

Annex-I

SCHEME FOR AWARD OF PRIME MINISTER'S TROPHY FOR EXCELLENCE IN PERFORMANCE OF INTEGRATED STEEL PLANTS IN INDIA

(As amended upto August 2015)

1.0 GENESIS

Consequent upon the announcement made by former Prime Minister, Late Shri P.V. Narsimha Rao, while dedicating Visakhapatnam Steel Plant of Rashtriya Ispat Nigam Ltd. to the Nation on 1.8.1992, Government have decided to present an award known as **Prime Minister's (PM's) Trophy** with a cash award of Rs. 1 crore and a citation each year to the best performing integrated steel plant to generate a sense of competition and to improve upon performance of the integrated steel plants in the country.

1.1 The Government of India has enhanced the cash award from Rs. 1 crore to Rs. 2 crores for the best performing integrated steel plant with effect from the performance year 2006-07.

1.2 Runners up Prime Minister's Trophy in the name of **Steel Minister's (SM's) Trophy** with a cash award of Rs. 1 crore have been incorporated from the performance year 2006-07 in the Prime Minister's Trophy Scheme. The Steel Minister's Trophy and cash award of Rs. 1 crore would be given to the steel plant that ranks second in the overall performance.

1.3 Besides the PM's Trophy and Steel Minister's Trophy, a **Certificate of Appreciation** for maximum incremental improvement in overall performance with a cash award of Rs. 25 lakh may be given to any participating plant, which had also participated in the previous year and has recorded maximum improvement in total marks during the assessment year compared to the previous year. However, any plant eligible for PM's Trophy/SM's Trophy will not be eligible for the certificate. The certificate may be handed over by Secretary (Steel).

2.0 OBJECTIVES

2.1 The objectives of instituting these awards for the integrated steel plants is to give recognition to outstanding performance in the vital sector of the national economy which draws heavily on national resources of capital and skilled manpower. The awards are intended to spur these major iron & steel producers to achieve international standards of efficiency, quality and economy in their operations.

3.0 ELIGIBILITY

3.1 All integrated steel plants in India starting operation from iron ore, virgin or processed, in one location, having minimum production capacity of one million tonne of crude/cast steel per year; irrespective of any route, producing finished steel to national or

international specifications and having completed commercial operation for at least two years are eligible to participate.

4.0 SCHEME

4.1 The details of the scheme and the set of criteria for evaluating the performance of the integrated steel plants had initially been worked out by an Expert Committee constituted by Government of India, Ministry of Steel in 1992. The criteria and the benchmarking of the same have been further elaborated /improved by the Panel of Judges (POJs) for Prime Minister's Trophy for different years and other Expert Committee(s) /sub-committee(s) constituted by POJ from time to time. The criteria for evaluation of the performance of integrated steel plants now take care of the present day business environment.

4.2 As per the latest recommendations of a Sub-Committee dated March 2012 and amendments carried out by the Ministry of Steel in consultation with the POJ, 10 main parameters have been evolved for evaluating the performance of the integrated steel plants. These include both Objective Parameters and Subjective Parameters as per details given below:-

Objective Parameters:

- Growth in Crude Steel production.
- Efficiency of operations (Productivity, Fuel Rate, Energy Consumption etc).
- Financial performance.
- Efforts towards Value Addition/Product Development
- Environment management (Pollution, CO₂ Emission, Waste Utilisation, Water consumption)
- Safety (Frequency /Severity Rate, Fatalities) -
Thrust on Research & Development (R&D)

Subjective Parameters:

- Enabling parameters by an Independent Agency
- Customer satisfaction survey by an Independent Agency
- Qualitative Parameters assessed by POJs based on actual plant visits.

4.3 The evaluation will be carried out by a Panel of Judges comprising of the following:-

- | | |
|--|------------------|
| - Secretary to the Govt. of India, Ministry of Steel | Chairman |
| - Expert(s) on Iron & Steel Industry | Member |
| - Representative(s) of the customers | Member |
| - Management Expert(s) | Member |
| - Economist(s) | Member |
| - Expert on Energy/Environment | Member |
| - Joint Secretary to the Govt. of India, Ministry of Steel | Member-Secretary |

4.3.1 More members of the Panel of Judges from outside can be drawn from among heads/ CEOs/ COOs of Public & private sector companies, Engineering units, Indian Institute of Management and other reputed Management Institutes, Indian Institute of Technology, and other reputed Engineering Institutes, School of Economics etc.

- 4.3.2 A nominee of recognized trade union not related to the steel plants directly or indirectly during the performance / assessment year shall also be inducted as a member of Panel of Judges, who will be appointed by Steel Minister (In-charge) to Prime Minister's Trophy, as per Government Guidelines in vogue.
- 4.3.3 Members of the Panel of Judges should comprise only such individuals whose antecedents are known, and enjoy good reputation and there is nothing adverse against them. Nomination/Appointment of such persons, whose nomination will be prejudicial to the prestige of PM's Trophy, should be avoided. Further members of Panel of Judges should not be related to the steel plants directly or indirectly during the performance year as well as the assessment year under consideration.
- 4.3.4 Panel of Judges will submit the assessment sheets to the Secretariat after the visit to the participating plant. The POJs may review the scoring after completion of visit to all plants. In addition, to achieve the objectives of the scheme, the Panel of Judges will also submit their observations and recommendations for improvement of each plant, in detail. The recommendations of Panel of Judges may cover areas like technology, strategy, HR/behavioural science, management, economics, marketing, etc. Necessary arrangements for POJs & officials for travel up to nearest airport/railway station will be made by the Secretariat and the rest of the arrangements like transport, lodging & boarding etc. will be made by the participating plant/s as per the past practice/s.
- 4.4 Customer Satisfaction** survey and assessment of **Enabling Parameters** will be done by independent expert agencies and trained assessors, who will submit their reports within the stipulated time frame to the Secretariat after duly assigning final marks. These agencies shall be appointed by a Selection Committee constituted by the PM's Trophy Secretariat comprising one member from Ministry of Steel. The selection will be based on Quality & Cost Based System (QCBS).
- 4.5** Economic Research Unit (ERU) of Joint Plant Committee, New Delhi will function as PM's Trophy Secretariat and provide the secretarial services and general assistance to the Panel of Judges. The PM' Trophy Secretariat will appoint a Nodal Officer for this purpose who will be authorized to incur necessary expenditure and deploy required manpower. The participating plants may provide necessary manpower and administrative support to the Secretariat, as and when requested by Nodal Officer.
- 4.6** The participating steel plants will share all the cost incurred by the Secretariat towards the process of evaluation including cost of visits to the plants by POJs, honorarium to the POJs and cost of visits to Delhi in the ratio of their rated crude steel production capacity. However, all expenditures incurred by the Secretariat will be subject to audit as per standard procedure prevalent in the ERU, JPC.
- 4.7** The Secretariat will coordinate with the Panel of Judges, independent agencies and participating plants under the general guidance of Member Secretary, POJs. It will give wide publicity and evolve a format for collection of information from the competing

plants. The Secretariat will prepare and summarize the total background information in the required format for submission to the Panel of Judges. It will also provide general assistance to the Panel of Judges and Member Secretary, Ministry of Steel. The Secretariat will compile the general observations of POJs made during plant visits and also specific recommendations made by POJs in writing for improvement of each of the participating plants.

