional office, Bhubaneswar, MoEF and Shri Ramesh Motipalli, Scientist 'C' were also present during the hearing.

5. From M/s VAL, the following officers attended the hearing:

- (i) Shri Pramod Suri, CEO
- (ii) Dr. Mukesh kumar, COO
- (iii) Dr. J.K. Soni, Assistant Vice President (Environment)
- (iv) Shri Naval Kishore, Head (Health, Safety & Environment)
- (v) Shri Prashant Sen, Head (Legal)
- (vi) Shri Rajan Anand, Manager (Corporate Affairs)

6. Initiating the hearing, Dr. Nalini Bhat informed the representatives of M/s VAL that the purpose of the hearing to discuss the issues in response to the show cause notice issued by the Ministry. On certain points, the Ministry needed some clarifications.

7. The representative of M/s VAL gave brief presentation and provided clarifications sought by the Ministry. The response of M/s VAL on the issues / clarifications include the following:

Clarifications on Existing 1 MTPA Alumina Refinery & 75 MW CPP:

- i. **When the 1 MTPA Alumina Refinery and 75 MW Captive power plant were made operational?**

The first Consent to Operate was given in December, 2006 and the renewal of same was given in March 2007. The trial production was started on 10.8.2010. The commercial production was commenced on 1st December 2007. The Director of Industries, Orissa issued the Certificate in this regard. The current production capacity is 0.8 MTPA. The power plant was also made operational along with the Alumina Refinery.

- ii. **Proof of annual production of alumina and details of tax etc paid to the Central / State Government.**

The year wise Alumina production and excise duty paid was submitted. The cumulative Alumina produced up to the end of August 2010 is 19,39,542 tonnes and the total excise duty paid is Rs. 417.85 Crores. The details of all duties and taxes paid to Central and State Government, amounting to Rs. 528.69 Crores including excise duty were furnished.

The project was approved by the Board of Directors, VAL and all the documents related to the financial investments are available M/s VAL were requested to submit the documents in this regard.

- iii. **From where the bauxite was sourced alongwith the quantity and the mass balance vis-à-vis production.**

The sources of bauxite along with quantity procured and royalty paid from the beginning were submitted. M/s VAL are sourcing bauxite from 23 mines. Approximately 3 Ton of bauxite is required for 1 tonne of Alumina and there is no direct formula linking bauxite consumption and alumina production. The bauxite is being sourced from the valid mines. Further, Alumina plant at BALCO is not under operation. The bauxite from the Kawardha Mine for which environmental clearance has been obtained is also being used in the Alumina Refinery at Lanjigarh.

- iv. **As regards, 26.123 ha approximately of village forest land is involved in the Alumina Refinery. What are the provisions for the local people to access the forest land as per their rights.**

The 26.123 ha of land is not a forest land as per revenue record and it is classified as Gramin Jungle Jogya land i.e. suitable for developing village forest in future. The land is currently in the possession of State Revenue Department. The tree density in these pockets was only about 3 per hectare and hence these pockets were not forest pockets even from tree density criteria generally used by various Governments. In the last six years, VAL has properly fenced and planted nearly 60,000 trees in these pockets. As per

the instruction of Government of Orissa and MoEF, these pockets have been jointly developed as a green cover and free access is available to villagers and their rights have been protected. One member from each displaced family has been given permanent job in the company.

- v. **In regard to prior environmental clearance being mandatory for the mines listed in the schedule of the EIA Notification 2006 and your reply inter alia mentioning that by the circular dated 2nd July 2007 this Ministry had clarified that the project operating without any environmental clearance would obtain clearance at the time of renewal. What efforts have been made after July 2010 for obtaining an environmental clearance for such cases where the mine lease had expired?**

The validity of the mining lease and status of environmental clearance of all the 14 mines from where bauxite is being sourced was submitted. M/s VAL informed that all the mines from where bauxite is sourced has Valid lease, paying royalty and had permit for transportation of the mineral. Most of the mining companies whose mine lease has expired are operating under deemed approval have already applied for environmental clearance.

8. Additionally, VAL submitted that the Alumina Refinery at Lanjigarh is the first refinery in India to implement 'Zero discharge' and actively striving by R&D with premier Institutions to make it a model refinery. In case the refinery had to be shut down, it would have very severe adverse consequences leading to the loss of employment, disposal of unused caustic in the pipe line and process water from the red mud pond.

