

#### Overview

**Country or Region:** India

**Industry:** Oil & Gas

#### Customer Profile

Hindustan Petroleum Corporation Ltd. (HPCL) is a Government of India enterprise with a 'navratna' status, as well as a Fortune 500 and Forbes 2000 company. Its annual turnover during FY 2012-13 was Rs. 1,90,048 crore. It operates two major refineries producing a wide variety of petroleum fuels and specialties. The capacity of these refineries in Mumbai (West Coast) is 6.5 Million Metric Tonnes Per Annum (MMTPA) and in Vishakapatnam (East Coast) 8.3 MMTPA respectively.

## HPCL deploys Larsen & Toubro's Terminal Automation Solution for largest black oil terminal in Vizag



#### The Need

Since the terminals are becoming more strategic than ever before, HPCL decided to develop the modern black oil terminal on a 38-acre plot of land within a record time of 15 months using all advanced project management techniques. The primary focus was on accuracy and availability of operation while maintaining high safety and security standards at the storage terminals.

HPCL placed the order to supply and commission the Terminal Automation System for Black oil Terminal at Vizag with Control & Automation (C&A) business unit of L&T Electrical & Automation (EAIC), an independent company of Larsen & Toubro Limited (L&T).

The primary task was to complete design, engineering, supply, installation, testing and commissioning of Terminal Automation Solution in less than eight months to handle 94,000kL products like FO-180/380/500, Bitumen, LVFO, FO Blend, LSHS, HFHSD, LDO, JBO and Lube Oil. This project had strategic importance

as it has created space for Visakha Refinery expansion for the production of EURO IV grade fuel (Diesel Hydro Treatment Unit Project).

#### The Solution

The project goals were safe and efficient operation of the Terminal while at the same time reducing manual intervention and reducing pollution and labour cost. HPCL chose to implement C&A's proven Terminal Automation solution comprising automation, field instrumentation and safety systems.

Completion of the project in a short period involved delivering C&A's proven solutions – the **iVision<sub>max</sub>-I-TAS™** – SIL certified software with high level of integrity along with metering instruments like DCV, Thermal Jacketed Mass Flow Meter suitable for black oil application, Fire Alarm System, Weigh Bridge system for Mass Based loading, VFD Interface, Tank Body and Header Line Valve Automation etc.

The system is built around the **iVision<sub>max</sub>-I-TAS™**, an integrated

## About Us

L&T Control & Automation (C&A) is a Strategic Business Unit of L&T Electrical & Automation. It is a part of Larsen & Toubro – the multi-billion India-based conglomerate. L&T's C&A business is market leader in delivering integrated electrical & automation solutions in India and overseas. With over three decades of experience in diverse industry segments, C&A delivers value through comprehensive solutions based on varied technology platforms and incorporates the benefits of its wide-ranging experience. L&T's state-of-the-art Automation Campus at Navi Mumbai in India has the latest testing and manufacturing equipment. It incorporates a modular manufacturing unit, an application software laboratory and a fully networked office for engineering and project management.

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### Our Integrated Electrical & Automation Solutions:

#### Cement

- Material Handling
- Cement Plant E&I
- Automation Solution for Steel Making

#### Energy Solutions

- LV/690/MV Drive Systems
- Solar PV Products and solutions
- Power Management System
- Availability Based Tariff System

#### Infrastructure

- Airport Baggage Handling Systems
- PMS for Airports & Metro
- ECS & TVM for Metro
- AFC for Metro

#### Oil & Gas

- Integrated Process Control System
- Pipeline SCADA
- Emergency Shut Down System and Fire and Gas
- Terminal Automation

#### Power

- Integrated Controls for Boilers and Turbines
- Station C&I for Power Plants
- E&I for main plant & BOP Systems

platform, that automates and controls petroleum terminals for Tank Trucks, Wagons, Tubes for Black Oil. The solution helps to operate and control a total of 29 TLF loading points, 4 TW loading points and 33 product tanks from receiving to storage to distribution of different fuels.

With its user friendly Graphical User Interface, users can generate different reports like tank trucks, product filling and bay idle reports for the terminal operators to monitor terminal's efficiency.

A range of technologies supplied to the BOT terminal comprise:

- the **iVision<sub>max</sub>-I-TAS™** and terminal management system
- Tank level gauges, Pressure Transmitters, Truck loading metering and control system.
- SIL 3 certified Shutdown System
- Fire & Gas systems
- Industrial security with access control solutions, CCTV and Digital Video Manager

- Access Control System, Fire Alarm System

### Benefits

The **iVision<sub>max</sub>-I-TAS™** solutions have enhanced HPCL's efficiency by reducing operational time while maintaining a safe and healthy environment.

All the terminal operations including MOV were fully automated which has helped in improving the terminal's efficiency.

Post HPCL's inauguration of the terminal on 20th September, 2010, it has been used to successfully fill 65000 lorries. On an average, the terminal handles around 60 tank lorries per day.

C&A has so far delivered Terminal Automation Solution at HPCL Black Oil Terminal, LPG Terminal at Vizag, White Oil Terminals at Ajmer and Jaipur which has helped these companies to increase the efficiency of their terminals with zero accidents reported so far.

