Innovative Solutions • Solving the Problems of Industrial Inspection, Maintenance and Repair

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MHT Service Benefits

Increased Safety: Risk and Reliability managers agree that MHT’s approach to service methods greatly reduce the broad set of risk exposures that are commonly associated with the;

• Construction and dismantling of traditional tubular scaffoldings.
• Postponing of inspection or maintenance until a scheduled turn-around / outage.
• The unplanned thermal cycling of equipment to complete some critical work.
• Contracting of multiple services companies in solving inspection and remedial action requirements.

MHT’s “easy button value added” approach eases the budgeting pains and reduces the production and safety concerns that facility managers and engineers feel when they are faced with urgent mechanical integrity issues. MHT experts take pride in efficiently handling each stage of the most challenging inspection - repair project cycle on time, within budget and without disrupting normal operations.

MHT Company Focus

MHT services focus upon both inspection and maintenance repair. To provide added value and synergy between these two distinct services MHT utilizes its own multi-skilled rope access teams. This value added approach positions MHT as a leader among service providers. MHT is recognized by operations and maintenance managers of both on and off-shore facilities as the “easy button value added” service provider.

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MHT Service Benefits

Increased Efficiency: MHT’s expert multi-disciplined teams deliver a high quality “easy button” solution no matter how urgent or challenging the problem. Reduced project cycle times, earlier fault detection, reduced reliance on scaffolding are just a few of the significant efficiencies gained via MHT.

Reduced Costs: MHT’s “high maneuverability expert teams” smoothly and safely access the workface and perform the specialized job tasks. This smart, lower risk approach, using fewer people, greatly reduces the labor costs of traditional work methods. An MHT team can often achieve, in a few man-hours, what other companies need weeks to achieve.

MHT Access Services Inc.
Client Experience

When faced with urgent or challenging mechanical integrity issues many energy companies select MHT to help solve their problems. Some of MHT clients include:

- ExxonMobil
- ChevronTexaco
- AES Corporation
- Dynegy Energy
- Kasas City Power & Lighting
- NRG Energy
- Williams Olefins
- TXU Energy

MHT Project Teams and Personnel

The key to a successful project lies in the deployment and use of a skilled project team with appropriate experience. MHT teams are led and managed by experienced professionals. Selection for any given MHT project team is based upon an abilities criteria that is reconciled with your work scope and specific job or craft skills requirements.

To ensure quality and continuity the whole project life cycle is managed by a fully qualified MHT project manager. The MHT project manager has accountability, responsibility and authority at each stage to ensure efficiency and the success of your project. Team work is supported on site by a comprehensive range of specialist equipment and materials under the care and control of our MHT project manager.

Rope Access

Developed during the past few decades, rope access has quickly become established across the US Energy, Civil Engineering and Construction sectors as a “Best Practice.”

Whether used in conjunction with other access and lifting methods or used on its own, rope access has proved to be a safe and highly efficient means of assisting the most challenging of tasks, large or small.

Photographs top to bottom.
1. High above any access decking an expert MHT team performs high energy piping support inspection and maintenance.
2. Sunset over a client’s production platform in the Gulf of Mexico.
3. Using rope access techniques and equipment, an MHT inspector positions an instrument to take an ultrasound reading in a challenging location.
4. An MHT project manager discusses with the client the safest approach to inspecting a refinery tower.

MHT Access Services Inc.
Company Training & Personnel Certification

MHT places great importance upon the training and the certification of personnel. All MHT personnel undergo formal training and are certified by outside authorities in accordance with the performance standards defined by the certification or licensing authorities.

Our Inspectors are certified via the following recognized training and qualification schemes;

- American Society of Non-Destructive Testing (ASNT)
- American Welding society (AWS)
- American Petroleum Institute (API)
- National Association of Corrosion Engineers (NACE)

Other MHT personnel including; Welders, Electricians, Insulators, Coating and Asbestos Abatement Specialists also receive formal training and certification in their specialized disciplines.

All MHT field personnel including our project managers are trained and certified in rope access, rigging and safe work techniques to recognized levels of competence. Our employees and trainers meet or exceed the rigorous standards of safety and performance specified by the (SPRAT) and/or (IRATA).

MHT’s Training group provides the following services;
1. Rope access work demonstrations,
2. Initial and ongoing training and competency assessment for MHT employees and clients,
3. Pre-job set-up and special application trials.

Note: MHT rope access trainers hold SPRAT and/or IRATA Level III certification.

Photographs—Top to bottom.

1. An MHT Inspector demonstrates safe work 150’ above ground level while installing TML inspection ports without expensive scaffolding.
2. MHT Inspectors mount a transverse DRT scanner on an off shore riser pipe. Digital images can be instantly relayed via the internet to any global location.
3. MHT’s Training group conducting SPRAT standard training and competency assessment.
MHT Service Capabilities and Commitment

General Inspection and NDT; Maintenance / Repair; Construction and Internal Access and Difficult Entry.

MHT recognizes that Managers need good data to support the decision making process. MHT inspectors will provide a clear picture, with accurate data, regarding the mechanical integrity of your facility. It will be done in a timely and cost effective way.

When a job must be done and inspection and maintenance costs are under scrutiny, selecting our rope access approach is the smart cost effective choice.

