

# Delta Inspection & Petroleum Services

ROPE ACCESS— NDT — LIFTING— RADIOGRAPHY



High Performance  
High Quality



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## Introduction

**Dips**® was established to cover the Egyptian market requirements for NDT, Lifting Gear inspection with Rope Access Technique,

**Dips**® has also added to its activities, the supply & allocation of skilled specialist manpower, through its great database of specialized and experienced manpower that has served the Oil / Gas sector.

**Dips**® continues to provide value added services which reduce risk and protect customers' investment.

**Dips**® inspection services have grown with the market - providing superior support . We use the highest quality NDT methods which include UT ultrasonic, MPI magnetic particle inspection, ET eddy current, PT Dye Penetrant, Hardness Testing Services and radiographic & X-Ray .

**Dips**® has the authority from Egyptian Atomic Authority to use isotope and X-Ray at radiographic activities



## Mission, Vision, Strategy & Values

### Mission,

Our mission is to fulfill customer satisfaction, trust, and integrity by delivering quality services conforming to industry best practices and continuous process improvement. We deliver safe, high-quality, technology-driven equipment, services and support that focus on the activities essential to oil and gas drilling and production.

### Vision,

Become the service leader company with world class standards in the industries and market segments we serve.

### Strategy

we are driving forward with key technologies & high qualifications to enable the inspection to be performed in less time, less cost, high quality, fast response and high technique.

### Values

Community, Integrity, Passion, Quality & Growth.



## Membership & Recognition



We are ISO Certified Accredited by LIYODS Register: ISO 9001: 2015.



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We are "ISO 45001: 2018" Accredited by LIYODS register.



We are "ISO 14001: 2015" certified, Environmental Management System - Accredited by LIYODS register.



We are Certified of full Membership, Lifting Equipment Engineers Association. - Certificate No. 6455.



We are an IRATA International Membership, for Rope Access (Operator & Trainer) – Certificate No. **7108/OT**.



We are formally recognized as a member of Drops, the industry wide initiative focused on preventing dropped objects in the workplace.



DIPS is licensed from the Egyptian Nuclear & Radiological Regulatory Authority (ENRRA) for industrial Radiography.



We are Certified for ABS Certificate, for Hull Gauging for vessels.



## Our Services

1. Non-Destructive Testing inspection & examination services.
2. Industrial – Radiographic Service License no. I.S. 0139/19.
3. Advanced Non-Destructive Testing
4. Lifting Equipment Inspection,
5. In services inspection
6. Welding and Painting inspection
7. Dropped Objects Survey
8. Rope Access services
9. Training Courses

## Non Destructive Test (NDT).

We can perform all the required NDT such as U.T, R.T, P.T, and M.T through a highly qualified and certified team, we issue the reports of NDT in accordance with the applicable codes and standards We also perform hardness testing and positive material identification (PMI).

## Industrial Radiographic Testing (RT)

Is a non-destructive testing (NDT) method which uses either x-rays or gamma rays to examine the internal structure of manufactured components identifying any flaws or defects.

In Radiography Testing the test-part is placed between the radiation source and film. The material density and thickness differences of the test-part will attenuate and then recorded on film(s).

DIPS staff are qualified, certified, and have a lot of experience using X-ray and gamma ray devices.

Producing high quality radiographs according to international codes and standards requirements.

DIPS operate within strict health and safety parameters.



## Advanced Non-Destructive Testing

### Phased Array Ultrasonic Testing (PAUT)

is an advanced method of ultrasonic testing, which is widely used for nondestructive testing (NDT) in several industrial sectors, such as construction, pipelines, and power generation to detect discontinuities, cracks or flaws and thereby determine component quality, and also can be used for wall thickness measurements in conjunction with corrosion testing.



A PAUT is more robust and easier to use than conventional single-element probes, providing improved efficiency, capturing hundreds of signals at once, and reducing the number of false alarms. PAUT provides a permanent record. And because PAUT can detect defects at the surface and into the volume of a weld (with no dead zone), it also gives information about the lateral position of a defect (depth and height).



## PEC (Pulsed Eddy Current)

Modified NDT utilize PEC-LYFT-Eddyfi equipment.

Pulsed eddy current (PEC) is an advanced electromagnetic inspection technology used in detecting flaws and corrosion in ferrous materials typically hidden under layers of coating, fireproofing, or insulation. It is a screening tool.

