

CORE CAPABILITIES & SERVICES PROFILE

Comprehensive Asset Integrity, NDT Inspection & Technical Services for the Oil & Gas Sector

Target Sector: Upstream, Midstream & Downstream Infrastructure • **Document Reference:** Technical Annex - Service Portfolio (v3)

Statement of Technical Competence

Our company delivers data-driven asset integrity services designed to maximize plant uptime, ensure strict regulatory compliance, and mitigate environmental and operational risks. All inspection tasks are executed by qualified technical specialists utilizing calibrated equipment and strict field methodologies in alignment with international standards (API, ASME, ISO, ASNT).

1. CORE INSPECTION TASKS & SERVICE PORTFOLIO

ASSET / SYSTEM CATEGORY	CORE TECHNICAL INSPECTION TASKS	APPLICABLE STANDARDS & CODES
Static Equipment Integrity (Vessels, Columns, Heat Exchangers)	<ul style="list-style-type: none">Internal & external visual examination for localized pitting and mechanical deformities.Ultrasonic Thickness Testing (UTT) and grid mapping to quantify active corrosion rates.Tube bundle cleaning and Internal Rotary Inspection System (IRIS) / Eddy Current testing.Flange face flatness assessment and gasket surface integrity verification.	API 510, ASME Section VIII, ASME Section V (NDT), API RP 572
Process Piping & Utilities	<ul style="list-style-type: none">Piping circuit identification and establishment of Corrosion Monitoring Locations (CMLs).Targeted strip-insulation testing to detect Corrosion Under Insulation (CUI).Radiographic Profile Testing (RT) for thin-wall and small-bore bypass lines.Piping spring hanger functional audits and thermal expansion gap verification.	API 570, ASME B31.3, ASME B31.1 (Power Piping), API RP 574

ASSET / SYSTEM CATEGORY	CORE TECHNICAL INSPECTION TASKS	APPLICABLE STANDARDS & CODES
Storage Tank Terminals (Crude Oil, Condensate, Fuel Oil)	<ul style="list-style-type: none"> • Tank bottom floor scanning using high-resolution Magnetic Flux Leakage (MFL). • Ultrasonic crawler evaluations for shell plate vertical thickness profiling. • Roof structure stability checks, sealing lip integrity, and drain system functional audits. • Laser scanning for tank settlement, verticality, and out-of-roundness. 	API 653, STI SP001, API RP 651 (Cathodic Protection), API Adv. Tank Scan Standards
Advanced & Conventional NDT Services	<ul style="list-style-type: none"> • Phased Array Ultrasonic Testing (PAUT) and Time of Flight Diffraction (ToFD) for critical weld inspections. • Magnetic Particle Testing (MT) and Liquid Penetrant Testing (PT) for surface crack localization. • Positive Material Identification (PMI) for alloy sorting and verification. • Hardness testing of HAZ (Heat Affected Zones) on field welds. 	ASNT SNT-TC-1A, ISO 9712, ASME Section V
Pressure Relief & Safety Systems	<ul style="list-style-type: none"> • In-situ and bench verification of Pressure Safety Valve (PSV) popping setpoints. • Internal seat lapping, calibration, and replacement of soft seals. • Rupture disk visual integrity tracking and expiration reviews. • Relief system discharge header blockage and corrosion profiling. 	API 576, API 520 / 521, National Board NB-23
Structural & Lifting Equipment	<ul style="list-style-type: none"> • Structural weld NDT profiling on offshore platforms, crane pedestals, and pipe racks. • Load testing, wire rope NDT evaluation, and certification of overhead cranes. • Loose lifting gear examinations, color-coding, and regulatory logging. 	OSHA 1910.179, AWS D1.1, BS EN 13414, ASME B30

2. PERSONNEL COMPETENCY & FIELD INSPECTION SOFT TRAINING PROGRAMS

To support high-accuracy field data validation and seamless technical communication with asset owners, our field engineering teams undergo specialized technical soft training courses focused entirely on field diagnostics and engineering communication:

TECHNICAL SOFT TRAINING PROGRAM	CORE INSPECTION SOFT SKILLS & TECHNICAL COMPETENCIES	ON-SITE APPLICATION FOCUS
Defect Characterization & Dynamic Flaw Interpretation	Developing diagnostic intuition to accurately cross-reference raw NDT signal responses against equipment service logs. Differentiating between benign manufacturing artifacts and high-risk in-service degradation.	FIELD DIAGNOSTICS
Technical Report Synthesis & Data Presentation	Translating dense ultrasonic thickness tracking grids and metal loss mapping into structured, clear technical conclusions for corporate asset integrity managers and plant engineering leads.	DATA COMMUNICATION
Site Inspection Handovers & Shift Logging	Structuring highly precise, technical shift handover notes covering corrosion and insulation updates, hot-work inspection windows, and active site exceptions to guarantee ongoing continuity.	TECHNICAL HANDOVER
Root-Cause Anomalous Corrosion Analysis	Applying engineering critical assessment logic and situational awareness during plant tours to recognize unusual or accelerated localized degradation mechanisms (such as CUI or erosion-corrosion).	PROBLEM-SOLVING
Field Discrepancy & Technical Evaluation Alignment	Managing on-site technical alignments with client operations teams regarding NDT findings, resolving technical evaluation boundaries without operational friction, and executing joint verification walks.	TECHNICAL ALIGNMENT
On-Site Inspection Scoping & Dynamic Execution	Developing adaptive site routing skills to identify critical inspection points (CMLs) efficiently under fast-moving plant turnaround conditions and safe work window schedules.	FIELD WORKFLOW

3. QUALITY ASSURANCE & IMPLEMENTATION FRAMEWORK

Our field execution workflow relies on an unyielding quality loop to guarantee accuracy for our clients:

- **Equipment Calibration:** All thickness blocks, NDT flaws plates, gauges, and advanced hardware are traceable to international standards with up-to-date certificates attached to each field log.
- **Report Validation:** Field data collected by field technicians is peer-reviewed and signed off by lead inspection specialists prior to formal submission.
- **Continuous Improvement:** Technical profiles and soft-skill courses are continuously adapted to fit the communication, safety, and leadership standards of major oil, gas, and petrochemical operating companies.