9. While summing up the hearing, following documents / additional information were sought from M/s VAL:

- Board approval for the financial investments
- Certificate from Revenue Department, Government of Orissa regarding ownership of 26.123 ha of land earmarked for Gramin Jungle Jogya.
- A note on availability of bauxite source for the existing refinery
- Why the existing refinery should not be closed down
- Documents regarding taxes and royalty paid for bauxite procurement.

Analysis of the Ministry of Environment and Forests on the response/additional submissions submitted by M/s Vedanta Aluminium Limited with reference to Show Cause Notice under Section 5 of the Environment (Protection) Act, 1986 issued to M/s Vedanta Aluminium Limited for revocation of the Environment Clearance in view of the non-compliance to the conditions stipulated in the Environmental Clearance for 1 MTPA Alumina Refinery and 75 MW Captive Power Plant at Lanjigarh in district, Kalahandi, Orissa.

The response of the M/s Vedanta Aluminium Limited (VAL) in reply to the Show Cause Notice issued on 31st August, 2010 and certain additional clarifications sought by Ministry vide letter dated 21st September, 2010 and further clarifications provided during hearing held on 30th September, 2010 vis-à-vis analysis of the Ministry include the following :

(i) The unit has already proceeded with the construction activity for expansion project without obtaining prior environmental clearance (General Condition No. (ii).

Analysis of the Ministry:

This aspect is being dealt separately regarding the case of expansion of Alumina Refinery from 1 MPTA to 6 MPTA and Captive Power Plant for from 75 MW to 300 MW at Lanjigarh in District Kalahandi, Orissa for which a separate Show Cause Notice was issued on 31st August, 2010.

(ii) No Piezometers for monitoring of Ground water quality around red mud and ash disposal ponds have been established as per the Condition No. (v) of Specific Conditions.

Response of the M/s Vedanta Aluminium Limited

M/s Vedanta Aluminium Limited informed that they had provided Piezometer holes around red mud pond, ash pond and other areas by awarding the job to Institute of advanced technology and environmental studies (IATES). It is also mentioned that the use of Piezometer is generally recommended to monitor the hydraulic pressure in the aquifers. As per the condition stipulated by the State Pollution Control Board, monitoring of ground water is being done by monitoring through observation borewell near the red mud pond, process water lake and ash pond.

Besides, National Geophysical Research Institute (NGRI), Hyderabad has also conducted a leachable study by using Piezometer holes. Further, they have

taken action as per the suggestion of Regional Office of the Ministry at Bhubaneswar for installation of online Piezometer at red mud pond and ash pond to monitor the water table.

Analysis of the Ministry

As per the Report on Leachate Studies submitted by IATES to M/s Vedanta on 9th August, 2010, there is no appreciable change of ground water level in Piezometer. There is no change in alkalinity value. During approval of the project, it was envisaged that ground water quality would be undertaken to bench mark the ground water quality before project is initiated and subsequently after its operation, with particular reference to impact of the disposals from the project on its quality. It appears that the project proponents have done, at this stage after four years of approval, water quality monitoring and analysis only after 2008. Though the proponents were required to submit a Report on the Leached Study by March, 2005, the same has been submitted in response to the Show Cause Notice issued by the Ministry.

M/s VAL, therefore, should immediately install Piezometer around red mud and ash pond areas and undertake analysis of water quality from a recognized laboratory.

(iii) The Bauxite for the Refinery was to be sourced from the mines which have already obtained environmental clearance.

Response of the M/s Vedanta Alumina Refinery

The Ministry vide letter dated 15th June, 2006 accorded approval to M/s VAL to source bauxite which have already got environmental clearance under the EIA Notification, 1994. The requirement for environmental clearance for the mines has come into force only after the issuance of the EIA Notification, 1994. The mines operating before 1994 have neither increased the capacity nor the mining area. Therefore, no environmental clearance is required in such cases. None of the mines from which M/s VAL are sourcing the bauxite have increased their capacity or lease area after 1994. The parties are having the mining lease and operating the mine prior to 1994. In some of the cases, the lease has been expired and the application for renewal has been submitted. However, no renewal has been granted till date and therefore, the lease is deemed to have been extended.

During the hearing, which was held on 30th September, 2010, M/s VAL informed that they are sourcing bauxite from 23 mines. In addition, they are sourcing bauxite from the Kawardha for which they have obtained environmental clearance and their plant at BALCO is not in operation. They have

also submitted the details regarding the annual production of alumina, tax paid to the Central and State Government. The mines from where the bauxite is sourced have valid lease, paying royalty and have permit for transportation of the mineral.