4.8 Preliminary evaluation of objective parameters will be carried out by technical officer(s) of PM's Trophy Secretariat and the same will be vetted by an Expert Team to be constituted by the Secretariat with the approval of the Member Secretary. The Expert Team may invite the representatives of the participating plants, if required, at PM's Trophy Secretariat, New Delhi to provide necessary clarifications related to evaluation of objective parameters. Final evaluation will be carried out by the Secretariat based on the inputs from the Expert Team.

4.8.1 The participating plants will be fully responsible for the authenticity of the information provided to the Secretariat/Expert Team. Though there will be no technical audit of the information, the Secretariat may have a random scrutiny of the information provided by the plants. The Participating plants will submit the application document/s along with other necessary documents within two months of release of format of filling the application/ additional information by the Secretariat. Late submission, if any, will be subject to the approval of Member Secretary.

4.9 The venue of the Award function will be the location of the plants winning the awards for the particular year failing which Vigyan Bhavan, New Delhi. The award function(s) will be organized by the winner plant(s) under the supervision of Ministry of Steel and all expenditures towards the function will be borne by the winner plant(s).

4.10 The award is an annual feature, but a minimum cut off limit is 60%. If no plant scores more than the minimum cut off limit in any particular year, the award may be skipped for that year.

5.0	PARAMETERS FOR EVALUATION	Weightate (%)
5.1	Growth in Crude Steel production	(SUB-TOTAL: 2)
5.1.1	Compounded Annual Growth Rate (CAGR) of Crude Steel Output :	2

This factor recognizes the efforts to increase the economies of scale by aggressive growth of a steel plant. This shall be measured through CAGR of crude steel production between the current year and that achieved three years ago.

Illustration: The CAGR in actual crude steel production between **2011-12** and **2014-15** shall be taken for calculation for the assessment year 2014-15.

Target / Cut off	10% / 2%
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5.2 EFFICIENCY OF OPERATIONS (SUB-TOTAL: 18)

5.2.1 Total Carbon rate/CDI in Blast Furnaces or Carbon rate COREX Furnaces (Kg/t of Hot Metal), Fuel Rate in DRI/ HBI Plant (GCal/T DRI) 3

(a) (i) Carbon rate in Blast Furnaces: 1

Total carbon of Charged Coke (viz. skip coke & nut coke), coal tar, CDI and any other auxiliary fuels (based on ultimate analysis of coal & onsite carbon analysis of coke/ tar/ auxiliary fuel) injected in the blast furnace including carbon of natural gas. Wherever the information/ data is not available as per the ultimate analysis of coal for actual total carbon, WSA Proximate analysis/ methodology for estimating total carbon shall be adopted. However, for Tar/PCM for which WSA methodology is not available, the following norm will be used:

1 Kg of Tar/PCM=0.92 Kg of Carbon

Illustration: If a plant uses 400 kgs of skip coke with 12% ash and injects 150 kgs of coal dust with 10% ash and 30% VM and also injects 30 Kgs of Tar in its blast furnace, total carbon rate will be as per following WSA methodology:

Carbon of coke = Charged/skip coke in Kgs *(97.75-ash)/100=400*85.75/100=343 kgs

Carbon of CDI coal = CDI *(100-ash-0.47*VM)=150*(100-10-0.47*30) = 113.85 Kgs

Carbon of Tar=30*0.92=27.6 Kgs

Total Carbon Rate in blast furnaces = 343+113.85+27.6=484.45 Kgs/THM

Target / Cut off for carbon rate in Blast Furnaces: 430/ 500 kg/tonne

(ii) Improvement in Carbon rate in Blast Furnaces over previous year 1

The parameter will be evaluated on the basis of percentage improvement in carbon rate over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

(iii) Injection of Auxiliary Fuel in Blast Furnace 1

Kgs of auxiliary fuels injected in Blast Furnace per tonne of hot metal produced. All auxiliary fuels such as coal tar, CDI, oil, etc. including natural gas (but excluding Nut Coke) will be considered as per the replacement ratio observed by the participating plant(s). Supporting document/calculation will be provided by the plants to this effect. In case supporting documents are not made available, default replacement values of 1:1 and 1: 1.2 will be taken for CDI and coal tar respectively.

Illustration: If a plant uses 100 kgs of CDI with a replacement ratio of 0.95 and uses 20 Kgs of Coal Tar with an observed replacement ratio of 1.2, the equivalent injection rate will be calculated as follows:

Injection of Auxiliary fuels= $100 \times 0.95 + 20 \times 1.2 = 119$ Kgs.

Target / Cut off for injection of auxiliary fuel in Blast Furnaces:
175/ 50 kg/tonne of hot metal.

(b) (i) Total carbon rate in COREX Furnaces 2

Carbon rate in COREX Furnace will be calculated in the same way as defined for total carbon rate in blast furnaces

Target / Cut off for carbon rate in COREX Furnaces: 700/ 800 kg/tonne.

(ii) Improvement in carbon rate in Corex Furnaces over previous year 1

The parameter will be evaluated on the basis of percentage improvement in carbon rate over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

(c) (i) Fuel Rate for HBI / DRI Plants 2

Fuel rate in gas based DRI plants would be worked out taking the average calorific value of natural gas consumed per tonne of product. In case of coal based DRI plants, the average calorific value of coal consumed per tonne of DRI would be considered.

Target/ Cut off :

Fuel Rate for Gas Based HBI / DRI plants: 2.5/ 3.0 G. Cal/tonne
Fuel Rate for Coal Based HBI/ DRI plants: 5.2 / 6.2 G. Cal/tonne

(ii) Improvement in Fuel rate over previous year 1

The parameter will be evaluated on the basis of percentage improvement in fuel rate over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

5.2.2 Blast Furnace Productivity (t/m³/day), COREX Furnace (t/hr), HBI or DRI Furnace productivity (t/m³/day) 3

(a) (i) Blast Furnace / Shaft Furnace / Rotary Kiln Productivity 2

BF, HBI or DRI furnace productivity is evaluated as Hot metal, HBI or DRI production per cubic metre of working volume of furnace per available day. Working volume for blast furnace is defined as the volume of the furnace contained between centre line of the tuyers and normal stock line/Big bell in open position. Available days are calculated as the difference of available calendar days and duration of capital repairs. Available calendar days will be taken at 360 days so as to account for planned/ scheduled monthly

shutdowns in a year. In case capital repairs were carried out during the year, a note on type of repairs/activities, duration, year and month of last repairs and expenditure incurred for repairs may be provided. Shutdown for any reason other than Capital Repairs (viz. Shutdown due to technical problems, market conditions or raw material constraints) will not be considered for calculation of available days. However, if a furnace has been phased out, only available days of operation will be considered for calculation of productivity.

