

## **Castrol India Limited Patalganga Plant, Dist. Raigad, (Maharashtra).**

### **Unit Profile**

Patalganga Plant of Castrol India Limited, one of the flagship lubricants blending and filling unit is situated at Patalganga Industrial Area, in Raigad District, approx. 60 KMs from Mumbai in Maharashtra State. The plant manufactures Automotive and Marine lubricants, Brake Fluids and Coolants. This plant produces approx. 40% of the overall lubricants manufactured by Castrol India Ltd.

The Plant is ISO 9001-2000 and ISO 14001-1996 Certified.

This Plant is a part of the global Lubricants Supply Chain business of BP Group, with unique Quality, HSSE and Environmental Policies.

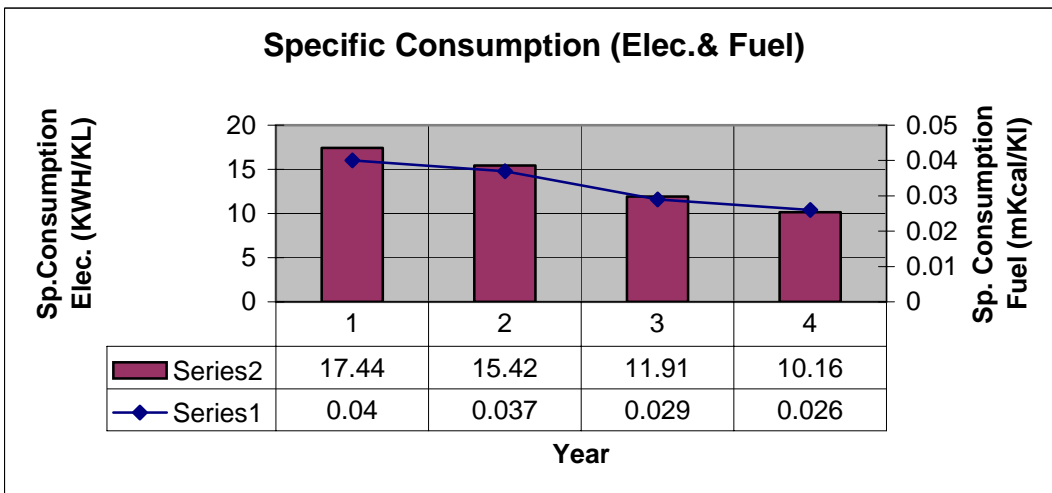
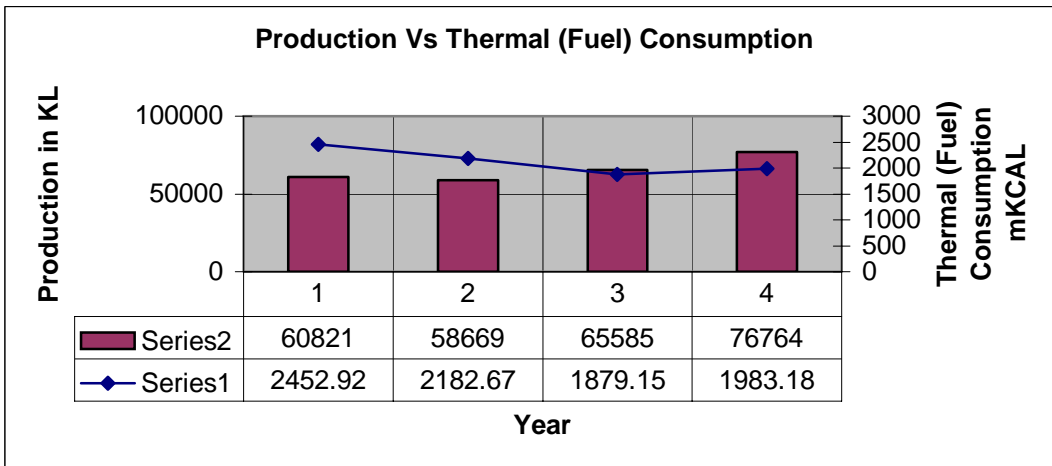
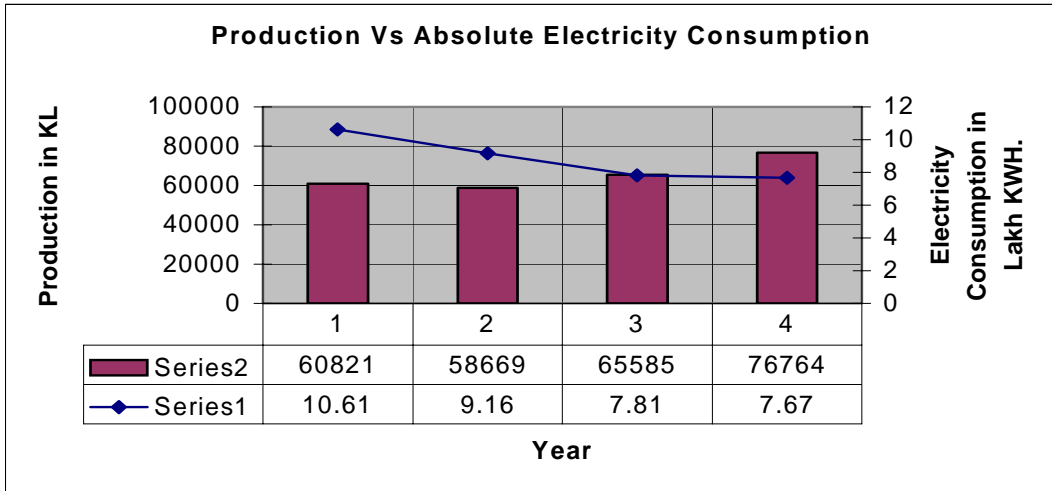
### **Energy Conservation Drive**

