Stopford

Aviation/Fuel Storage and Distribution Case Studies

Stopford Projects Ltd

Enquiries:

Stopford Projects Ltd
Custom House
Merseyton Road
Ellesmere Port
Cheshire
CH65 3AD
United Kingdom

tel: +44 (0)151 357 7740
fax: +44 (0)151 345 8087
email: company@stopford.co.uk

www.stopford.co.uk

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UKAS MANAGEMENT SYSTEMS 0026

Total Engineering Solutions Provider
Company Registration No. 1630328 VAT Registration No 388 107 726

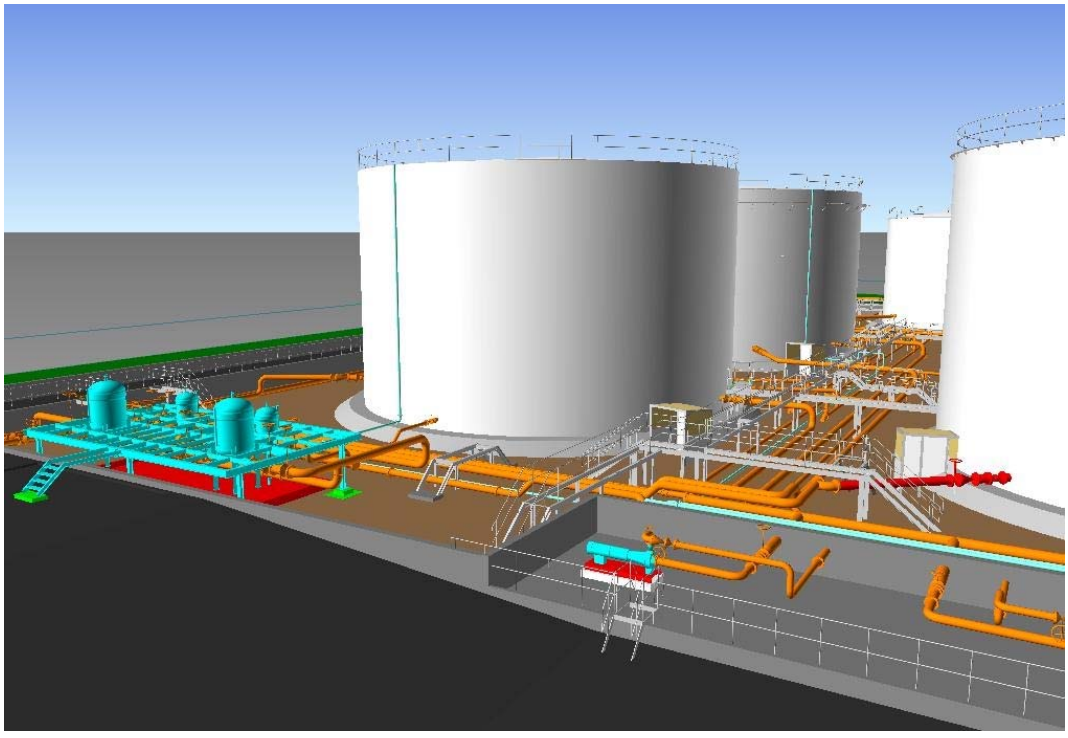
Air BP Case Study

Air BP

Project: Process Safety Consultancy

Client: Air BP

Stopford was awarded a contract to support Air BP in the provision of process safety consultancy and general engineering services. Safety consultancy work include HAZOP studies, LOPA and SIL assessments. General engineering services include the development and updating of engineering practices for Air BP's global aviation fuel installations.



Air BP Case Study

Project: H&S Consultancy

GENERIC HAZOP

Stopford developed a GENERIC HAZOP system which has now been put into effect at all Air BP sites, worldwide. Stopford wrote the standard system specifically for Air BP, which allows the simple implementation of Hazard studies company wide

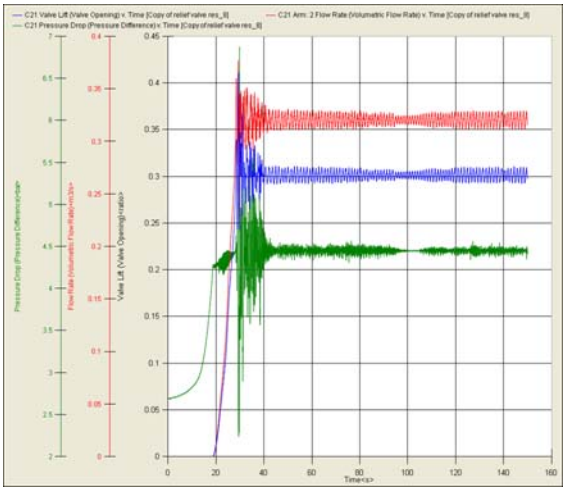
Stopford are assisting Air BP with the implementation of this standard process to all of their sites.

