

**Minutes of the 187th Meeting of Goa State Expert Appraisal Committee (Goa-SEAC) held on the 09<sup>th</sup> August 2023 at 03.00 p.m. in the conference hall, 4<sup>th</sup> Floor, Dempo Towers, Patto - Panaji, Goa.**

The 187<sup>th</sup> meeting of the Goa-SEAC was held on 09<sup>th</sup> August 2023 in the Conference room 4<sup>th</sup> floor of the Dempo Towers, Patto-Panaji at 03.00 p.m. under the Chairmanship of Shri. Gautam Desai. The list of members who attended the meeting is at "Annexure - 1".

The meeting has been conducted at conference hall as well as virtual mode through Google meet. The Chairman welcomed the members and requested to proceed as per the agenda items (refer Annexure - 2).

1. **To decide on** application received for ToR from Mohit Ispat Pvt. Ltd. for Expansion of production capacity from 58000 TPA to 250000 TPA at Plot No.01 in Navelim village, Bicholim Industrial Estate, Bicholim, North Goa.

The representative of Mohit Ispat Pvt. Ltd Shri Achintya Mittal appeared before Committee and explained details of the project.

After scrutinizing the application and documents submitted by the project Proponent the Committee decided to recommend the Authority for grant of following ToR.

**A. STANDARD TERMS OF REFERENCE (TOR)**

1. **Executive Summary**
2. **Introduction**
  - i. Details of the EIA Consultant including NABET accreditation
  - ii. Information about the project proponent
  - iii. Importance and benefits of the project
3. **Project Description**
  - i. Cost of project and time of completion.
  - ii. Products with capacities for the proposed project.
  - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
  - iv. List of raw materials required and their source along with mode of transportation.
  - v. Other chemicals and materials required with quantities and storage capacities.
  - vi. Details of Emission, effluents, hazardous waste generation and their management.
  - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).



- viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a) Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
  - b) In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### 4. Site Details

- i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site.
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).
- ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area.
- x. Geological features and Geo-hydrological status of the study area shall be included.

115







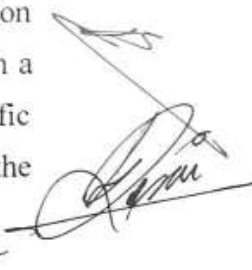
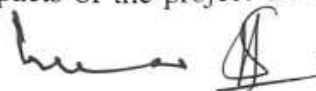
- xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
- xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xiii. R&R details in respect of land in line with state Government policy.

## 5. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

## 6. Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the



AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

- ii. Water Quality modelling - in case of discharge in water body.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of waste water from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control.
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. On site and Off site Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

## 7. Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract



and casual workers.

- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

#### **8. Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.
9. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
10. Enterprise Social Commitment (ESC)
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment Socio-economic development activities need to be elaborated upon.
11. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
12. A tabular chart with index for point wise compliance of above TOR.

#### **B. Specific Terms of reference for EIA studies for Metallurgical Industries (Ferrous & Non Ferrous)**



1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

### **C. ADDITIONAL TOR FOR INTEGRATED STEEL PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines.
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact.
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. Respirable Suspended particulate matter (RSPM) present in the ambient air must

15







be analysed for source analysis - natural dust/RSPM generated from plant operations (trace elements). The RSPM shall also be analysed for presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction, where applicable. Chemical characterization of RSPM and incorporating of RSPM data.

6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
  7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
  8. Plan for slag utilization
  9. Plan for utilization of energy in off gases (coke oven, blast furnace)
  10. System of coke quenching adopted with justification
  11. Project Proponent need to get feedback from the local Community on the pollution aspect.
2. **To decide on application received for ToR from Goa Ispat Pvt. Ltd. for Expansion of production capacity of MS Billets from 59500 TPA to 240000 TPA and TMT Bars from 120000 TPA to 240000 TPA at Plot No.E-6 &E-7 at Madkaim Industrial Estate, Madkaim, Ponda Goa.**

The representative of Ispat Pvt. Ltd Shri Sanjeev K. Mathiyar appeared before Committee and explained details of the project.

After scrutinizing the application and documents submitted by the project Proponent the Committee decided to recommend the Authority for grant of following ToR.

#### **A. STANDARD TERMS OF REFERENCE (TOR)**

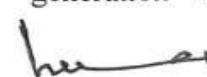
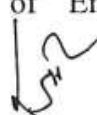
##### **1. Executive Summary**

##### **2. Introduction**

- i. Details of the EIA Consultant including NABET accreditation
- ii. Information about the project proponent
- iii. Importance and benefits of the project

##### **3. Project Description**

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project.
- iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.
- v. Other chemicals and materials required with quantities and storage capacities.
- vi. Details of Emission, effluents, hazardous waste generation and their



management.

- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a) Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
  - b) In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### 4. Site Details

- i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site.
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).
- ix. A list of major industries with name and type within study area (10km radius)





shall be incorporated. Land use details of the study area.

- x. Geological features and Geo-hydrological status of the study area shall be included.
- xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
- xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xiii. R&R details in respect of land in line with state Government policy.

## 5. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

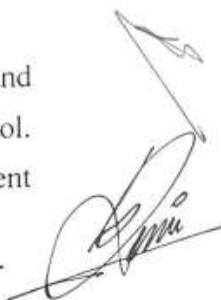
## 6. Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission



based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

- ii. Water Quality modelling - in case of discharge in water body.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of waste water from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control.
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. On site and Off site Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management



Plan.

## 7. Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

## 8. Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.
9. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
10. Enterprise Social Commitment (ESC)
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment Socio-economic development activities need to be elaborated upon.
11. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.



12. A tabular chart with index for point wise compliance of above TOR.

**B. Specific Terms of reference for EIA studies for Metallurgical Industries (Ferrous & Non Ferrous)**

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/ aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

**C. ADDITIONAL TOR FOR INTEGRATED STEEL PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines.
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact.
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land-use map based on satellite imagery. High-resolution satellite image













data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.

5. Respirable Suspended particulate matter (RSPM) present in the ambient air must be analysed for source analysis - natural dust/RSPM generated from plant operations (trace elements). The RSPM shall also be analysed for presence of poly-aromatic hydrocarbons (PAH). i.e. Benzene soluble fraction, where applicable. Chemical characterization of RSPM and incorporating of RSPM data.
  6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
  7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
  8. Plan for slag utilization
  9. Plan for utilization of energy in off gases (coke oven, blast furnace)
  10. System of coke quenching adopted with justification
  11. Project Proponent need to get feedback from the local Community on the pollution aspect.
3. To **decide on** application received for ToR from Sahanu Sponge & Pvt. Ltd. for Expansion of production capacity from 54000 TPA to 100000 TPA at Plot No.122 to 127 of Bicholim Industrial Estate, Bicholim, North Goa.

The representative of Sahanu Sponge Pvt. Ltd Shri Sunil Gars appeared before Committee and explained details of the project.

After scrutinizing the application and documents submitted by the project Proponent the Committee decided to recommend the Authority for grant of following ToR.

**A. STANDARD TERMS OF REFERENCE (TOR)**

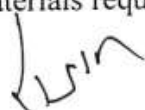
**1. Executive Summary**

**2. Introduction**

- i. Details of the EIA Consultant including NABET accreditation
- ii. Information about the project proponent
- iii. Importance and benefits of the project

**3. Project Description**

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project.
- iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.



- v. Other chemicals and materials required with quantities and storage capacities.
- vi. Details of Emission, effluents, hazardous waste generation and their management.
- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- viii. Process description along with major equipments and machineries, process flow sheet (quantative) from raw material to products to be provided.
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a) Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
  - b) In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### 4. Site Details

- i. Location of the project site covering village, Taluka/Tehsil, District and State. Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site.
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements,

LSM

to

huma

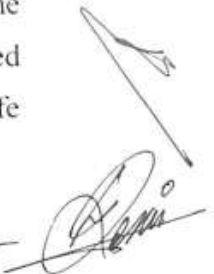
SS

Signature

- etc shall be included. (not required for industrial area).
- ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area.
  - x. Geological features and Geo-hydrological status of the study area shall be included.
  - xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
  - xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
  - xiii. R&R details in respect of land in line with state Government policy.

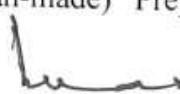
## 5. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.



## 6. Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling - in case of discharge in water body.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of waste water from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control.
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. On site and Off site Disaster (natural and Man-made) Preparedness and





Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

## 7. Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

## 8. Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.
9. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
10. Enterprise Social Commitment (ESC)
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment Socio-economic development activities need to be elaborated upon.
  11. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection)



Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

12. A tabular chart with index for point wise compliance of above TOR.

**B. Specific Terms of reference for EIA studies for Metallurgical Industries (Ferrous & Non Ferrous)**

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management -Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

**C. ADDITIONAL TOR FOR INTEGRATED STEEL PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines.
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact.
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.