The Energy Conservation drive was started in the year 2001 as an integral part of Environmental Management System with the objectives of improving environmental performance & reducing energy cost. It is the continual improvement measure undertaken by the plant to comply environmental management system requirements. Accordingly, various energy conservation projects were undertaken to reduce the use of natural resources, minimization of wastage and create awareness amongst employees on energy conservation. The drive touched each & every aspect of energy consumption right from storage, transfer, process, usage, wastage, optimum performance to innovation & new technology.

For the extensive efforts put in by the plant, results were impressive and encouraging ( Considering 2001 as base year till 2004 ).

- For 26% increase in Production,
  - # Energy cost reduced by 27%. ( from Rs. 78.44 lacs/- to Rs.57.06 lacs/-)
  - # Absolute electricity consumption reduced by 27%. ( 281,270 KWHRs ).  
( from 10,60,929 KWHRs to 7,79,659 KWHRs)
  - # Absolute furnace oil consumption reduced by 19%. (48,863 Ltrs.).  
( from 2,55,141 ltrs to 2,06,278 ltrs)
  
- Specific Consumption of electricity reduced by 41% from 17.44 KWHRs to 10.16 KWHRs/KL.
  
- Specific Consumption of furnace oil reduced by 36% from 4.24 Ltrs./KL to 2.71 Ltrs./KL.
  
- Reduction in CO2 emission level from 0.026 per Ton KL of oil to 0.015 per Ton KL of oil. i.e., reduction of around 42%.
  
- Reduction in batch cycle time, maintenance cost and higher performance reliability.
  
- Compliance of environmental management system requirements as committed in Environment Policy.

**Energy Consumption trends for the period 2001 to 2004.**



Some of the major projects executed in the year 2004.

1. Solar Hot Water Heating System for Canteen
2. Condensate Pumps for higher recovery of condensate & reduce BCT.
3. Replacement of old pumps by energy efficient pumps.
4. Energy Efficient Tubelights.
5. Modification of condensate transfer lines.
6. Capacitors across motor terminals & transformer.
7. Rationalization of oil transfer lines to reduce losses.
8. Modification of Induction Heat Sealing Machines.

### **Energy Conservation Achievements**

The plant has participated and won the National Energy Conservation Awards 2004, Certificate of Merit in the Petrochemical Sector.

