F. No. J-11011/381/2014-IA II (I)
Government of India
Ministry of Environment, Forests and Climate Change
(I.A. Division)

Vayu Wing
Indira Paryavaran Bhawan
Jor Bagh Road, Ali Ganj,
New Delhi - 110003

E-mail: adraju@gmail.com
Tele fax: 011: 24695236

Dated: 12th February, 2015

To

M/s Essar Steel India Limited
Vill.- Hazaria, Tehsil-Chorasi, Dist-Surat
Gujarat-394270

Email: www.essar.com; Fax No. 91 261-668 5544

Subject: Replacement of Electric Arc Furnace (EAFs) of Steel Making Plant by Basic Oxygen Furnaces (BOFs) in Hazira Facility of **M/s Essar Steel India Ltd.**, at Hazira Notified industrial area, village Hazira, Tehsil Choryasi, district Surat, Gujarat **(TOR) J-11011/381/2014-IA II (I)**

Sir,

This has reference to your letter dated 10.11.2014 along with Form-I, Pre-feasibility report & Proposed TORs as per the EIA Notification, 2006.

2.0 **M/s Essar Steel India Ltd** has proposed for replacement of Electric Arc Furnaces (EAF's) of Steel Making Plant – 1 (SMP-1) by Basic Oxygen Furnaces (BoF's) in Hazira Facility of M/s Essar Steel India Ltd., at survey nos. 262P,263P,310P,550P,561P,568P,569P,602P in Hazira Notified industrial area, village Hazira, tehsil Choryasi, district Surat, Gujarat. The total land requirement for plant is about 9.0 Ha. The additional land required for setting up facilities for BoF has been earmarked at different places within the steel complex. Capital Cost of the project is Rs. 1827 crores. Capital expenditure towards Environment protection measures is Rs. 334 crores and recurring cost is 77 crores per annum.

3.0 The application is for replacement of Electric Arc Furnace (EAF) with Basic Oxygen Furnace (BOF) and thereafter to SMS with no change in overall production capacity. It was informed that the project has recently obtained TOR for a DRI Unit which is 80% pellet based. The unit has a Pellet Plant for use in two exiting units and the remaining 20% of the pellets would be used in the BF. It was stated that in Phase-II, it is

Rec'd on 25/2/15

proposed to remove 2 mega modules (gas based) and introduce two gas based modules. However, a separate application would be made for this. You have also sought permission for installation of a Granulation Unit as a stop-gap arrangement whenever the SMS has a problem. This would enable continued operation of the BF for the period when the problem in SMS unit is rectified.

Following are the details of proposed facilities and production capacities:

Sr. No.	Plant Facilities	Capacity(TPA)
1.	BOF facility for Liquid Steel Production	4,310,000
2.	Slag	517,100
3.	Sludge & Fines	64,600
4.	BoF Gas (Nm3/year)	487 10^6

4.0 You have mentioned that ESTIL has the facility to produce 9.6 MTPA plain carbon steel slabs/coils from its existing two different steel making facilities. EC was already obtained vide letter J-11011/74-III/2006-IA II(I) dated 29.5.2008. You have already applied for replacing DRI Modules with Blast Furnace, and further to increase productivity, submitted the present application for replacing EAFs by Basic Oxygen Furnace (BOFs). This way process will become not only more efficient but also more environmentally friendly.

5.0 The Committee sought a specific plan for SMS slag utilisation. The Committee after deliberations recommended grant of specific TORs for this project and also recommended that the specific TORs be combined with the TOR granted dated for preparation of a single EIA-EMP Report and one P.H. for both the TORs as they are of the same unit within the same premises. The Committee was informed that baseline data for Nov. 2014 to Jan 2015 has begun and the Committee agreed for the same data for use for this project as well for preparation of the single EIA-EMP Report. The Committee decided that since PP has already applied for replacing DRI Modules with Blast Furnace for which ToR letter was already granted, a single EIA report can be prepared for both the projects i.e. replacing DRI Modules with Blast Furnace and present proposal of replacing EAFs by Basic Oxygen Furnace (BOFs).

6.0 The above proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) in its 29th EAC meeting held during 11th -12th December, 2014 for prescribing TORs for undertaking detailed EIA/EMP study.