It will detect generalized corrosion. Pulsed Eddy Current is a unique corrosion survey method that allows ferrous objects to be surveyed without the need to make contact with the surface.

This means that measurements can be performed on objects covered with insulation, asbestos, fireproofing, concrete or coating. The high costs for removal of insulation can therefore be avoided.

### Benefits:

- Inspect through thick insulation and fireproofing
- Save on insulation removal costs
- Wall thickness up to 100mm
- Lift off range up to 300mm

No problems with high temperature (tested up to 420 °c)



## MFL Tank floor inspection (Magnetic Flux Leakage)

Modified NDT utilize MFL- Silverwing- Floormap 3Di-M- Eddyfi equipment.

It is an automated scanning system for accurate and efficient corrosion inspections on tank floors.

By combining two technologies – Magnetic Flux Leakage (MFL) and Surface Topology Air-Gap Reluctance Sensor (STARS) it can detect and size corrosion and pitting on storage tanks and pipelines.

### Benefits:

- Full tank floor mapping mode
- Advanced defect sizing and classification tools
- High probability of detection





## IRIS Tube Inspection (Internal Rotary Inspection System)

Modified NDT utilize Ectane 2- Eddyfi equipment for IRIS Tube Inspection.

The internal rotary inspection system (IRIS) is an ultrasonic non-destructive testing (NDT) technique used to inspect tubes.

IRIS is an ultrasonic technique that requires a couplant (water).

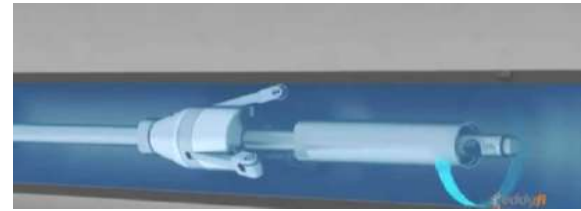
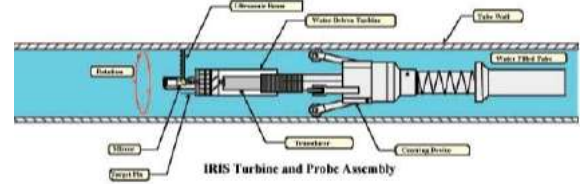
Tubes under test must therefore first be flooded to use this technique.

It is a technology that works on all materials, regardless of properties (suitable for ferrous and nonferrous materials).

It provides very accurate wall thickness measurement results.

IRIS is used in detection of corrosion, pitting and wall loss.

It can detect both internal and external defects.



## ECT Tube Inspection (Eddy Current Testing)

Modified NDT utilize Ectane 2- Eddyfi equipment for ECT Tube Inspection.

Eddy current testing is an electromagnetic non-destructive testing technique used to inspect non-ferromagnetic materials.

It is widely used to examine tubing in heat exchangers, steam generators, condensers, air coolers and feed water heaters.

This technique is used for detection and sizing of cracks, corrosion, erosion, and mechanical damage. EC is a very fast inspection method.



## MFL Tube Inspection (Magnetic Flux Leakage)

Modified NDT utilize Ectane 2- Eddyfi equipment for MFL Tube Inspection.

Magnetic flux leakage (MFL) is an electromagnetic non-destructive testing technique used to detect corrosion and pitting in ferromagnetic materials.

MFL uses a powerful magnet to magnetize the conductive material under test. Where there are defects (corrosion or material loss), the magnetic field “leaks” from the conductive material. It is a fast inspection technique that is effective for aluminum-finned carbon steel tubes, because the magnetic field is almost completely unaffected by the presence of such fins.



## NFT Tube Inspection (Near Field Testing)

Modified NDT utilize Ectane 2- Eddyfi equipment for NFT Tube Inspection.

Near-field testing (NFT) is an electromagnetic technique used to inspect tubes. It is specifically suited to detecting corrosion, erosion, and pitting in ferromagnetic materials. NFT is perfect for fin-fan tube heat exchangers because eddy currents do not go through the wall of the tube. It can detect internal defects.



## FT Tube Inspection (Remote Field Testing)

Modified NDT utilize Ectane 2- Eddyfi equipment for RFT Tube Inspection.

