



FIRE PROTECTION AUDIT



Oil & Gas Midstream

“We trust in Flexim and the Flexim France team because of the quality of the measuring equipment and the strict respect of the agreed deadlines and planning.”

Pierre AURINE,
Deputy Technical Director,
Raffinerie du Midi



Measuring Task

Flow measurements as a measurement service in the tank farms of Raffinerie du Midi to check the fire protection measures and extinguishing systems against tank fires

Raffinerie du Midi specialises in the storage of petroleum products and operates 16 tank farms, mainly located in the northern half of France.

Every storage facility for flammable liquids must have a firefighting system. This consists of physical equipment and a suitable organisation tasked with implementing effective fire protection. The physical resources must enable the fire to be extinguished within a maximum of three hours. They include the tank storage facility's own resources and the public resources that are called in to provide support.

The physical and organisational firefighting resources in the warehouse must be dimensioned in such a way that they are able to meet the following three conditions:

- Extinguish the fire within 20 minutes according to the following scenarios:
 - Fire on the largest tank while ensuring its cooling
 - Fire on a catch basin (for basin sizes over 6000 m² – minus tank)

while ensuring the protection of the adjacent catch basins as well as the protection of threatened adjacent facilities as described in the scenarios below

- Contain a fire in the largest catch basin (minus tank) for at least 60 minutes by applying foam at a reduced foam dissolution rate (time delay) while protecting threatened adjacent facilities
- The protection and time requirements of the most threatening damage scenario, which was examined in the risk study and recorded in the internal operation plan, must be guaranteed without the application being interrupted for the entire duration of the operation.

If the tank farm operator has the option of extinguishing a fire immediately, he must nevertheless have resources (water, foam, etc.) available to delay the fire in the event that the firefighting fails. The actual ability of the tank farm to successfully fight a fire must be demonstrated in the hazard study and verified by testing using external (private and/or public) means.



Solution

Flexim's portable FLUXUS® F601 flowmeter has proven to be the ideal measuring instrument for firefighting tests.

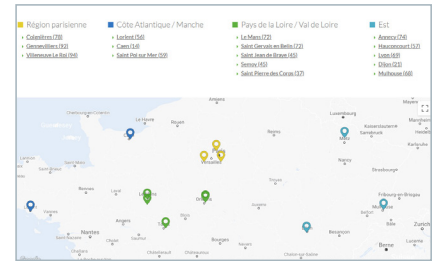
The firefighting audits include proving the proper functioning of the fire protection and extinguishing equipment. To do this, the flow must be measured at many points.

Raffinerie du Midi therefore approached Flexim France with a request for measuring devices and personnel support. The Flexim France team was able to assist the customer with both its measurement experts and a variety of measurement devices.

During the tests, it is advantageous if measurements can be taken at as many points as possible simultaneously. This shortens the duration of the tests – and thus the water consumption. The FLUXUS® F601 ultrasonic systems are dual channel devices, i.e. two pairs of transducers can be connected to them, which simultaneously record the respective flow rates at two different measuring points.

First of all, the various test scenarios were studied together. The measuring points were defined and the measuring systems were parameterised accordingly. This thorough preparation shortened the duration of the tests even further.

The Flexim France team was able to support the Raffinerie du Midi operating staff with both its measurement experts and a large number of measurement devices.



Raffinerie du Midi operates a total of 16 tank farms in the northern half of France.

© Raffinerie du Midi



The tank farm of Saint Jean de Braye

© Raffinerie du Midi



Fire protection and fire fighting during a firefighting audit



For Antoine Henri and his colleagues from Flexim France, setting up a temporary flow measurement point in next to no time with the portable FLUXUS® F601 is an everyday routine task.



The tank farm team and the Flexim team after completing a firefighting exercise

Measuring Points and Instrumentation

Pipelines	mostly stainless steel, DN50 ... DN100
Medium	Water
Measuring Devices	2 stationary FLUXUS® G721 ultrasonic measuring systems for gases
	up to 30 portable clamp-on ultrasonic FLUXUS® F601 flowmeters with 20 to 40 pairs of transducers (CDQ, CDM, CDP) and variable « fastening shoes type transducer mounting systems

Advantages

- Accurate flow measurement to verify correct functioning of firefighting equipment
- Dual channel devices for simultaneous flow measurement at two measuring points
- Availability of a large number of portable transmitters and associated transducers
- Cost savings through short lead times
- Reduction of water consumption and thus costs through simultaneous flow measurement at many measuring points
- MASE certificate, certifying the qualifications of the staff and the quality of the service
- Responsiveness and competence of the Flexim team
- Creation of a comprehensive report with a summary for each scenario

Customer

Raffinerie du Midi, France

Raffinerie du Midi is a 130-year-old company specialising in the reception, storage and distribution of refined petroleum products, mainly for mobility or intended for heating or the operation of special machines. Raffinerie du Midi is owned equally by three shareholders (Total Marketing France, ESSO SAF and Petroplus Marketing France). The company operates its own hydrocarbon storage tank farms and supports other companies in their site-related operations.

In total, the "RM ecosystem" currently includes 16 tank farms, 12 companies, 1.3 million m³ storage volume for hydrocarbons and 12.5 million m³ annual handling volume, making it the largest player in France when it comes to the supply of refined petroleum products. Raffinerie du Midi employs over 160 people.



The Emerson logo is a trademark and service mark of Emerson Electric Co.
Brand logotype are registered trademarks of one of the Emerson family of companies.
All other marks are the property of their respective owners.
© 2024 Emerson Electric Co.
All rights reserved.

For more information, visit
[Emerson.com/Flexim](https://www.emerson.com/Flexim)

AR-202315-Raffinerie_du_Midi-US

FLEXIM


EMERSON