



HIDDEN CORROSION. VISIBLE RISKS.

Chilled Water & Condenser Water
Pipe Condition Assessment



**CORROSION
DETECTED**

RISK OF LEAKAGE
& DOWNTIME



**CHILLED WATER
SYSTEM HEALTH**

GOOD ✓



Protect critical cooling infrastructure
before leaks, failures and costly downtime occur.



ASSET INTEGRITY
Protection



REMAINING LIFE
Assessment



RISK-BASED
Decisions



RELIABILITY
Assurance

ASSET INTEGRITY

REMAINING LIFE ASSESSMENT

NDT INSPECTION



WHAT DOES SETSCO ASSESS?

Comprehensive condition assessment of operational chilled water and condenser water piping systems



1 VISUAL INSPECTION

Identify coating condition, corrosion and surface defects.



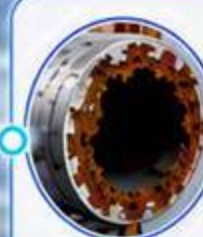
2 ULTRASONIC THICKNESS MEASUREMENT

Accurate wall thickness measurement at multiple points.

6 RISK-BASED RECOMMENDATIONS



Provide risk-based priorities and actionable maintenance recommendations.



3 CORROSION ASSESSMENT

Evaluate corrosion activity, pitting and wall loss.

5 REMAINING LIFE ASSESSMENT

Calculate corrosion rate and estimate remaining life of the piping.



4 PIPE INTEGRITY EVALUATION

Assess structural integrity and determine fitness for service.



INSPECTIONS PERFORMED WITH MINIMAL OR NO OPERATIONAL SHUTDOWN

Inspection can usually be performed while the chilled water/condenser water system **remains in operation**, minimizing disruption to facility operations.



CRITICAL SYSTEMS PROTECTED



DATA-DRIVEN DECISIONS



RELIABLE ASSET PERFORMANCE



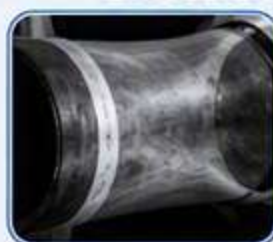
MINIMAL OPERATIONAL DISRUPTION

ADVANCED NDT CAPABILITIES AVAILABLE



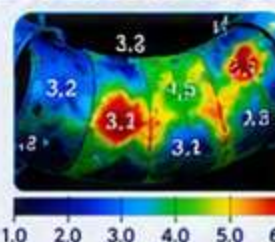
THERMAL IMAGING

Insulation Moisture Screening.



DIGITAL RADIOGRAPHY

Internal Condition Assessment



CORROSION MAPPING

Wall Loss Visualization



SPECIALIZED NDT

Tailored Inspection Solutions



Additional advanced NDT techniques such as thermal imaging for insulation moisture screening, digital radiography, corrosion mapping etc. are available where required based on inspection findings and client specific objectives.

FROM INSPECTION TO ASSET INTELLIGENCE

Transforming pipe condition data into actionable maintenance decisions

1



INSPECT

Visual Examination

Identify coating condition, corrosion, defects & anomalies



2



MEASURE

UT Wall Thickness Gauging

Accurate thickness measurement at multiple locations
Data logged & verified



3



ANALYSE

Corrosion Rate Calculation

Determine corrosion rate based on thickness loss
Predict future wall thickness



4



PLAN

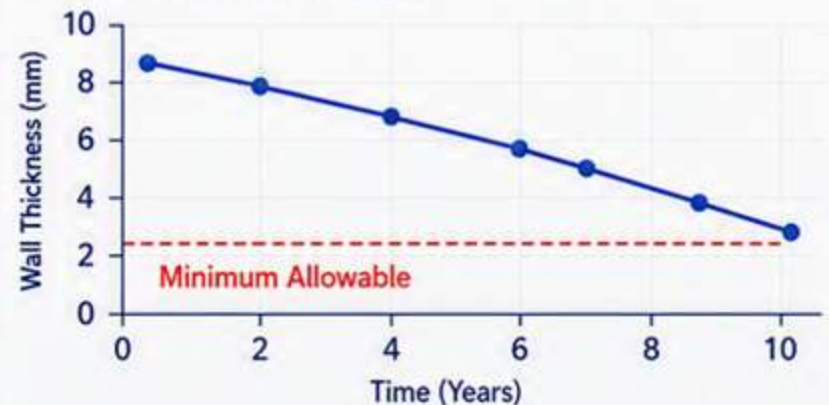
Remaining Life & Maintenance Strategy

Estimate remaining life of the piping
Develop risk-based maintenance strategy



ASSET INTELLIGENCE DASHBOARD

WALL THICKNESS TREND



THICKNESS HEAT MAP



CORROSION RISK



REMAINING LIFE



Estimated Remaining Life
(at current corrosion rate)