7.0 Based on the information furnished and presentation made by you the Committee prescribed following Specific ToRs for undertaking detailed EIA-EMP study in addition to the generic ToR at **Annexure I read with additional TORs at Annexure-2**:

i. A single EIA report can be prepared for both the projects i.e. replacing DRI Modules with Blast Furnace and present proposal of replacing EAFs by Basic Oxygen Furnace (BOFs).

ii. Detailed air quality data of air quality monitoring stations for every monitoring site for all days should be submitted in the form of annexure along with the EIA/EMP report.

iii. Public Hearing is exempt for both projects as the projects are located within the notified Hazira Industrial Area.

Amardeep Raju
Scientist 'C'

Copy to:-

1. The Additional Principal Chief Conservator of Forests (C) Ministry of Env. And Forests Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, ER-5 Arera Colon, Link Road-3, Ravishankar Nagar, Bhopal-462016.

2. The Chairman, Gujarat Pollution Control Board, "Gram Nirman Bhavan" Khadi Gramodhyog Board Building, 2nd Floor, Juna Vadaj, Ahmedabad-380013. & Paryavaran Bhavan, Opp. Bij Nigam, CHH Road, Sector 10A, Sector 10, Gandhinagar, Gujarat 382010

Amardeep Raju
Scientist 'C'

ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha)*

iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.

iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon

v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area

vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife

8. **Expansion/modernization proposals:**

i. 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.

ii. 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.

Details of Industrial Operations

9. A list of major industries with name and type within study area (10km radius) shall be incorporated.

10. Details of proposed raw materials and products along with production capacity. If expansion project, details for existing unit, separately for existing and new (proposed) unit.

11. Details of manufacturing process, major equipment and machinery. If expansion project, details of existing unit, separately for existing and new (proposed) unit.

12. List of raw materials required and its source along with mode of transportation shall be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".

13. Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished

14. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km) dumping,

waste disposal, green areas, water bodies, rivers/drainage passing through the project site shall be included.

15. Manufacturing process details of all the plants including captive power plant if any along with process flow chart shall be included.
16. Mass balance for the raw material and products shall be included.
17. Energy balance data for all the components of the plant shall be incorporated.

Environmental Status

18. Geological features and Geo-hydrological status of the study area shall be included.
19. 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 river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of RL of the project site and mRL of the river shall also be provided.
20. If the site is within 1 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1:10,000 scale indicating the peak and lean River discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years.
21. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
22. AAQ data (except monsoon) at 8 locations for PM_{10}, $PM_{2.5}$, SO_2, NO_X, CO and HC (methane & non-methane) shall be collected. The monitoring stations shall be based on the NAAQM standards as per GSR 826(E) dated 16th November, 2009 and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
23. Raw data of all AAQ data for 12 weeks of all stations as per frequency given in the NAQQM 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.
24. Determination of atmospheric inversion level at the project site and 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.
25. Surface water quality including trace elements of nearby River (60m upstream and downstream) and other surface drains at eight locations to be provided.
26. Ground water monitoring including trace elements at minimum at 8 locations shall be included.
27. Noise levels monitoring at 8 locations within the study area.
28. Coal Characteristics – of indigenous and imported coal to be used in the project in terms of Calorific value, ash content and Suplhur content.
29. Traffic study of the area for the proposed project in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
30. Detailed description on flora and fauna (terrestrial and aquatic) exists 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.

31. Emissions (g/second) with and without the air pollution control measures.
32. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modeling 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.
33. 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.
34. Details of water requirement, water balance chart for new unit or for existing unit as well as proposed expansion (in case of expansion).
35. Source of water supply and quantity and permission of withdrawal of water (surface/ground) from Competent Authority.
36. Details regarding quantity of effluents generated, recycled and reused and discharged to be provided. Methods adopted/to be adopted for the water conservation shall be included. Zero discharge effluent concepts to be adopted.
37. A note on treatment of wastewater 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.
38. Action plan for control of ambient air quality parameters as per NAAQM Standards for PM_{10}, $PM_{2.5}$, SO_2 and NO_X, etc as per GSR 826(E) dated 16th November, 2009.
39. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
40. Action plan for solid/hazardous waste generation, storage, utilization and disposal. Copies of MOU regarding utilization of solid waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
41. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. A detailed plan of action shall be provided.
42. 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. All rooftops/terraces shall have some green cover.
43. 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.

44. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
45. Details of Rehabilitation & Resettlement (R & R) involving the project. R&R shall be as per policy of the State Govt. and a detailed action plan shall be included.
46. Action plan for post-project environmental monitoring shall be submitted.
47. Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control needs to be addressed and included.
48. Occupational health:
    i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned 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,
    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 abovementioned parameters as per age, sex, duration of exposure and department wise.
    iii. Annual report of heath status of workers with special reference to Occupational Health and Safety.
    iv. Action plan for the implementation of OHS standards as per OSHAS/USEPA.
    v. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.
49. 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
50. 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.
51. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise

details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

52. 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.
53. The questionnaire for industry sector (available on MOEF website) shall be submitted as an Annexure to the EIA-EMP Report.
54. 'TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarised in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.
55. A tabular chart with index for point wise compliance of above TORs.
56. Name of the Consultant and the Accreditation details shall be printed on the cover page of the EIA-EMP Report in the Introduction as well as on the cover of the Hard Copy of the Presentation material for EC presentation as per requirements in TOR condition No. (1).
57. The TORs prescribed shall be valid for a period of two years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

<u>The following general points shall be noted:</u>

i. All documents shall be properly indexed, page numbered.
ii. Period/date of data collection shall be clearly indicated.
iii. Authenticated English translation of all material in Regional languages shall be provided.
iv. The letter/application for environmental clearance shall quote the MOEF file No. and also attach a copy of the letter.
v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report

vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.

viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

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ADDITIONAL TORS 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 generation of coal and iron ore from coal & iron ore mines and the projects they cater to
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 must be prepared.

F.N. J-11011/44/2004-IA.II(I)
Government of India
Ministry of Environment & Forests & Climate Change

Indira Paryavaran Bahwan,
Jor Bagh, Lodi Road,
New Delhi-110003.
E-mail : tchand2003@yahoo.co.uk
Tel: 011-24695313

To

Dated: 5th November 2014

Shri Rajiv Bhatnagar,
Director (Projects),
M/s Essar Steel India Ltd.,
Essar House, 27km from Surat-Hazira Road,
HAZIRA – 394270, Dist. Surat,
GUJARAT.

Sub: Proposal for replacement of DRI by Hot Metal for Steel making to achieve the capacity of 9.6 MTPA (phasing out of HBI/DRI modules I –IV) of **M/s Essar Steel India Ltd.**, at survey no. 353,354,179/P at Hazira Notified industrial area, village Hazira, tehsil Choryasi, district Surat, Gujarat – Terms of Reference (TOR) –reg.

Sir,

This is with reference to your letter No. ESTIL/ENV/JP/EC/06-14 dated 11.06.2014 along with project documents including Form-I, Pre-feasibility Report seeking 'Terms of Reference' (TOR) as per the EIA Notification, 2006 on the aforesaid project.

The proposed project activity is listed at S.No. 3(a) under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

2. Based on the documents furnished, it is noted that M/s Essar Steel India Ltd have proposed to for replace the DRI by Hot Metal for Steel making to achieve the capacity of 9.6 MTPA (phasing out of HBI/DRI modules I –IV) at survey no. 353,354,179/P at Hazira Notified industrial area, village Hazira, Tehsil Choryasi, district Surat, Gujarat. The project has obtained an environmental clearance for "Exapsnion of Hot Briqutted Iron (HBI) and Hot Rolled-Coil (HRC) Plants vide MOEF letter No. J-11011/45/2004-IA.II(I) dated 07.11.2005. The land requirement for the proposed modernization is 68.183 ha. Out of the said land, 41.163 ha available in existing complex and 27.02 ha forest land applied for diversion for raw material storage yard. No National Park, Wildlife Sanctuary exists within 10 km radius of the project site. No court cases/litigation is pending against the project. River Tapi is located at a distance of 0.5km from the project site. Gulf of Khambat is located at a distance of 3km from the project site. The water requirement after the proposed modernization is is 1645m^3/hr which will be met from River Tapi. Power requirement is 149 MW. Total cost of the proposed project is Rs. 6270 crores. Rs. 700 crores and Rs.100 crores per annum is earmarked for the capital and recurring cost toward the environmental pollution control measures.

3. The plant configuration and production capacities details due to the proposed modernisation are as below:

S.N.	PRODUCTION UNIT	UNIT	CAPACITY		
			EXISTING	PROPOSED	TOTAL
1.	HBI Plant (Mod. I to VI)	MTPA	6.98	-3.6	3.38
2.	Blast Furnace		2.04	3	5.04
3.	Sinter Plant		1.48	7	8.48
4.	Coke Oven (Recovery Type)		1.2	1.35	2.55
5.	Air Separation				
	- Oxygen Gaseous	Nm^3/hr	3,60,544	64,200	4,24,744
	- Oxygen liquid		2,950	500	3,450
	- Nitrogen		1,19,944	25,700	1,45,644
	- Argon		3,470	1,500	4,970

PP requested the Committee to consider the baseline data collected during December 2013 – February 2014 for the preparation of EIA-EMP report.

