



IPEIA
Integrity Challenge Forum (ICF)
Task Force 3 (TF3)

Final Report

About ICF

- What is the intention of the forum?
- The Challenge: Industry working as a team to identify and solve industry issues.
- IPEIA Mission - forum interaction between industry, regulators, and educators. Create a platform to discuss industry specific issues.
- IPEIA's role in ICF is to facilitate the process. IPEIA provides linkage between the various Industry Groups, volunteers, and staff to manage meetings and logistics. IPEIA schedules, hosts, chairs, and takes minutes ICF meetings.
- To ensure that all segments of industry were represented IPEIA requested that Industry Groups (IGs) provide committee volunteers representing their industry segment and that this representative group works on industry issues. Interested individual industry members were also part of the discussions.
 - Participants in the ICF include:
 - IPEIA volunteers to provide ICF TF3 facilitation.
 - Volunteer representatives from Industry Groups
 - Interested industry members.
- The Integrity Challenge is an important part of the IPEIA Special Sessions. Special Sessions activities include:
 - Industry specific training
 - Industry Group meetings
 - Webinars
 - Regulator Updates
 - Integrity Challenge Forum

- Committee Members who regularly attended meetings:
 - IPEIA ICF volunteers
 - Rob Vesak, Technical Support - TES Group
 - Megan Sutton, Education Chair- Acuren
 - Doug Brett, Technical Support – Secure Energy
 - Jim Yukes, Facilitator - AVH Engineering

• TASK FORCE 3 • INDUSTRY GROUP REPRESENTATIVES & COMMITTEE MEMBERS	
• Joel Pepin • PCL/APPCA	• Cam McDonald • AECON/APPCA
• Aaron Crytes • AECON/APPCA	• Megan Sutton • Acuren/IPEIA
• Nathan Bartley • Acuren	• Josh Wierenga • Tourmaline Oil/UCIA
• Marc McGill • ATW Inspections / CCIA	• Shawn Santo • Rae Engineering/ GUAC
• Dean Lunt • Ledcor/APPCA	• Paisley Cameron • Becht

ICF 2023

- Prior to the February 2022 conference, IPEIA ICF volunteers approached IG Chairs to request for issues related to Pressure Equipment Integrity. The supplied discussion topics included:
 - Manpower
 - Red Tape Reduction and harmonization
 - Engineered pressure enclosures (EPE's)
 - Inspection and testing of safety valves, best ways to raise awareness of this requirement.
- The goal was to decide whether there is an industry need to standardize inspector requirements across Canada or even across the western provinces AB, SK, BC. If so, goal to define the scope (western provinces only, or across Canada) and develop potential solutions to get to the end goal – Harmonization of inspector requirements.
- The ICF meeting was held at the 2022 IPEIA conference as part of the Special Sessions segment of the conference. The meeting was held over a 2.5-hour period at the Jasper Park Lodge. Mr. Rob Vesak acted as moderator; described the ICF concept to the audience and supplied the discussion questions. Discussions concerning the ICF topic were held by approximately 100 industry representatives with about 10 people per table. Each table had a facilitator who gathered the table's comments. At the end of the discussion period table facilitators were called to the microphones by the moderator to readout the comments from their table which were recorded by two scribes, Ms. Jennifer Dowdle and Ms. Ursula Winster-Goodfellow.
- Post conference, the IPEIA ICF members organized the recorded comments and developed a plan to take to the IGs to request volunteers to continue to work on the issues. The working group was designated Task Force 3 (TF3).
- Benefits of the ICF for IG group members include:
 - an opportunity to work together as an industry.
 - a platform for industry to communicate to government.
 - support of IPEIA services to the IGs
 - IPEIA requested that the IGs select representatives from their groups to be TF3 members.
 - To ensure industry participations, and at the same time discussions were taking place with the IGs, several individuals from companies interested in the process participated in the TF3.