4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
  5. Respirable Suspended particulate matter (RSPM) present in the ambient air must be analysed for source analysis - natural dust/RSPM generated from plant operations (trace elements). The RSPM shall also be analysed for presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction, where applicable. Chemical characterization of RSPM and incorporating of RSPM data.
  6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
  7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
  8. Plan for slag utilization
  9. Plan for utilization of energy in off gases (coke oven, blast furnace)
  10. System of coke quenching adopted with justification
  11. Project Proponent need to get feedback from the local Community on the pollution aspect.
4. **To decide on application received for ToR from Sunrise Electromelt Pvt. Ltd. for Expansion of production capacity from 54000 TPA to 120000 TPA and manufacture of MS Billets of capacity of 120000 TPA at Plot No.M-2 ,M-3 and M-4 of Cuncolim Industrial Estate, Cuncolim, South Goa.**

The representative of Sunrise Electromelt Pvt. Ltd Shri Vishal Agarwal appeared before Committee and explained details of the project.

After scrutinizing the application and documents submitted by the project Proponent the Committee decided to recommend the Authority for grant of following ToR.

**A. STANDARD TERMS OF REFERENCE (TOR)**

**1. Executive Summary**

**2. Introduction**

- i. Details of the EIA Consultant including NABET accreditation
- ii. Information about the project proponent
- iii. Importance and benefits of the project

**3. Project Description**

- i. Cost of project and time of completion.
- ii. Products with capacities for the proposed project.



- iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.
- v. Other chemicals and materials required with quantities and storage capacities.
- vi. Details of Emission, effluents, hazardous waste generation and their management.
- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- viii. Process description along with major equipments and machineries, process flow sheet (quantitative) from raw material to products to be provided.
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a) Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
  - b) In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### 4. Site Details

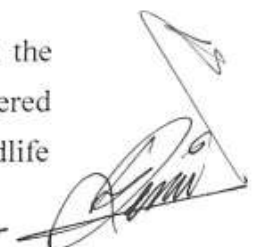
- i. Location of the project site covering village, Taluka/Tehsil, District and State. Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places).
- iii. Details w.r.t. option analysis for selection of site.
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vii. Photographs of the proposed and existing (if applicable) plant site. If existing,



- show photographs of plantation/greenbelt, in particular.
- viii. Landuse break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area).
  - ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area.
  - x. Geological features and Geo-hydrological status of the study area shall be included.
  - xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects).
  - xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
  - xiii. R&R details in respect of land in line with state Government policy.

## 5. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule- I fauna are found within the study area, a Wildlife

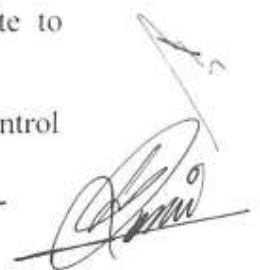
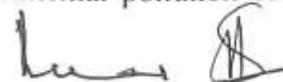
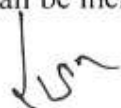


Conservation Plan shall be prepared and furnished.

xi. Socio-economic status of the study area.

## 6. Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling - in case of discharge in water body.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of waste water from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control.
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.



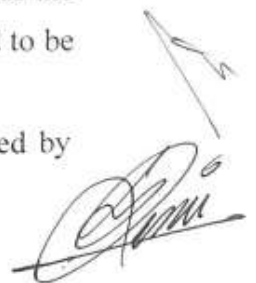
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. On site and Off site Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

#### **7. Occupational health**

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

#### **8. Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report.
9. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
10. Enterprise Social Commitment (ESC)
- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment Socio-economic development activities need to be elaborated upon.
11. Any litigation pending against the project and/or any direction/order passed by



any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

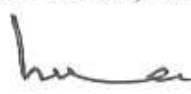
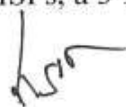
12. A tabular chart with index for point wise compliance of above TOR.

**B. Specific Terms of reference for EIA studies for Metallurgical Industries (Ferrous & Non Ferrous)**

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Details on blast furnace/ open hearth furnace/ basic oxygen furnace/ladle refining, casting and rolling plants etc.
3. Details on installation/activation of opacity meters with recording with proper calibration system
4. Details on toxic metals including mercury, arsenic and fluoride emissions
5. Details on stack height requirement for integrated steel
6. Details on ash disposal and management - Non-ferrous metal
7. Complete process flow diagram describing production of lead/zinc/copper/aluminium, etc.
8. Raw materials substitution or elimination
9. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
10. Details on Holding and de-gassing of molten metal from primary and secondary aluminum, materials pre-treatment, and from melting and smelting of secondary aluminium
11. Details on solvent recycling
12. Details on precious metals recovery
13. Details on composition, generation and utilization of waste/fuel gases from coke oven plant and their utilization.
14. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
15. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
16. Trace metals in waste material especially slag.
17. Plan for trace metal recovery
18. Trace metals in water

**C. ADDITIONAL TOR FOR INTEGRATED STEEL PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines.
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact.
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10






km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.

