

Non-Intrusive Inspections

Pressure equipment, particularly pressure vessels, are subject to periodic, statutory NDT inspections to ensure the pressure systems continue to be safe to operate. These inspections can be “intrusive”, where an inspector physically enters the vessel, or “non-intrusive”. Non-intrusive inspection (NII) techniques can be used to complement an internal inspection programme, provide evidence for deferment of a manned entry or to replace an intrusive inspection programme. A well-planned non-intrusive inspection can offer significant advantages to operators, including improved efficiency and reduced risks to personnel.



THE Applus+ SOLUTION

Applus+ has significant experience in preparing and executing NII work scopes. NII requires careful, systematic consideration and, through our in-depth knowledge and understanding of the processes and vessels involved, we are able to optimise inspection practices to provide a fully customised inspection regime and, in so doing, ensure the ongoing integrity of our clients' equipment.

With our experienced teams of inspection engineers and skilled technicians based all around the world and a wide range of both conventional and advanced techniques and technologies at our disposal (both intrusive and non-intrusive), Applus+ is able to provide clients with a complete inspection solution that is both efficient and safe.

Target customers

Non-intrusive inspections can be used to inspect a variety of pressure vessels. Nonetheless, they do require a more sophisticated and considered approach than a normal intrusive inspection. The vessel type, service, geometry, materials, credible

damage mechanisms and inspection and maintenance history must all be taken into account and an appropriate technique or combination of techniques identified for each area of the vessel. An air receiver vessel with no credible internal damage mechanisms could be assessed, for example, using ultrasonic testing techniques.

It is important to define the objectives of any NII activity in advance as there are several factors that can impact on its effectiveness and may affect the decision of whether to opt for an NII technique or not.

It is not always possible to utilise NII and the decision depends critically on the vessel itself and the level of degradation expected.

Key customer benefits

Applus+ non-intrusive inspections offer the following benefits to clients:

- Reduced risks to personnel
- Reduced downtime for shutdowns/turnarounds
- Improved efficiency due to no requirement to break into the system
- Reduced system contamination and potential of introducing issues where none previously existed
- Cost savings
- Data recorded in a comprehensive RBI system for future consultation and use