

Blue Horizon Services &
Oil Field Maintenance LLC



LIFTING EQUIPMENT INSPECTION & TRAININGS
SPECIALIZED TUBE INSPECTION – ACOUSTIC EYE TECHNOLOGY
ADVANCED NON DESTRUCTIVE TESTING (NDT)
H2S & HSE SERVICES

ABOUT US

Blue Horizon Services & Oil Field Maintenance LLC is a company based in Abu Dhabi which caters to Inspections and Trainings for Oil & Gas, Petrochemicals, Construction, Infrastructure, Power, Water and HVAC Industries. We are a Rutledge group company based in Singapore which started operations in the year 1981. We are ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007 certified company.



OUR VISION

Blue Horizon Services & Oil Field Maintenance LLC, a company of Arise Global and Rutledge Omni groups of companies, aims to be a world market leader in Inspection Services, Advanced NDT and H2S Safety services and to be always known for quality, reliability and integrity.

OUR MISSION

Blue Horizon is committed to providing the most reliable Inspection and H2S Services to clients we work with all over the globe and to represent a shield between our client's assets and any unexpected failures.

OUR ETHICS:

We believe in doing business with principles. We will turn away from business dealings that are unethical or that violate the law and demand transparency in the commercial dealing for the company.

We grow our business with:

- Quality clients.
- An outstanding reputation in the market place.
- Friendship and solid relationships with clients.

OUR VALUES:

Our values capture the essence of how as a company and as an individual we perform and deliver our services.

- To operate with care of the health, safety and security of ourselves, client's personnel and third parties.
- To excel in work.
- To be honest and exercise integrity at all times.
- To deliver the highest standard of service.
- To be professional in all dealings with fellow employees, client and other associates.
- To uphold the company's reputation and promote its interests at all times.
- To maintain in strictest confidence all information acquired directly or indirectly in the course of work.

Lifting Equipment Inspection & Training

Whether you own or operate cranes, lifting or hoisting equipment, you need to ensure that they are safe, and in compliance with statutory requirements. That is where our crane, hoisting and lifting equipment inspection can help.

Crane, hoisting and lifting equipment inspection from BHS – ensure the safety and reliability of your equipment and compliance with statutory requirements.



Why use crane, hoisting and lifting equipment inspection from BHS?

We are based in Abu Dhabi for inspection, testing, verification and certification of all types of crane, hoisting and lifting equipment. That means that we can offer you the unrivalled expertise, experience and equipment to conduct professional statutory and voluntary crane inspection.

- We also provide inspection and certification of Earth moving equipment and competency assessment of its operators. Our services not only assure that the equipment is safe to use but also ensures that the equipment operators are well trained and highly skilled.
- Our Experts test & inspect the lifting equipment and ensure that the client is competent in the use of safe lifting equipment and can fully rely on the lifting accessories they work with. Our complete one-stop solution can accommodate all your technical, project management and quality needs.
- Material-handling devices: including cranes, derricks, fork-lifts, truck-mounted cranes, shackles, hooks, elevating platforms, and telehandlers.



- Personnel handling devices: such as elevators, escalators, ski lifts, cable cars and mobile elevating work platforms (MEWPs)
- We provide training for the safe operation of lifting equipment for Operators and Riggers ensuring that they are capable of performing their operations safely and competently before deployment. Our comprehensive training programs include both theoretical and practical training. The aim of these programs is to ensure that the operators possess high skill levels, allowing them to operate their equipment safely.

