Specialty Inspection Services

Ensuring your Rig Meets Global Compliance

Tuboscope | NOV Wellbore Technologies

Specialty Inspection Services

Tuboscope™ Specialty Inspection Services *(SIS)* is the leader in global inspection, repair and maintenance. With our personnel, equipment and experience we ensure your rigs meet global compliance and inspection requirements. Rope Access, Derrick Services, DROPS, Load Testing, Lifting Gear Inspection and NDT Inspection, we do it all. In the yard, on location or in transit, you get the quality inspection, safety and maintenance services you need, when and where you need them.

Rope Access

Rope Access is a cost effective alternative to traditional access methods such as scaffolding or mobile elevated working platforms. Industrial Rope Access is a proven method to achieve a safe work position at height or in areas of difficult access.

Worldwide, SIS has exemplary safety records due to our commitment to thorough training and diligent operational procedures. With Rope Access, work can be carried out quickly and safely with minimal environmental footprint on structures such as:

- Barge Cranes
- Bridges
- Buildings & Shafts
- Communication Towers
- Construction Sites
- Drilling Derricks
- Ferris Wheels & Cable Car Towers
- Flare Stacks
- FPSO's
- Lighting Towers
- Offshore Cranes
- Offshore Installations
- Plants & Refineries
- Silos & Tanks
- Ships & Drilling Rigs
- Shipyards
- Tankers
- Wind Turbines

Benefits of Rope Access:

- Rapid installation and dismantling with minimal environmental impact
- Cost effective solution to working at height due to time saved
- Highly skilled Rope Access technicians access the work site safely, perform the work required, and provide a single contact point for clients
- Equipment is easily transported. A typical 3 man set weighs less than 30kg/63lbs

SIS staff specialize in rope access – A safe, reliable and effective technique to reach normally inaccessible areas

SIS Rope Access Operations:

- Performed by highly skilled Industrial Rope Access Trade Association *(IRATA)* and Society of Professional Rope Access Technicians *(SPRAT)* trained technicians under the supervision of a Level 3 supervisor
- Safe. Each worker is permanently attached to a double protection system consisting of two independent anchored ropes. In the unlikely one rope fails or gets damaged, the safety rope prevents a fall
- At all times the company adheres to the recommendations as published in the SPRAT and IRATA International Code of Practice
- All Equipment is inspected and maintained by SIS company specialists

Worldwide Accepted Standards

IRATA was established to form a professional and safe operating standard for worldwide Rope Access companies and their workers. SIS Singapore is a current operator, member and trainer of IRATA.

As a member, SIS adheres to the IRATA International Code of Practice for Operations and Training. Rope Access inspection is used and recognized as safe and effective by many leading Oil and Gas, Construction, and renewable energy companies and government authorities.

Rope Access Fabrication Repair and Maintenance
SIS Rope Access personnel are skilled and specialize in:

- Fabrication
- Painting
- Shot Blasting
- Inspection
- Pipe Work
- Welding
- Rigging
- Electrical works
- Water Jetting
- Steel Erecting

We can install, repair and maintain a variety of high-rise equipment as well as provide regular in-situ maintenance and inspections which are necessary for safe and lawful operation of equipment.

SIS offers a range of services to maintain the coatings of vessels, derricks, towers, buildings and other structures. When needed, we provide shot-blasting and water-jetting to clean and prepare the surfaces prior to priming and painting.

Rope Access Installation of New Equipment and Machinery
SIS has the expertise to remove and replace fixtures, or modify an existing structure. We can handle all aspects of a project from planning, design and fabrication, to installation and final testing.

With our specialists and engineers we offer a one-stop-shop to clients for repair, modification, removal or decommissioning of existing equipment from structures including drilling derricks and process plants.

Our structural and equipment assessment is vital for installation of high-rise equipment. We can provide regular in-situ inspection and maintenance on equipment we install.

Derrick Services

Derrick Build Projects
SIS is the leading derrick specialist with vast experience in derrick and mast erection, repair, modification, maintenance, inspection, outfitting and equipment installation.

We have completed full turn-key packages on 100 plus new build derrick projects, from the full erection to outfitting of accessories, piping, electrical installation and all types of drilling equipment.

As an industry recognized and approved rig building service provider, we successfully complete and deliver new build derrick projects - worldwide. From Singapore to West Africa, South Korea, Azerbaijan, India, Brazil, U.S. and China, we have the expertise you need.

Full time, skilled rig-building crews are readily available led by project managers and field supervisors with derrick industry experience.

Dropped Objects Survey

With increasing emphasis on the prevention of dropped objects throughout the industry, the need for more vigilance and awareness of your workplace and the surrounding environment is essential.

Offshore and onshore, dropped objects are the main cause of incidents in the oil and gas industry. SIS works to prevent dropped objects incidents. To assist our clients maintaining a safer working environment, we provide a web-based reporting software for Dropped Objects Surveys.

Inspectors compile a list of all potential drops items in the work area with the risk category, location, fastening/secondary retaining method and recommended corrective actions. A photograph of each risk is included in the report.

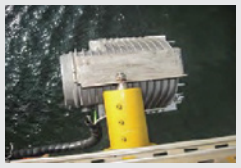
DROPS Survey Process

- An independent dropped objects survey is conducted on-board to identify equipment and items mounted in the derrick, crane or other areas at height that may have potential DROPS hazards.
- A list of inspection criteria is then prepared for common items or *"equipment families"* found on a rig, such as flood lights, sheaves, or safety gates.
- Each item is then labeled with specific inspection criteria to be performed by the rig crews.