Target / Cut off for blast furnace productivity: 2.8 / 1.5 t/m³/available day
 Target / Cut off for HBI / DRI shaft furnace productivity: 9.0 / 8.0 t/m³/available day
 Target / Cut off for Rotary Kiln productivity: 0.4/0.32 t/m³/ available day

(ii) Improvement in Blast Furnace / Shaft Furnace / Rotary Kiln Productivity over previous year **1**

The parameter will be evaluated on the basis of percentage improvement in productivity over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

(b) (i) COREX Furnace Productivity **2**

COREX Furnace productivity is evaluated as tonnes of hot metal produced per hour on yearly average basis. That is, COREX Furnace productivity is = annual production in tonne ÷ annual operating hours. Annual operating hours are estimated as the difference of calendar hours and the duration of capital repair and actual planned shutdown days of the COREX – Furnace units, not exceeding 12 days per furnace per year.

Target/ Cut off for COREX furnace productivity*: 100 / 85 t/ hour.

*** under review to be decided by Consultant Agency/Expert Team of PoJs, failing which existing guidelines may continue.**

(ii) Improvement in COREX Furnace Productivity over previous year **1**

The parameter will be evaluated on the basis of percentage improvement in productivity over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

5.2.3 (i) Steel Furnace (BOF/EAF) Productivity **2**

Number of heats made / available converter / year = total number of heats in a year ÷ (number of installed converters x Average converter availability).

Average Converter availability will be taken at 85%. In case there are more than one SMS shop, availability will be calculated separately for each shop as per above guidelines and thereafter weighted average converter availability will be arrived at.

Number of heats = number of heats tapped from BOF/ EAF in the given financial year.

Target / Cut off for BOF: 12,000/ 6,000 heats per converter per year

Target/ Cut off for EAF: 10000/5000 heats per EAF per year

Target/ Cut off for Conarc: 7000/3500 heats per Con Arc Furnace per year

(ii) Improvement in Steel Furnace Productivity over previous year 1

The parameter will be evaluated on the basis of percentage improvement in productivity over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

5.2.4 Overall Specific Energy Consumption 6

5.2.4.1 SEC as per WSA methodology with the concept of Balanced Production Ratios 4

The calculation of overall specific energy consumption (G.cal/t of crude steel) would be based on World Steel Association (WSA), formerly IISI, methodology using the concept of balanced production ratios with the modification that:

- i) **Credit for granulated slag will not be allowed in calculation of SEC.**
- ii) Energy inputs to captive power plant and oxygen plant shall not be considered. Instead power and oxygen utilized from these plants shall be treated as 'purchased' and the calorific value as given in WSA for the oxygen shall be considered. In case of electricity, a calorific value of 2400 Kcal/KWH will be considered
- iii) Energy inputs upto hot working/rolling stage will only be considered. In other words, energy inputs in cold rolling mills and in other downward processing units will not be considered.
- iv) In case a plant procures a part of its major inputs like coke, sponge iron, pellet etc., for calculation of specific energy, WSA norm will not be used and it will be assumed that these inputs have been produced within the plant and necessary correction will be through balanced production ratios.

The scale of evaluation for steel plants based on different routes i.e. HBI or DRI & EAF route, COREX-BOF route, BF-BOF route will be different from each other with different Targets & Cut offs as under:-.

Target / Cut off for specific energy consumption per tonne of crude steel (cast steel) for

- a) BF-BOF route and COREX- BOF route based Plants: 5.2 / 6.7 G.Cal/tcs
- b) Gas based HBI / DRI-EAF/CONARC plants: 5.0 / 6.5 G.Cal/tcs
- c) Coal based DRI/HBI-EAF/CONARC plants: 6.8/8.3 Gcal/tcs

Note: The plant will furnish information on specific energy calculation along with calculation of production ratios in an excel sheet (with relevant Formulas) to the Secretariat.

5.2.4.2 Improvement in Specific Energy Consumption (SEC) over previous year 2

The parameter will be evaluated on the basis of percentage improvement in SEC value over the previous year but calculated based on uniform methodology.

Target / Cut off 5% / 0%

5.2.4.3 Calculation of Target /cut-off for mixed route

Targeting of specific energy consumption for mixed route comprising iron making in BF and DRI plant to be used in EAF will be as per the proportion of charge mix (percentage of DRI and percentage of hot metal) in the EAF. The proportion of hot metal will be multiplied by the target value of specific energy consumption of BF-BOF route and proportion of DRI will be multiplied by the target value of specific energy consumption of DR-EAF route and the two values will be added to get the best value of DR+BF-EAF route. The worst value will be calculated accordingly.

5.2.5 Labour productivity 1

This factor shall be calculated in terms of crude steel production per man year. Pig iron, HBI or DRI produced for sale will be given credit with an equivalent factor of 50% and Manpower will be reckoned in terms of works strength. Works manpower to be calculated after **excluding** non works departments like administration, marketing, finance, township, construction units, mines etc., but including production services like production planning and control etc. Besides, the manpower of centralized units of steel plants like centralized maintenance department, captive engineering shops, refractory plants etc which are not directly linked to production may be excluded for calculating labour productivity. However, Entire manpower of Works including own associates and contract manpower will be considered. However, though inside the Works, project manpower will be excluded.

The scale of evaluation for steel plants based on three different routes i.e. Coal/Gas HBI/DRI - EAF route, COREX-BOF route, BF-BOF route will be different from each other. Target value for coal DRI/HBI plant (i.e without sinter plant/coke oven) may be taken at par with Gas DRI/HBI plant.

If in any steel plant, normal operation and maintenance is got done by outside contractors, the Panel of Judges will get input of such labour evaluated and add it to the regular man power reported by the plant.

Target / Cut Off for BF-BOF plants:	500/200 tonnes per man per year
Target / Cut off for COREX-BOF plant:	800/400 tonnes per man per year
Target / Cut off for Coal/Gas DRI/HBI-EAF plant:	1,800/800 tonnes per man per year

Calculations of Target for Labour Productivity for mixed (DR + BF – EAF) route:

In the case of companies having mixed route, the Target for labour productivity will be calculated in the similar manner as applicable in the case of specific energy consumption shown in para 5.2.4.3 above.

5.2.6 Improvement in Labour productivity over previous year: 2

The parameter will be evaluated on the basis of percentage improvement in Labour Productivity value over the previous year but calculated based on uniform methodology.

Target / cut off 5%/0%

Note: For comparison, previous year's manpower/labor productivity will be reported as per the methodology being followed for the current assessment year.

5.3 FINANCIAL PERFORMANCE (SUB-TOTAL: 6)

The figures are to be audited and certified by a practising Chartered accountant, not being an employee of the company, and consistent with the published accounts. The Chartered accountant will specifically certify that information on financial parameters is strictly as per the system boundaries defined in the PM trophy scheme.