The Company provides Inspection & Certification Services for the following:



1. Pedestal Crane
2. Mobile Crane
3. EOT Crane
4. Slewing Jib Crane
5. Crawler crane
6. Hoist (Electric / Pneumatic)
7. General Purpose floor mounted winch
8. Manual Floor Crane
9. "A" Frame Gantry
10. Forklift /Variable Reach Trucks
11. Pallet Stacker
12. Hand Pallet Truck
13. Marine Life Boat
14. Suspended Access Equipment.
15. Man riding Winch
16. Mobile elevating work platform
MEWP(MANLIFT)
17. Tripod
18. Full body Harness with lanyard
19. Lifting Beam /Spreader Beam
20. Hydraulic & Mechanical jacks
21. Cargo Carrying Units (container)
22. Man basket
23. Material Basket
24. Chain block
25. Lever hoist
26. Wire rope pulling machine (Tirfor)
27. Fall Arrestor
28. Beam Trolley
29. Plate clamps
30. Snatch blocks/Multiple sheave block
31. Wire rope / Wire rope slings
32. Chain slings
33. Synthetic slings (Flat & Round)
34. Shackles
35. Eyebolt
36. Rigging Screws
37. Cargo Nets
38. Rings, Links & Swivels
39. Hooks
40. Runway Beam/Monorail



Lifting Equipment's Training Courses

- Appointed Person Training Outline
- Basic Rigging & Slings
- All types of Crane Operator Training
- All types of Earth Moving Equipment/ Heavy Equipment Operator Training
- Forklift Operator Training
- Lifting / Rigging Supervisor Training
- Lorry loader Operator Training
- Mobile Crane Operator Training
- Mobile Elevating Work Platform Operator Training
- Vehicle Banksman Course Outline
- Crawler Crane Operator Training
- EOT Crane Operator Training
- Abrasive Wheels Training
- STS Gantry Crane Operator Training
- RTG Crane Operator Training
- Reach Stacker Operator Training

SPECIALIZED TUBE INSPECTION – ACOUSTIC EYE TECHNOLOGY

APR Inspection Systems (Advanced Tube Integrity Inspection Technology)

We are proud to be associated with Arise Global who is competent in an advanced and innovative tool in the field of Non-Destructive Testing that uses Acoustic Waves to evaluate the integrity of tubes in heat exchangers, boilers, chillers, reactors etc.

With the help of a computerized inspection system and an advanced software, our technicians are able to detect internal tube flaws such as holes/leakages, blockages, erosions and pitting with a great deal of precision and speed(Less than 10 seconds per tube!). Monitoring your tubes condition will help you increase your productivity and efficiency.



What is APR?

Acoustic Pulse Reflectometry is a technology dealing with propagation of specially designed acoustic waves in tubes. Changes in the tube cross-section generate reflections. Identifying and analyzing those reflections enable monitoring of the tube integrity. This analysis is based on the fact that every defect has its unique signature. This is schematically shown below along with a schematic of reflection signatures of typical flaws such as holes/leakages

Why APR?

- Fast: 10-20 times faster than any other inspection technology. The existing NDT techniques like Eddy Current testing, can take about 5 minutes to inspect tubes depending on the tube length, geometry & cleaning. However the APR system can inspect tubes in less than 10 seconds irrespective of their length.

- Tubes of any material can be inspected: ferromagnetic and non-ferromagnetic materials. Current NDT techniques like Eddy Current Testing, RFT can be carried out for specific materials with specific properties. APR can inspect tubes of any material like plastic, graphite because the system makes use of sound waves as a probe.

Typical Applications

The APR Technology can provide inspection services to industries that have heat exchangers, boilers, chillers, reactors. Some of them are:

- Power Industry
- Petrochemical Industry
- Chemical Industry
- Sewage Treatment Industry
- Food and Beverage
- Air Conditioning(HVAC)
- Oil Refineries

- Able to inspect complex tube formation: u-tubes, u-tube bends, fin fans, y & t joints.

The main challenge faced by current NDT techniques is the physical probe being stuck in u bends, t joints of complex tube geometries. But, APR inspection is effective in these scenarios as sound waves are used as virtual probes.

Acoustic Emission

Acoustic Emission technology has for a number of years been used to monitor the active corrosion condition of Above Ground Storage Tanks floors.