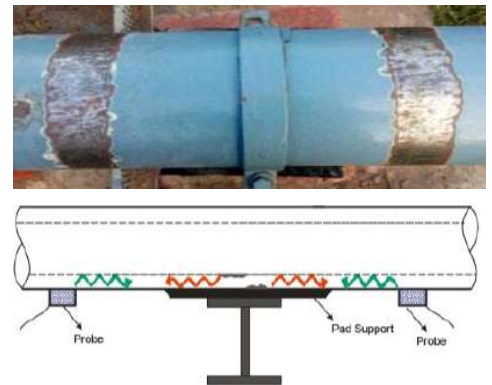
Remote-field testing (RFT) is a non-destructive electromagnetic testing technique mainly used to find defects like corrosion and pitting in tubes. It is suitable for ferromagnetic materials. RFT can detect both internal and external defects.



## SRUT (Short Range Ultrasonic Testing)

Modified NDT utilize ISONIC 2005, OmniScan X3 and OmniScan MX2 for SRUT.

Short Range Ultrasonic testing (SRUT) is a screening non-destructive test method to detect corrosion on the pipe wall or plates concealed under support structures or structural shell. The special SRUT probe is placed away from the area of interest (generally concealed surface) to scan up to 1m of material length without losing adequate sensitivity. Annular rings under the Tanks shells are best inspected using Short Range Ultrasonic testing.



## LRUT (Long Range Ultrasonic Testing)

Modified NDT utilize Teletest Focus- Eddyfi Equipment for LRUT.

Long Range Ultrasonic Testing is used to remotely analyze assets for corrosion and flaws over long distances without the need for direct contact. LRUT is used to rapidly inspect pipelines, piping systems, and other assets with minimal insulation removal. LRUT quickly localizes cracking and corrosion damage to pinpoint and characterize length and depth.



## Phased Array

Modified NDT utilize OmniScan X3 and OmniScan MX2 for Phased Array inspection.

Phased Array uses arrays of ultrasonic beams that are computer-controlled and steered electronically. An array is a group of transmitters and receivers, generally called array elements. This advanced ultrasonic testing method is both fast and highly efficient at defect detection due to multiple simultaneous sound beams (angles). It is used to detect discontinuities such as cracks or flaws in welds. In addition to detecting flaws in welds, phased array is also used for corrosion mapping.



## TOFD (Time of Flight Diffraction)

Modified NDT utilize OmniScan X3 and OmniScan MX2 for TOFD inspection.

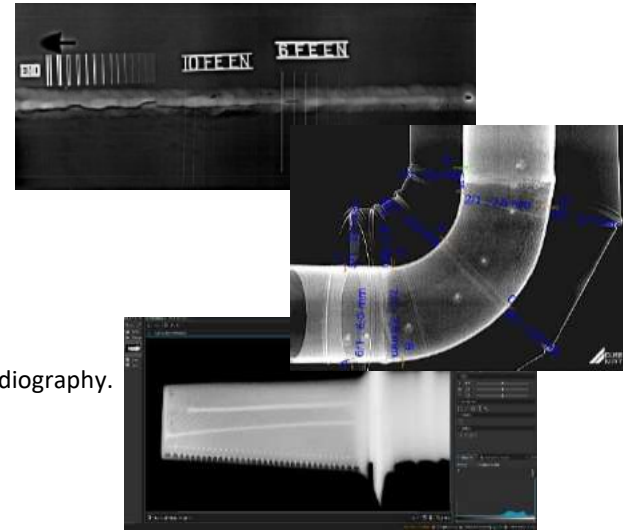
Time-of-flight-diffraction is a widely used advanced ultrasonic testing method to detect cracks or flaws and size them in welds. It can detect planar defects and cracks not perpendicular to the measured surface. The defect height can also be exactly determined and the high probability of detection (POD) associated with this method greatly improves risk reduction and calculation accuracy.



## Digital Radiography

Modified NDT utilize Duerr scanner for Digital Radiography.

Digital radiography is an advanced technology based on digital detector systems instead of films, in which the image is displayed directly on a computer screen without the need for developing chemicals or intermediate scanning. Advantages of advanced digital radiography over conventional radiography is that exposure time can be shorter, no chemical evaluation is needed, better-quality testing and higher contrast image as compared to conventional radiography.



## Acoustic Emission

Acoustic emission testing is a non-destructive testing (NDT) technique that detects and monitors the release of ultrasonic stress waves from localized sources when a material deforms under stress. Acoustic Emission can be conducted during operation. This technique is used to detect a range of damage mechanisms including, but not limited to, fiber breakages, friction, impacts, cracking, delamination and corrosion in their early stages, before they become significant issues. Acoustic emission is used for assessing structural integrity and for health monitoring of components.