4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quick bird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
  5. Respirable Suspended particulate matter (RSPM) present in the ambient air must be analysed for source analysis - natural dust/RSPM generated from plant operations (trace elements). The RSPM shall also be analysed for presence of poly-aromatic hydrocarbons (PAH), i.e. Benzene soluble fraction, where applicable. Chemical characterization of RSPM and incorporating of RSPM data.
  6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
  7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
  8. Plan for slag utilization
  9. Plan for utilization of energy in off gases (coke oven, blast furnace)
  10. System of coke quenching adopted with justification
  11. Project Proponent need to get feedback from the local Community on the pollution aspect.
5. **To decide on application received from Kashinath Nadkarni bearing Survey No. 19/0 at Velguem village, Bicholim, North Goa for prior Environmental Clearance.**

The Project Proponent Shri Kashinath Nadkarni appeared before the Committee along with his Consultant.

**Decision:** After Scrutinizing the documents submitted by the Project Proponent the Committee decided to recommend the Authority for grant of prior Environment Clearance under following General and Specific conditions.

1. **The project proponent is required to mandatorily comply with the following 'General conditions'**
  - a) **'Goa Mineral Concession (Amendment) Rules, 2012'** notified by the Directorate of Mines and Geology (DMG) and published in Official Gazette Series-I, No. 24 dated 17<sup>th</sup> September 2012.
  - b) Notification S. O. 733 (E) dated 10<sup>th</sup> March 2014 issued by the erstwhile Ministry of Environment and Forests (MoEF) and published in the Gazette of India – Extraordinary, No. 624, Part-II, Section 3, Sub-section (ii) dated 10<sup>th</sup> March 2014 **specifying the list of villages categorized as Ecologically Sensitive Areas (ESAs) in the State of Goa vis-a-vis list of projects and activities prohibited / regulated therein.**



- c) Notification S.O 3977 (I) dated 14<sup>th</sup> August 2018 issued by the Ministry of Environment, Forests and Climate Change (MoEF&CC) issued under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986.
- d) The lease holder should ascertain on-site demarcation and construction of lease boundary with cement poles/ bio-fencing/ barbed wire for the proposed leased area in question. The lease boundary may be subsequently geo-referenced for precise positioning and ground-truth verification. As such, the lease holder should ensure that minor mineral quarrying operations are restricted within the prescribed lease boundary.
- e) The lease holder should ensure construction of approach road/ proper access to enable transportation of quarried material from site to desired destination and/or crushing unit, as applicable. Transportation of quarried material shall be done by covering the trucks with tarpaulin so that no spillage of material/ dust takes place on route.
- f) The lease holder should comply with the proposed plan of action/ modus operandi for extraction of basalt stones within the available lease boundary limits in terms of provisions of Mines and Safety Rules/ Guidelines, as applicable. In addition, safety gadgets and health-care facilities should be provided to workers vis-a-vis maintaining hygiene surrounding the proposed lease boundary.
- g) The lease holder shall undertake adequate safeguard measures during extraction of basalt stone and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected/ altered/ polluted. Quarrying operations should be limited to **day-hours time** (06 a.m. to 06 p.m. only) with specified time reserved for 'blasting'. Regular monitoring of groundwater levels and its physico-chemical quality parameters shall be carried out around the quarry lease area (for minimum two locations of permanent water sources/ open well/ borewell). If there are no groundwater sources, then nearest perennial surface water sources (*i.e. stream/ river/ pond/ lake/ reservoir/ irrigational canal*) should be monitored for similar parameters on quarterly basis and/or seasonally (*i.e. pre-monsoon/ monsoon and post-monsoon*).
- h) No quarrying be carried out within the safety zone of any bridge and/or embankment as well as within the vicinity of natural/ man-made archaeological site(s).
- i) The lease holder shall implement air pollution control measures/ dust minimizing initiatives/ noise control measures, wherever applicable, within the lease area as well as establish adequate buffer zone around the lease boundary to minimize such pollution hazards. It should be ensured that the Ambient Air Quality (AAQ) parameters (*to be measures in January, April and November every-year*) as well as Noise parameters conform to the norms prescribed by the Central Pollution Control Board (CPCB) and Noise Pollution (Control) Rules, 2000 respectively.
- j) Green belt development around quarry shall be carried out considering CPCB guidelines including selection of plant species in consultation with Forest Department/ Zonal Agricultural Office, as applicable.
- k) The lease holder shall obtain necessary prior permission (NOC) from the Groundwater Cell of the Water Resources Department (WRD) for drawl of surface / groundwater from within the lease area.
- l) Waste water / effluents, if any, shall be properly collected, treated and monitored so as to conform to the standards prescribed by the MoEF / CPCB.
- m) Environmental clearance (EC) is subject to obtaining clearance under the Wildlife

(Protection) Act, 1972 from the competent Authority, if applicable.

