



Omniflex protects tank farms for Simon Storage.

Omniflex supplies new distributed safety critical site wide high level tank farm & utility monitoring annunciator systems to Simon Storage.



bulk liquid & gas network



Seal Sands Tank Farm protected by Omniflex alarm systems.

When Simon Storage decided to upgrade their legacy Rochester and Sentry annunciator systems across four of their terminal sites, they chose Omniflex to provide a new SIL rated alarm annunciator system which included high-high, tank level hardwired safety critical alarms, serially derived alarm events from site-wide utilities and interfacing to existing SCADA based control/inventory systems.

Omniflex working closely with P&I Design successfully provided its distributed site wide High Level Tank Farm / Utility Alarm Annunciator systems on Simon Storage's, Seal Sands, Immingham and Riverside sites.

Simon Storage

Simon Storage is a leading European independent bulk liquid and gas logistics service provider. It has eight terminals with a combined storage capacity of 1.28 million m³ covering a comprehensive range of products in the United Kingdom, Germany and Ireland, and handles more than 250 different products and blends for a wide range of customers.



Riverside Tank Farm

The Challenge

The existing systems were based on Rochester/Sentry difficult to support / obsolete alarm systems, which used combinations of local annunciators and a Microcom network for distributed alarms.

Simon Storage needed to bring these systems up to modern day COMAH standards.

Each site had requirements for combinations of battery backed SIL1 Hardwired Safety Critical High-High Level Tank Monitoring, Alarm / Event monitoring of site services, that all needed to be alarmed at the site central control room.

The layout and classification of the sites meant that a SIL rated distributed alarm system was required.

The Solution

Omniflex were awarded the contracts to supply distributed alarm annunciator systems using their industry proven Alarm and Event Management Systems.

Combinations of local SIL1 Omni16 Remote Logic Units (RLU's) for hardwired alarms, distributed Maxiflex I/O Systems for derived alarms and OmniX high intensity LED display fascia's were used to give local alarm and indication at various locations.

As required by the COMAH Regulations, the alarm system is independent of the basic plant control and ESD systems.

“To implement our Buncefield upgrade strategy we the chose Omniflex for the site-wide alarm system.”

Alan J. Hall

*Project Engineering Manager
Simon Storage Ltd.*



Tanker loading at Immingham

“The Omniflex alarm systems we installed conform to BSEN 61511, EEMUA 191 and ANSI-S18.1”

Alan J. Hall

*Project Engineering Manager
Simon Storage Ltd.*

The Result

The alarms system as installed is broken down into three distinctive layers:

Layer 1 –The Safety Critical Alarms which were monitored and displayed by using hardwired SIL1 Omni16 remote logic units driving local OmniX LED displays.

Layer 2 – Operational alarms and events covering such systems as steam, fire, temperature for status monitoring, were provided by using Maxiflex I/O systems to multiplex alarms to serially driven Omni16 remote logic units again driving local OmniX displays.

Layer 3 - All alarm and event data was repeated to the main SCADA control system and Inventory Management system via a multiple serial Modbus interfaces from a central Maxiflex data concentrator node.

The systems were networked together over copper and fibre media.

Omniflex's solution provided Simon Storage with a long term supportable high integrity system; which is fully compliant with the latest regulatory requirements.

The system provides reliable, clear and distinctive notification to operating staff, thereby allowing them to take timely corrective action.

“As a result of the Buncefield Major Investigation Board (MIIB) and the Process Safety Leadership Group (PLSG) Simon Storage established a terminal wide philosophy for an Alarm and Event Management System which comprises a number of components including instrumentation for sensing abnormal occurrences, hardware signal conditioning and transmission, alarm processing and display, radio broadcasting with onsite logging and record keeping.

“Omniflex was chosen to provide the site annunciation and alarm system, linking the Process Automation, Tank Gauging systems and Radio Messaging System.

“The annunciation system being designed and installed to conform with BSEN 61511, EEMUA 191: Alarm Systems - A Guide to Design, Management and Procurement and ANSI / ISA-S18.1: Annunciator Sequences and Specifications”

said Alan J. Hall

*Project Engineering Manager
Simon Storage Ltd.*

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REMOTE MONITORING SPECIALISTS



One of the Maxiflex alarm systems supplied by Omniflex.

All enquiries to Omniflex