

**CASE STUDY: PETROCHEMICAL INDUSTRY**

Global Petrochemical Company Takes Proactive Approach to Fluorine-Free Transition

Challenge:

Transitioning a major oil refinery from legacy foam to a fluorine-free solution

Solution:

Perimeter Solutions' SOLBERG® VERSAGARD™ 1x3 Multi-Purpose Fluorine-Free Foam Concentrate

The Move to Fluorine-Free Foam

A global petrochemical company wanted to convert its UK-based oil refinery from the fluoroprotein-based firefighting foam it had used for decades to a fluorine-free solution. Driven by internal corporate sustainability targets as well as looming regulatory pressure, the phasing out of fluorinated firefighting foams was inevitable.

The organization made the decision to move early, aiming to become one of the first major refineries in the UK to fully convert to fluorine-free technology. They worked with their longtime partner, Hawkes Fire, to make the transition, which encompassed their entire facility—the refinery, the crude storage terminal, and a 47,000-liter storage tank that needed to be chemically cleaned and refilled with fluorine-free foam concentrate.

Challenge

Switching to fluorine-free foam was not as simple as swapping one product for another for the company. Petrochemical facilities face unique fire scenarios, from fixed systems with varying induction setups to mobile equipment that may have to change foam percentage settings depending on the fuel type. Additionally, there are different application methodologies that need to be employed, and varying amounts of foam concentrate needed to tackle a fire based on the fuel type and the application rate.

“When it comes to fluorine-free foam, there is a common misunderstanding. The focus is typically centered on getting the old foam out, and bringing the new foam in, but a critical step is often overlooked,” said Shaun Pearson, Business Development Manager at Hawkes Fire.

There needs to be a thorough review of existing firefighting arrangements to confirm these existing systems were suitable for the scenarios they were originally designed for, and that any amendments are identified as part of the foam transition process.

Aside from the functional challenges, when transitioning to fluorine-free, there is inherent skepticism that comes with the use of fluorine-free foam, and whether it can truly match the performance of their fluorinated predecessors. The refinery needed proof—independent, credible proof—that any replacement would perform to the highest standards.

At the same time, the site had more than 225,000 liters of foam in storage. The Hawkes Fire team had to consider how a new product would impact storage requirements, how it could be deployed during an incident, and whether existing firefighting equipment would still be compatible.

Solution

The petrochemical company carried out extensive evaluation of available fluorine-free options. After conducting testing, there were concerns about the overall performance of the various concentrates they reviewed, but that changed when they evaluated SOLBERG® VERSAGARD™ 1x3 Multi-Purpose Fluorine-Free Foam Concentrate from Perimeter Solutions.

Large-scale trials at the refinery and through the independent LASTFIRE program proved to be decisive. In crude oil fire scenarios, SOLBERG VERSAGARD 1x3 consistently outperformed the other foams. LASTFIRE certification further validated its performance on large-scale crude oil fires, giving both site leadership and corporate safety teams the confidence to proceed.

“We have never completed as much testing on any other individual firefighting product during my 30 years in firefighting. Our client said it was the best performing and most versatile concentrate they had tested, and that it outperformed any other foam concentrates in the testing they carried out. Following comprehensive testing the client stated they had 100% confidence in the performance of SOLBERG VERSAGARD.” said Pearson.

Since SOLBERG VERSAGARD could be used at 1% for hydrocarbon fires, the facility was able to reduce foam storage volumes by one-third, vastly improving the logistical challenges of moving and handling large quantities of foam concentrate.

Compatibility testing also confirmed that the foam worked seamlessly with the refinery's existing fixed and mobile firefighting equipment, avoiding costly modifications.

Testing conducted following the transition confirmed consistent performance and that there was no cross-contamination between the legacy fluorinated foam and SOLBERG VERSAGARD 1x3.

“The customer was very impressed with SOLBERG VERSAGARD 1x3 following the transition. They have since ordered more of the solution for another one of their storage facilities, and they also added it to their corporate list of acceptable vendors. Now, there are sites in other parts of the world that are starting to order SOLBERG VERSAGARD to replace their existing foams,” said Pearson.



Trusted. Solutions That Save.

FOR MORE INFORMATION

Contact any of our worldwide Perimeter Solutions Fire Safety offices or visit:

www.Perimeter-Solutions.com

UNITED STATES

1520 Brookfield Avenue
Green Bay, WI 54313
Tel: +1 (920) 593-9445
salesfoamusa@perimeter-solutions.com

EMEA

Polígono Industrial de Baiña, Parcela 23
33682 Baiña-Mieres (Asturias) – Spain
Tel: +34 985 24 29 45
salesfoamemea@perimeter-solutions.com

ASIA PACIFIC

3 Charles Street
St Marys NSW 0276 – Australia
Tel: +61 2 9673 5300
salesfoamapac@perimeter-solutions.com

perimeter-solutions.com

NOTICE PERIMETER SOLUTIONS MAKES NO REPRESENTATIONS OR WARRANTIES AS TO THE COMPLETENESS OR ACCURACY OF THE INFORMATION INCLUDED HEREIN. THE INFORMATION CONTAINED HEREIN IS NOT INTENDED TO PROVIDE REGULATORY, LEGAL OR EXPERT ADVICE RELATING TO THE PRODUCTS, ITS APPLICATION OR USES. NOTHING CONTAINED HEREIN IS TO BE CONSTRUED AS A RECOMMENDATION TO USE ANY PRODUCT, PROCESS, EQUIPMENT OR FORMULATION IN CONFLICT WITH ANY INDUSTRIAL PROPERTY OR INTELLECTUAL PROPERTY RIGHTS, AND PERIMETER SOLUTIONS MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, THAT THE USE THEREOF WILL NOT INFRINGE ON ANY INDUSTRIAL PROPERTY OR INTELLECTUAL PROPERTY RIGHTS. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION CONTAINED HEREIN.