



# Power Generation Services

## Quality Assurance

American Association for Laboratory Accreditation (A2LA)  
Nuclear Procurement Issues Committee (NUPIC)  
Nuclear Industry Assessment Committee (NIAC)  
10 CFR 50 Appendix B, Part 21  
ANSI/ASME NQA-1

1-888-287-5227  
[www.atslab.com](http://www.atslab.com)

## **Nondestructive Testing**

- Radiography (Conventional and Digital)
- Ultrasonic (Thickness, Shear-wave, and Phased Array)
- Magnetic Particle Inspections
- Liquid Penetrant Inspections
- Eddy Current Inspections
- Visual Examinations (Direct and Remote)

Helium Mass Spectrometer Leak Detection (HMSLD)  
Common inspections include: welds, tanks, pressure vessels, piping systems, and welder/weld procedure qualifications

## **On-site Services**

- Strain Gaging
- Load Testing
- Metallography
  - Replication
  - Portable Microscopy
- Alloy Verification (PMI)
- Hardness Testing
- Nondestructive Testing
- Helium Mass Spectrometer Leak Detection (HMSLD)

## **Chemistry Testing Services**

*Material Identification of Metals/Oxides:*

- PMI Measured By XRF
- Optical Emission Spectroscopy (OES)
- Inductively Coupled Plasma (ICP)
- Energy Dispersive Spectroscopy (SEM/EDS)
- X-Ray Diffraction (XRD)
- Wet Chemistry

*Material Identification of Polymer:*

- Fourier Transform Infrared Spectroscopy (FTIR)
- Thermo-Gravimetric Analysis (TGA)
- Differential Scanning Calorimetry (DSC)
- Dynamic Mechanical Analysis (DMA)
- Thermo Mechanical Analysis (TMA)

Material Verification (Commercial Grade Dedication) Includes:

- Metal Alloys
- Polymers
- Rubbers
- Paints & Coatings
- Markers & Ink
- Fuels & Lubricants
- Silicone RTV & Sealants

## **Environmental Simulation**

- Thermal Shock
- Thermal Cycling/Aging
- Shock & Vibration
- Seismic/Earthquake Qualification Testing - Triaxial Table (IEEE 344)
- Environmental Conditioning: Variety of temperature/humidity chambers
- UV Exposures (Xenon Arc, QUV)

## **Metallurgical & Failure Analysis**

- Microstructure Evaluations
- Component Metallurgical Failure Analysis
- Material Selection
- Photographic Documentation
- Manufacturing Process Evaluations
  - Residue and Corrosion Analysis (EDS & XRD)
    - Expert Witness Services
      - On-site Investigation
        - Microhardness Testing
          - Plating Evaluation (Thickness & Type)
            - Scanning Electron Microscopy
              - Polymer Failure Analysis
                - Reverse Engineering
                  - Hardness Testing

## **Calibration**

- ISO 17025, ISO 9001, 10 CFR 21 and ANSI Z540-1
- On-Site Calibration
- Online Portal - Certificates, Recall Reports
- Torque Calibration up to 2,000 lbs
- Accelerometer Calibration
- Precision Dimensional Inspection Capabilities 3 CMM's
  - First Article Inspection, Custom Gage Calibration
- Pressure Calibration up to 40,000 psi
  - Pressure Gauge, Transducers, Manometer and Vacuum
- Load Calibration up to 100,000 lbs
  - Load Cell, Dynamometers, Skidmores, Force Gages
- Air Flow Calibration
- Fixed Gaging Calibration
  - Gage Blocks, Thread Rings and Thread Plugs
- Hand Tool Calibration
- Electrical and Electronic Calibration
  - Multimeter, Power Meters/Analyzers, Hi-Pot Testers, Signal Analyzers
- Environmental Calibration
  - Glass, Dial, and Infrared Thermometers; Temperature Humidity Gages; Data Loggers
- Light and Sound Calibration
  - Black & White Light Meters, Radiometers, Gauss Meters, Sound Level Meter

## **Mechanical Testing Services**

- Hardness Testing
- Elevated and Room Temperature Tensile
  - Capabilities to 400,000 lbs
- Torque Testing
- Fatigue Testing
- Charpy Impact Testing
  - US & European Standards
- Elevated and Room Temperature Fracture Toughness/CTOD Testing
- Shear Testing
- Hydrogen Embrittlement Testing
- Stress Rupture Testing
- Fastener Testing
- Load Testing
- Unique Test Fixture/Procedure Development
- Anchor/Rebar Proof Load Testing
- Full Machine Shop In-house

## **Procedure & Welder Qualification**

- Tensile Testing
- Bend Testing
- Charpy Impact Testing
  - US & European Standards
- Drop Weight Testing
- PWHT of Procedure Qualifications
- Fatigue/CTOD
- Hardness Testing
- Chemistry Testing
- Macro/Micro Examinations

## **Corrosion**

- Flow Accelerated Corrosion (FAC) using Computed Radiography (CR)
- Ultrasonic Thickness Testing (UTT)

## **Rope Access**

- Tank Inspections
- Stack/Column Inspections
- Structural & Engineering Evaluations

## **Engineering Services**

- Fall Protection System Design, Evaluation and Certification
- Fall Hazard Assessments
- Reliability Services
- Structural Engineering and Damage Assessments
- API 653, API 570 and API 510 Inspectors
  - AWS Certified Welding Inspectors
  - NACE Certified Coating Inspectors