



# **NON-DESTRUCTIVE TESTING FOR THE OIL & GAS INDUSTRY FULL SCOPE OF INTEGRATED NDT SERVICES**

**SGS**



## NON-DESTRUCTIVE TESTING FOR THE OIL & GAS INDUSTRY FULL SCOPE OF INTEGRATED NDT SERVICES

Improved safety, increased uptime, reduced environmental impact, lower production costs and superior ROI all start with better management of a company's assets. Whether it is onshore or offshore, to successfully operate your assets you require the most up-to-date data, collected using the most advanced techniques available. SGS' complete range of Non-Destructive Testing (NDT) solutions and strategies, give you the means to inspect and test your resources in a safe, efficient and cost-effective manner.

Whether it is in your refineries, pipelines, floating/fixed platforms, drilling rigs, tanks, vessels, heat exchangers or other equipment, partnering with SGS will give you access to the most advanced integrated NDT solutions available.

Assets within the oil and gas industry are complex and have a limited life cycle. By employing Asset Integrity Management (AIM) programmes, Integrity Services, and Risk Based Inspections, the life cycle of these assets can be significantly improved – increasing ROI. Successful employment of these programmes requires data that can be trusted. Well used NDT is a highly valuable tool that can save both money and time as part of an AIM programme.

SGS' NDT systems provide clarity; helping you identify, characterise and size flaws, enabling effective, safe, and productive asset management. By looking at weld quality, internal and external corrosion/erosion, cracking, metallur-

gical damage and mechanical damage, our NDT solutions give you the facts you need to protect your investment and reduce the potential for risk to quality, safety, productivity and the environment.

### OUR APPROACH

SGS knows that merely providing the service is only half the job and so we have created a full-range of NDT solutions for the whole life cycle of a project, but with added value. Throughout the life of your assets, from construction, through installation, to in-service support, SGS' global team of inspectors offer a fully integrated service pack combining conventional NDT, advanced technologies, inspection and AIM to help you extend the life cycle of your assets in a safe and compliant manner.

Our customisable approach to NDT results in the optimal setup for your business. By focusing on the best

techniques and procedures for your unique set of circumstances, delivered by expert personnel around the globe, SGS can significantly decrease the probability of issues remaining undetected; allowing asset rectification before they fail. Timely interventions can save lives, protect the environment and help you avoid costly losses to productivity.

Integrating an NDT service from SGS means a seamless service that fully complements your business. We help you get the best out of your processes, correcting any deviations from your desired standards before they lead to non-compliance. Our service commences with quality and the implementation of detailed and effective inspection procedures tailored to your needs. We add value to your business by applying improved technologies, looking for the fastest inspection methods to fulfil your needs.

And this process starts before installation.



## ASSET MANAGEMENT **THROUGHOUT THE PROJECT LIFE CYCLE**

### **DESIGN**

During the design phase SGS can help you enhance your plans, applying the most efficient inspection technologies to stretch design limits and help prevent future problems by ensuring your design can be fully analysed and monitored by NDT thereby eliminating or reducing downtime.

### **PROCUREMENT AND INSTALLATION**

During installation, SGS can: verify the quality and consistency of materials, check certificates, perform measurements at a stage where all components

are accessible, examine weld quality to ensure specification and assist with the preparation of an AIM system for the life of the asset.

By partnering with SGS at this stage, we can help control manufacturing processes in order to maintain uniform quality and lower costs ensure all materials and products have the correct integrity and reliability.

Reputations are important and working with SGS, as a recognized global leader in testing, verification, inspection and certification, this also helps you maintain status on the global stage.

### **OPERATION**

Operational facilities require high quality NDT inspection services to ensure reliable and safe performance. SGS's advanced NDT will support your operations, saving costs and minimising intrusive inspections as much as possible. By using local inspectors, trained to the highest levels by SGS, we can provide experts who speak your language and can advise you on best practice.

Best practice means preventing unplanned failures, with costly production stoppages, early defect detection to minimize disruption, a reduction in repair costs and downtime, and a safe, reliable working environments for your staff.





## SERVICES WE OFFER

A summary of applied technologies can be found below.

### CONVENTIONAL TECHNIQUES

- Radiography (RT)
- Ultrasonic testing (UT)
- Magnetic Particle Inspection (MPI)
- Dye/liquid penetrant examination (DPE)
- Visual examination
- Remote visual inspections
- Positive material identification (PMI)

### ADVANCED NDT METHODS

- Ultrasonic phased array (PA)
- Long range ultrasonic testing (LRUT)
- Automatic ultrasonic testing (AUT)
- Guided wave (GW)
- Time of flight diffraction (ToFD)
- Corroscan (C-scan)
- Infrared thermography (IR)
- Magnetic flux leakage (MFL)
- Remote visual inspection, endoscopy/videoscopy (RVI)
- Hardness measurements (HT)

- Eddy current testing, electromagnetic testing (ET/RFET)
- Alternating current field measurement (ACFM)
- IRIS testing
- Acoustic emission (AE)
- Leak testing of tanks and pipelines
- Digital/computed radiography
- 3D computed tomography (CT)

### EXAMPLE APPLICATIONS

- ASME pressure vessel and piping inspections
- Fabrication inspection
- Corrosion Under Insulation (CUI) solution
- Full storage tank assessment
- Shutdown inspections
- Non-intrusive inspections
- ILI tool validation on pipelines
- Drill pipe inspection
- Electrical infrastructure assessment

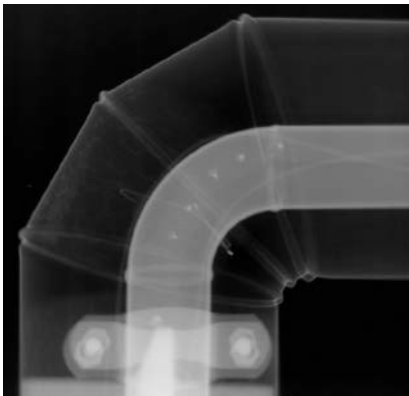
### DATA MANAGEMENT AND DATA PROCESSING

Partnering with SGS will help you integrate all necessary NDT data for AIM programmes, integrity services, and risk based inspections. Providing improved traceability and an efficient flow of data through your systems. Centralization of asset management data allows owners to make valued judgements over asset maintenance, inspection plans and process improvements – leading to greater productivity and reduced costs.

### CONTACT US

For further information contact your local SGS Industrial Manufacturing team, visit [www.sgs.com](http://www.sgs.com) or email [industrial.global@sgs.com](mailto:industrial.global@sgs.com)

**SGS IS THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.**



### WHY SGS

SGS continuously develops its services and applications. SGS Non-Destructive Testing Services are not only integrated with AIM solutions, but also with our Material Testing Laboratories, and they seamlessly fit into our supply chain services. SGS services are packaged around your assets and production processes, creating a seamless approach to NDT that compliments your business and helps you gain the most from your assets.

SGS has centres of excellence around the world, which are accredited to ISO/IEC 17025 for material testing services and ISO/IEC 17020 for inspection body activities. These are complemented by local teams of highly trained experts who will get to know your facilities and your requirements.

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognised as the global benchmark for quality and integrity. With more than 90,000 employees, SGS operates a network of over 2,000 offices and laboratories around the world. It has a world-wide track record of proven performance on new construction, pipeline installation, in-service inspection and expansion projects in the oil and gas industry and is the first choice for total NDT solutions.

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WHEN YOU NEED TO BE SURE

