

**INDIAN OIL CORPORATION LIMITED
GUWAHATI REFINERY**

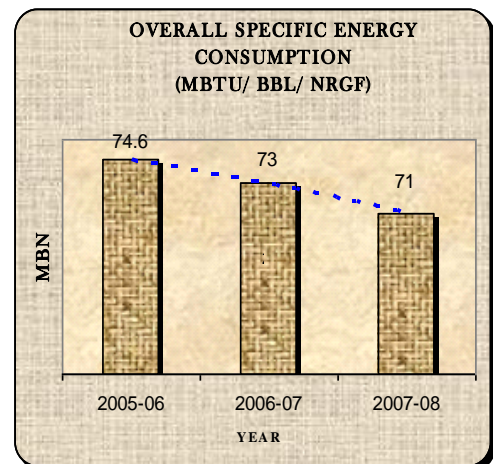
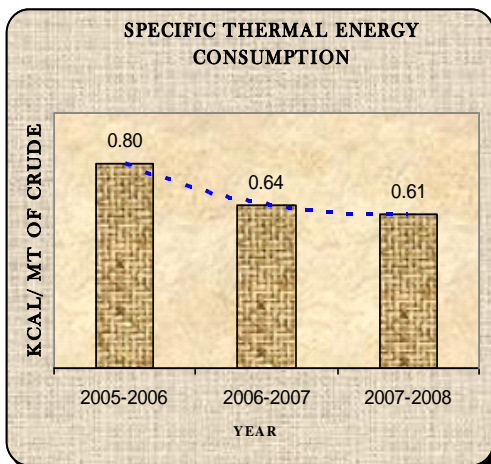
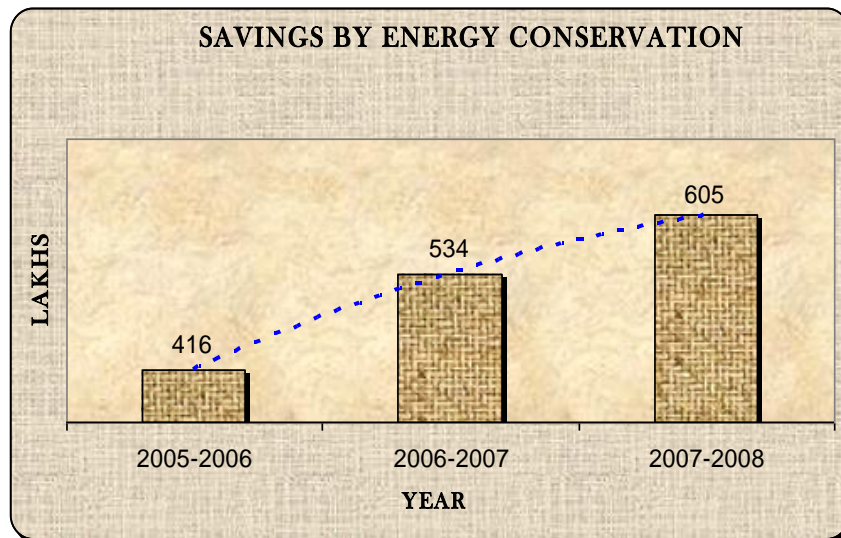
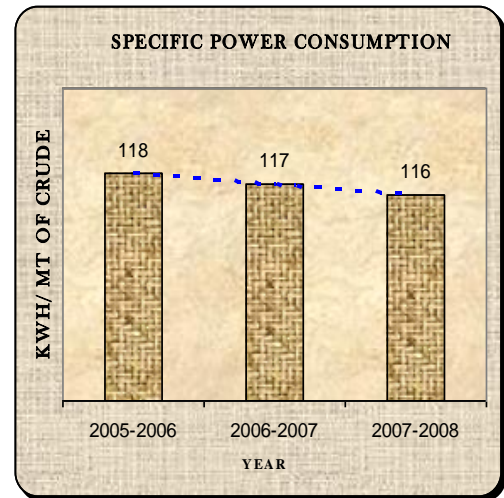
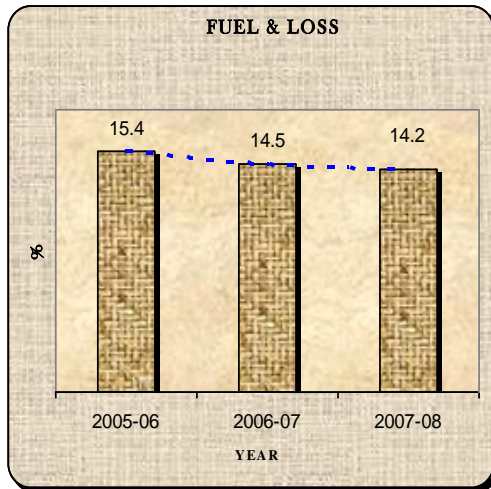
1. UNIT PROFILE

