



Horton Sphere Tank. Internal and External Inspection, Maintenance and Repair - India

Reliance Industries Ltd approached Global Remote to carry out a comprehensive sphere maintenance and inspection programme to a number of their horton sphere tanks. Following five years of continual service, the client required the tanks to be assessed for their remaining lifetime, reliability, integrity and safety, as per SMPV rule 19 and the ASME code standards. The extensive project scope and reduced shutdown timeline demanded the utilisation of a highly experienced and multi skilled remedial and inspection team of rope access professionals.

Project Scope

Internal and external inspection, maintenance, and repair (IMR) programme on x11 Horton spheres, ranging in size from 13.0m diameter to 22.5m diameter. Internal Scope: 100% cleaning and visual inspection; weld buffing and MPI/ DPI to 100% weld joints, inc., nozzle welds; UT weld scanning min 25% of weld seams, inc., all T joints, middle circumferential seams, bottom and crown weld seams; UT thickness gauging on random shell nozzles. External Scope: MPT of 10% external weld joints, including all support leg welds of reinforcement pad to shell and pad to stub ends; shell hardness test; removal of sprinkler nozzles at peripheral sphere area, flushing of sprinkler line and box up of all nozzles, and finally hydrotesting; restoration of fire proofing (guniting), and any additional areas as per client recommendation; painting application to all surface areas inspected.

Challenges

The project presented the typical challenges faced with a short duration shutdown within a large void confined space, however the added requirement to carry out a detailed inspection of the internal concave upper half of the sphere remained the most significant obstacle. The Global Remote team rose to the challenge, developing a unique proprietary system, not seen in the industry prior, providing for safe and close-proximity access for the entire upper portion of the sphere.

GR Approach

Detailed logistics and project planning was imperative for this very time critical, and uniquely difficult access project. The well designed and tested system of access for the concave sections of the spheres, coupled with specific off-site training for the technicians, proved invaluable in preparing the team for a high level of proficiency and productivity, once reaching site. The Companies concise and thorough reporting systems, including the provision of CCTV live streaming during inspections, provided a further enhancement for the client on delivery of each completed tank.

GR Manager Comments

Maintenance activities during a shutdown are always critical and need to be well planned and effectively managed on a day-to-day basis. Again, Global Remote's extensive experience contributed to the successful execution of this project to the high standards demanded by the client and within budget and ahead of schedule.

Client Testimonial

Project execution was excellent. The job scope was carried out ahead of schedule and with all the necessary safety precautions. The staff remained well mannered, professional and cooperative throughout the project. An excellent performance overall.

Kaldeep Poonia and Mehul Darji - Maintenance Managers. Reliance Industries Ltd.

ASSET

Horton Sphere Tank Farm
(scope of x 11 sphere tanks)

CLIENT

Reliance Industrial Ltd

LOCATION

Jamnagar, Gujarat

DURATION

average of 41 days per tank

GR TEAM

IRATA x 11 man team
(mechanical, remedial, inspection)
Project Coordinator x1
Project Manager/ TA x1