4. The aforesaid proposal was considered by the Reconstituted Expert Appraisal Committee (Industry) (EAC (I)) in its 21st Meeting held on 30th July -1st August 2014. The PP along with their EIA-EMP consultant : M/s En-vision Enviro Engineers Private Limited - Surat gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken along with the draft Terms of References for the preparation of EIA-EMP report.

After detailed deliberations, the Committee prescribed following specific TORs for undertaking detailed EIA-EMP study in addition to the generic TOR enclosed at **Annexure 1 read with additional TORs at Annexure-2**:

i. P.H. shall be conducted by the Gujarat Pollution Control Board.

5. The Ministry of Environment & Forests on the basis of the aforesaid recommendations hereby accords the aforesaid TORs as given in the attached Annexure for preparation of the EIA-EMP Report.

(Dr.T.Chandini)
Scientist F

Copy to: The Chairman, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector – 10, A, Gandhi Nagar - 382 010, Gujarat (E-mail: chairman@gpcb.gov.in ; Fax No.: 079-23232156)

(Dr. T. Chandini)
Scientist F

ANNEXURE -I

GENERIC TERMS OF REFERENCE (TOR) IN RESPECT OF INDUSTRY SECTOR

1. Details of the EIA Consultant including NABET accreditation (including sector details and whether A/B and Accreditation No. shall be provided on the cover the EIA-EMP Report as well as in the Hard Copies of the presentation made before the Expert Appraisal Committee. Copy of NABET Accreditation for the period of preparation until submission of the EIA-EMP Report to MOEF and for presentation made before the EAC should be provided in the Annexures. If more than one consultant has been engaged, details thereof, including details of NABET accreditation as mentioned above.
2. Executive summary *(maximum 2-3 sheets in A4 size paper)* of the project covering project description, description of the environment, anticipated environmental impacts & its mitigation measures, environmental management plan, environmental monitoring programme, public consultation, project benefits, Social impacts including R&R.
3. Site Details:
   i. Location of the project site covering village, Taluka/Tehsil, District and State on Indian map of 1:1000,000 scale.
   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.
   iii. Co-ordinates (lat-long) of all four corners of the site.
   iv. Google map-Earth downloaded of the project site.
   v. A map showing environmental sensitivity (land use/land cover, water bodies, reserved forests, wildlife sanctuaries, national parks, tiger reserve etc.) and from critically/severely polluted area(s) and Eco-sensitive Areas within 10km radius of the project site vis-à-vis shortest (aerial) distance from the project. If the project is located within 10km of CPAs/severely Polluted Areas, confirm whether moratorium has been imposed on the area.
   vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. In addition, if located within an industrial area/Estate/Complex, layout of Industrial Area and location of unit within the industrial area/Estate/Complex, layout of Industrial Area.
   vii. Photographs of the proposed and existing (if applicable) plant site. If existing, in addition to site map, provide photographs of plantation/greenbelt in the existing project. If fresh EC application, photographs
4. Landuse break-up of total land of the project site (identified and acquired) – agricultural, forest, wasteland, water bodies, settlements, etc shall be included.
5. A copy of the mutual agreement for land acquisition signed with land oustees.
6. Proposal shall be submitted to the Ministry for environment clearance only after acquiring at least 60% of the total land required for the project. Necessary documents indicating acquisition of land shall be included.
7. **Forest and wildlife related issues:**
   i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department.
   ii. Landuse map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland *(in case of projects involving forest land more than 40 ha)*
   iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
   iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon
   v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
   vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
8. **Expansion/modernization proposals:**
   i. 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 should 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.
   ii. 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.

Details of Industrial Operations

9. A list of major industries with name and type within study area (10km radius) shall be incorporated.
10. Details of proposed raw materials and products along with production capacity. If expansion project, details for existing unit, separately for existing and new (proposed) unit.
11. Details of manufacturing process, major equipment and machinery. If expansion project, details of existing unit, separately for existing and new (proposed) unit.
12. List of raw materials required and its source along with mode of transportation shall be included. All the trucks for raw material and finished product transportation must be "Environmentally Compliant".
13. Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished
14. Project site layout plan to scale using AutoCAD showing raw materials, fly ash and other storage plans, bore well or water storage, aquifers (within 1 km) dumping, waste disposal, green areas, water bodies, rivers/drainage passing through the project site shall be included.
15. Manufacturing process details of all the plants including captive power plant if any along with process flow chart shall be included.
16. Mass balance for the raw material and products shall be included.
17. Energy balance data for all the components of the plant shall be incorporated.