- ICF TF3
 - TF3 continued using an aggressive meeting schedule of one, 1 hour meeting every second Thursday that TF1 and TF2 had followed. IPEIA set up on-line meetings, supplied meeting agendas based on agreed topics and IPEIA volunteers facilitated the meetings. Discussions were recorded both digitally and through minute taking. Meeting minutes are saved and were distributed to the various TF3 members via e-mail after each meeting. IG representatives gave TF3 progress reports to their respective groups at their regular meetings.
 - After a series of meetings, the TF3 committee decided to concentrate on the Manpower issue because the TF2 had formed a sub-committee or User Group that volunteered to work as part of the CSA B51 Boiler, Pressure Vessel, and Pressure Piping committee to develop a Pressure Equipment Annex that would assist to harmonize pressure equipment integrity management across Canada.
 - Committee discussion around Manpower eventually lead to revisiting the IPEIA Career Path Pamphlet. The pamphlet had originally been developed to increase awareness of the integrity industry. TF3 decided that the pamphlet should be updated and be better focused at explaining the paths available to get educated and certified to work in the industry. The pamphlet was reviewed, edited and a QR code was included that directs users to an IPEIA page with links to various training and certification organizations when interested parties can learn more about specific sectors of the industry: <https://www.ipeia.com/career-path-for-our-industry/>
 - **See Appendix A**
 - Career Path Pamphlet: Feeling Pressure to Make the Right Career Choice?
 - **See Appendix B**
 - IPEIA's ICF TF3 was invited to participate in an inter-society initiative to increase industry awareness through 2 dinner meetings.
- TF3 also determined that new questions for a new 2023 – 2024 Committee was needed. TF3 considered it important that the Pressure Equipment Integrity sector continue to work together to solve industry related issues with a single voice and to ensure the ICF continued to address industry issues over time.

Appendix A

Career Path Pamphlet

Feeling Pressure to Make the Right Career Choice?

A career in pressure equipment integrity management (PEIM) can be financially rewarding and personally satisfying with many exciting options and alternatives. Ultimately you choose your path. IPEIA is here to help you with your journey.

What Is Pressure Equipment?



The world is full of pressure equipment—from your hot water tank to power boilers that produce electricity for entire cities.

From refineries and petrochemical plants to dry cleaning and plastics fabrication, energy generation, air conditioning, and in green and developing technologies—we are surrounded by pressure equipment.

Where PEIM Professionals Work

Work in an office setting, in the field, in a large or small process facility—with opportunities in government and private industry. It's your choice.

Technology: Work with the latest high-tech sensors, drones and digital technologies, with immense opportunity for advancement with the evolving technology.

Materials Engineering/Consulting: Perform non-destructive examination (NDE), inspections, materials and weld testing, metallurgy and failure investigations.

Maintenance: Work in plant maintenance conducting inspections, routine repairs, alterations and responding to emergencies.

Teaching and Mentoring: Instruct formally at the post-secondary level, conducting seminars and training.



Engineering, Procurement & Construction (EPC): Work through multiple project stages; from design and quality control to quality assurance and commissioning.



And with experience and the relevant certifications and endorsements, the career and employment options become diverse—both within local industries and internationally.

What PEIM Professionals Do

There are many careers dedicated to making sure pressure equipment is safe and operates reliably.

Inspections: Inspect new construction or in-service pressure equipment to ensure safe and reliable operation.

Analysis: Use advanced inspection and monitoring technologies to identify and mitigate safety and environmental risks.

Quality Assurance/Quality Control: Ensure that fabricated equipment is built to the design specifications.

Engineering: Design pressure equipment, strategize inspection programs, and develop repair and maintenance plans.

Supervising/Managing: Lead the governance of pressure equipment integrity programs and supervise diverse teams of PEIM professionals.

A career in PEIM offers plenty of opportunities for advancement with skills that are transferable across industries.



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www.ipeia.com

Career Opportunities

in Pressure Equipment Integrity Management (PEIM)



www.ipeia.com

Pressure Equipment Integrity Management (PEIM) Career Path



Typical Post-Secondary Education Prior to Entering PEIM

Trade/Technician
Welder
Pipefitter/Steamfitter
Power Engineer
NDE Technician

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

University Degree
Mechanical Engineering
Materials Engineering
Chemical Engineering
Petroleum Engineering
Bachelor of Science

Typical Work Experience Prior to Entering PEIM

In-Service Facilities
Junior Inspector/Power Engineer/Operator
Pipe/Vessel Welder
Field/Facilities Engineer

Manufacturing/Construction
Welder/Fitter
Quality Control Designer/Drafting
Testing/Mechanical/Destructive Testing
Materials Laboratory

Inspection, Examination & Consulting Services
Non-Destructive Examination
Technician-Assistant
Inspection-Assistant