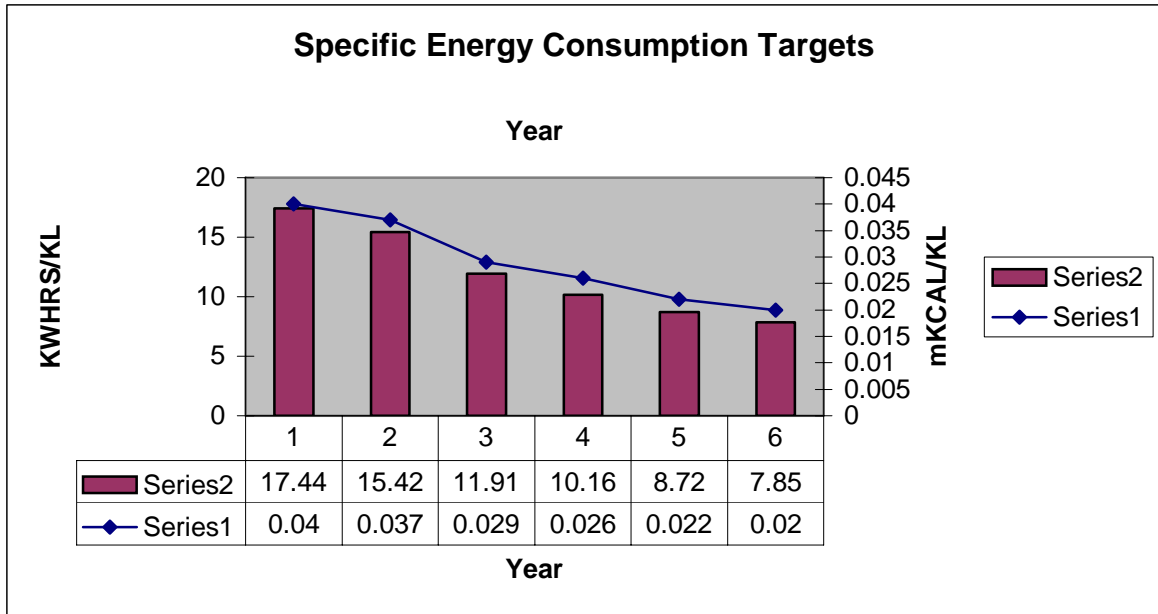


### **Energy Conservation Plans & Targets**

The following major Energy Conservation Projects are streamlined for the year 2005.

1. Solar Street Lights.
2. Steam Flow-meter.
3. Replacement of conventional tube lights by Energy Efficient tube lights.
4. Replacement of old inefficient pumps by efficient pumps.
5. Efficient heat exchanger for base oil heating for reduction in blend time

The Specific Energy Conservation targets set by the plant for the year 2005 & 2006, are as below.