5.3.1 Gross Margin/ Turnover Ratio 1

Gross Margin is defined as profit before interest and depreciation. Turnover (excluding excise duty) should be given for Iron & Steel products, including by - products arising out of the process of manufacture of Iron & Steel products. However, sale of products like CAN, Ferro Alloys, Raw materials*, bearings, Agrico products etc. will not be included. It should also exclude sales income derived from trading of products not manufactured by the plant.

Gross margin also relates to Iron & Steel products only as described above. Interest / Dividend income on investments is not to be considered. Inter plant transfers within the company and internal consumption is not to be considered. No policy profit / loss are to be considered.

*Raw materials and other arisings from normal manufacture of Iron & Steel, however, will be included.

Target / cut off 30% / 10%

5.3.2 Improvement in Gross Margin/Turnover Ratio over previous year 1

The parameter will be evaluated on the basis of percentage improvement in Gross Margin/Turnover Ratio over the previous year but calculated based on uniform methodology.

Target / cut off (Best value among participating plants/
Lowest value among competing plants)

5.3.3 Gross margin / Average capital employed 1

Gross margin is the same as defined in item 5.3.1) above. Average Capital employed to include net fixed assets and working capital.

Target / cut off 90% / 20%

5.3.4 Improvement in Gross Margin/Average Capital employed 1

The parameter will be evaluated on the basis of percentage improvement in Gross Margin/Average Capital Employed Ratio over the previous year but calculated based on uniform methodology.

Target / cut off (Best value among participating plants/
Lowest value among competing plants)

5.3.5 Turnover / Inventory ratio 1

Turnover is the same as defined in item 5.3.1) above. Inventory to include average finished and semi finished stock and should also include inventories of other materials like raw materials, stores and spares etc. The amount of sundry debtors should also be added to the inventories.

Target / cut off 12 / 5

5.3.6 Expenditure capitalized over Gross Block 1

Target / cut off 10% / 5%

5.4. Efforts towards Value Addition / Product Development 2

5.4.1 Percentage increase in average net sales realization per tonne of saleable steel.

Target / cut off Best/ Worst among participating plants

Note: In case of plants having common marketing infrastructure, like SAIL net working capital will include sundry debtor and claims in marketing organization & stocks of imported inputs/coal in the books of the said organization. Financial parameters such as Gross Margin/Capital Employed, Turnover Inventory etc. may therefore be calculated as

per this guideline.

5.5 ENVIRONMENT MANAGEMENT

(SUB-TOTAL: 10)

5.5.1 CO₂ Emission

2

The methodology of calculation shall be as per WSA methodology (including the slag credit). Plants will submit CO₂ Emission excel sheet with all data fields duly filled along with formulas and also including general information and information on energy consumption column to the Secretariat. Secretariat will make following adjustments for CO₂ calculations to maintain parity among steel plants.

Norm on CO₂ emission for electricity Purchased / Sold–Scope 2 0.82T/MWH *

Norm for Coke Purchased whether imported or domestic / Sold-Scope 3 0.4 T/T of Coke**

* Average of all stations as per CEA’s baseline data base (version 9.0).

** The norm has been worked out considering IPCC norm for coke and also considering flexibilities to import coke.

Target / cut off for different routes are as under:

- a) BF-BOF route and COREX-BOF route based plants: 2.3/3.0 tonnes/TCS
- b) Gas based HBI / DRI-EAF/CONARC plants: 1.4/2.1 tonnes/TCS
- c) Coal based DRI/HBI-EAF/CONARC plants 3.0/3.7 tonnes/TCS

Note: To align the data from different plants to the extent possible, CO₂ emissions due to captive production of Power and Oxygen plants will not be considered and instead Power and Oxygen utilized in the plant will be treated as “Purchased” and a standard norm as mentioned above will be applied uniformly for calculation of CO₂ emissions. Further gases going to power plants will be treated as exported from plant. This adjustment will be done by the participating plants.

5.5.2 Improvement in CO₂ Emission **1**

Will be evaluated on the basis of percentage improvement in CO₂ emissions over last year (taking constant baseline norm/assumption adopted in previous year).

Target / Cut off **5%/ 0%**

The plants will furnish information on CO₂ emission calculation as per WSA methodology in an excel sheet. Plants are not required to make any adjustment for revised norms. However, the Sectt. will make necessary adjustment only for electricity & coke purchased as per the revised norms at para 5.5.1.

5.5.3 Particulate Matter (PM) Emissions from Chimneys **1**

To be evaluated on the basis of annual average emission of particulate matter from chimneys/stacks. However, emissions from stacks for capturing secondary/ fugitive emission are not to be considered for calculation of PM emissions. Plants will specifically mention Chimney wise emission indicating whether it is for capturing primary emission or secondary/ fugitive emission.

Target / cut off 0.1 /1.0 kg / TCS

5.5.4 Specific Effluent Discharge **1**

To be evaluated on the basis of annual average effluent discharge from the plant.

Target / cut off 0 /2.4 M³ / Tonne of saleable steel

5.5.5 Material Efficiency **1**

The methodology of calculation may be as per WSA methodology by measuring the ratio:

Material Efficiency = (crude steel + by products)/(crude steel +by products + waste).

By Product will include only such by product generated during the performance year and not from previous year's stock. By product will include PI/ DRI for sale, coke oven chemicals for sale and slags disposed/ sold **after necessary processing** for application like cement production, road making, rail ballast, bund making and other engineered land filling with a definite plan. However, SMS slag produced during the year and not used in production process will be considered as waste unless the same is processed and used as per Indian/International standards/procedure. In case of other uses, the Secretariat will require the approval of Expert Team /POJs, to declare use of SMS slag as By-product who may take a final view based on as to whether the efforts towards processing/R&D etc. for use of SMS slag are sincere enough to consider the use of SMS slag as By-Product.

Scrap is neither included as by-products nor as waste material as per WSA methodology. Materials with insignificant quantities will be excluded for the purpose of calculation of by-products to maintain uniformity, to focus on utilization of slags as per WSA guidelines and make reporting simple.

Target / cut off Best value among participating plants /
Lowest value among competing plants

5.5.6 Specific raw material consumption 1

Raw materials actually consumed in the iron making and steel making furnaces/converters for producing one tonne of Crude Steel.

- a) *Purchased coke consumed will be converted to coal at 1.33 T of coal per tonne of coke.*
- b) All iron bearing raw materials, including sinter and pellet, will be considered. Purchased scrap, if used, will be converted into equivalent iron ore by assuming a norm of 1.6 T of iron ore=1 T of scrap. Purchased Sponge Iron Ore will be considered as equivalent to 1.6 T of Iron Ore+ 1.6 T of Coal for purpose of calculation.
- c) All types of fluxes will be taken into account for calculations. Purchased lime, if consumed will be converted into lime stone by taking a norm of 0.58 kg of lime = 1 Kg of limestone.
- d) The weight of natural gas consumed will be considered.

