

Feeling Pressure to Make the Right Career Choice?

Consider Pressure Equipment Integrity Management (PEIM) for Career Pressure Relief

Choosing a career is one of the most important decisions for anyone, but especially for students or young people contemplating their future.

Options are one thing that a career in PEIM has to offer—rewarding and challenging options. Determining how to get there is the next step.

This pamphlet was developed to assist you:

- in planning your future
- gaining awareness of the exciting career opportunities available
- achieving long term success in the industry.

What Is Pressure Equipment?

The world is full of pressure equipment — from the hot water tank in your basement, the power boilers that produce electricity for cities, to refineries and petrochemical and processing plants. We are surrounded by pressure equipment every day, and there are many careers involved in assuring this pressure equipment is safe and operates reliably.

Where PEIM Professionals Work

Work in an office, in the field, in process facilities, large or small. If you enjoy challenges in the technical and engineering fields, countless opportunities for advancement are at hand.

Manufacturing: pressure piping, pressure vessels, tanks, boilers, structural steel, pipeline components.

Materials engineering/consulting: non-destructive examinations, materials & weld testing, metallurgy, failure analysis.

Construction: ensuring plants, pipelines and tanks are properly constructed and erected.

Maintenance: plant turnaround planning, routine repair and alteration development.

Owner operators: oil and gas production and processing, chemical, power generation, pipelines, pulp and paper facilities.

EPC (Engineering - Procurement - Construction): design, quality control, quality assurance and alterations.

Teaching: post secondary, seminars, and industry training.

As you gain experience and obtain the various certifications and endorsements required, the career and employment options are very diverse and rewarding, both within local industries and international jurisdictions.

What Integrity Professionals Do

Inspecting: new construction, in-service evaluations, integrity management, repairs and alterations.

Testing: materials, welds, pressure equipment and pipelines.

Analyzing: data, risks, costing and assessments.

Quality control: welding, fabrication, construction, materials and coatings.

Quality assurance: manufacturing, construction and design.

Auditing: all parts of the industry now do internal audits of their own work to confirm suppliers, contractors and operators comply with regulations, codes, client specifications and contracts.

Training/teaching: is a satisfying career once you have the knowledgeable and possess the organizational and communication competency to be a good instructor, trainer or teacher.

Technology: this high tech industry has vast opportunities to learn, develop and apply technology to your chosen field.

Engineering: design, fitness for service and management.

Regulating: inspections, auditing, technical advisory experts and design surveying.

Supervising/leading: chief inspector, integrity team leader and Inspection supervision.

Managing: integrity management programs.

There are also plenty of opportunities for advancement if the technical aspects and challenges are not enough. Many of the skills developed through this experience are very transferable to other industries and fields.

IPEIA Contact Information

PO Box 27004 Tuscany PO
Calgary, Alberta T3L 2Y1

Phone: 403-651-4364

Email: admin@ipeia.com



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Pressure Equipment
Integrity Management

Career
Opportunities
& Path



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Pressure Equipment Integrity Management (PEIM) Career Opportunities and Path



HIGH SCHOOL

A - Post Secondary Education Typical in PEIM

A1 - Trade/Technician
Welding
Power Engineer
Pipefitter/Steamfitter
CGSB

A2 - Technical Program (Technologist)
Welding Engineering Technology
Materials Engineering Technology
Petroleum Engineering Technology
Power Engineering Technology
Chemical Engineering Technology

A3 - University Degree
Mechanical Engineering
Materials Engineering
Chemical Engineering
Petroleum Engineering
Bachelor of Science
Other

B - Work Experience Typical Prior To Entering PEIM

B1 - In-Service Facilities
Junior Inspector
Power Engineer / Operator
Pipe / vessel Welder
Field / Facilities Engineer
May be in a specific area or industry — experience is very transferable

B2 - Manufacturing - Construction
Welder / Fitter
Quality Control
Designer / Drafting

B3 - Testing / Examination
Visual Inspection Assistant
Materials Lab

B4 - Service / Consulting
Non-Destructive Examination
Technician/assistant

B5 - Industries
Oil and Gas Production / Processing
Petrochemical
Power Generation
Pulp and Paper
Pipeline
Manufacturing
Service Co. NDT & Materials

B6 - Engineering / Technical
Facilities
Projects
Pipeline
Corrosion
Process
Materials Selection
Hazards Identification and Risk Assessment

C - Training That Prepares One for a Career in PEIM

C1 - API Inspection Programs
510 Pressure Equipment
570 Pressure Piping
571 Damage Mechanisms
579 Fitness for Service
580 Risk Based Inspection
More ...

C2 - National Board
Pressure Equipment (PE) Manufacture and Installation
PE Inspection and Repair
PSV Inspection

C3 - Materials Engineering & Technology ASM NACE Corrosion Courses
Corrosion Technician
Corrosion Technologist
Corrosion Specialist
Coatings Technology
Cathodic Protection

C4 - Administrative
Technical Writing
Computer Programs
Business Processes
Business

C5 - Corrosion Courses
Corrosion Technician (2)
Corrosion Technologist (3)
Corrosion Specialist+
ASME New & Post Construction Codes

C6 - Specialty
Root Cause Analysis
Failure Analysis
Finite Element Analysis
Fitness for Service / Remaining Life Assessment

D - Certifications Often Required or Desirable

D1 - Industry Organizations Inspection:
API 510 / 570 / 653
NBIC
CCIA / UCIA / ARPIA

D2 - Examination / Testing
CGSB/ASNT
Ultrasonic / Radiography
Magnetic Particle / Liquid Penetrant

D3 - Jurisdictional Certifications (ABSA/TSASK)
IPVI/IBPVI
Welding Examiner

D4 - Professional Designations
Engineer
Technologist
Technician

AA - Potential Careers

Integrity Engineering Technologist
Quality Assurance Specialist
Quality Control Specialist / Manager
NDT Specialist / Technician
Auditor (compliance / quality)
Regulator/ Regulatory Specialist
Pipeline Integrity Specialist

AB - In-Service Pressure Equipment:

Inspection of in-service equipment, piping, tanks
Integrity Management
Corrosion Mitigation / Monitoring
Materials Selection
Failure Investigation - Failure Avoidance / Prevention
Repairs / Alterations / Replacement

AD - Technical & Engineering:

Materials Selection / Design
Failure Analysis Process
Corrosion and Damage Monitoring and Mitigation
Chemicals, Research, Advanced Coatings
Process Safety Management

AC - Manufacturing / Construction / Maintenance:

Quality Control
Welding Technology - Quality
Welder Qualification Testing
Quality Assurance

AE - Other Related:

Regulator Inspector
Pipeline Integrity Management
Document Management
Budget Development and Management
Teaching / Training

AF - Continuous Learning is Critical for Success in PEIM

Special courses at institutions:
SAIT / NAIT / U of A / U of C / UBC / U of S
Seminars by industry groups or consultants
Employer Training Programs
Certification Renewals
Varied Work Experience - job change - special assignments
Published Papers
Industry Group Participation
Conferences

Continuous Learning