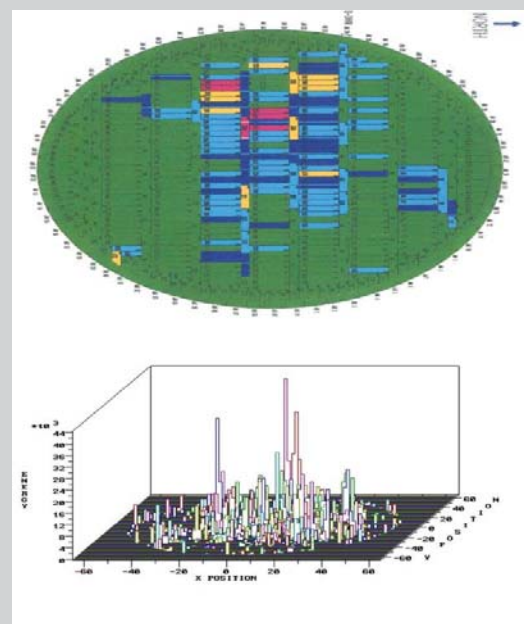
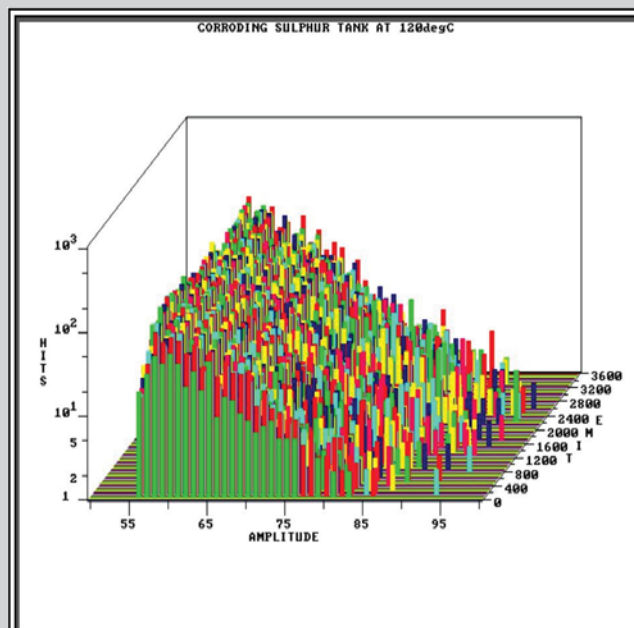
This technique provides a non-intrusive method of determining the active corrosion condition of tank floors without the need to open, clean and inspect. Costs involved in cleaning and inspecting a tank floor can be very high, and if the floor after inspection proves to be in a good condition, then the time and cost could have been better used elsewhere.

How it Works:

The tank under test must be isolated for 6 to 24 hours depending on tank size and contents, with all valves closed, with all heaters and agitators switched off. The Acoustic Emission sensors are mounted in array around the tank shell, usually in two rows with the bottom row carrying out the monitoring function and the upper row filtering out noise sources from shell and roof. The acoustic activity in the tank is then monitored and stored. Acoustic activity is produced by the fracture of corrosion products under head of product and sources (higher energy) that can be potential leak sites/indications.

Advantages:

- To avoid taking the tanks with good conditions out of service which will save the cost of down time and maintenance activities.
- To prioritize and plan effectively for which tanks to be taken out of service based on the inspection results and tank conditions.
- Only tanks with poor conditions will be taken out of service.
- Inspection cost can be negligible if compared with taking the tank out of service, cleaning, scaffolding....etc.
- Inspection takes very short time.



