

MISTRAS

# One Source for POMER Asset Protection

+ Combined Cycle + Fossil + Nuclear + T&D + Wind & Renewable

## **OVERVIEW**

Operating as a global leader in asset protection for the Power industry, MISTRAS Group (NYSE:MG) dedicates a massive breadth of experience and resources to support our clients all over the world. Our solutions help to ensure that assets in the combined cycle, fossil, nuclear, T&D, and wind energy sectors operate safely and efficiently.

**MISTRAS**® partners with our clients to serve as their **OneSource for Asset Protection Solutions**®.

Our specialized, integrated solutions help our clients **maximize safety and uptime** at their facilities, supporting them as they generate and distribute the energy we use to support our homes, businesses, and critical infrastructure.

Backed by MISTRAS' global resource, knowledge, and support network, our portfolio of **integrated asset protection specialties** for the Power industry includes:



Field Inspections



Consulting



Maintenance



Access



Data Management



Monitoring



Equipment



Lab QA/QC



Special Emphasis Programs



# FIELD INSPECTIONS

Individual spot inspections all the way up to custom-designed, plant-wide inspection programs for piping, tanks, heat exchangers, turbines, boilers, and other key assets.

- + Advanced and Traditional Non-Destructive Evaluation (NDE)
- + Balance of Plant (BOP) Services
- + Acoustic Emission (AE) Testing
- + Certified Welding Inspectors (CWI)
- + Construction Inspection Services
- + Evergreen Contracts
- + Shutdown/Outage Inspections
- + Vibration Testing & Analysis
- + Predictive Maintenance & Reliability-Centered Maintenance (PdM/RCM) Programs





# CONSULTING

Our experts provide quality assurance and promote efficient plant operation while ensuring personnel and facility safety. MISTRAS consultants assist in shutdown/outage planning and management, profit improvement, capital construction projects, and plant operations support.

- + Condition Assessment and Gap Analysis
- + License Renewal Support
- Materials and Process Selection
- + Outage Inspection Planning and Management
- + Quality Control Inspection
- + Regulatory, Vendor, and Surveillance Audits
- + Third Party OA Oversight
- **+** Training Services





# **MAINTENANCE**

Integrated inspection & maintenance teams keep onsite personnel to a minimum by not only detecting damages, but performing light mechanical services to clean, repair, and protect assets and return them to service as quickly as possible.

- + Aerodynamic Profile Upgrades
- + Corrosion/Erosion Mitigation
- + Cosmetic and Composite Repair/Replacement
- + Installation of Leading Edge Protection Systems
- + Spoiler Removal and Installation

- + Surface Preparation and Coating
- + Underground Transmission Cable Removal
- + Weather Station Replacement/Repair
- + Wind Turbine Blade, Tower, and Nacelle Repairs
- + Winterization Programs





# **ACCESS**

Trained and certified technicians safely access at-height, confined space, and subsea assets to perform a complete range of inspection and maintenance services.

- + At-Height Rope Access
- + Confined Space Entry (CSE)
- + Diving
- + Scaffolding
- Unmanned Systems (UAS/drones)





# DATA MANAGEMENT

MISTRAS' world-class, proprietary inspection data management system (IDMS) – Plant Condition Management Software (PCMS) – seamlessly stores, organizes, and analyzes enterprise mechanical integrity data.

- + Corporate & Site Level Metrics
- + Corrosion Analysis & Trending
- + Embedded RBI Calculations
- + Inspection & Maintenance Scheduling
- + Inspection Data Management for Fixed & Rotating Equipment
- + Mobile Deployment
- + MISTRAS Digital Mobile Inspection Reporting Platform





# MONITORING

MISTRAS offers diagnostic and continuous online asset monitoring utilizing a combination of nondestructive examination (NDE) and monitoring techniques. In-service, early detection of potentially harmful conditions can provide vital information that helps support safe and reliable operations.

- + Boiler Tube Leak Detection
- + Through-Valve Leak Detection
- + Dry Flow Detection Systems
- + Gas Turbine Blade and Stator Vane Crack Detection
- + High Energy Piping (HEP)
- + Metal-to-Metal Impact Detector
- + Power Transformer Reliability
- + Wind Turbine Wear and Fault Detection
- + Continuous Pipe Thickness





# **EQUIPMENT**

Through advanced research, development, engineering, and production, our equipment for spot inspections and online monitoring helps to improve reliability, increase efficiency, provide early warning of problems, and optimize the remaining life of your assets.

- + Corrosion, Cracking, and Structural Fatigue Assessments
- + Overnight Condition-Baseline Testing
- + Continuous Remote Online Monitoring
- + Early Boiler Tube Leak Detection
- + Gas Turbine Crack Monitoring
- + Flange Leak Detection
- Nuclear Valve & Flow Condition
- + Portable Valve Leak Detection & Quantification
- + Ultrasonic Thickness Measurement





# LABORATORY QUALITY ASSURANCE / CONTROL (QA/QC)

In our state-of-the-art testing labs, we use multiple methods to test for and confirm material strength and durability. We help to ensure your assets remain fit-for-purpose throughout their operational lifetimes.

- + Chemical Analysis
- + Destructive Testing (DT)
- Hardness Testing (HT)
- Mechanical Testing
- + Metallography

- Micrography/Macrography
- + Radiography (RT)
- + Sample Preparation
- Ultrasonic Testing (UT)





MISTRAS' special emphasis programs use our asset protection expertise to target the unique, uncommon, hazardous, and costly damages that risk the integrity of your assets and facility.

- + Corrosion Under Insulation (CUI)
- + Flow Accelerated Corrosion (FAC)
- + Non-Intrusive Inspection (NII) Programs
- + Touch Point Corrosion (TPC)
- + Buried Piping Assessments
- + Transformer Clinic™ Substation Health Status and Reliability Monitoring



# **OneSource** means...

Our growth and direction are defined by the problems our customers face.

MISTRAS seeks to provide the most-effective, custom-tailored solution to each of our customer's problems, ranging from an individual service to a purpose-built facility.



# finality

OneSource means we deliver the right solution for our partners' problems, from individual spot inspections through custom-tailored mechanical integrity programs. We don't just put a few pieces together; we deliver value by solving your asset protection puzzle.

# availability

OneSource means Local Presence, Global Reach. We support your individual operations with a local lab backed by our worldwide resource, knowledge, and support network. With MISTRAS locations all over the world, we support our partners' fleetwide operations, not just one or two.





### centralization

OneSource means we are the single hub for all of your company's asset integrity data. We create data connections across every facet of your operations, from individual assets to equipment fleets to housing enterprise data from multiple facilities in an integrated dashboard.

## expertise

OneSource means that there isn't a problem that our asset protection experts haven't met, faced, and solved in our decades of operations. Major Power companies across the world have sought out MISTRAS for innovative solutions to their most difficult asset protection concerns.



# strength

OneSource means we have the resources to meet our partners' asset protection needs, whenever and wherever they need us, no matter the scope. MISTRAS' financial fortitude enables us to continue expanding our boundaries by developing and investing in new solutions that complement our existing portfolio.



# quality & safety

OneSource means we do what we do to maximize uptime and safety, backed by strict quality standards.



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+ Combined Cycle + Fossil + Nuclear + T&D + Wind & Renewable



Field Inspections



Consulting



Maintenance



Access



Data Management



Monitoring





Lab OA/OC



**Emphasis Programs** 



Visit mistrasgroup.com/company/branches to find a MISTRAS location near you.



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Scan or visit power.mistrasgroup.com to start maximizing uptime and safety.