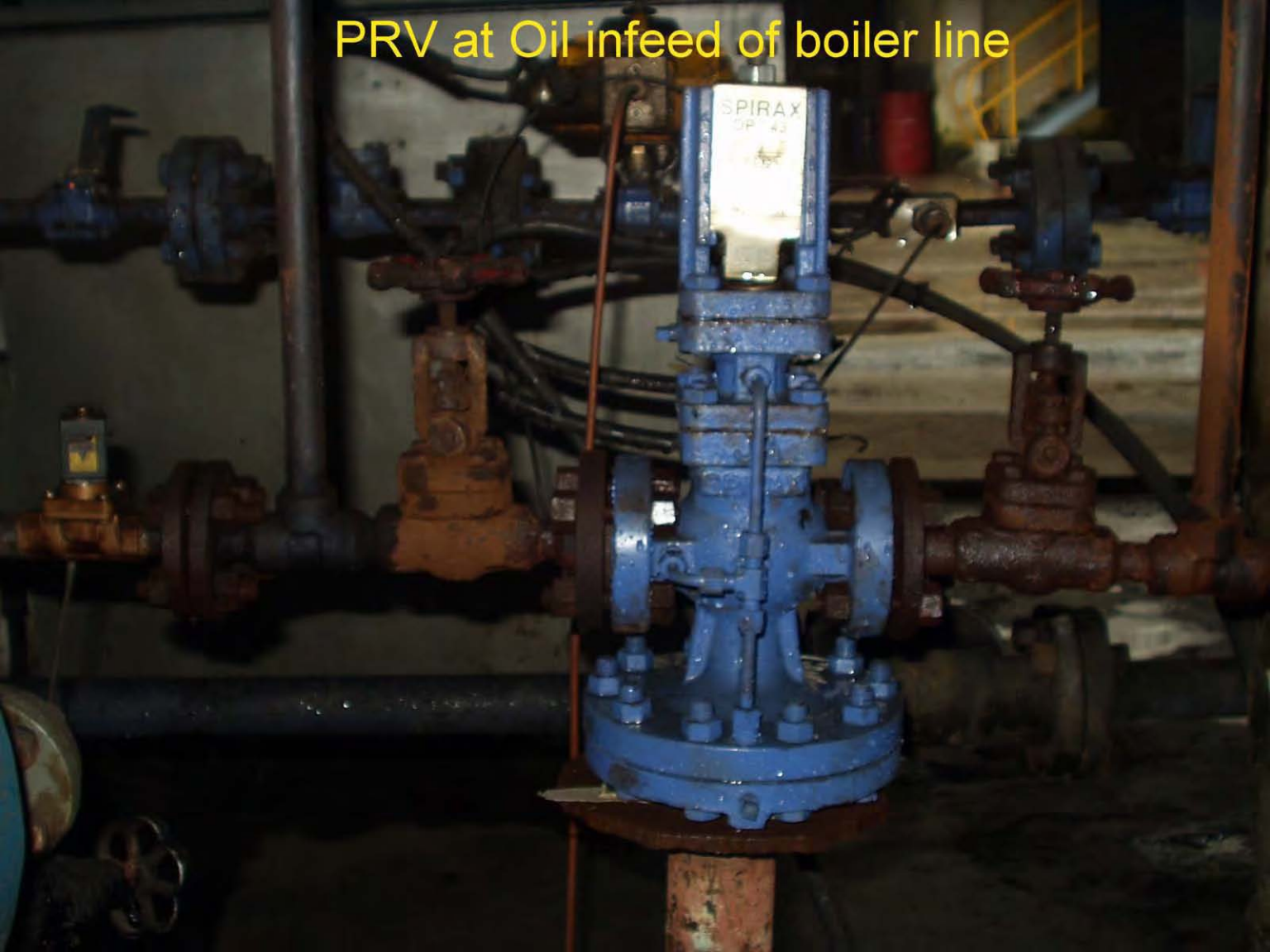


Castrol:Patalganga Plant.

