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## **Production Energy Management System**

### **PURPOSE:**

- A. To describe planning activity for efficient energy planning.
- B. To specify methods to be followed to achieve controlled conditions required for Pig Iron production.
- C. To describe precautions to be observed and actions to be taken for maintaining suitable working environment and for compliance with statutory requirements in the following key areas.
  - a. Cost of Production.
  - b. Environmental impacts.
  - c. Reduction in resource depletion.
  - d. Efficiency of the operations.

### **1.0 SCOPE:**

Applicable to production of pig iron in blast furnace and planning activities required for this. Energy sources are identified as Coke, LPG, Diesel and fire wood. Contractor earth moving equipment / company / vehicles earth moving equipment are not considered for energy performance monitoring system.


### **2.0 RESPONSIBILITY: EMPLOYEES WORKING IN THE BLAST FURNACE OPERATION**

- |     |   |   |
|-----|---|---|
| 2.1 | Energy planning for Process.  | Responsibility: HOD                           |
| 2.2 | Energy Review.  | Responsibility: HOD                           |
| 2.3 | Energy Base Line.   | Responsibility: HOD                           |
| 2.4 | Preparation of Energy performance indicators.                         | Responsibility: HOD                           |
| 2.5 | Energy Objectives, Energy targets, and energy management action plan. | Responsibility: HOD                           |
| 2.6 | Training and awareness.   | Responsibility: Associate Manager Production. |
| 2.7 | Monitoring, measurements and other requirements                       | Responsibility: Associate Manager Production. |

- 3.0** Competency requirement for Production department is been intergraded with QEHS policy and termed as IMS.

### **4.0 PERFORMANCE INDICATORS:**

Sr. No.	Measure	Unit	Frequency	Acceptance Criteria	Responsibility
<b>Quality</b>					
1	Sp Energy consumption	KWH/THM	Daily	As per Budget	HOD Operation

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Environment					
1					
Safety					
1					

## 5.0 PROCEDURE:

### 1.0 Energy Planning:

This energy planning consists of identifying energy consuming points, energy source, Identifying variables and significance etc.

Based on the base lines, objectives are selected and action plans are to be framed. Budgeted figures shall be considered for Base line. For budgeting, last year figures, market demand, furnace availability, raw material availability and other requirements shall be considered. For the same Production Control document shall be referred. Coke is considered as significant energy source and significant deviation is considered as 5% on actual coke rate. If deviation is more than 5% cause shall be explained in the remark column. If any major break down or remarkable deviations are there, then CAPA shall be prepared.


If the deviation is due to the following, then CAPA is exempted.

1. Use of high LOI local ores.
2. Planned shutdowns.
3. Furnace banking.
4. Raw material shortage.
5. More down time to high pig iron inventory.
6. Use of wet coke (business decision).
7. And deviation due to business decision (management).

### 2.0 Legal Requirements:

Production is not directly responsible for taking any legal or other requirements. But they have to the follow guidelines in the legal requirements.

1. Environmental Clearance from MoEF for setting up the Process Plant. (Valid upto a period for next 5 years or setting up of the plant whichever is earlier)
2. Consent to Operate from GSPCB, (Valid upto a period of next 3 years or setting up of the plant whichever is earlier)
3. Panchayat Approval

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4. Goa Industrial Development Corporation Approval. License to Run a Factory from Inspectorate of Factories & Boilers (Valid for period of 5 years & then needs to be renewed periodically)
5. Consent to Operate under Air & Water Act from GSPCB (Valid for period of 2 years & then needs to be renewed periodically)
6. Hazardous Waste Authorisation (Valid for period of 2 years & then needs to be renewed periodically)
7. Licenses for storage of Petroleum Products & Gas Cylinder Storage from Jt. Chief Controller of Explosives.
8. Approval of Electrical Installation; License from Inspector Goa Electricity Board
9. Boiler License from Inspectorate of Factories & Boilers
10. License to draw water from Ground Water Table, Surface water bodies, etc.
11. License to Operate Jetties from Captain of Ports.
12. Energy Conservation act, 2001 No: 52 2001.
13. Energy Manager shall submit the annual Energy consumption to the designated agencies and BEE section 14(1).

### 3.0 Training and awareness among the staff and workmen:

During departmental training to all staff, workmen and including contractor workmen training shall be given to all on Energy Management system, objectives and achievements etc.

### 4.0 Operational control: For operational control a guidelines for operating BF is being established and shall be followed for running both blast furnaces efficiently.

#### 5.0 Design modifications:

For any modifications or new design of any process or equipment, energy efficiency shall be considered.

#### 6.0 Procurement of energy services, products, equipment and energy:

For any services like equipment service, procurement of products, and any material, energy efficiency or energy saving concept shall be enforced right from the contract stage.


#### 7.0 Monitoring, measurement and analysis:

Each action plan shall be monitored based on their requirement, frequency etc. Deviations are noted in the deviation report, actions need for correction, corrective action and preventive action shall be taken.

#### 8.0 Documentation and Records:

All the documents and Records properly maintained and shall be arranged so that it will easy to retrieve. These records may be soft copies and shall be mentioned in energy planning.

#### 9.0 Reference Standards:

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ISO 500001 Section 4.0 to 4.7.

## 6.0 RECORDS:

<b>Sr. No.</b>	<b>Record No.</b>	<b>Record Title</b>	<b>Maintained by</b>	<b>Soft/Hard form</b>	<b>Retention Time</b>
1.		Daily VAB report	Reporting officer	Soft	NA
2.					
3.					
4.					
5.					
6.					

<b>Prepared By:</b> Head – Production PID I	<b>Reviewed &amp; Issued By:</b> Management Representative	<b>Approved By:</b> Head – Pig Iron Division
<b>Signature:</b>	<b>Signature:</b>	<b>Signature:</b>
<b>Date: 12.07.2021</b>	<b>Date: 12.07.2021</b>	<b>Date: 12.07.2021</b>