

CONTROL ROOM — EXPLOSION PROTECTION
LIVORNO, TUSCANY, ITALY

Defensive Barriers

Product: DefenCell MAC

Problem

Costiero Gas Livorno SpA is an ENI group company that manages the largest liquefied petroleum gas (LPG) storage facility in Italy and operates the delivery, storage, handling and distribution of LPG propane.

The Control Room, the most important operational core of the facility, is surrounded by extensive LPG tanks on three of its four sides (Fig. 1).

Since all the facility operations during both standard and emergency situations are coordinated and directed from the Control Room, the safety level and integrity of this structure is vital. The building required considerable improvements to protect from fire or blast in the event of an accident, that could lead to a greater disaster in case the Control Room was unusable.

Solution

Costiero Gas Livorno SpA needed to protect the Control Room of the largest Italian LPG storage facility in an effective way.

Therefore, the Contractor selected Maccaferri's top quality defensive barriers, **DefenCell MAC**, as the best option to solve this problem. The proven blast resistant barriers provided substantial protection to the control room in case of fire and overpressure caused by accidental explosions or emergencies (Fig. 3). The green colour and tidy appearance of the DefenCell MAC has also guaranteed a better integration of the protective barrier into the environmental context of the facility.

A Protective Barrier constructed from various levels and types of **DefenCell MAC** has been erected around three of the four sides of the control room (Fig. 2), resulting in an easily installed, durable, 5 m tall barrier, providing significant protection to the building.



Figure 1 - DefenCell MAC Barrier - SW Aerial View

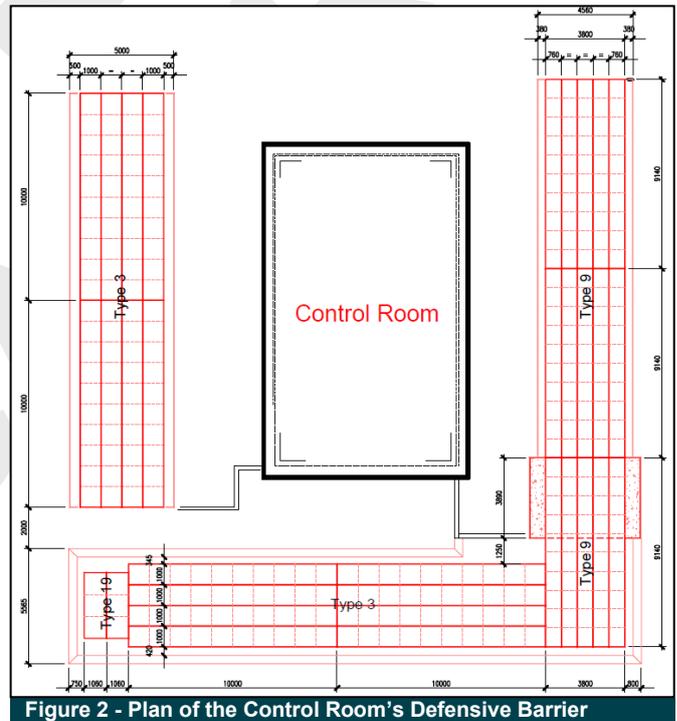


Figure 2 - Plan of the Control Room's Defensive Barrier

Wall Exposure	DefenCell MAC	Nos. of Levels
East	Type 3 + 4	4 + 1
West	Type 9	5
North	Type 3 + 4	4 + 1
North-East	Type 19	1

Client:

Costiero Gas Livorno SpA

Main Contractor:

ACLI LABOR SOC COOPERATIVA SRL

Designer:

Eng. Calvani Filippo — Chorus SRL

Products Used:

DefenCell MAC — Qty: 1100 l.m. over various levels

Construction Date:

02.2018



Figure 3 - DefenCell MAC Barrier - NE Internal View