CASE STUDY

Corrosion Protection for an In-Service Diesel Storage Tank by Underside Injection IDS

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Project Specifics

Installation Dates
February 3-6, 2020

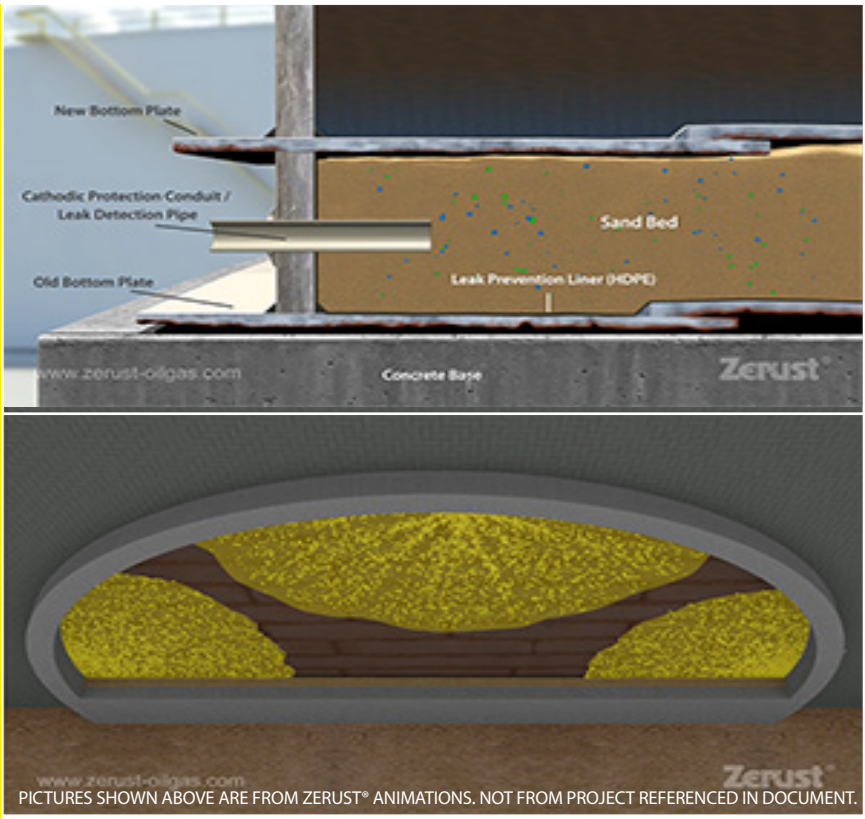
Location
Saudi Arabia, Middle East

Environmental Conditions
50% humidity, no rain.

Details
Storage Product: Diesel
Vessel Construction: In-Service, Anchor Bolt(s), No Cathodic Protection (CP) System, Concrete Ring Wall
Foundation Details: Sand

Inhibitor Delivery System (IDS)
Underside Injection IDS (5 Tanks)
ER Probe Monitoring System

Zerust Product(s) Used
Zerion® FVS-B15 (Corrosion Inhibiting Powder)



PICTURES SHOWN ABOVE ARE FROM ZERUST® ANIMATIONS. NOT FROM PROJECT REFERENCED IN DOCUMENT.

Project Specifics
The client wanted corrosion protection for an in-service diesel aboveground storage tank on sand foundation with a concrete ring wall, linker, (7) anchor bolt(s), and no present CP system.

Zerust Solution
The engineers at Zerust® Oil & Gas developed custom solutions for this client, and with the support of local contractors, successfully completed the injection of the corrosion inhibiting solution on the tank using Zerust's Underside Injection IDS method.

Project Installation
Corrosion inhibitor solution was injected through all four (4) existing leak detection ports, including the leak detection ports previously used for the installation of ER probes. One (1) day after the injection, each of the ports was opened to check for any leaks. None were found.

The injection ports on the North, East and South ports were left in place. All valves were left closed, to prevent the loss of applied corrosion inhibitor compound.

Project Installation Continued
An IDS sealant system was installed around the circumference of the targeted tank. The presence of the skirt at the tank chime resulted in the Viscotaq EZ Wrap being installed "upside down" (beneath the skirt to cover the reachable areas of the top of the tank ring wall). Because of this, not much liquid silicone top coat could be applied as it would drip off.

The skirt keeps the tape shaded, so there should be minimal UV exposure expected. Construction adhesive was used to fill the gap between the skirt and the concrete wall. These two sealant systems should provide an adequate seal for the applied IDS solution.

Conclusion and Recommendations
All provided corrosion inhibitor compound was applied beneath the targeted tank with no issues through each of the existing leak detection ports and the chime area was sealed as much as was possible.

It is recommended that the new ER probe for the East port be installed (with assembly fittings) as soon as possible. Leak detection ports should remain closed when not checking for leaks to prevent the loss of applied corrosion inhibitor compound.

Corrosion Monitoring
(2) ER probes had been installed at the targeted tank for baseline data collection (in the East and West ports) prior to the installation.