Environmental Status

18. Geological features and Geo-hydrological status of the study area shall be included.
19. 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 river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of RL of the project site and mRL of the river should also be provided.
20. One season site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall and AAQ data (except monsoon) at 8 locations for PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO and HC (methane & non-methane) should be collected. The monitoring stations should take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
21. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations to be provided.
22. Ground water monitoring minimum at 8 locations shall be included.
23. Noise levels monitoring at 8 locations within the study area.
24. Traffic study of the area for the proposed project in respect of existing traffic, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
25. Detailed description on flora and fauna (terrestrial and aquatic) exists 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.
26. Emissions (g/second) with and without the air pollution control measures.
27. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modeling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
28. 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.
29. Details of water requirement, water balance chart for new unit or for existing unit as well as proposed expansion (in case of expansion).
30. Source of water supply and quantity and permission of withdrawal of water (surface/ground) from Competent Authority.
31. Details regarding quantity of effluents generated, recycled and reused and discharged to be provided. Methods adopted/to be adopted for the water conservation shall be included. Zero discharge effluent concepts to be adopted.
32. A note on treatment of wastewater 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.
33. Action plan for control of ambient air quality parameters as per NAAQES Standards for PM_{10}, $PM_{2.5}$, SO_2 and NO_x, etc as per GSR 826(E) dated 16th November, 2009.
34. An action plan to control and monitor secondary fugitive emissions from all the sources as per the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008.
35. Action plan for solid/hazardous waste generation, storage, utilization and disposal. Copies of MOU regarding utilization of solid waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

36. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. A detailed plan of action should be provided.

37. 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. All rooftops/terraces shall have some green cover.

38. 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. Rain water harvesting and groundwater recharge structures may also be constructed outside the plant premises in consultation with local Gram Panchayat and Village Heads to augment the ground water level. Incorporation of water harvesting plan for the project is necessary, if source of water is bore well.

39. Environment Management Plan (EMP) to mitigate the adverse impacts due to the project along with item wise cost of its implementation. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

40. Details of Rehabilitation & Resettlement (R & R) involving the project. R&R shall be as per policy of the State Govt. and a detailed action plan shall be included.

41. Action plan for post-project environmental monitoring shall be submitted.

42. Disaster Preparedness and Emergency Management Plan including Risk Assessment and damage control needs to be addressed and included.

43. Occupational health:
    - i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned 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,
    - 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 abovementioned parameters as per age, sex, duration of exposure and department wise.
    - iii. Annual report of heath status of workers with special reference to Occupational Health and Safety.
    - iv. Action plan for the implementation of OHS standards as per OSHAS/USEPA.
    - v. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

44. 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

45. 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.

46. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

47. 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.

48. The questionnaire for industry sector (available on MOEF website) shall be submitted as an Annexure to the EIA-EMP Report.

49. 'TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the

concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in the form of tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

50. A tabular chart with index for point wise compliance of above TORs.

51. The TORs prescribed shall be valid for a period of two years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

The following general points shall be noted:

i. All documents shall be properly indexed, page numbered.
ii. Period/date of data collection shall be clearly indicated.
iii. Authenticated English translation of all material in Regional languages shall be provided.
iv. The letter/application for environmental clearance shall quote the MOEF file No. and also attach a copy of the letter.
v The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report
vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.
viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc.

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ANNEXURE 2

ADDITIONAL TORS 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 generation of coal and iron ore from coal & iron ore mines and the projects they cater to
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. Determination of atmospheric inversion level at the project site and 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.
7. Presence of aquifer(s) within 1 km of the project boundaries and management plan for recharging the aquifer shall be included.
8. If the site is within 1 km radius of any major river, Flood Hazard Zonation Mapping is required at 1:5000 to 1;10,000 scale indicating the peak and lean River discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of RL of the project site and mRL of the river.
9. End use of solid waste and its composition shall be covered. Toxic metal content in the waste material and its composition particularly of slag should also be covered. A time bound action plan should be submitted to reduce solid waste, its proper utilization and disposal.
10. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash should be provided to cement and brick manufacturers for further utilization.
11. Details of evacuation of ash, details regarding lining/impermeability of ash pond, if so details of the lining etc. need to be addressed.
12. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
13. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines must be prepared.