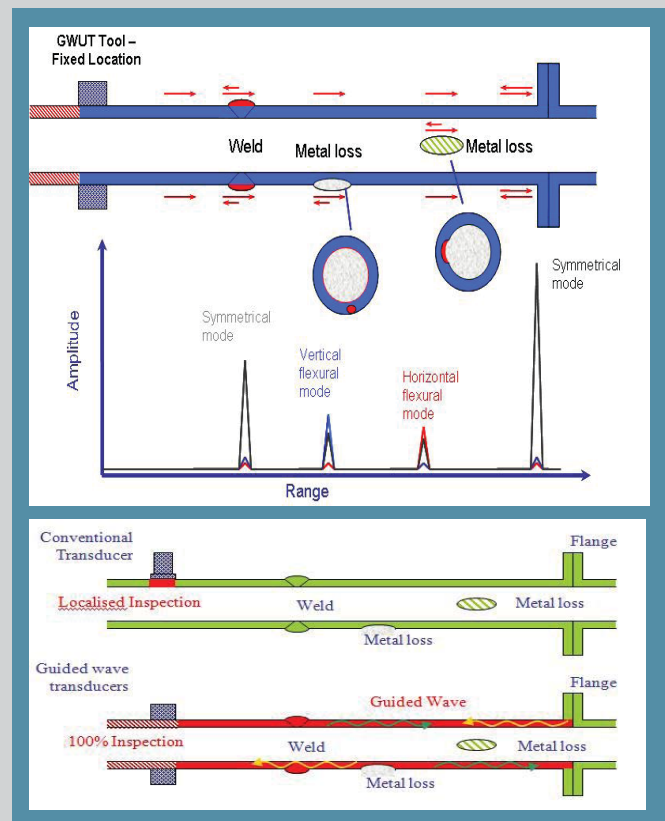
Guided Wave Ultrasonic Testing (LRUT)

LRUT is primarily a screening tool. The aim of the inspection is to test long lengths of pipe rapidly from a single test point with 100% coverage of the pipe wall and to identify areas of corrosion.

How It Works – torsional or longitudinal guided waves are induced into the pipe body and propagated along the pipe segment being inspected. When these guided waves identify an anomaly or pipe feature their mode convert into laminar waves and reflect back to the tools original location. Using a laptop these signals are digitally captured and processed. The time-of-flight for each signature is calculated to determine the distance from the tool and the significance of the anomaly. The octants determine the position around the pipe.

Benefits:

- Low cost screening with 100% coverage.
- Focusing capability to evaluate corrosion distribution around pipe circumference.
- Test range under ideal conditions can achieve 300m or more.
- Testing of pipes from 1.5" up to 48" diameter.
- Reliable and accurate detection.
- Ideal where conventional testing is impossible or very costly e.g. clamped, insulated, elevated, sleeved or buried pipes
- Operating Temperature -5°C to 100°C using normal modules and up to 350°C using the high temp. modules.
- Inspection on insulated pipes without taking of the insulation (only where equipment will be) fixed.



Applications:

- Sleeved Road Crossings.
- Corrosion Under Insulation (CUI).
- Buried Pipe.
- Wall Penetrations
- Pipe Racks
- Corrosion under supports
- Offshore Risers and Caissons

MAGNETIC FLUX LEAKAGE (Tank Bottom Inspection)

In MFL technology, the component required to be tested is magnetized to a saturation level at which the presence of a significant local reduction in material thickness causes distortion of the internal magnetic field, allowing flux lines to break at the area of the discontinuity. With MFL, sensors are used to give an electrical signal at the leakage site. This signal operates an audible or visual alarm to alert the inspector or stores the event for computer mapping of the area.

Why MFL

The storage of dangerous goods in tanks must be done in a safe way. In order to reduce the economical as well as the environmental risks to a minimum, a thorough knowledge of the condition of the tank, and in particular the tank floor, is of outstanding importance. To minimise inspection time we offer you a quick and a reliable inspection, by combining: Magnetic Flux Leakage (MFL) for tank floor inspection, Hand scan for the inspection of areas with limited access and Ultrasonic Testing (UT) for verification of some areas expected to undergo corrosion. By using those techniques, corrosion can be effectively detected.



Advantages of MFL over the conventional techniques:

- 1-More reliable results as MFL covers the entire area of tank bottom not only random readings as conventional methods which increases the possibility of detection of anomalies and remaining life assessment RLA.
- 2-Saving time and cost due to the high inspection rate (Min. productivity is 300 square meters per shift and could be much more depending on bottom conditions and cleaning)
- 3-Comprehensive reporting with statistical data, color mapping, patch plate design along with recommendations according to the applicable codes and standards.

Reporting Software



H2S Safety Services for Drilling & Production Operations



We are dedicated to providing quality safety services to the oil & gas, petrochemical, specialty chemicals, engineering and construction industries. We provide complete safety management support services on site, in areas of safety H2S, HSE, training, rental of safety equipment, service and maintenance of equipment.