Analysis of the Ministry

It is noted that some of the mines have applied to the Ministry for obtaining environmental clearance. Most of the mines are operating under the deemed renewal. As per the judgement of the Supreme Court and the clarificatory OM issued by the Ministry dated 2nd July, 2007 that all such projects, which have been operating without any environmental clearance would obtain environmental clearance at the time of their renewal.

It may be reiterated that bauxite should be sourced only from mines which have necessary environmental and forestry clearances.

(iv) The project authorities are yet to achieve the stipulated area under plantation ie. 166 ha.

Response of the M/s VAL

They have undertaken plantation in an area of 108 ha. by planting more than 2.5 lakh trees. Since plantation is an on-going process and cannot be completed in one go. The Ministry has stipulated to cover green belt in 25% of the area and no time frame was stipulated.

Analysis of the Ministry

The Company shall submit a detailed plan to cover the area under plantation along with time frame and number of plantation to be covered. They should also mention the survival rate of the plantations already carried.

The Company, therefore, should ensure that the remaining area is covered by raising green belt within next two years and a detailed plan for the purpose should be submitted within 90 days.

(v) The fugitive emissions in the lime and coal handling areas are not up to the mark.

Response of the M/s VAL

The lime handling area have been provided with wet scrubbing system and the dust collected is recycled back into the system. To control the fugitive emissions from the coal handling areas, water sprinklers have been provided. At all the conveyor and transport points, dry fog systems have been installed.

Analysis of the Ministry

Generally to control the fugitive emission, wet scrubbing system and dry fog system is provided at all the dust generating areas. The company has taken the action in this regard.

However, additional steps are required for ensuring that all the approach roads including the roads within the plant are blacktopped and regular water sprinkling is ensured.

(vi) The 1 MTPA Alumina Refinery was accorded environmental clearance on the condition that no forest land would be used for establishment of the Refinery. But, now it is established that the unit has occupied 26.123 ha. of village forest land within the Refinery boundary. Hence, the environmental clearance accorded to the company for setting up of Refinery is illegal and invalid.

Response of the M/s VAL

The issue of the said forest land was before the Hon'ble Supreme Court in IA No. 1324/ 2006. The 26.123 ha. is not a forest land as per the Revenue record and it is classified as Gramin Jungle Jogya land i.e. suitable for developing village forest in future. The land is currently in the possession of State Revenue Department. The tree density in these pockets was only about 3 per hectare and hence these pockets were not forest pockets even from tree density criteria generally used by various Governments. In the last six years, VAL has properly fenced and planted nearly 60,000 trees in these pockets. As per the instruction of Government of Orissa and MoEF, these pockets have been jointly developed as a green cover and free access is available to villagers and their rights have been protected. One member from each displaced family has been given permanent job in the company.

Analysis of the Ministry

It is fact that an area of 26.123 ha. is inside the Refinery but is properly fenced and planted to enrich the species composition. Since it is inside the Refinery, the village people be certainly not have easy access on these forest patches. This matter is being dealt by the FC Division.

The matter requires attention under the Forest (Conservation) Act, 1980. Therefore, so far as the forest issues are concerned the relevant papers may be marked to IG(FC), MoEF for further action.

(vii) The unit has already proceeded with construction activity for its expansion project from 1 MTPA to 6 MTPA without obtaining environmental

clearance as per the provisions of the EIA Notification, 2006 under the Environment (Protection) Act, 1986.

Analysis of the Ministry

This matter is being dealt separately on the concerned file for expansion of Alumina Refinery and CPP from 1 MTPA to 6 MTPA and from 75 MW to 300 MW respectively. As the work on the expansion project was undertaken without prior environmental clearance, a Show Cause Notice for the expansion project was issued and based on the written submissions made as well as the submission made during personal hearing, directions are issued including legal action to be initiated under Section 19 of the Environment (Protection) Act, 1986 and would be dealt in detail on the expansion file. The project proponent should have complied fully with all the environmental conditions stipulated in the Environmental Clearance dated 17th September, 2004.

Additional submission of M/s Vedanta Aluminum Limited

The Alumina Refinery is based on Bayer's Technology, which utilize caustic soda for treatment of bauxite to separate alumina. If any decision for shutting down the plant is taken, it may cause severe environmental threat due to huge quantity of caustic liquor which may find its way into outside area and consequent pollution.

Due to Alumina Refinery, company has provided employment and livelihood opportunity to the local people in such a backward area of the country. Further, they are taking environmental protection measures and the best R & R practices of the country. Therefore, environmental clearance for the existing Refinery should not be revoked.