LOPA – Excel Tool

Stopford developed an Excel spreadsheet tool to enable LOPA screening to be conducted effectively at Air BP's 400+ sites

LOPA consultancy was carried out by Stopford at the following facilities:

- –Sharjah, UAE
- –Anabeeb import terminal, UAE
- –Dulles Airport, Washington, US
- –San Juan Airport, Puerto Rico
- –Cleveland Hopkins Airport, Ohio, US
- –Otopeni Airport, Romania
- –Constanza Airport, Romania
- –Prishtina Airport, Kosovo
- –Budapest Airport, Hungary
- –Tirana Airport, Albania
- –Prestwick Airport, Scotland
- –Walton Weir pump station-Heathrow



SURGE ANALYSIS

Stopford undertook
surge analysis using FLOWMASTER –
Providing recommendations on valve opening times

Air BP Case Study

Project: Design Study

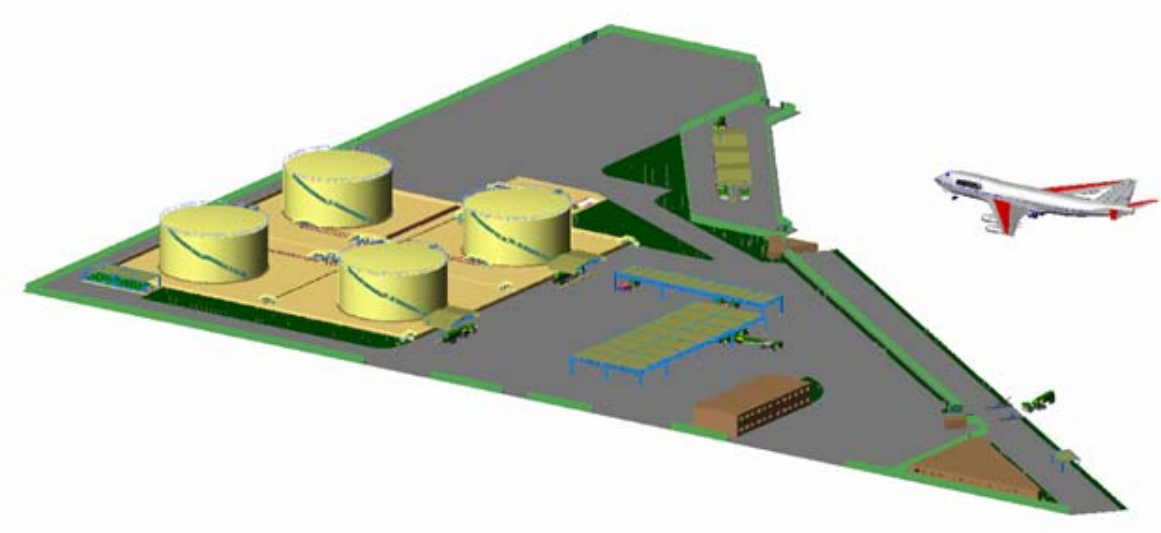
Location: Air BP-Bahrain Airport

This design study involved the development of the following:

- P&ID's
- An equipment list
- 3D models
- Civil and E&I scope of work
- Layout optioneering

Additionally:

Bahrain- Stopford consultants produced the specification and tender documents for the replacement of all electrical and instrumentation systems at the Arad Depot. The implemented systems are necessary to manage all systems associated with pipeline receipt, storage, transfer and hydrant pumping and product recovery in the facility. Stopford provided technical support to the client during the procurement, development and commissioning of this comprehensive 7 year project.