- n) The mining officer / in-charge of quarrying operations on-site shall submit six-monthly report in hard and soft copy formats w.r.t. specifying the status of compliance of the stipulated Environmental Clearance conditions (*i.e. Specific and General conditions*) to the Directorate of Mines and Geology (DMG), Goa, this Authority as well as Goa State Pollution Control Board (GSPCB).
- o) Any change (*i.e. modification/ expansion/ alteration*) in lease area / quarrying operations / extraction capacity/ modernization/ scope of working/ Environment management plan (EMP) shall require re-appraisal by this Authority as per the provisions of the EIA Notification, 2006 (*as amended till date*).
- p) All necessary statutory clearances from relevant Authorities concerned shall be obtained before start of quarrying operations.
- q) The Authority reserves the right to add any stringent conditions or to revoke the EC, if conditions stipulated are not implemented / complied with to the satisfaction of the Authority or for that matter, for any other administrative reasons.
- r) Any appeal against this prior Environmental Clearance shall lie before the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010 (*Central Act 19 of 2010*).

**2. Project Proponent should implement Dust mitigation measures for mining activities such as:**

- a) Roads leading to or at quarrying sites must be paved and blacktopped (*i.e. metalled roads*).
- b) No excavation of soil shall be carried out without adequate mitigation measures in place.
- c) No loose soil or sand and any other waste material that causes dust shall not be left uncovered.
- d) Wind-breakers of appropriate height and maximum upto 10 meters shall be provided.
- e) Water sprinkling system shall be put in place.
- f) Dust mitigation measures shall be displayed prominently at the quarrying site for easy public viewing.
- g) Grinding and cutting of materials in open area shall be prohibited.
- h) Raw material and waste should be stored only within earmarked area and roads side storage of material and waste shall be prohibited.
- i) No uncovered vehicles carrying excavated material and waste shall be permitted.
- j) Excavation and disposal site shall be identified and required dust mitigation measures shall be notified at the site.

**3. In addition, the Project Proponent needs to comply with the following ' Specific conditions'**

- a) The proposed extraction capacity of minor mineral (laterite stone) from the said leases (*i.e. from 1 ha*) shall not exceed 13,000 M<sup>3</sup> / annum.)









- b) As referred to in the Environment Management Plan (EMP), dust suppression measures (*i.e. water sprinklers*) to be undertaken regularly at specific interval during the daytime / quarry-operations.
- c) As per the Office Memorandum No. F.No.22-65/2017-IA.III dated 01/05/2018 Project Proponent is mandated to do Corporate Environmental Responsibility (CER).
- d) As per office memorandum issued by MoEF&CC dated 1<sup>st</sup> May 2018, some of the activities which can be carried out in CER, are infrastructure creation for Drinking Water Supply, Sanitation, Health, Education, Skill Development, Roads, Cross Drains, Electrification including Solar Power, Solid Waste Management Facilities, Scientific Support and Awareness to Local Farmers to increase yield of crop and fodder, Rain Water Harvesting, Soil Moisture Conservation Works, Avenue Plantation, Plantation in Community areas, etc.
- e) Project Proponent should provide fencing around the quarry pit.
- f) Validity of the Environmental Clearance (EC) accorded shall be for a period of 07 (seven) years or life of the mine whichever is earlier from the date of its issue.
- g) Before expiry of validity of the Environmental Clearance the Project Proponent shall back-fill the laterite quarry and restore to its original level and carry out plantation in consultation with Goa State Biodiversity Board.

**Dr. Benjamin Braganca**

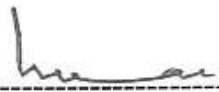
**Shri. Sanjay Amonkar**

**Dr. Subhash H. Bhosale**

**Dr. Dipak C.S. Gaitonde**

**Shri. Gautam Vikas Desai**  
(Chairman Goa-SEAC)


Place: Patto-Panaji  
Date: 09<sup>th</sup> August 2023

  
-----

  
-----

  
-----

  
-----

  
**Shri. Sanjeev Joglekar**  
(Member Secretary Goa-SEAC)