Inspection Book
Upon completion of the survey each client receives an inspection book. This book contains valuable information from the DROPS survey and provides the end user with a systematic approach to Preventative Dropped Objects Inspections which consist of the following:

- Description and inspection frequency of the area to be inspected
- Photograph of the item to be inspected
- A photo ID number to be used in conjunction with the rig maintenance system
- Description and location of the item to be inspected
- Primary and secondary retaining methods
- Inspection procedure
- Condition Pass/Fail
- Comments section

Dropped Object Fail List - Main Deck Cranes

Photo	Ref. No.	Description / Location	Fastening Method	Condition	
	ACR098	Aircraft Warning Light / Boom Tip / Aft Crane	**Primary Securing**	**Condition**	( ) Pass (**X**) Fail
			Bolted	**Reason for failure**	
			Secondary Retention	Bulldog clamps + 2 part shackles not recommended on sling.	
			Lock-Nuts + Slings		
	ACR099	CCTV / Boom Tip / Aft Crane	**Primary Securing**	**Condition**	( ) Pass (**X**) Fail
			Bolted	**Reason for failure**	
			Secondary Retention	Safety sling not installed.	
			Lock-Nuts + Slings		
	ACR100	Floodlight / Boom Tip / Aft Crane	**Primary Securing**	**Condition**	( ) Pass (**X**) Fail
			Bolted	**Reason for failure**	
			Secondary Retention	Bulldog clamps + 2 part shackles not recommended on sling.	
			Lock-Nuts + Slings		

"Our software was developed and adapted to meet our client's individual requirements"

Failed Items List

Our web based reporting system also incorporates a corrective action section, where defective items can be extracted in categories of risk, recommended remedial action entered, and date recorded when an item is closed out. Tracking the corrected items is simple with on-line access to our reporting system.

Used by drilling companies around the world, our software has been developed and adapted to suit our client's individual requirements and management systems. When combined, our Derrick Structural Inspection Software and Inspection Book Format provides a comprehensive solution to identification, recording, monitoring and rectification of potential dropped object scenarios.

Non Destructive Services

Non-Destructive Testing *(NDT)* plays a vital role in quality control of engineering products. You can depend on Tuboscope SIS for all your NDT inspection and engineering services.

SIS serves a wide range of Industries:

- Oil & Gas
- Marine
- Petro-Chemical
- Refineries
- Ship Repair and Ship Building
- General Engineering

We are registered and approved by various international certification agencies for class survey and inspections.

- Visual Inspection
- OCTG Inspection
- Eddy Current Inspection
- Ultrasonic Inspection
- Radiography Inspection
- Wall thickness Inspection
- Hardness Testing
- Close-up Video Inspection
- Infrared Thermography Inspection
- Positive Material Identification
- Holiday Inspection
- NDT Level-III/Third Party Inspection

"We have in-depth experience load testing many different types of equipment"

Lifting Gear Inspection

Lifting and Hoisting Surveys

LEEA *(Lifting Equipment Engineers Association)* qualified teams inspect all types of lifting accessories and equipment. Our skilled inspectors conduct complete surveys of installations on:

- Offshore Oil Rigs
- Land Rigs
- FPSO's
- Supply Vessels
- Lifting Equipment
- Offshore Containers
- Cranes

Inspection packages are conducted in accordance with LOLER *(Lifting Operations & Lifting Equipment Regulations)*, American Petroleum Institute, British and European Standards as well as fully incorporating any client-specific standards.

Inspection reports are available on the NOV website through secure login. At any time of the day you have access to the user friendly database and certification records of your equipment. Our survey data reveals trends that exist across rigs or regions. This valuable information can be used to enhance safety and reduce costs of lifting equipment.

What is a lifting gear survey?

A lifting gear survey *(LGI)* is a third party inspection of lifting equipment. This includes both lifting accessories *(such as wire slings and shackles)* and lifting appliances *(such as chain hoists and cranes)*. During a survey, each item of lifting equipment is carefully examined to ensure it is safe for use. The examination can range from visual inspection, NDT inspection, function testing, or load testing. Once the item has passed inspection a *"Report of Thorough Examination"* is produced.

Why do we need an LGI Survey?

An LGI Survey is vital for safety and mandatory in many parts of the world. Tuboscope LEEA inspectors are trained to look for signs that may lead to failure of the equipment being inspected.

Our certified inspectors conduct load testing using:

- Water Bags
- Live test Weights
- Digital Loadcells
- Hydraulic Jacking Systems

Tuboscope tests and certifies all types of lifting appliances on location:

- Padeyes
- Runaway Beams
- Crane Load Testing
- Lifeboat Load Testing
- Tailored/custom Load Testing

Rejected items

When an inspected item is rejected it is clearly marked with a specified color and immediately removed from service. The owner is informed and a detailed record of the rejected item is documented in the LGI register.

Quarantined items:

Damaged items or equipment that can be repaired are marked, documented and then placed in quarantine for repair.

Tuboscope SIS is proud to be a full member of the Lifting Equipment Engineers Association *(LEEA)*

- As part of our ongoing dedication to maintain high inspection standards we bring LEEA trainers to our regional offices to conduct the most current training courses.
- Our lifting gear inspectors are supported by multi-disciplined inspectors that include IRATA trained technicians and PCN/ASNT qualified NDT inspectors
- All of our inspectors are trained under the LEEA programs and we actively support the Team card initiative that encourages proof of competency of engineers.
- Our inspectors are well versed in the latest standards, LOLER regulations and recognized international legislation.

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