REFERENCING INDUSTRY-RECOGNIZED PRACTICES & NDT METHODOLOGIES



API 570

Piping Integrity
Assessment Reference



ASME Standards

Applicable Piping Design &
Construction References



UT Thickness Measurement

Industry-Recognized
NDT Technique



Inspection and condition assessment are performed using internationally recognized piping integrity assessment and NDT methodologies, with reference to industry-recognized practices such as API 570, applicable ASME standards, and ultrasonic thickness measurement techniques, as appropriate to the project scope, client requirements, and applicable specifications. Inspection scope, acceptance criteria, and applicable standards are determined by the client and/or project specifications.



REAL INSIGHTS. REAL FINDINGS.

Condition assessment uncovers **hidden issues** before failures occur

1

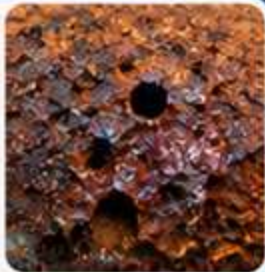
CORROSION UNDER INSULATION

Localized corrosion hidden
beneath insulation systems.



INSPECTION FINDING

Pitting corrosion
detected on
carbon steel pipe.



2

PAINT FAILURE & COATING BREAKDOWN

Protective coating degradation
exposing steel surfaces.



INSPECTION FINDING

Coating breakdown
observed with
widespread peeling
and rusting.



3

LOCALIZED CORROSION & WALL LOSS

Wall thickness reduction requiring
monitoring and maintenance planning.



INSPECTION FINDING

Significant wall loss
measured. Minimum
thickness 3.2 mm.



EARLY DETECTION

Prevent leaks
and failures



ASSET PROTECTION

Extend pipe life
and reliability



REDUCE RISK

Minimise downtime
and disruptions



SMART INVESTMENT

Support data-driven
maintenance planning



Identify deterioration early and
prioritize **maintenance investment.**



TRUSTED ACROSS SINGAPORE'S CRITICAL FACILITIES

Supporting owners and operators with chilled water pipe condition assessment and asset integrity services.



COMMERCIAL
BUILDINGS



HOTELS



AIRPORTS



GOVERNMENT
FACILITIES



INDUSTRIAL
FACILITIES



DATA
CENTRES



FACILITY & SYSTEM EXPERTISE

1



DATA CENTRES

2



SEMICONDUCTOR &
WAFER FABRICATION

3



DISTRICT
COOLING PLANTS

4



HEALTHCARE &
HOSPITAL CAMPUSES

5



COMMERCIAL TOWERS &
BUSINESS PARKS

6



INTEGRATED
RESORTS & HOTELS

7



AIRPORTS &
AVIATION FACILITIES

8



RESEARCH &
LIFE SCIENCES FACILITIES



20+ YEARS

Inspection & Asset
Integrity Experience



**HUNDREDS OF
ASSESSMENTS**

Across Critical
Cooling Infrastructure



PROVEN METHODOLOGY

Industry Standards &
Best Practices



DATA-DRIVEN INSIGHTS

Supporting Smarter Asset
Management Decisions



MAKE DATA-DRIVEN MAINTENANCE DECISIONS

Extend **asset life**. Reduce unplanned **failures**. Optimise **maintenance budgets**.



ASSET RELIABILITY

Reduce leak and failure risks



CAPITAL PLANNING

Support repair and replacement decisions



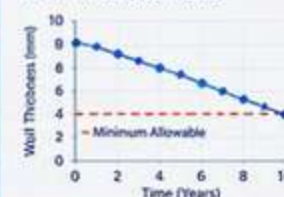
OPERATIONAL CONTINUITY

Minimise disruption to mission-critical facilities



ASSET INTELLIGENCE DASHBOARD

WALL THICKNESS TREND



CORROSION RATE



REMAINING LIFE



RISK LEVEL

MEDIUM
Priority Action Recommended

PREDICTIVE MAINTENANCE

Next Inspection Due in 12 Months



REAL-TIME DATA



TREND ANALYSIS



SMART DECISIONS



BOOK A PIPING CONDITION ASSESSMENT TODAY

PROACTIVE ASSESSMENT. ACTIONABLE INSIGHTS. RELIABLE PERFORMANCE.

SETSCO Services Pte Ltd
Your Trusted Partner in Asset Integrity and Reliability



EXPERT
ENGINEERS



PROVEN
METHODOLOGY



EXTENSIVE
EXPERIENCE



TRUSTED
BY LEADING
ORGANISATIONS



INSPECTION



NDT



ASSET INTEGRITY



REMAINING LIFE ASSESSMENT