# Energy Saving light



PRV at Oil infeed of boiler line



De-aerator head -Boiler feed water tank



# Automatic Power Factor control Panel



# Capacitor panel for transformer



# Automatic voltage controller



# PLC panel - Blending plant

Electrical & Instrumentation work

RECHNER

23165

VII OPERATOR PANEL

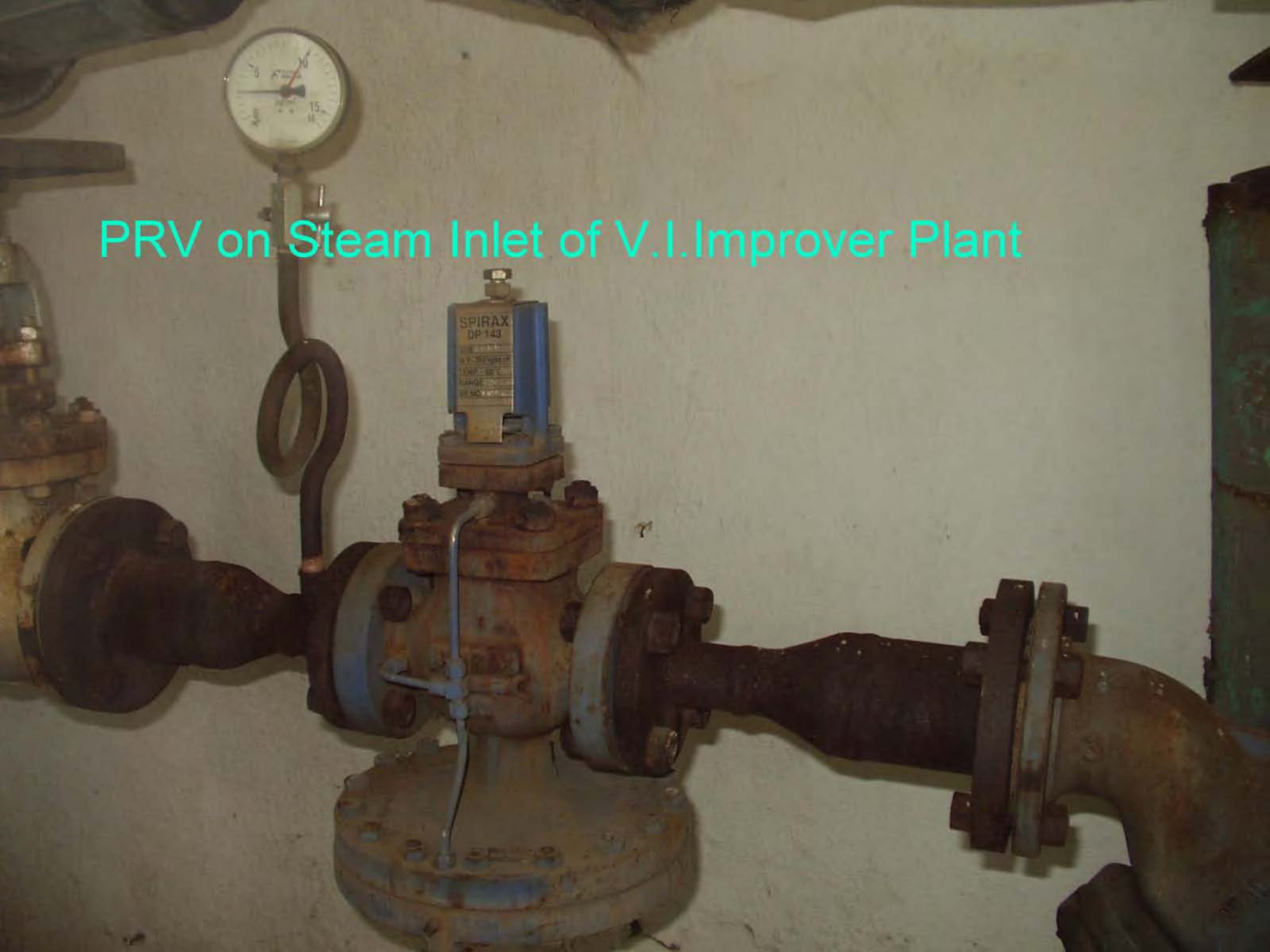


स्विच बंद कर नका  
DO NOT SWITCH OFF

Instrumentation & Electrical work  
22.3.12



PRV on Steam Inlet of V.I.Improver Plant



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नमुना जगति  
दिव्योत परासद विता  
अंदर जाता मना हे  
साल्दत रन. 4

P-212



New screw pumps replaced in place of old pump



Condensate Pump

# Condensate Pump with Flash vessel



# Heat Exchanger for Blending vessel





Steam traps

# Solar Hot water heating system





Heat exchanger in Tankfarm

# Automatic Temperature Controller

TEMPERATURE CONTROL PANEL FOR R REACTOR

22069

22865

Electrical & Instrumentation work  
22312

T 407

T 408

T 409

T 410

T 407

T 408

T 409

T 410

SW ENGINEERING

The image shows a grey metal control panel for a reactor. At the top, a label reads 'TEMPERATURE CONTROL PANEL FOR R REACTOR'. The panel features a central blue-bordered area containing four digital displays arranged in a 2x2 grid. Each display is labeled with a temperature point: T 407 (top-left), T 408 (top-right), T 409 (bottom-left), and T 410 (bottom-right). Below each display is a small red indicator light. The panel also has a yellow and a blue push-button at the bottom right. At the very bottom, there are four indicator lights, each with a red top half and a green bottom half, labeled T 407, T 408, T 409, and T 410. A small 'SW ENGINEERING' logo is visible at the bottom center. Handwritten numbers '22069' and '22865' are present on the panel. To the right, a portion of another grey panel is visible, labeled 'RECHNER' and '23165'. The background is a concrete wall with blue cables running vertically.

RECHNER

23165

VI

स्विच  
DO NOT

The image shows a grey metal electrical panel from the brand 'RECHNER'. The panel has a vertical slot for a switch and is labeled with 'RECHNER' at the top and '23165' below it. To the right, there is a label in Hindi 'स्विच' (Switch) and 'DO NOT' below it. The panel is mounted on a wall next to the main temperature controller panel.

Auto blowdown controller