## Indirect Visual Testing

Modified NDT utilize End Scope yateks Model p680fm for indirect visual testing.

Modified NDT performs indirect visual testing of materials with specific cameras and video endoscopes in places that are difficult or impossible to access by humans. Endoscopes allow for an internal inspection without disassembly, saving time and money. With advanced visual testing it is easier to follow defect development and product state.

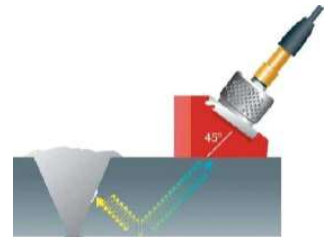




# Conventional NDT Services

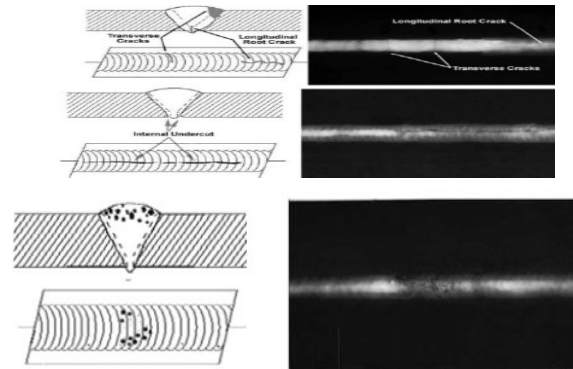
## Ultrasonic Testing

Conventional Ultrasonic Testing (UT) inspection is a commonly-used non-destructive testing (NDT) technique that measures the propagation of mechanical vibrations (ultrasonic waves) through a material to examine properties, measure thickness and detect a range of discontinuities, including corrosion/erosion, flaws and cracks. It is used to detect surface and sub-surface defects and supply accurate readings regarding discontinuity size and shape.



## Radiographic Testing

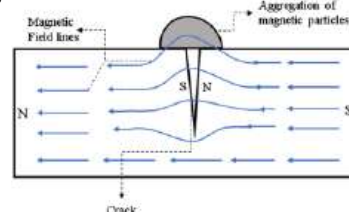
Radiographic Testing (RT) inspections use X-Ray or Gamma ray (Ir-192, Co-60) sources to view and assess the internal structure of an asset. RT is sensitive to corrosion, changes in thickness, voids, cracks, and material density changes, and is able to detect both surface and sub-surface defects with minimum surface preparation required. Radiographic Testing (RT) accurately locate, size, and identify the defects. It provides a permanent record of the inspection.



## Magnetic Particle Testing

Magnetic Particle Testing is a quick, cost-effective NDT inspection method to detect surface and near-surface discontinuities. In MT, the ferromagnetic material is magnetized and finely-milled iron particles coated with a dye pigment is applied. The particles indicate a discontinuity in the material by clustering directly over it, which can be visually detected under proper lighting conditions.

Thickness measurement



## Penetrant Testing

Penetrant Testing (PT) is a non-destructive method used for finding surface-breaking discontinuities on relatively smooth, nonporous surfaces. It is a low-cost technique and can inspect complex geometries easily. In PT, assets do not have to be disassembled or removed from the facility for inspection, making the inspection process quick and efficient.



## Visual Testing

Visual Testing (VT) is a basic and cost-effective method of inspection and is used to gain a quick indication of the inspected specimen or asset. It is the process of looking over a piece of equipment using the naked eye to verify the general integrity. Visual testing can be performed in direct mode (with the bare eye) or via an indirect method, by mirrors, cameras and other equipment also called advanced visual testing.



## Vacuum Box Testing

Vacuum box testing is a non-destructive testing (NDT) method used for locating welding leaks. A vacuum box and a compressor create a high or low-pressure vacuum and a detergent solution is applied to the test area. The detergent bubbles help to identify the leaks within the created pressure envelope (formation of bubbles as leakage gas passes through the solution). The main objective of the Vacuum box testing technique is to locate leaks in welds due to through-thickness discontinuities.



## Hardness Testing

Hardness is the measure of how resistant a material is to various kinds of permanent shape deformation when a force is applied. Hardness testing makes it possible to determine material characteristics such as strength, ductility and wear resistance. It also shows whether the heat treatment process has been carried out properly. These properties can be critical for the intended application of a material.



