

LIQUEFIED NATURAL GAS (LNG)

We're the expert in support services for LNG terminals,
chemical plants and refineries worldwide



LEADING LNG PROJECTS WITH EXPERIENCE AROUND THE GLOBE

AIA (Authorized Inspection Authority) and inspection for 865 km's 26" X65 and X70 API 5L pipe in **MOZAMBIQUE** and **SOUTH AFRICA**. Provided: multi-disciplined teams of QA/QC personnel on South African and Mozambique portions for welding, coating, civil and mechanical work; document review of quality manuals, procedures, inspection and test plans and drawings provided by the contractor; continuous monitoring of as-builts and contractor documentation.

Engineering equipment inspection activities for an LNG terminal project in **FREPORT, TEXAS**. Provided: on-site inspection activities carried out by local technical specialists in **JAPAN, KOREA, GERMANY, CHINA, AUSTRALIA, HOLLAND, ITALY** and the **USA**. Activities included visual, dimensional, welding / NDE inspection, review of X-ray films as well as vendor survey on items which included compressors, vessels, UPS systems, vent stacks, vaporizer drums, mooring hooks, gangway, cranes and valves.

Deployed multiple dimensional control survey teams to provide geometric assurance during the fabrication of modules at project module yards in **MALAYSIA** and **CHINA**. Dimensional control surveyors were located at the **AUSTRALIA**-based project site to position the modules into their correct locations.

Most recently, project quality assurance services related to vendor manufacturing, modular fabrication and site construction, to include project-related quality and technical verification assessments during the global fabrication procurement phase and construction of landmark LNG processing facility in **CANADA**.

Our Assurance, Testing, Inspection, and Certification (ATIC) solutions can be tailored to fit your project requirements and give you the benefits and results you expect.



LNG Industry Making Waves

For the last couple of decades the LNG market has been one of the fastest growing segments of the global energy sector.

With that growth comes change, uncertainty, opportunities and challenges as LNG moves into new markets and new supply chains around the world.

LNG supply is expected to grow by a record 40 million tons in 2019, and LNG trade is expected to account for roughly half of all globally traded gas in the next 15+ years.

Major projects in locations such as Canada, USA, Mozambique, Russia, Qatar and Nigeria, show that industry leading companies are on track to meet demand and exceed expectations.

As LNG industry players seek to reduce costs and streamline operations to ensure that LNG remains attractive to the world's major energy markets, they are looking for strategic partners and innovative ways to ensure safety, quality and efficiency while positively impacting the bottom line.

We understand that cost, timelines, logistics and quality are just some of the many challenges that arise during the lifecycle of a project.

Ever-increasing global demand, committed investment and growing availability of gas are fueling an impressive and exciting outlook for the LNG industry.

Risks associated with project delays, component defects, equipment failure during operation, and significant opportunity costs caused by delayed commissioning and production can be mitigated through robust and proactive quality control programs.

These programs are complemented by vendor inspection and technical auditing activities, expediting support, asset integrity management and much more — all of which is backed by innovative and integrated technology.

With a global platform, local resources who can execute to a consistent standard of quality, a full breadth of services to provide end-to-end solutions across your supply chain, and innovative technology to reinforce our value proposition, we are uniquely positioned to support you with total quality assurance, asset reliability, improved safety, and reduced risk.

PipeAware™

Pipeline owners and operators need instant access to traceable pipeline asset data that reveals the quality and value of the asset as captured during inspections and tests that are conducted from the early stages of pipeline fabrication through construction.

With Intertek PipeAware™, this innovative solution offers real-time digital access to pipeline asset integrity data. PipeAware is unique in that it combines digital traceability and pipe inspection or non-destructive testing (NDT) services into one task so that customers achieve full transparency into their assets 24/7 from anywhere around the world.



LNG Infrastructure Services

Intertek supports infrastructure and component engineering, manufacturing, inspection and lifecycle integrity needs with a full range of project assurance and quality control capabilities and expertise.

- Assurance-related quantitative data management
- QHSE KPI production and management
- Vendor inspection during plant procurement and construction
- Risk-Based Inspection (RBI)
- Life-cycle analysis
- Asset Integrity Management (AIM)
- Design verifications for equipment and facilities
- Industrial Survey & Dimensional Control Services
 - Surveying Modular Integration Verification Assurance (Structural/Piping)
 - 3D Laser Scanning of as-builts, Topographic/Pipeline Surveying
- In-service inspection activities
- Technical auditing and assessment
- Pipeline inspection and integrity studies

Specialty Engineering Services

- Design verification and review including finite element analysis (FEA)
- Technical review of welding procedures such as applicable codes, industry and client specifications, and material properties
- Review of materials selection using design codes, standards and procedures for construction, fabrication and assembly plus review damage mechanisms, metallurgy, corrosion allowance and PWHT condition

Metallurgical Laboratory Services

Fully equipped metallurgical laboratories utilizing scanning electron microscopes (SEM), energy-dispersive X-ray spectroscopy (EDS), electron microscope analyzers, routine metallurgical laboratory equipment, and advanced analytical equipment.

Due Diligence Engineering & Consulting Services

Environmental Consulting: site assessment, wetland surveys, NEPA, groundwater monitoring

Geotechnical Engineering: site characterization, design-level studies, site prep, foundation specifications, earthwork/foundation consultation, transportation/roadway studies, site geology consultation

Construction Material Testing/Inspection: complete facilities and equipment for inspection and testing of soils and foundations, concrete, pavements, masonry, structural, metals, roofing and specialty areas including fireproofing

Topographic Surveying for Site Construction: layouts, building lines, underground mapping to support advanced geophysical activities

Integrated Site Construction Services

Services: fabrication and installation site management, scheduling, progress reporting, document control, and clerical

Visual Inspection: structural, piping, welding, E & I, mechanical, coating, insulation and material handling

QA/QC: supervision, coordination, plan and procedure preparation, and review

Non-Destructive Testing

NDT: construction welds, PMI (Positive Material Identification) and mechanical integrity

Standard: gamma radiography, ultrasonic testing, magnetic particle inspection, pre-heating/post weld stress relieving

Advanced: phased array/automated, ultrasonic testing, X-ray and X-ray betatron, computerized radiography, eddy current

Industrial Laser Dimensional Control

- Dimensional fabrication verification and integration assurance for modules, equipment, pipe spools, foundations
- 3D laser scanning for capturing as-built conditions for design verification and clash detection
- Topographic surveying for site construction

Technical Staffing Services

Our Technical Staffing Services (TSS) are trusted by many industry leading companies to source, recruit and mobilize specialist personnel including those with LNG project experience.

We deliver quality, personalized and cost-effective personnel solutions.

Vendor Auditing/Inspection

Third Party Inspection Services: 80 inspection offices in 60 countries supporting your inspection needs through a single point of contact globally



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