

Diagnosis of a prestressed reinforced concrete wall

NKP floating barge



Client :
TOTAL

Background

TOTAL owns a floating prestressed concrete oil platform off the coast of Pointe-Noire in the Congo.

The platform was built in Marseille in 1994 and was towed onto site.

On 30 January 2010, a logistics ship struck the exterior wall on the starboard side of the platform due to a wrong manoeuvre.

Following the collision, TOTAL wished to carry out a structural assessment of the wall to determine the condition of the prestressed concrete and define the various operations required in the short and medium term in order to secure the platform.

DIADES' task

DIADES carried out an assessment with LERM, which involved:

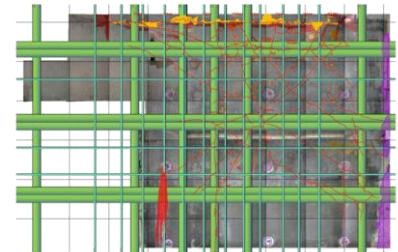
- Defining the methodological procedure for carrying out the investigations and the diagnosis.
- Inspecting the offshore platform to:
 - detect all the interior and exterior pathologies affecting the damaged area.
 - carry out specific radar investigations to determine the internal fracture parameters.
- Carrying out a summary report defining the operations required in the short term and recommending the actions to take in the medium term.

Project manager:
TOTAL service

Contractors:
Freysinnet

Years:
Planning: June 2010
Works: second half of 2011

Principal features:
Prestressed concrete platform
Length: 220 metres
Width: 46 metres
Only offshore site to produce LPG



Technical assessment of prestressed concrete hull girder subjected to shock

Carrying out of the diagnosis of a prestressed concrete hull girder of an operational oil platform.

Determination of the short term operations required to secure the structure and recommendation of actions to take in the medium term to ensure the durability of the structure.