## Positive Material Identification (PMI)

Positive Material Identification is a specialized non-destructive testing method for identifying the composition of components and material. PMI provides information of the grade of metal and on the alloy composition. The mechanical integrity of safety critical plant is dependent on the correct materials being used for vessels, piping, valves and pumps. If the incorrect material is used, the design assumptions are invalid and the components may fail due to the material having lower strength or poor corrosion resistance.



## Holiday Test

Holiday test is an inspection method used to detect discontinuities such as pinholes and voids in painted/coated surfaces using specialized tools and equipment. Holiday tests work on the concept of electrical conductivity. Metal substrates are excellent conductors of electricity, and therefore allow current to flow through them. On the other hand, many coatings are poor conductors of electricity and resist the flow of electricity. Using this principle, holiday tests use instruments to locate flaws in anticorrosive paints and coatings.





## Online PSV testing calibration

Modified NDT utilize Online PSV testing calibration- AccuTest equipment.

The old way of PSV/PRV testing could be summarized in one word: downtime. First, the plant went down, then valves were disassembled, and finally, the valves were transported offsite for testing. This way was time-consuming, costly and high risk. But using the AccuTEST System, PSV/PRV testing comes to you, right where the valves actually operate, without adjustment in operating pressure which is time saver, cheaper and Lower risk.

### Benefits:

- Reduces downtime. No need to place the plant off-line for a week and remove the valves, or sending them to an outside testing facility.
- Reduces loss of revenue by preventing the risk of safety valve damage during transportation for testing.
- No system discharge (No fuel costs, so improves the environmental conditions)
- No dismantling of the safety valves from the system (saves time and money)
- For welded valves no cost for cutting and subsequent welding inspections
- No need for shutdown to calibrate and test PSV.



## Heat treatment

### PWHT (Post Weld Heat Treatment)

Modified NDT has 9 PWHT machines of 70 KVA Power units and 65 KVA Power Units.

A post weld heat treatment is a process that involves elevating the temperature of a material or materials following a welding process. A post weld heat treatment is performed to alleviate residual stresses, increase the strength, increase or decrease the hardness, and reduce the risk of cracking. An array of heating processes can be used to carry out post weld heat treatment.





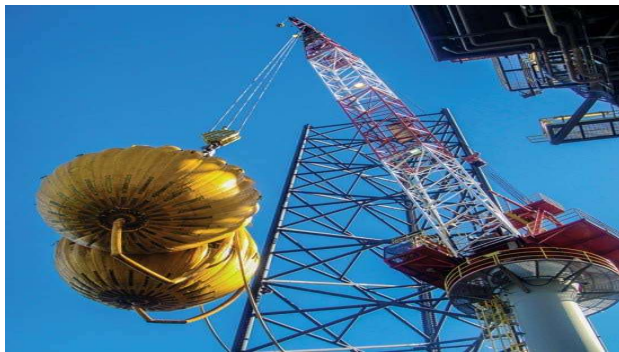
### Lifting Equipment Inspection

DIPS is full LEEA Membership (Lifting Equipment Engineers Association) and specializing in thorough examination & testing of the lifting equipment to ensure that it is fit for use in accordance with British Standard or other International Standard.

Our specialist team are highly trained in the field of all types of lifting accessories and equipment inspection ensuring meet the minimum safety requirements.

Send a detailed report stating deficiencies for inspected equipment that is deemed unsafe. When deficiencies are corrected or repairs are completed proper tests and certificates will be issued.

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.



### In-Service Inspection

DIPS have highly trained, certified inspectors and examiners available to customers in the refining, petrochemical, oil and gas and power industries. Whether it is implementing a risk based inspection program, managing a turnaround or simply maintaining day to day compliance inspections, our services provide clients with the cost effective, high quality, value added services that will only be realized through continued commitment to safety, skills training and proficiency, experience, and cooperation.

In-Service Inspection Services include:

- API 510/570/653 Certified Inspectors
- AWS Certified Welding Inspectors (CWI)
- BGAS Certified Inspectors
- NDE Level II UT/MT/PT Certified Technicians
- Experienced Engineering Personnel
- AutoCAD Staffing and Services
- Process Safety Management (PSM) Programs and Implementation
- Positive Material Identification (PMI)
- [Risk Based Inspection \(RBI\)](#)
- [Non-Destructive Testing \(NDT\) Services](#)

## Welding Inspection & Certification.

DIPS have highly trained, certified (AWS Certified Welding Inspectors (CWI)) Inspectors and examiners available to customers in the refining, petrochemical, oil and gas and power industries.