H2S Service for Drilling & Production Operations

HSE Services for Drilling & Production Operations

H2S & Safety Trainings

Air Quality Monitoring Equipment & Services

H2S Removal Fluids & Equipment



Our standard configurations include wired or wireless Gas Detection Systems for:

- H2S
- SO2
- Combustible Gas (LEL)
- VOC (Volatile Organic Compounds)
- Environmental Monitoring (NH3, NOx, CO, CO2, O2 deficiency)

Gas Detection System

We provide rentals of Gas Detection or Monitoring Systems for Toxic Gases, Combustible Gases, Hydrogen Sulphide and harmful environmental emission gases during drilling, coring, well-testing and other critical or non-critical operations where gas exposure is expected. In addition, we provide frequency-based sampling using gas tubes and also fixed online monitoring with online process gas analyzers.

Protection (Air Loop) System

We provide rentals of Respiratory Protection Equipment and Systems. We have large number of well maintained Breathing Apparatus and Masks from our valued partners.



SCBA



FULL FACE PIECE



SCBA AIR CART



ESCAPE AIR RESPIRATOR



SUPPLIED AIR RESPIRATOR



Life Chambers and Escape Buses are available for nearby local communities during H2S emergencies.

Available are:

- 10 - 15 minutes Emergency Escape sets
- 15 minutes supplied air workline units
- 30 minutes SCBA

Protection (Air Loop) System



Our standard Breathing Air Cascade System or Air loop System for rental includes single and multiple rack cascade of 4 or more bottles each as well as stand CCU (6 or 20-foot container) and mobile refilling unit.

Our standard offering is for single compressor tie-in. Multiple and/or redundant compressor tie-in is available on request.

We also offer customized solutions that meet your unique needs.

Air Quality Monitoring Equipment & Services

Air quality experts have come to the understanding that ambient air quality particularly for health critical pollutants is clearly a topic of small-scale assessment. Local microclimatic conditions regarding pollutant transport, cross reactions etc. may create an air quality situation differing significantly from a more aggregate observation. Adding short term pollution exposure risks as they have been provide in many epidemiological studies to the geographical small scale, makes it easy to see why a new generation of monitoring systems was needed.



We provide the state of the art air quality monitoring systems which is the leader of the new generation of monitoring systems.

We provide the state of the art air quality monitoring systems which is the leader of the new generation of monitoring systems.

- First class air quality measurement at hot spots or any other point of interest utilizing turn-key systems features that enable cost effective monitoring by a much larger community of users as it is simple to set up, operate and maintain.
- Gather air quality data more quickly with the world's first out-of-the-box plug-and-play compact multi gas air quality monitoring system.
- Measure anywhere you want due to very compact dimensions.
- Measure a wide variety of pollutants in a modular platform – with up to seven ambient air analyzers measuring CO, NO, NO2, NOX, O3, SO2, H2S, VOC and new PM10 and PM2.5 as well as a variety of Indoor Air Quality Sensors. Tailor it to your specific needs with our unique SIP sensor interface platform.
- Access the monitoring and raw data without special software, standard internet connection and web browser will do.

H2S Removal Fluids & Equipment

We have available for rent:

- Stationary Gas Scrubbers,
- Truck Scrubber,
- High Gas Rate Scrubbers

Used in conjunction with AMGAS's Absorbital series of chemicals, our H2S scrubbers offer safe, efficient and cost-effective solutions for controlling hazardous and H2S emissions. We also offer liquid stage removal of H2S with the Corvidal series of H2S scavenger.