Target / cut off 3.2 T per TCS/ 4.2 T per TCS

5.5.7 Solid Waste Utilization : 1

Solid waste utilized in the process or profitably sold after necessary processing for its value addition such as BF Granulated slag to cement plants as a percentage of total solid waste generated, Only BF slag and SMS slags will be considered for estimating the utilization rate. SMS slags disposed/ sold/ stored after necessary processing for application like road making, rail ballast etc. will be considered for calculation of utilization rate. However, SMS slag produced during the year and not used in production process will be considered as waste unless the same is processed and used as per Indian/International standards/procedure. In case of other uses, the Secretariat will require the approval of Expert Team /POJs,, to declare use of SMS slag as By-product who may take a final view based on as to whether the efforts towards processing/R&D etc. for use of SMS slag are sincere enough to consider the use of SMS slag as By-Product.

Target / cut off Best value among participating plants /
Lowest value among competing plants

5.5.8 (i) Water Consumption **1**

Water entering into plant's system boundaries from all sources per tonne of crude steel but excluding consumption for township, power plant, oxygen plant, cold rolling mills will be considered. Water used for drinking purpose inside the plant will also be considered. Rain fall water used through harvesting will not be considered for the purpose of calculation.

Target / cut off **2 / 6 m³/tcs**

(ii) Improvement in water consumption over previous year **1**

Will be evaluated on the basis of percentage improvement in water consumption over last year (taking constant baseline norm/assumption adopted in previous year).

Target / Cut off **5%/ 0%**

5.6 SAFETY PARAMETERS **(SUB-TOTAL: 4)**

5.6.1 Frequency rate—number of reportable accidents per million man hours. **1**

Target / cut off **0.0 / 1.0**

5.6.2 Severity rate – man days lost per million man hours. **1**

An equivalent loss of 6000 man days for each fatality will be adopted.

Target / cut off **0 / 1000**

5.6.3 Fatalities (Numbers) **2**

Zero fatality	2 Marks
1 fatality	0 Marks
2 fatalities	(-) 1 Marks
3 fatalities or More	(-) 2 Marks

Note: For calculation of safety parameters (under para 5.6) accidents and fatalities in the operational area (including road accidents in operational works boundary but excluding accidents /fatalities in project area) will be considered.

5.7	THRUST ON RESEARCH & DEVELOPMENT (R&D)	(SUB-TOTAL: 3)
5.7.1	Investment on R&D as percentage of Turnover	1
	Target / cut off (%)	1.0/ 0.1
5.7.2	No. of publications in the referred journals during the assessment year.	1
	In case a centralized R&D agency for a group of plants is involved in the publication of research work in referred journals, such publications of the centralized agency will be equally apportioned to each plant belonging to that group and will be added to number of direct publications by the plant. Final decision on eligibility of publication to be considered as referred journals will be taken by the Expert Team.	
	Target / cut off	8 / 2
5.7.3	No. of IPRs	1
	The number of IPRs being sum of number of actual patents received during the year and 50% of the number of patents filed during the year. This is aimed to recognize the efforts of the plant during the year as actual receipt of a patent may be in later years. In case a centralized R&D agency files/receives IPRs for a group of plants, such IPRs of the centralized agency will be equally apportioned to each plant belonging to that group and will be added to number of direct IPRs of the plant.	
	A list of IPR giving details such as date of filing/date of grant of patents, title, inventor etc. during the year will be provided by the participating plant to the Secretariat.	
	Target / cut off	5 / 1
5.8	ENABLING PARAMETERS BY AN INDEPENT AGENCY	(SUB-TOTAL: 15)
5.8.1	Leadership	3
5.8.2	Policy & Strategy	3
5.8.3	Resource Management	3
5.8.4	People Management	3
5.8.5	Process Management	3

Assessment to be done by a team of trained assessors. The broad guidelines for assessment and its supplements are given at Annexure/s of existing scheme.

5.9 CUSTOMER SATISFACTION SURVEY BY AN INDEPENDENT AGENCY (SUB TOTAL: 10)

A survey of the customers of different plants to be done by an independent market research agency to include factors like price, timely delivery, technical specifications, availability of materials, commercial terms, stock yard facilities, billing and accounts process, behavior of personnel, attending to the customer complaints, after sales service, pre-sales contact, packaging etc.

5.10 OBSERVATIONS OF THE PANEL OF JUDGES BASED ON PLANT VISITS (SUB TOTAL : 30)

The Panel of Judges will undertake plant visit to each plant for a minimum period of two days for evaluation of the specified parameters and such other parameters which the Panel of Judges may deem fit. The specified parameters and their weightage are as under:-

5.10.1	House Keeping	3
5.10.2	Environment Management and Afforestation	2
5.10.3	Waste Utilisation/ Solid Waste Utilisation	1
5.10.4	Efforts made towards conservation of water such as water harvesting	1
5.10.5	Peripheral & Ancillary Development	2
5.10.6	Occupational Health and Safety	1
5.10.7	Compensation & Rehabilitation Efforts to families of employees and contract labour in case of fatal accidents	1
5.10.8	Industrial Relations	1
5.10.9	Equipment Health	1
5.10.10	Emphasis on R&D-a) Use/ Commercialization of R&D outputs including the use for building national infrastructure and defence capabilities and b) Collaboration with agencies of National/International repute	2
5.10.11	Efforts to achieve International level of Efficiency, Quality-Production of special grades/new products & Economics	2
5.10.12	Process Responsible for Marketing and Customer Satisfaction	2
5.10.13	Corporate social responsibility (CSR) (data to be provided as per PMT Sectt. format)	3
5.10.14	Efforts to remove gender bias, empower women, disabled and weaker sections of society at workplace	2
5.10.15	Efforts to rehabilitate displaced population/underprivileged/tribals – compensation policy, employment, etc.	1
5.10.16	Workers' participation	1

5.10.17	Employees' satisfaction	3
5.10.18	Management Leadership and Motivation	1

Evaluation of the process responsible for marketing and customer satisfaction to be evaluated by the Panel of Judges on the basis of answers to the following questions:

- How does the plant determine the customer groups and / or market segments?
- How does the plant determine the requirements of the customer groups or market segments?
- How are the information from existing / potential customers and complaints used in determining the customer requirements?
- How does the plant translate the customer requirements into new product and / or service design?
- How does the plant evaluate and improve its process of listening to and learning from different customer groups?
- How does the plant provide access to the customers to seek assistance and voice complaints?
- How does the plant seek prompt and actionable feedback from customers?
- How does the plant build relationships, loyalty and positive referral with its customers?

The Panel of Judges will particularly look into the following aspects:-

The efforts done by the steel plants towards corporate social responsibility in terms of direct action (i.e. amount spent directly vs. Profits) or indirect action (promotion through NGOs) etc.

The efforts done by the steel plants for development of surrounding population particularly tribal population (if there is any)

The efforts done by the steel plants to reduce the cost of conversion as to lead to reduced cost of steel for the consumers.