Welding Inspection Services include:

- Review of welding procedure qualification WPS and PQR as per applicable codes and standards.
- Witness the Procedures Qualification Records (PQR).
- Witness Welders Performance Qualification (WPQ).
- Perform the welding inspection as third party and /or client Representative. Issue independent reports of the performed inspection.

## Painting and coating inspection

The Painting inspector judges the conditions where a coating, paint or spray is to be applied and suggest the types of coatings that will protect materials from harsh corrosive environments. He is making sure the painting process being done based on project requirements.

## Dropped Objects Survey

An effective Dropped Objects Prevention Scheme (DROPS) plays an important role in supporting the safety practices of a platform

Our team will scan an area for any potential falling hazards with the aim of preventing future dropped objects.

This can cover everything from lost fittings to pipe clamps and ladders to hand rails and includes the checking of all primary and secondary securing. We check for potential static and dynamic dropped objects.





### Rope Access services

Rope access techniques lead to execution of jobs that cannot be performed with the use of traditional techniques and bring a drastic reduction term in costs while maintaining the highest safety standards.

DIPS members IRATA have highly qualified professionals and equipment constantly maintained and inspected, in accordance with the industry's highest regulatory standards.

Rope access techniques minimize interference with other activities and reduce the time needed to close the maintenance stop and programmed works.

Our Qualified and experienced personnel are professionally trained and Certified by IRATA, the Industrial Rope Access Trade Association and being operated under the guidelines of the IRATA international code of Practice.

Dips works with IRATA technicians for many years. Dips has been certified as Operator and training member by IRATA no 7108/OT.

As an IRATA member, DIPS offers a wide range of Rope Access services involving the Oil & Gas industry and with our experience and knowledge we can deliver the quality.

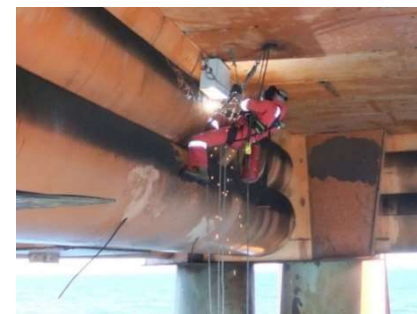
### Rope Access INSPECTION SERVICES

- NDT & Inspection
- Hull Inspection and Class Surveys
- Lifting Equipment Inspection
- Dropped Objects Survey
- Painting and coating inspection



### Rope Access MAINTENANCES Services

- Painting & Blasting
- Welding & Fabrication
- Bolt Torque Tensioning
- Industrial Cleaning
- Cladding and Insulation
- Installation and Repair
- Fixing Gas Detectors / Fire Detectors
- Work Positioning Nets
- Work Positioning Platforms.





## Rope Access EMERGENCY RESCUE TEAMS

A fast management on site of Emergency with appropriate intervention techniques will reduce the consequences of an accident and the risks of damage from lack of skill from the rescuers.



DIPS offers support services to the site HSE structure that, through suitable organizational models, highly qualified tools and skills, ensures the correct management of emergencies scenarios in confined spaces or at height.

Our Rescue Teams are composed of highly qualified professionals able to properly handle the initial phases of the recovery operation by providing for the proper immobilization and mobilization of the injured within the yard or the industrial environment, guaranteeing a first medical intervention and stabilization, avoiding damage from lack of skills and coordinating with the Public Rescue Service for any subsequent hospitalization.

Supporting the HSE structure for prevention purposes is achieved by involving our technicians in the process of monitoring the work environment, preparation of work permits, verification of individual protection devices and evacuation devices, handling of preliminary toolboxes and editing of daily reports related to unsafe acts and conditions detected and corrective actions suggested.

The presence of a Rescue Team during the works adds the value of a coaching on the job, crucial to ensure effective supervision, operational training of workers, and immediate resolution of specific issues related to execution of works at height and in confined spaces.

## Training Courses

DIPS have professional & skillful trainers, certified from IRATA they can introduce several certified courses,

Training courses include:

- Rope access I, II, and III level
- Working at height
- Rescue plan
- Confined space
- Lifting Equipment Engineer Association





Our Main Customers.





## CONTACT US,



### Head Office

17 Fouad Bedwany District 8, Nasr City, Cairo, Egypt.



### Training venue

DIPS Training venue in 3 Block G, Free Zone, Attaka, Suez



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