Applications of AMGAS scrubbers are typical but not restricted to:

- Venting storage tanks during completion, operations & well-testing
- Loading & transportation of sour liquids
- Purging of vessels and pipelines
- Wellhead,
- Pipelines
- Pig sender & receivers bleed off
- Vacuum truck emissions
- Industrial processing
- Plant turnaround services
- Venting settling tanks for UBD



H2S Scrubbers

- Absorbital 319
- Absorbital 320
- Absorbital 305
- Absorbital 315

H2S Scavengers

- Corvidal 310
- Corvidal 311

Sour Crude Oil Transportation Solutions

- H2S Safe Crude Oil Tankers
- Portable H2S Scrubbers for crude oil tankers

Corvidal 310

H2S Scavenger – Water Soluble Common Uses

- Sweetening for fluid transport
- Sweetening fluids prior to disposal
- Process treatment
- Well bleed downs
- Sub-surface fluid treatment
- Pipeline treatment
- Fluid sweetening for cleaning operations

Corvidal 311

H2S Scavenger – Oil Soluble Common Uses

- Condensate sweetening for fluid transport
- Sales oil treating
- Well bleed downs
- Sub-surface process treating
- Scavenging fluids during cleaning operations
- Vapor phase gas stream scavenging
- Effective in neutralizing H2S in aromatic solvents such as diesel, kerosene and other low molecular weight alcohols

H2S & Safety Trainings

Our training programs promote safety consciousness at the work locations. We have trained personnel from many industries, including Oil & Gas, Petrochemical and Marine sectors. We enjoy repeat business from our Clients because of consistent quality in course delivery and practical contents in many of our training programs. We are also able to provide customised training programs for your organization on request.

We are proud to be associated with Rutledge Omni who is an Approved Training Provider for delivery of these approved training programs worldwide:

- OPITO certified 'Basic H2S Training'
- OPITO certified 'Authorised Gas Tester' Level 1, 2, 3 & Combined
- IADC 'HSE Rig Pass'
- Confined Space Entry & Rescue

Our trainers are professionals with field experience on rig-locations, and readily identify hazards that are specific to client locations to be shared in the classroom.



Marine & Offshore

- Control of Substance Hazardous to Health
- Environmental Protection
- Shipboard Environmental Waste
- Shipboard Oil Pollution Emergency Plan
- Oil Spill Response Training
- Permit to Work (PTW) System
- Audit on PTW System onboard FPSO

Workplace Documentation

- Safety Management System
- Quality Management System
- Workplace Survey

Customised Training Programs:

For Oil & Gas Exploration & Production

- Gas Detection
- Gas Testers
- Respiratory Protection
- Breathing Air compressors
- Permit to Work Systems
- Hazards & Effects Management

Process

- Working with Dangerous Gases
- Working with Pressure Vessel & BLEVE
- Risk Assessment Techniques
- On site Implementation of HSE MS
- Internal Auditing
- Other safety courses on request basis

Blue Horizon Services & Oil Field Maintenance LLC

P.O.Box: 41296, Office M5, Building P1236,
M9, Shabiah, Musaffah,
Abu Dhabi, UAE.
Tel: +971 2 4440461
Fax: +971 2 4440462
Email: ask@bluehoriz.com

Arise Global Pte Ltd

30 Toh Guan Road East
Unit 2 Enterprise Hub
Singapore 608577
T: +65 65594677
Email: ask@ariseglobal.com

Rutledge Omni Services Pte Ltd

34 Toh Guan Road East
Unit 12 Enterprise Hub
Singapore 608579
T: +65 65150055
E-mail: enquiry@rutledgeservices.com

PT Rutledge Indonesia / PT Arise Bintang Salindo

Jl. Mesjid At-Taqwa No. 55 RT.002/001
Kelurahan Jatirangga, Kecamatan Jatisampurna
Kota Bekasi 17434 Indonesia
T: + 62 21 29376707, 29067067

Yeskert Kyzmet Rutledge LLC

6A Karymsakova Street
Atyrau, Kazakhstan 060000
T/F: +7 77122 451813



Blue Horizon Services & Oil Field Maintenance LLC
P.O.Box: 41296, Office M5, Shabiya M9,
Musaffah, Abu Dhabi, UAE.
Tel: +971 2 4440461
Fax: +971 2 4440462
Email: ask@bluehoriz.com



Websites:
www.bluehoriz.com
www.ariseglobal.com
www.rutledgeservices.com