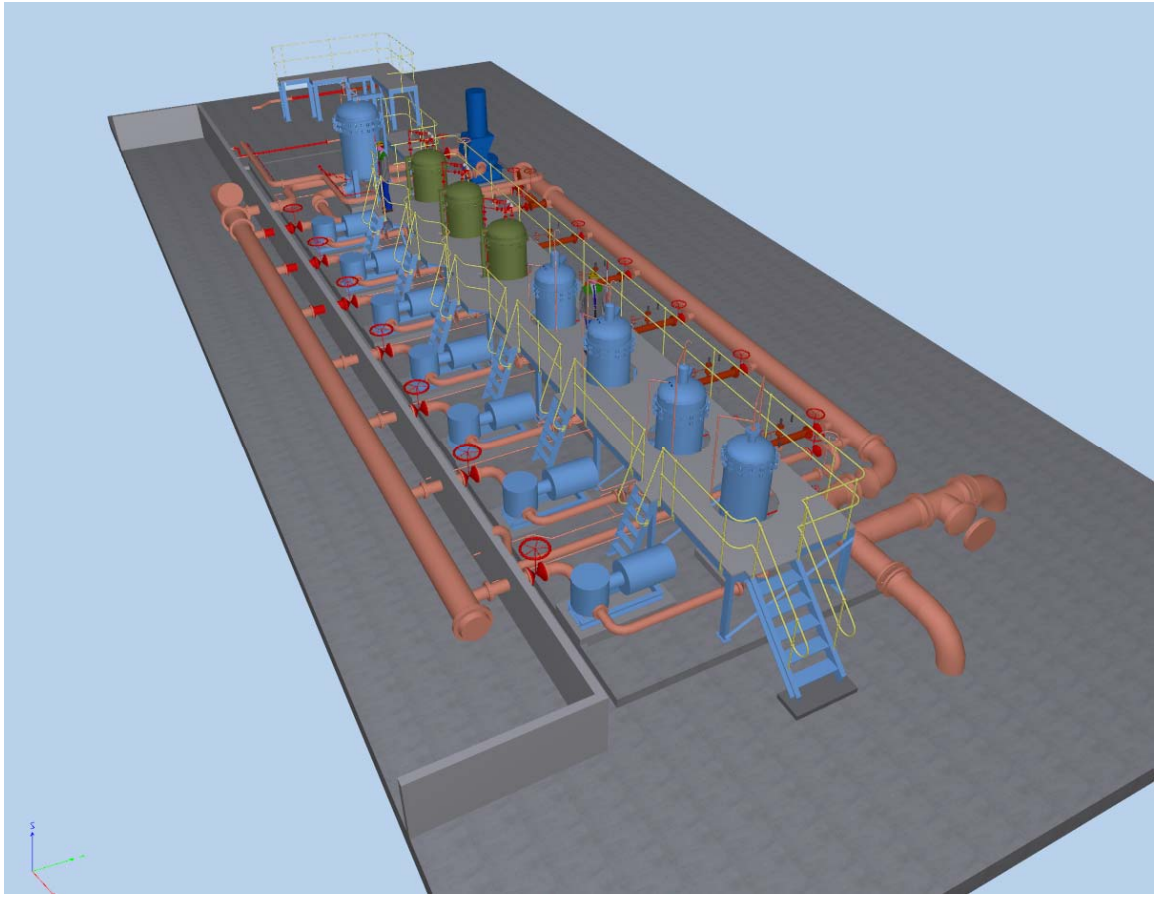


H.H.Op.Co.-Heathrow

Project: Aviation Fuel Hydrant Filter Upgrade

Location: Cargo Terminal

Stopford are undertaking a design and project management project for the installation of new double block and bleed valves and JIG compliant filter water separators on the fuel hydrant system at the cargo terminal. The project involved conducting a HAZOP study, pump NPSH calculations, generating mechanical and process datasheets and construction management.