Indian Oil Corporation Ltd. is one of the Nine gems among Indian Public Sector Units and only Indian Company to have secured 116th place in the Hallowed rolls of the “Fortune 500’s corporations of the world”. Ever since its inception, India Oil, besides providing fuel to the country’s progress, has also maintained pace with the most state-of-the-art developments worldwide. Indian Oil has seven operating refineries at Guwahati, Barauni, Haldia, Mathura, Koyali, Digboi and Panipat. Yet another refinery is being set up on the East Coast at Paradip.

The Guwahati Refinery in North East India - the first Public Sector refinery of the country -- was commissioned in 1962 with a capacity of 0.75 MMTPA which was subsequently increased to 1.0 MMTPA through debottlenecking projects. The refinery processes only indigenous crude oil from the Assam oil fields. With its main secondary unit, a coking unit, it produces middle distillates from heavy ends and supplies petroleum products to North-Eastern India, and surplus products onward to Siliguri in West Bengal in 2003. Hydrotreater Unit for improving the quality of diesel has been commissioned in 2002. In 2003, the refinery installed an **INDMAX Unit**, a novel technology developed by IOCL's R&D Centre for upgrading heavy ends into LPG, Motor Spirit and Diesel oil.



2. GRAPHICAL REVIEW OF ENERGY CONSERVATION EFFORTS



3. ENERGY CONSERVATION COMMITMENT, POLICY AND TEAM SETUP



Indian Oil Corporation Limited
Guwahati Refinery



ENERGY POLICY

WE, THE EMPLOYEES OF GUWAHATI REFINERY, COMMIT OURSELVES TO COMPLY WITH ALL REQUIREMENTS RELATED TO IMPROVING ENERGY EFFICIENCY IN PRODUCTION AND DESPATCH OF PETROLEUM PRODUCTS AND CONSERVE ENERGY IN ALL AREAS OF APPLICATIONS. WE SHALL ALSO CONTINUALLY ENDEAVOUR TO IMPROVE THE PERFORMANCE OF ENERGY MANAGEMENT.

