

**F. No. J-11011/1129/2007-IA.II(I)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

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Dated: 28<sup>th</sup> August, 2018

To,

**M/s Berry Alloys Limited**  
Plot no. 368, APIIC Growth Centre,  
Bobbili, District Vizianagaram,  
Andhra Pradesh-535558.

**Subject: Expansion of Ferro Alloys Unit (4x 9MVA to 6x9MVA) for production of Ferro Manganese (129600 TPA) or Silico Manganese (108000 TPA) or Ferro Silica (25200 TPA) or Ferro Chrome (36000 TPA) located at plot no. 368, APIIC Growth Centre, Bobbili Vizianagaram District, Andhra Pradesh of M/s Berry Alloys Limited – Environmental Clearance regarding.**

Sir,

This has reference to your application vide online proposal no. IA/AP/IND/75307/2017 dated 6<sup>th</sup> June 2018 along with copies of EIA/EMP report seeking environmental clearance under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(a) Metallurgical Industries under Category "A" of EIA Notification, 2006 and the proposal is appraised at Central level.

2.0 The expansion proposal of M/s Berry Alloys Limited (BAL) located in Village Bobbili, Vizianagaram District; Andhra Pradesh was initially received in the Ministry on 29<sup>th</sup> Dec 2017 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 28<sup>th</sup> meeting held on 5<sup>th</sup> - 7<sup>th</sup> February 2018 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 27<sup>th</sup> February, 2018 vide Ltr. No. J-1101/1129/2007-IA.II(I).

3.0 The project of M/s Berry Alloys Limited (BAL) located in Bobbili village, Vizianagaram District, Andhra Pradesh State is for setting up of a new 2x9 MVA Submerged Electric Arc Furnace for production of additional 43200 TPA Ferro Manganese or 36000 TPA Silico Manganese after expansion the total capacity of plant will be 6 x9 MVA with a production of 1,29,600 TPA Ferro Manganese or 1,08,000 TPA Silico Manganese. The existing project was accorded environmental clearance vide Lr.no. F. No. J-11011/1129/2007-IA.II(I) on dated 07.06.2017. The Status of compliance of

earlier EC was obtained from Regional Office, Chennai vide Lr. No EP /12.1/697/AP/0074 dated 12.01.17. There are no non-compliances reported by Regional officer. The proposed capacity for different products for new site area as below:

<b>Facility</b>	<b>Existing configuration</b>	<b>Proposed Configuration</b>	<b>Configuration after expansion</b>
Electric Arc Furnace	4 X 9 MVA	2 X 9 MVA	6 X 9 MVA
<b>Product</b>	<b>Existing quantity</b>	<b>Proposed quantity</b>	<b>Quantity of after expansion</b>
Ferro Manganese	86400 TPA or	43200 TPA or	129600 TPA or
Silico Manganese	72000 TPA or	36000 TPA	108000 TPA or
Ferro Silica	25200 TPA or	--	25200 TPA or
Ferro Chrome	36000 TPA	--	36000 TPA

4.0 The topography of the area is slightly undulating (flat/undulated) and reported to fall between 18°32'15" North Latitude and 83°20'63" East Longitude in Survey of India Topo Sheet No. 65 N/6, at an elevation of 135 m AMSL.

5.0 The proposed expansion is proposed in the existing plant having a total area of 13.42 Ha. No forestland involved. Of the total area 4.44 ha (33%) land will be used for green belt development.

<b>S No</b>	<b>Particular</b>	<b>Existing (Acres)</b>	<b>Proposed (Acres)</b>	<b>After Expansion (Acres)</b>
1	Plant Area	7.6	1.38	8.98
2	Greenbelt	4.44	-	4.44
3	Future Expansion	1.38	-	-
	<b>Total</b>	<b>13.42</b>	<b>1.38</b>	<b>13.42</b>

6.0 No National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna.

7.0 Ferro-alloys are produced by reducing metals from their oxides contained in ores by using a suitable reduction under conditions created to ensure a high recovery of the valuable elements from the starting materials. Such reduction reactions are characterized by stability of an oxide at high temperatures. The stability of all oxides will become more stable with increasing temperature. An element which forms a stronger oxide can under appropriate conditions be used as reductant for a less strong oxide. The reaction will proceed successfully if the difference of oxygen involved with a small difference, favorable conditions should be formed to make the reaction proceed. The presence of iron or iron oxides can facilitate some reduction processes. Iron dissolves the reduced element, forms a compound with it, and thus lowers the melting point of an iron element alloy is lower than that

of the pure element, e.g. in Ferro-manganese production, and therefore the reaction of reduction of the element can proceed at a lower temperature.