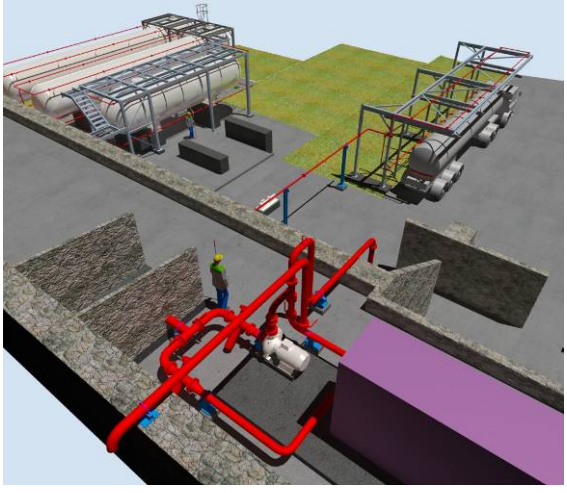


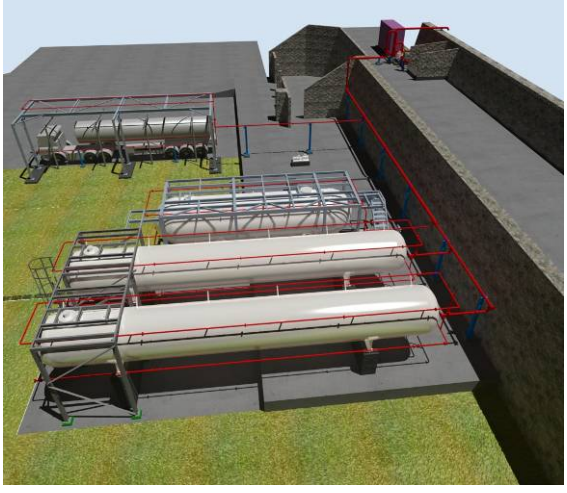
Shell Case Study

Project: Aviation Fuel Handling Rig

Location: Cheshire

Stopford undertook a major design study on Shell's aviation fuel rig. The project focussed on the high efficiency filtration of jet A1. The work included major modifications to Shell's existing hydrant facility at Thornton Research Centre. Stopford provided all the process engineering, hazard operability studies and SIL assessments.



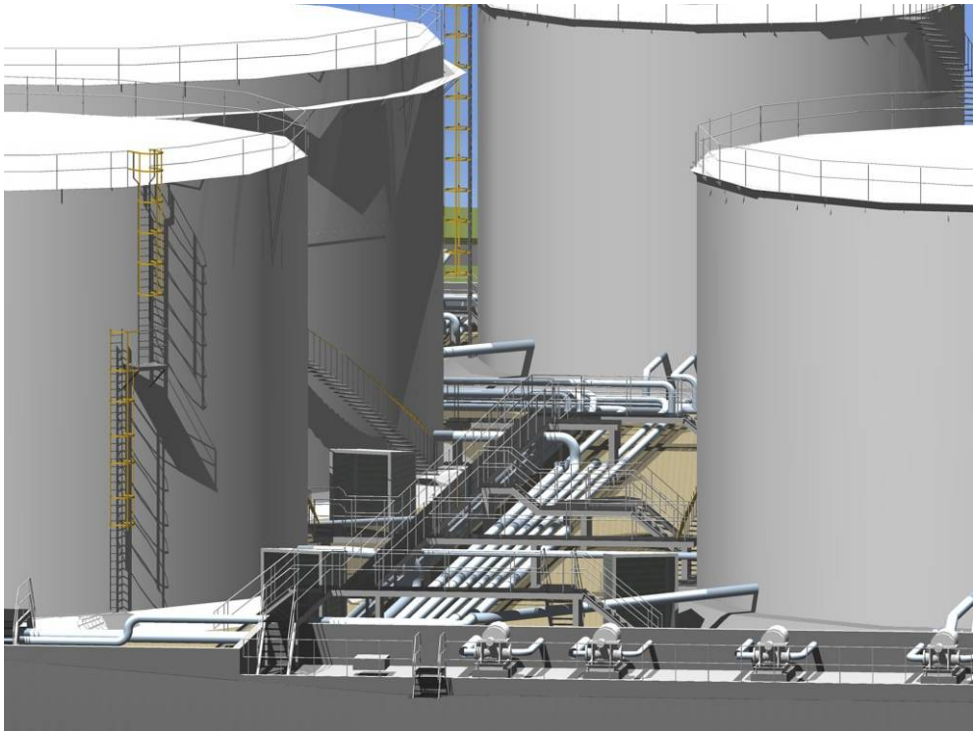


Total Case Study

Project: Design Study

Location: WOSL Terminal

Stopford undertook the design study of an ethanol storage and blending facility for Total's WOSL Terminal. The study included all process engineering, E&I, mechanical and civil/structural activities for the off-loading and blending of ethanol via road and rail.



BP Case Study

Project: Ethanol Blending and addition

Location: BP Oil terminals 5 sites

Stopford undertook a full engineering design and project management service for 4 BP fuel storage terminals, such that they meet full compliance to the R.T.F.O for bioethanol storage and blending.

Stopford carried out the detailed design for this project. We prepared most of the application support drawings for the client and undertook full multi disciplinary engineering design including process, mechanical & piping, tanks, E&I, civil and structural design. Engineering work was progressed for 4 sites for a system to store and blend bio-ethanol into gasoline. We also carried out a ±10% capital estimate for all the sites. An Autocad 3D model of the facility was produced.