



Need of Introduction of ENCON Equipments from Energy Conservation Best Practices in Steel re-rolling mill

Furnace :

1. **Recuperator** to be installed to recover waste heat, of which flue gas temperature is beyond 200C
2. Installation of **temperature instruments** are being done to control furnace temperature at soaking and heating zones in order to achieve fuel saving, etc.
3. Suitable **flue gas analyzer** are being used and checked all the parameters at least once in a month for proper combustion in the furnace.

Burners :

Use **thin film burners** are being popularized in place of conventional burners. Good thin film burners have been developed by PCRA & IIP Dehradun which increases **energy transfer from primary air to fuel oil to 70%.**

Fuel Handling and Operation :

1. To remove contaminants **FO filtration system** are being equipped with filter mesh sizes as follows.
 - a. Between Lorry & main storage tank-mesh size 10
 - b. Between service tank & pre-heater- mesh size 40
 - c. Between pre-heater and burner- mesh size 100
2. Water draining facility are being provided and regularly water draining being done, which reduces sludge formation, erosion of burners and damage to the refractories.
3. Storage Temp & Pumping Temp: Heating by Steam coils & Out flow heater upto pumpable temp .
4. Tanks are painted black for Heat absorption



Electrical Systems:

1. **Install additional KVAR** for power factor improvement.
2. **Install VFD** for DG cooling water pump or where load varies heavily.
3. Use **high efficiency fans**.
4. **Replace faulty capacitors** to avoid excess power consumption.
5. Replace under loaded / overloaded motors with **proper size motors**.
6. Replace the motors with **energy efficiency motors**.

Lighting : Following are being suggested

1. Replace 40W Tube light by **slim 28W Tube light** and electromagnetic choke with **electronic choke**.
2. Replace 400 Watt Mercury Vapor lamps with 250 Watt **sodium vapor lamps** or 250 W **metal halide lamps**.
3. Provide more **transparent sheet** instead of asbestos sheets to use natural light.

Operational Measures:

1. **Prevent idle running** of equipment by providing interlocking arrangement and operating with PLC system. Generate daily report on idle running of equipment, also in terms of monetary losses.
2. Establish **efficient management information system** for identifying various important parameters for efficient operation of the equipment and taking timely remedial measures.