

# TOTAL Lindsey Oil Refinery



**Location:**  
Immingham, UK

**Systems:**

**CEM:**

- AC2000 SE (Standard Edition)
- S600e Card Reader
- S3010 Portable

Covering a 500 acre site, Total Lindsey Oil Refinery (LOR) is based in Immingham and is currently Britain's third largest oil refinery with a processing capacity in excess of 10 million tonnes per annum (over 200,000 barrels per day). Coming on-stream in 1968 and having recently received a £26m investment upgrade, the facility incorporates some of the most technically advanced refining and conversion processes available in Europe.

## Cem Refines Access...

The CEM AC2000 SE (Standard Edition) access control system has been securing LOR's 24 hour operational processing units, laboratory, gates and external administration buildings since July 2005. The system was seamlessly installed by CEM Approved dealer SDA Protec and is vitally restricting entry to the refinery as well as monitoring the movement of authorised visitors, employees and contractors. As security at the refinery is of paramount importance, the system has enabled LOR to maximise security and create an efficient and totally secure, self contained site.

Over 70 CEM Ethernet based card readers are installed at the site, streamlining access in/ throughout the refinery. Using CEM intelligent S600e card readers with embedded mifare technology, access is only granted to personnel with a LOR smart card, which has been issued and designed using the CEM integrated AC2000 Visual Imaging and Pass Production System (VIPPS). Installed both outdoors on external entrance gates and on the plant floor, the S600e readers proved ideal for the refinery with their offline database feature and ability to withstand power surges.

## Software Customization...

*"CEM worked closely with LOR to provide an advanced solution that involved customization of the AC2000 SE system software to meet our specific requirements. This included a new software module and specific reports to help us control and monitor movement in the unique environment that we operate," commented Mick Tutty, Head of Safety Services (LOR).*

A "Zone Monitor" software module was developed specifically for LOR providing a real time display/ numerical counter of every individual in the facility including a clear and detailed presence report of staff on site and the area zone they are operating in updating as people enter or exit. LOR can conduct reports including date, time, location/zone, as well as most recent activity of cardholders. Searches are also easily performed by safety officers giving LOR a quick and accurate zone total of specific person(s) on site.

A "Mustering" module was also developed to allow LOR to keep track of staff in the event of an emergency. The "In Zone" and "Muster" report's generated from this module enable the emergency services to determine who if anyone is still in the danger area in the event of a hazard.

## Situation Monitoring...

Using the CEM Alarm Event Display (AED) module, LOR security officers can view the current state of all devices/alarms on the entire AC2000 SE system. With graphical software maps of the refinery installed on the AED application, LOR security officers are quickly informed of error situations in the form of real time graphical, audio and text-based alarms.

Using CEM S3010 portable hand held readers, LOR also carry out roaming checks throughout the refinery, setting up emergency and temporary check points should hazards arise.

As one of the most advanced refineries in Europe, LOR are using the CEM AC2000 SE system to meet the unique requirements of their refinery environment. The system is contributing towards the safety of LOR employees and contractors as well and the surrounding environment and is helping maintain LOR's high rating on the International Safety Rating System (ISRS).

Since the initial system installation LOR has continually identified innovative ways of using the AC2000 SE system to enhance and improve their daily operations. Utilising the CEM AC2000 Time and Attendance module, LOR can now also compile reports on the number of hours/ shift patterns worked by the 700 employees/contractors employed on a full and temporary basis at the refinery. Using existing mifare cards and readers for both access control and time and attendance, reports are then used for accurate salary allocation.

## Future Integration

LOR future goal is a totally integrated security and operational solution. In the pursuit of this goal LOR is planning future integration with the AC2000 SE system with applications such as Automatic Number Plate Recognition.

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