8.0 The targeted production capacity of the 6x9 MVA Submerged Electric Arc Furnace is 1,29,600 TPA Ferro Manganese or 1,08,000 TPA Silico Manganese or 25200 TPA Ferro Silica or 36000 TPA Ferro Chrome. The raw Material transportation will be done through road.

9.0 Water Consumption for the proposed project will be 30 KLD and waste water generation will be nil from process. Domestic waste water will be treated Septic tank followed by Soak pit.

<b>Item</b>	<b>Water Requirement in KLD (4 x 9 MVA)</b>	<b>Water Requirement in KLD (2 x 9 MVA)</b>	<b>Total Water Requirement (KLD)</b>
Cooling Purpose	50	25	75
Domestic Purpose	10	5	15
Dust Suppression			
Greenbelt			
<b>Total</b>	<b>60</b>	<b>30</b>	<b>90</b>

10.0 The power requirement of the project is estimated as 45000 KVA which will be obtained from the Eastern Power Distribution Company Limited of Andhra Pradesh.

11.0 Baseline Environmental Studies were conducted during winter season i.e., from December 2016 to February 2017. Ambient air quality monitoring has been carried out at 8 locations during December to February and the data submitted indicated that Particulate matter (PM<sub>10</sub>) ranges from 37.2 to 67.3 µg/m<sup>3</sup>; Particulate matter (PM<sub>2.5</sub>) ranges from 14.2 to 28.2 µg/m<sup>3</sup>; Sulphur dioxide (SO<sub>2</sub>) is 9.3 to 12.3 µg/m<sup>3</sup>; Oxides of Nitrogen (NO<sub>x</sub>) are 12.1 to 15.0 µg/m<sup>3</sup>. The results of the modelling study indicate that the maximum increase of GLC for the proposed project is 3.04 µg/m<sup>3</sup> with respect to the PM10 and 6.17 µg/m<sup>3</sup> with respect to the NO<sub>x</sub>.

12.0 Ground water quality has been monitored in 8 locations in the study area and analysed. PH: 7.25 to 7.88., Total Hardness: 313.1 to 858.5 mg/l, Chlorides: 33.5 to 694.78 mg/L, Fluoride: 0.41 to 0.92 mg/L. Heavy metal concentrations are within the limits. Surface water samples were analysed from 4 locations. pH: 7.77 to 8.11; DO: 5.2 to 5.4 mg/l and BOD: 2.59 to 3.5mg/L. COD from 10 to 14 mg/L.

13.0 Noise levels are in the range of 45.9 to 68.4 dB(A) for daytime and 40.9 to 63.0 dB(A) for night time.

14.0 No R&R is involved. It has been envisaged that no families to be rehabilitated.

15.0 The estimated solid waste generated from this proposed plant is 270 TPD of slag and 2.5 TPD of dust from bag filters. Slag will be disposed to

brick manufacturing units, where this dust will be used as 10% substitute for cement. The details of solid waste generated and its management is as follows:

<b>Item</b>	<b>Existing (TPD)</b>	<b>Proposed (TPD)</b>	<b>Total (TPD)</b>	<b>Management</b>
Slag	180	90	270	Sold to Brick Manufacturing
Dust from Bag filter	1.5	1.0	2.5	Used in Process

16.0 It has been reported that the Consent to Operate from the Andhra Pradesh State Pollution Control Board obtained vide Lr. No APPCB/VSP/VZM/160/HO/CFO/2015-3602 dated 05.08.2015 and consent is valid up to 31<sup>st</sup> August 2018.

17.0 The Public hearing of the project was held on 26/04/2018 at premises of M/s. Berry Alloys Limited, APIIC, Plot No.368, Growth Center (Industrial Estate), Bobbili (V) & (M), Vizianagaram District, Andhra Pradesh under the chairmanship of Joint Collector for production of 1,29,600 TPA Ferro Manganese or 1,08,000 TPA Silico Manganese setting up of 6 x 9 MVA plant. The issues raised during public hearing are Local Person Employment and Water Facility. An amount of 30 Lakhs (2.5% of Project cost) has been earmarked for Corporate Environmental Responsibility based on public hearing issues.

18.0 The capital cost of the project is Rs 12.0 Crores and the capital cost for environmental protection measures is proposed as Rs 50.0 Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs 18.1 Lakhs. The employment generation from the proposed expansion is 50 nos.

<b>Item</b>	<b>Existing (INR)</b>	<b>Proposed (INR)</b>	<b>Total (INR)</b>
Proposed EMP Cost	50 Lakhs	50 Lakhs	100 Lakhs
CER Cost	50 Lakhs	30 Lakhs	80 Lakhs

19.0 Greenbelt will be developed in 4.44 acres which is about 33 % of the total acquired area. Local and native species will be planted with a density of 2500 trees per hectare.