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

Industries
Oil and Gas Production/Processing
Petrochemical/Refining
Power Generation
Pulp and Paper
Pipeline Manufacturing
Inspection
NDE and Materials

Training for a PEIM Career

API Inspection Programs
510 Pressure Equipment
570 Pressure Piping
571 Damage Mechanisms
580 FFS

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

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

Administrative
Technical Writing
PEIM Administration
PEIM Data Management Software
Business Processes

Corrosion Courses
Corrosion Technician
Corrosion Technologist
Corrosion Specialist
ASME New/Post Construction Codes

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

Required or Desirable Certifications

Industry Organizations Inspection:
API 510/570/663
NB Commissions and PEIs

Examination/Testing
NDE CAN/CGSB 48.972/ISO 9712
NDE ACCP/ASNT CP-189
NDE SNT-TC-1A

Jurisdictional Certifications (ABSA/TSASK)
ABSA IBPV, IPV, IPP, Welding Examiner
TSASK PEI Class 1, 2, and 3

Professional Designations
Professional Engineer, P. Eng., P. (Eng.)
Professional Technologist, P. Tech.
CET Professional Technician, C. Tech.

Potential Careers

PEIM Professional (Engineering/Technologist)
PEIM Quality Management
Fabrication/Construction Quality Management
Quality Assurance/Control Specialist
Chief Inspector
In-Service Inspections
Non-Destructive Technician/Specialist
Failure Analysis
Materials Testing
Compliance Auditor
Jurisdiction/Regulatory Compliance Specialist
Pipeline Integrity Specialist
Research/Development

In-Service Pressure Equipment

Inspection of In-Service Equipment/Piping/
Tank Integrity Management
Corrosion Mitigation/Monitoring
Materials Selection
Failure Investigation - Failure Avoidance /
Prevention Repairs/Alterations/Replacement

Technical & Engineering

Research and Development (Design)
Materials Selection/Design
Failure Analysis
Process Corrosion and Damage Monitoring/
Mitigation
Advanced Coatings
Process Safety Management

Other Related

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

Manufacturing, Construction & Maintenance

Quality Assurance/Control Welding Technology Welder Qualification/Testing WPS/PQR development Manufacturing, Fabrication and Erection	PEIM Professional (Engineering/ Technologist) PEIM Quality Management Fabrication/Construction Quality Management Quality Assurance/Control Specialist	Chief Inspector In-Service Inspections New-Fabrication Inspections Non-Destructive Technician/ Specialist Failure Analysis	Materials Testing Compliance Auditor Jurisdiction/Regulatory Compliance Specialist Pipeline Integrity Specialist Research/Development
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Continuous Learning Critical for Success in PEIM

Special courses at institutions:
SATT/NAT/ITU of AIA of C/UBCIU of S
Seminars by industry groups or consultants
Employer Training Programs
Certification Renewals
Published Papers
Industry Group Participation Conferences

Check out www.ipeia.com for more information

Appendix B

Inter Society Dinners Addressing Inspector/Examiner Personnel Shortages AMPP / ASM / AWS / IPEIA

Edmonton March 15, 2023, University of Alberta

Technical Demonstrations & Panel

- Demo: corrosion or corrosion-related inspection tools
- (Technology demo support Jennifer Dowdle/Ryan Brosda)
 - Demo: tentatively some combination of drones and/or drones used for augmented reality inspections
- (Technology demo support Paul Toews)
 - Demo: data acquisition system used by Tourmaline
- (Technology demo support Brain Beesley)
 - Demo: tentatively some combination of robotics and/or PAUT
- **Panel Discussion**
 - What path did you take to get a career in Inspection/Examinations?

Neal Mills – Confederacy of Treaty No. 6 First Nations

Jennifer Dowdle – Acuren

Josh Wierenga – Tourmaline

Brian Beesley – IRISNDT

Calgary April 5, 2023, SAIT

2 Panels

- **Youth Perspective:**
 - How is current generation different from past generations?
 - Less interest in this sector as a career
 - How can industry better connect with this generation?

- Interfacing:
 - How can industry connect with this generation?
 - What opportunities are there in this sector?
 - What tools should industry know about to increase awareness of the sector?
 - Speakers
 - Gordon King – Program Development Specialist (Careers the Next Generation)
 - Bob Khan - Director of Operations (Canadian Catholic Immigrant's Society)
 - Rozlynn Wick - Manager for Strategic Youth Initiatives (SAIT)