MHT provides Inspectors certified and experienced in;
Visual Testing (VT)
Certified Welding Inspector (CWI)
Magnetic Particle Testing (MT)
Dye Penetrant Testing (PT)
Eddy Current Testing (ET)
Alternating Current Field Measurement (ACFM)
Radiographic Testing (RT)
Digital Radiography Testing (DRT)
Coating Inspection
Hardness Testing
Replications
Dimensional Surveys
Corrosion Under Insulation (CUI), Positive Material Identification (PMI) and Thickness Monitoring Locations (TML) of asbestos insulated pipe and equipment at operating temperatures.

Inspection Reports are usually computer generated and may include; high definition digital images; video-graphics and data tables.

Photographs - top down: Corrosion Under Insulation (CUI). MHT inspectors prepare a longitudinal DRT scanner to detect corrosion under the insulation. Output image is seen in the right hand frame with dark areas of indication. 100’ above grade level an MHT inspector safely concludes an ultrasonic inspection of an vapor line.
MHT Service Capabilities and Commitment
..continued

MHT teams often work successfully in remote or difficult locations under challenging conditions. Facility managers, that trust MHT, rest easy knowing that the MHT approach provides significant advantages through:

- Faster initial team mobilization and demobilization
- Higher team maneuverability within a facility
- Faster access to the work face job
- Greater flexibility of multi-skilled MHT worker teams
- High quality communication and digital reports
- Better planning and continuity—single point of contact
- Lower transport and storage costs for equipment
- Lower travel and living costs for the smaller MHT team
- Lower risk factors.

Please review our case history brochures for some specific details relating to real work situations.

Wide Spectrum of Work Tasks

In addition to a range of inspection services, multi-skilled MHT alliance teams routinely complete a variety of specialist coating and insulating tasks. Executed in restricted space or where access by conventional methods is unavailable, job access using MHT experts makes economic sense. MHT can deliver:

- Coating and Corrosion Surveys
- Steam Cleaning
- Solvent Washing
- Grit Blasting
- HP Water Blasting
- Needle Gun or Power Brushing
- Painting and corrosion barrier installation.
- Weather proof inspection port installation with Asbestos Abatement - on hot piping up to 800°F
- Installation and of insulation on piping and vessels

MHT also provides solutions to other major contractors involved in construction and maintenance projects that are complicated high difficult access problems. These solutions have required our expert teams conduct:

- Lifting and Rigging
- Mechanical Installation
- Electrical Installation
- Welding and Burning
- Facility Decommissioning
- Controlled Destruction
- Steel work and equipment removal
Remember

- MHT’s business focus is upon inspection and maintenance repair.
- To add value MHT utilizes its own multi-skilled rope access teams.
- This value-added approach has established MHT as a leader among on and off-shore service providers.
- MHT is recognized by operations and maintenance managers both on and off-shore as the “easy button” provider.
- MHT’s “easy button” approach is very cost effective.
- Reduces the production and safety risks
- Fast and Efficient.
THE USE OF ROPE ACCESS TECHNIQUES TO INSPECT FOR CORROSION UNDER INSULATION ON TOWERS IN AN OPERATING PROCESS PLANT

Site #1 Cost Comparison

Site #1 Schedule Comparison

Site #1 Work Scopes

CUI visual and ultrasonic inspection of tower (8’ diameter x 175’ height) and its 18” overhead line.

- Remove insulation around all insulation penetrations not accessible by platforms (approximately 60 nozzles and support clips).
- Remove insulation 2 feet above and 1 foot below all stiffening rings (11 support rings).
- Remove insulation at 9 locations on the 18-inch overhead line.
- Visually inspect and take Ultrasonic Thickness readings, clean and prepare surface using hand tool methods, coat with primer and top coat, and re-insulate all uncovered areas.

No safety incidents

Site #1 – 65% cost savings using Rope Access methods as compared to conventional scaffolding based on fixed price quotes with 32 days for completion verses an estimated 75 days for scaffolding.
THE USE OF ROPE ACCESS TECHNIQUES TO INSPECT FOR CORROSION UNDER INSULATION ON TOWERS IN AN OPERATING PROCESS PLANT

Site #2 Cost Comparison

Site #2 Schedule Comparison

Site # 2 Work Scopes

CUI visual inspection of tower (10’ diameter X 100’ height) and overhead line (12” diameter x 115’ length).

- Remove insulation around all insulation penetrations not accessible by platforms (approximately 15 nozzles and support clips).
- Remove 100% of insulation from the 12-inch overhead line.
- Visually inspect and take Ultrasonic Thickness readings, clean and prepare surface using hand tool methods, coat with primer and top coat, and re-insulate all uncovered areas except for the overhead line.

No safety incidents

Site # 2 – 45% cost savings using Rope Access methods as compared to conventional scaffolding based on fixed price quotes with 7 days for completion verses an estimated 21 days for scaffolding.

Case Study on Rope Access Techniques for CUI Inspection National Petroleum & Refining Association Document MC-02-87

Conclusion

-Rope Access is a safe and effective method for executing work at elevated locations.
-The overall safety exposure is reduced due to the elimination of scaffolding erection and dismantlement.
-Work can begin quicker because the scaffold erection time is eliminated.
-The quality of workmanship is equivalent to the quality of work performed from scaffolding.
-The total cost of the job is significantly reduced due to the elimination of scaffolding costs.
-Overall reduced number of man-hours to complete the job.