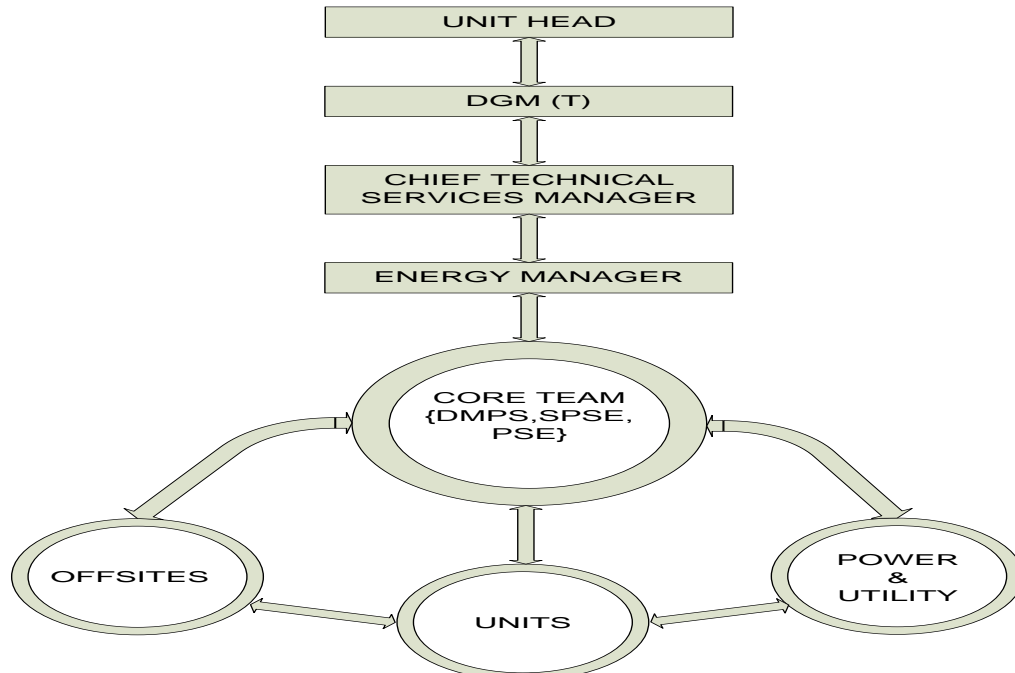
BY

- Adopting energy efficient and environment friendly technologies.
- Benchmarking our performance with the best in the world and endeavouring to be ahead.
- Fostering a culture of participation for continual improvement in energy conservation.
- Propagating the message of avoiding wastage of energy to the community.

Date: 12.04.2007
Place: Guwahati Refinery


G. Bhanumurthy
Executive Director

ENERGY CONSERVATION TEAM STRUCTURE



4. ENERGY CONSERVATION ACHIEVEMENTS

a) Modification in Refinery Fuel Gas Network System

Before:

Flaring of fuel gas due to difference in header pressure of two fuel gas headers.

After:

Modified to single network, thereby achieved proper balance between generation and consumption of fuel gas.

Results:

Energy saved: 200 SRFT /annum
Cost saved : Rs 39 Lakhs /annum



b) Calcium Silicate Insulation in high temperature steam and process

Before:

Loss of heat due to old glass wool insulation in high temperature steam and process lines

After:

Net gain of 2500 MMkCal/ Annum energy after application of calcium silicate insulation

Results:

Energy saved: 250 SRFT /annum
Cost saved : Rs 49 Lakhs /annum



c) Steam leak reduction by replacing defective traps

Before:

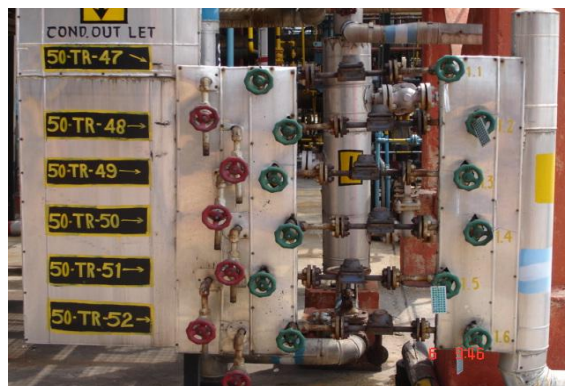
Steam loss of 1.5 MT/ hr due to trap leaks and improper trap selection.

After:

1.0 MT/ hr steam loss reduced by rectifying steam traps

Results:

Energy saved per annum : 500 SRFT /annum
Cost saving per annum : Rs 98 Lakhs /annum



d) INDMAX Unit Heat Integration

Before:

About 3500 MMkCal/ Annum of heat wasted in cooling water.

After:

Heat integration of hot and cold streams done and about 250 MMkCal/ hr heat recovered.

Results:

Energy saved per annum : 250 SRFT /annum

Cost saving per annum : Rs 49 Lakhs /annum



5. ENVIRONMENT & SAFETY

The Refinery's concern for Environmental Protection is demonstrated by full compliance of MINAS (Minimal National Standard) specifications with respect to quality and quantity of its treated effluents. A modern Effluent Treatment Plant (ETP), full fledged Pollution Control Laboratory and the strategy for maximising reuse of treated effluent in the refinery ensure adherence to such exacting standards. The balanced treated effluent is finally discharged into river Brahmaputra. The emissions from the Refinery as well as ambient air quality in the Refinery fully comply with the notified standards. Extensive tree plantations and development of Ecological Park, Environment Park and Sanjeevini Udyan in and around the Refinery spearhead Refinery's efforts to the cause of ecological balance. Periodic campaigns are carried out in the neighborhood to bring home the importance of a clean environment.

Safety is accorded the highest priority at all times. Refinery has a well-equipped Modern fire station with elaborate fire protection facilities covering the entire Refinery. Gas Detection System and automatic water sprinkler are also provided in critical areas like LPG facilities. Extensive Awareness Programmes, Safety Audits, Mock Drills on Emergency Preparedness Plans are carried out to ensure safety and alertness.