

Detailed inspection, investigations, assessments and project management of works enabling exceptional convoy to circulate over a sensitive VIPP



Client:
EDF

Project manager:
DIADES

Contractors:
Colas Midi méditerranée
RCA

Years:
Planning: 2012
Works: 2012

Principal features:
Length of one span: 36.7 m
Total length: 73.4 m
Width of the road: 4.7 m
Longitudinal prestressing: 38 cables 12 ϕ 7 per beam (STUP)
Oblique prestressing: none

Background

To enable a unique exceptional 111-tonne convoy, required for the replacement of large parts at the Sainte Tulle 2 plant, to circulate, EDF tasked DIADES with checking the load-bearing capacity of VIPP n°12 on the feeder canal of the plant at Beaumont.

The entire task (including the inspection, assessment and works) was carried out as a matter of urgency between June and August 2012.

The structure is a VIPP (an independent span viaduct made of pre-tensioned prestressed concrete beams) that was built in 1966 and is therefore considered as sensitive.

The exceptional convoy travelled without problem over the structure, which had been checked and smoothed, on 8 August 2012.

DIADES' task

DIADES carried out the inspection, assessment and project management of the works, which included:

- An exceptional detailed inspection,
- Testing the load-bearing capacity under a 111-tonne exceptional convoy,
- Preparing the specifications and leading additional investigations: measuring the residual stress on the pre-stressing (using the "crossbow" method) and measuring the thickness of the coating (using radar),
- Updating the load-bearing capacity testing following the investigations,
- Tender documents for restoring and smoothing the roadway,
- Project conformity assessment and approval of plans,
- Supervision of works,
- Approval of works on completion.

The assessment revealed the need to smooth down the very thick layer of bitumen coating to enable the exceptional convoy to pass.

Passage of 111-tonne exceptional convoy over a VIPP

Exceptional detailed inspection and investigations

Assessment and testing of load-bearing capacity improved by additional physical inspections.

Project management of the smoothing out and restoration of the roadway.