6.0 SCALE OF EVALUATION

- 6.1** The earlier practice of using "Best Value/ Benchmark" and "Worst Value/ Cut off" for awarding scores on various parameters is substituted by "Target" and "Cut off" values in most parameters. The 'Target' value signifies the benchmark achievable in Indian conditions and any performance meeting or exceeding the target value will qualify for full mark(s). The "Cut off" value signifies that the plant must achieve this level as the minimum acceptable value and any performance not meeting the "cut off" will result in zero marks. The proposed scale of evaluation will be as follows:

	Value	Score on 1-5 Scale
i)	Value below cut off	zero

ii)	Cut-Off value	1
iii)	Target or better	5
iv)	Between Cut-Off and Target	Under Scale from 1 to 5

The "Target" and "cut off" for each of the parameters for objective evaluation are given at Annexure-III. The scale of evaluation will be valid for all parameters except "No. of fatalities" for which a separate marking scheme has been outlined at para 5.6.3.

7.0 UTILIZATION OF AWARD MONEY

7.1 The plant management of the award winning plants will spend the money to enhance the quality of life of the work force in the following areas, depending upon the need of the plant concerned:

- a) Improvement in the area of occupational health of the employees including hospital facilities,
- b) A small portion (say up to 10%) may be allotted to the best department for organization of welfare programmes for the employees.
- c) A substantial portion of the money can be kept in Fixed Deposit, the returns of which may be utilized for awarding merit-cum-means scholarships to the children of the employees for pursuit of education and training.
- d) Up-gradation of community centres in the Township.
- e) Up-gradation of facilities for sports and cultural activities in the township.
- f) Financial help for rehabilitation of employees disabled due to accidents in work place.
- g) Setting up / extension / addition / modification of educational / practical training centres for the dependents of the employees.
- h) Educational / practical training programmes for women / scheduled caste / scheduled tribe or other weaker sections of the employees; and
- i) Assistance to educational / training centres / health and sanitation programmes, water supply programmes etc for people living in the periphery of the plant.

7.2 The fund will be administered by a Joint Committee consisting of representatives of the Management of steel plant, the recognized unions and the officers' Association.

7.3 The audit cover provided to the funds of steel plant would also be audited the above mentioned funds.

8.0 SCHEDULES

The agreed time frame of the assessment and award process is given below. In case of delays, if any, in initiating any of the activities, efforts would be taken to make up / minimize the delay by expediting processes as far as possible :-

Activity	i
i) Inviting applications for assessors)

Appointment of Assessors:		<u>Time Frame</u>
iii)	Inviting names for panels for POJs from Plants:	by 1 st Jan.
iv)	Appointment of POJs:	by 31 st Jan.
v)	1 st Meeting of the POJs:	by 1 st Jan.
vi)	Inviting applications:	by 31 st March.
vii)	Receipt of applications:	by 30 th April
viii)	Report of the assessors (in stages):	by 31 st May
ix)	Plant visits by POJs:	by 31 st July
x)	Preparation of Report by the Sectt:	by 31 st August Aug-Oct
		by 30 th Nov

xi) Last Meeting of POJ/ Report of POJ/ Declaration of Results: by 31st Dec

The POJs may visit the plants to assess qualitative parameters & information on objective parameters will not be a precondition. Receipt of application document will not be a necessary condition for undertaking plant visit by the POJs. However, any necessary information on objective parameters, as required by POJs will be provided by the plants during their visit.

RECOMMENDED GUIDELINES FOR ASSESSMENT OF ENABLING PARAMETERS

Criterion 1: Leadership

Definition

How leaders develop and facilitate the achievement of the mission and vision, develop values required for long term success and implement these with appropriate actions and behaviors, and are personally involved in ensuring that the organization's management system is developed and implemented.

Sub-criteria

Leadership covers the following sub- criteria that should be addressed.

- 1(a)** Leaders are personally involved in ensuring the organization's management system is developed, implemented and continuously improved.

This may include:

- Aligning the organization's structure to support delivery of its policy and strategy;
- Ensuring a system for management processes is developed and implemented;
- Ensuring a process for the development, deployment and updating of policy and strategy is developed and implemented;
- Ensuring a process for the measurement, review and improvement of key results is developed and implemented;
- Ensuring a process, or processes, for stimulating, identifying planning and implementing improvements to enabling approaches, e.g. through creativity innovation and learning activities, is developed and implemented.

- 1(b)** Leaders are involved with customers, partners and representatives of society

This may include:

- Meeting, understanding and responding to needs and expectations;
- Establishing and participating in partnership;
- Establishing and participating in joint improvement activity;
- Recognizing individuals and teams of stakeholders for their contribution to the business, for loyalty etc;
- Participating in professional bodies, conferences and seminars, particularly promoting and supporting Excellence;

- Supporting and engaging in activities that aim to improve the environment and the organization's contribution to society.

1(c). Leaders motivate, support and recognize the organization's people.

This may include:

- Personally communicating the organization's mission, vision, values, policy and strategy, plans, objectives and targets to people;
- Being accessible, actively listening and responding to people.
- Helping and supporting people to achieve their plans, objectives and targets;
- Encouraging and enabling people to participate in improvement activity;
- Recognizing both team and individual efforts, at all levels within the organization, in a timely and appropriate manner.

Criterion 2: Policy and Strategy

Definitions

How the organization implements its mission and vision via a clear stakeholder focused strategy. Supported by relevant policies, plans, objectives, targets and processes.

Sub-Criteria

Policy and strategy over the following given sub- criteria that should be addressed.

2(a). Policy and strategy are based on the present and future needs and expectations of stakeholders.

This may include:

- Gathering and understanding information to define the market and market segment the organization will operate in both now and in the future;
- Understanding and anticipating the needs and expectations of customers, employees, partners, society and shareholders, as appropriate;
- Understanding and anticipating development in the market place, including competitor activity.

2(b). Policy and strategy are based on information from performance measurement, research learning and creativity related activities and are deployed through a framework of key processes:

This may include:

- Collecting and understanding output from internal performance indicators;
- Collecting and understanding the output from learning activities;
- Analysing the performance of competitors and best in class organizations;
- Understanding social, environmental and legal issues;

- Identifying and understanding economic and demographic indicators;
- Understanding the impact of new technologies;
- Analyzing and using stakeholders' ideas.
- Identifying and designing the framework of key processes needed to deliver the organization's policy and strategy;
- Establishing clear ownership of the key processes;
- Defining the key processes including the identification of stakeholders;
- Reviewing the effectiveness of the framework of key processes to deliver policy and strategy.

2(c). Policy and strategy are communicated and implemented.

This may include :

- Communication and cascading policy and strategy, as appropriate;
- Using policy and strategy as the basis for planning of activities and the setting of objectives and targets throughout the organization;
- Aligning, prioritizing, agreeing and communicating plans, objectives and targets;
- Evaluating the awareness of policy and strategy.