20.0 There is no court case or violation under EIA Notification, 2006 to the project or related activity.

21.0 EIA Consultant: Sri Sai Manasa Nature Tech Pvt. Ltd., Hyderabad.

22.0 The proposal was considered by the Expert Appraisal Committee (Industry-I) during its 33<sup>rd</sup> meeting held on 9<sup>th</sup> to 11<sup>th</sup> July, 2018. After detailed presentation by the project proponent, the Committee noted that environmental clearance for expansion of 2x9 MVA Electrical Arc Furnace on 7th June, 2017. The project proponent informed that this expansion is

under implementation meanwhile, it was proposed to install another 2x9 MVA electric arc furnaces. Therefore, the total configuration after proposed expansion will be 6x9 MVA electric arc furnace.

23.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to grant Environmental Clearance for the expansion in production of Ferro Alloys Unit located at plot no. 368, APIIC Growth Centre, Bobbili Vizianagaram District, Andhra Pradesh of M/s Berry Alloys Limited for production of Ferro Manganese (129600 TPA) or Silico Manganese (108000 TPA) or Ferro Silica (25200 TPA) or Ferro Chrome (36000 TPA) under the provision of EIA Notification dated 14<sup>th</sup> September, 2006, as amended, subject to strict compliance of the following Specific and General conditions:

**General Conditions:**

- 1) An amount of Rs 80 Lakhs (existing provision and proposed provision) towards Corporate Environment Responsibility (CER) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
- 2) Green belt shall be developed in an area of 4.44 acres equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
- 3) The Capital cost Rs. 100 Lakhs and annual recurring cost Rs. 18.1 towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
- 4) The project proponent shall (Air Quality Monitoring):
  - a. install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
  - b. monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
  - c. Install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside

the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions;

- d. submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring for calibrations of CEMS and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

5) The project proponent shall (Water Quality Monitoring):

- a) install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF) as amended from time to time;
- b) monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories; and
- c) submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

4 6) The project proponent shall (Air Pollution Control):

- a) provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;
- b) provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;
- c) recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/agglomeration;
- d) use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin;
- e) provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc;
- f) provide primary and secondary fume extraction system at all melting furnaces;

7) The project proponent shall (Water Pollution Control):

- a) adhere to 'zero liquid discharge';
  - b) provide Sewage Treatment Plant for domestic wastewater; and
  - c) provide the ETP for effluents to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 as amended from time to time.
- 8) The project proponent shall (Water Conservation):
- a) practice rainwater harvesting to maximum possible extent; and
  - b) make efforts to minimise water consumption by segregation of used water, practicing cascade use and by recycling treated water.
- 9) The project proponent shall (Energy Conservation):
- a) provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.
  - b) practice hot charging of slabs and billets/blooms as far as possible;
  - c) ensure installation of regenerative type burners on all reheating furnaces;
  - d) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; and
  - e) Provide the project proponent for LED lights in their offices and residential areas.
- 10) Used refractories shall be recycled as far as possible.
- 11) The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.
- 12) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- 13) The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
- 14) The project proponent shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.

- 15) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Induction/ Electric Arc Furnace and Rolling Mills shall be implemented.
- 16) A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
- 17) 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, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- 18) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- 19) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- 20) The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
- 21) The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
- 22) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- 23) The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
- 24) The project proponent shall (Post-EC monitoring):
  - a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
  - b. put on the clearance letter on the web site of the company for access to the public.
  - c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.



- d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e. monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
- f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;
- g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

24.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.


25.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

26.0 The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and that during their presentation to the EAC. The commitment made by the project proponent to the issue raised during Public Hearing shall be implemented by the proponent.

27.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

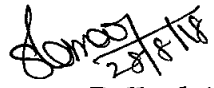
28.0 Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

This issues with the approval of Competent Authority.

  
**(Sharath Kumar Pallerla)**  
**Scientist 'F' / Director**

**Copy to:-**

1. **The Secretary**, Department of Environment& Forests, Government of Andhra Pradesh, Secretariat Bangalore.
2. **The Additional Principal Chief Conservator of Forests(C)**, Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), I<sup>st</sup> and II<sup>nd</sup> Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai – 600034
3. **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. **The Chairman**, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanath Nagar, Hyderabad - 500 018
5. **The Member Secretary**, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
6. **The District Collector**, District **Vizianagaram**, Andhra Pradesh.
7. **Guard File / Record file / Monitoring file.**
8. **MOEF&CC Website.**

  
(Sharath Kumar Pallerla)  
Scientist 'F'/Director