

ATMOSPHERIC & LOW PRESSURE STORAGE TANKS AND PIPING

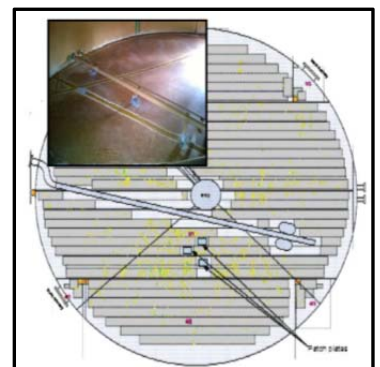
Rapallo is a multi-disciplinary engineering consultancy originating out of WA's Goldfields region. Established in 1987, Rapallo provides a wide range of Asset Management services which includes, but is not limited to, structural and mechanical engineering design services, surveys and inspections by competent persons and Structural Integrity Monitoring (SIM)/ Non-Destructive Testing (NDT) services approved by the National Association of Testing Authorities (NATA) Australia.



INSPECTIONS AND NDT – New & Existing Installations

Tank inspection/ testing services include, but are not limited to, the following:

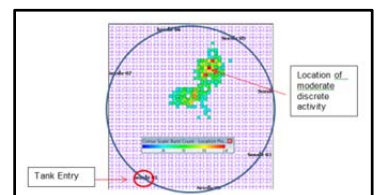
- Inspection to AS 4971 for all tank areas including foundation, floor, shell, roof, nozzles, internal equipment/ furniture, coatings and access structures.
- Vacuum-Box Testing for Tank bottom welds to API 650.
- Tank floor testing (TFT) by Magnetic Flux Leakage (MFL) floor scanner to API653.
- Ultrasonic Wall Thickness Testing (UT) of shell course, roof plates and piping to AS 2452.3.
- Magnetic particle testing (MT) of Shell-to-Bottom annular welds and nozzles/manhole welds to ASME V ART 7.
- Tank bottom settlement, roundness and plumbness survey to API 653 standards.
- Reporting compliance with AS4971; API 650 and API 653. In cases of non-compliance, recommendations for repairs can be provided.



IN-SERVICE TANK & PIPING INTEGRITY MONITORING USING ACOUSTIC EMISSION (AE) – New & Existing Installations

An alternative to tank entry is to use the internationally approved standard practice for examination of liquid filled atmospheric and low pressure metal storage tanks using Acoustic Emission technology.

- Our clients save on shutdown time, cleaning and loss of production.
- Ideal for the in-service detection and location of active leaks, cracking, corrosion and settlement in the floor, shell and piping.
- Includes high temperature and low temperature cryogenic tanks.
- Intrinsically Safe systems for use in Hazardous Areas.



ENGINEERING DESIGN – New Tanks & Repair/ Modification Work

Engineering services include, but are not limited to, the following:

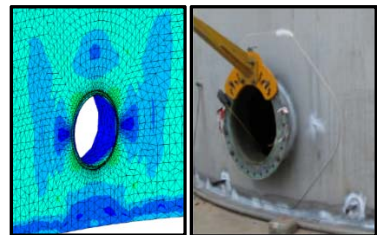
- Design of above ground atmospheric storage tanks to API 650.
- Design of tank foundations.
- Design of piping systems to AS 2885.1, B31.3 and B31.11
- Stress analysis of tanks and piping.
- Review of API653 /API 570 inspection reports to advise the scope of repair work required.
- Perform remaining service life assessment of tank.
- Perform fitness-for-service assessment (FFS) API 579.
- Develop methodology for repair, alteration and re-construction in accordance with API653/API650 and Industry's engineering best practice.
- Performing welding qualification assessment for tank and piping construction/repairs to ASME IX.
- Develop methodology for repair, alteration and re-construction in accordance with API653/API650 and Industry's engineering best practice.
- Performing welding qualification assessment for tank and piping construction/repairs to AS1554.1, AWS D1.1 and ASME IX.



ENGINEERING ANALYSIS AND DRAFTING

Our Engineers and Designer are experienced in working with a variety of engineering software packages including the following:

- AutoCAD Software.
- Solid Works.
- FEA ANSYS Software.
- SPACEGASS Structural analysis software.
- CAESAR II Pipe Stress Software.



IMPLEMENTATION – New Tanks & Repair/ Modification Work

Rapallo has the capability to undertake fabrication and implementation related activities. Services include, but are not limited to, the following:

- Site earthworks.
- Pouring & finishing of tank foundations.
- Fabrication of above ground atmospheric storage tanks.
- Fabrication & installation of tank furniture.
- Fabrication & Installation of pumps and/ or piping systems.
- Fabrication & installation of tank access structures.
- Commissioning of tanks and associated equipment.
- Implementation of tank repairs and modifications.
- Preventive maintenance activities.
- Decommissioning of redundant equipment.