Criterion 3: People

Definition

How the organization manages, develops and releases the knowledge and full potential of its people at an individual, team based and organization wide level, and plans these activities in order to support its policy and strategy and the effective operation of its processes.

Sub- criteria

People cover the following sub- criteria that should be addressed,

3(a). People's knowledge and competencies are identified, developed and sustained.

This may include:

- Identifying classifying and matching people's knowledge and competencies with the organization's needs;
- Developing and using training and development plans to help ensure people match the present and future capability needs of the organization;
- Designing and promoting individuals, team and organizational learning opportunities;
- Developing people through work experience;
- Developing team skills;
- Aligning individual and team objectives with the organization's targets;
- Reviewing and updating individual and team objectives;
- Appraising and helping people improve their performance.

3(b). People are involved and empowered.

This may include:

- Encouraging and supporting individual and team participation in improvement activities;
- Encouraging and supporting people's involvement through in-house conferences and ceremonies;
- Providing opportunities which stimulate involvement and support innovative and creative behaviour;
- Empowering people to take action;
- Encouraging people to work together in teams.

3(c). People and the organization have a dialogue.

This may include:

- Identifying communication needs;
- Developing communication policies, strategies and plans based on communication needs;
- Developing and using top down, bottom up and horizontal communication channels;
- Sharing best practice and knowledge.

3(d). People are rewarded, recognized and cared for

This may include:

- Aligning remuneration, redeployment, redundancy and other terms of employment with policy and strategy;
- Recognizing people in order to sustain their involvement and empowerment;
- Promoting awareness and involvement in health, safety, the environment and issues on social responsibility;
- Setting the levels of benefits, e.g. pension plan, health care, child care;
- Promoting social and cultural activities;
- Providing facilities and services, e.g. flexible hours, transport.

Criterion 4: Partnerships and Resources

Definition

How the organization plans and manages its external partnerships and internal resources in order to support its policy and strategy and the effective operation of its processes.

Sub – Criteria

Partnerships and resources cover the following sub-criteria that should be addressed

4(a). External partnerships are managed.

This may include:

- Identifying key partners and strategic partnership opportunities in line with policy and strategy;
- Structuring partnership relationships to create and maximize value;
- Forming value adding supply chain partnerships;
- Identifying and evaluating alternative and emerging technologies in the light of policy and strategy and their impact on business and the society;
- Managing the technology portfolio;
- Exploiting existing technology;
- Innovating technology;
- Harnessing technology to support improvement;

- Identifying and replacing 'old' technologies.

4(b) Technology is managed.

This may include:

- Identifying and evaluating alternative and emerging technologies in the light of policy and strategy and their impact on business and the society;
- Managing the technology portfolio;
- Exploiting existing technology;
- Innovating technology;
- Harnessing technology to support improvement;
- Identifying and replacing old technologies.

4(c). Information and knowledge are managed.

This may include:

- Collecting, structuring and managing information and knowledge in support of policy and strategy;
- Providing appropriate access, for both internal and external users, to relevant information and knowledge;
- Assuring and improving information validity, integrity and security;
- Cultivating, developing and protecting unique intellectual property in order to maximize customer value;
- Seeking to acquire, increase and use knowledge effectively;
- Generating innovative and creative thinking within the organization through the use of relevant information and knowledge resources.

Criterion 5: Processes.

Definition

How the organization designs, manages and improves its processes in order to support its policy and strategy and fully satisfy, and generate increasing value for its customers and other stakeholders.

Sub- criteria

Processes cover the following sub- criteria that should be addressed:

5(a). Processes are systematically designed and managed.

This may include:

- Designing the organization's processes, including those key processes needed to deliver policy and strategy;
- Establishing the process management system to be used;
- Applying systems standards covering for example, quality systems such as ISO 9000, environmental systems, occupational health and safety systems in process management;
- Implementing process measures and setting performance targets;
- Resolving interface issues inside the organization and with external partners for the effective management of end-to-end processes.

5(b). Processes are improved, as needed using innovation in order to fully satisfy and generate increasing value for customer and other stakeholders.

This may include:

- Identifying and prioritizing opportunities for improvement, and other changes, both incremental and breakthrough;
- Using performance and perception results and information from learning activities to set priorities and targets for improvement and improved methods of operation;
- Stimulating and bringing to bear the creative and innovative talents of employees, customers and partners in incremental and breakthrough improvements;
- Discovering and using new process designs, operating philosophies and enabling technologies;
- Establishing appropriate methods, for implementing change;
- Piloting and controlling the implementation of new or changed processes;
- Communicating process changes to all appropriate stakeholders;
- Ensuring people are trained to operate new or changed processes prior to implementation;
- Ensuring process changes achieve predicated results.

5(c). Products and services are designed and developed based on the customer needs and expectations.

This may include:

- Using market research, customer surveys and other forms of feedback to determine customer needs and expectations for products and services both now and in the future and their perceptions of existing products and services;
- Anticipating and identifying improvements aimed at enhancing products and

- services in line with customers' future needs and expectations;
- Designing and developing new products and services to address the needs and expectations of customers;
- Using creativity and innovation to develop competitive products and services;
- Generating new products with partners.

5(d). Products and Services are produced, delivered and serviced.

This may include:

- Producing or acquiring products and services in line with designs and developments;
- Communicating, marketing and selling products and services to existing and potential customers;
- Delivering products and services to customers;
- Servicing products and services where appropriate.

5(e). Customer relationships are managed and enhanced.

This may include:

- Determining and meeting customers day to day contact requirements;
- Handling feedback received from day to day contacts including complaints;
- Proactive involvement with customers in order to discuss and address their needs expectations and concerns;
- Following up on sales, servicing and other contacts in order to determine levels of satisfaction with products, services and other customer sales and servicing processes;
- Seeking to maintain creativity and innovation in the customer sales and servicing relationship;
- Using regular surveys, other forms of structured data gathering and data gathered during day to day customer contacts in order to determine and enhance customer relationship satisfaction levels.

Annexure-II

SUPPLEMENTS TO THE GUIDELINES FOR ASSESSMENT OF ENABLING PARAMETERS.

a) Data Collection

Data will be collected through a questionnaire. Each of the questions will relate to a select area of address covered in one of the sub- criteria mentioned under enabling parameters under **Annexure I**. Responding organization is required to answer the question with necessary supporting evidences. An answer should include quantitative or qualitative or both kinds of data.

Those data to be furnished may relate to process or output aspects of each of the enabling criteria / sub-criteria.

b) Evaluation

Response on each of the questions will be evaluated based on the process maturity model. The evaluation will follow a graded ranking method where markings will be made in two stages - course and final ones.

c) Illustrations

(Criteria, sub-criteria and areas to address mentioned below are quoted from **Annexure-I**, Recommended Guidelines).

Example -I

Criteria	-	Leadership
Sub-criteria	-	Leaders develop the mission, vision and values and are role models of a culture of Excellence.

Areas to address: Developing and organization's mission and vision.

Questions :

- a) Please state the vision for the enterprise.
- b) How have you arrived at the vision?
- c) How do you ensure the continuing relevance of the above vision?

Example-II

- Criteria - Leadership
- Sub-criteria - Leaders are involved with customers, partners and representatives of society.
- Area of address - Supporting and engaging in activities that aim to improve the environment and the organization's contribution to society.

Questions :

- a) What is your organization policy for corporate social responsibility?
- b) What are the institutional set ups for delivery of the intended responsibility?
- c) What is the nature of activities undertaken especially with identified criteria?

Example-III

- Criteria - Partnerships and resources
- Sub-criteria - Building, equipment and materials are managed.
- Area of address - Managing and maintenance and utilization of assets to improve total asset life cycle performance.
- Sub- Area - Facility maintenance planning and control.

Questions

- a) Describe your maintenance policy.
- b) Describe the process of maintenance planning and control. c)
Describe the process of improving maintenance practices.

d) Timing:

The final questionnaire will be sent to each of the responding organizations in due course of time.

CUT OFF VALUES FOR OBJECTIVE PARAMETERS				
Objective Parameters	Weightage	Unit of measurement	Target	Cut off
5.1 GROWTH IN CRUDE STEEL PRODUCTION	2			
Efforts to increase the economies of scale - growth in crude steel production (CAGR)		3 yrs CAGR	10%	2%
5.2 EFFICIENCY OF OPERATIONS	18			
5.2.1 Carbon Rate/CDI in BF / Carbon Rate in Corex Furnace/ Fuel Rate in HBI-DRI Kiln	3			
(a) (i) Carbon rate in Blast Furnaces	1	Kg/thm	430	500
(a) (ii) Improvement in carbon rate over previous year	1	%age	5	0
(a)(iii) Injection of Auxiliary fuels in Blast Furnace	1	Kg/tonne	175	50
(b)(i) Carbon rate in Corex Furnaces	2	Kg/thm	700	800
B(ii) Improvement in Carbon rate in Corex Furnaces over previous year	1	%age	5	0
(c)(i) Fuel rate in HBI Furnace / DRI Kilns	2	G. Cal/t	2.5 (Gas Based) 5.2 (Coal based)	3 (Gas based) 6.2 (Coal based)
(c)(ii) Improvement in fuel rate over previous year	1	%age	5	0
5.2.2 Blast Furnace, Corex Furnace, HBI Shaft or DRI Kiln Productivity	3			
(a) (i)BF / Shaft Furnace / Rotary Kiln Productivity	2	t/m3/day	2.8	1.5
(a)(ii) HBI/DRI shaft furnace productivity	2	t/m3/day	9.0	8.0
(a)(iii) Rotary Kiln Productivity	2	t/m3/day	0.4	0.32
(a)(iv) Improvement in BF/Shaft Furnace/Rotary Kiln productivity over previous year	1	%age	5	0
(b) (i) COREX Furnace Productivity	2	t/hour	100	85
(b)(ii) Improvement in Corex Furnace Productivity over previous year	1	%age	5	0
5.2.3 (i) (Steel Furnace Productivity	2			
Steel Furnace Productivity- BOF		hts/converter/yr	12000	6000
Steel Furnace Productivity - EAF		hts/converter/yr	10000	5000
Steel Furnace Productivity – CONARC		hts/converter/yr	7000	3500
5.2.3(ii) Improvement in steel furnace productivity over previous year	1	%age	5	0
5.2.4 Overall Specific Energy Consumption	6			
5.2.4.1 SEC as per WSA methodology with the concept of Balanced Production Ratios	4			
Energy Consumption (BF / Corex - BOF Plants)		G. Cal / tcs	5.2	6.7

Energy Consumption (Coal based HBI / DRI + EAF Plants)		G. Cal / tcs	6.8	8.3
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Energy Consumption (Gas based HBI/ DRI+ EAF Plants)		G. Cal / tcs	5.0	6.5
5.2.4.2 Improvement in Specific Energy Consumption (SEC) over previous year	2	%age	5	0
5.2.5 Labour productivity	1			
Labour Productivity (BF+BOF Plants)		t/man/year	500	200
Labour Productivity (Corex + BOF Plants)		t/man/year	800	400
Labour Productivity (DRI/HBI + EAF/CONARC Plants)		t/man/year	1800	800
5.2.6 Improvement in Labour productivity:	2	%	5	0
5.3 FINANCIAL PERFORMANCE	6			
5.3.1 Gross Margin / Turnover Ratio	1	Ratio	30%	10%
5.3.2 Improvement in Gross Margin/Turnover Ratio over previous year	1	%	Best value among participating plants	lowest value among competing plants
5.3.3 Gross Margin / Average capital employed	1	Ratio	90%	20%
5.3.4 Improvement in Gross Margin/Average Capital employed	1	%	Best value among participating plants	lowest value among competing plants
5.3.5 Turnover / Inventory	1	Ratio	12	5
5.3.6 Expenditure capitalized over gross block	1	Ratio	10%	5%
5.4 EFFORTS TOWARDS VALUE ADDITION AND PRODUCT DEVELOPMENT :	2			
Percentage Increase in average net sales realization per tonne		%	Best value among participating plants	lowest value among competing plants
5.5 ENVIRONMENT MANAGEMENT	10			
5.5.1 Emission of CO ₂ Gases	2			
BF / Corex + BOF Plants		tonne / TCS	2.3	3.0
Coal based HBI / DRI +EAF/CONARC Plants		tonne / TCS	3.0	3.7
Gas based HBI/ DRI+ EAF/CONARC Plants		tonne / TCS	1.4	2.1
5.5.2 Improvement in CO ₂ Emission over last year	1	%	5	0
5.5.3 .Particulate Matter (PM) emissions from chimneys	1	Kg/tcs	0.1	1.0
5.5.4 Specific Effluent Discharge	1	m ³ /tss	0	2.4
5.5.5 Material Efficiency as per WSA	1	%	Best value among participating plants	lowest value among competing plants

5.5.6 Specific Consumption of Raw Materials	1	Tonne/TCS	3.2	4.2
5.5.7 Solid Waste Utilization	1		Best value among participating plants	lowest value among competing plants
5.5.8 (i) Water Consumption	1	m ³ /tcs	2	6
5.5.8 (ii) Improvement in water Consumption over previous year	1	%age	5	0
5.6 SAFETY	4			
5.6.1 Frequency Rate	1	Number	0.0	1.0
5.6.2 Severity Rate	1	Man days/mill man hrs	0	1000
5.6.3 Fatalities	2	Numbers	Zero Fatality: 2 1 fatality: 0 2 fatality: (-) 1 3 Fatalities or more: (-2)	
5.7 THRUST ON RESEARCH & DEVELOPMENT	3			
5.7.1 Investment on R&D as percentage of Turnover	1	%	1	0.1
5.7.2 No. of publications	1	Numbers	8	2
5.7.3 No. of IPRs	1	Numbers	5	1
Total of objective parameters	45			