



Report: ASME B31 Owner Inspector Competency Concerns

BACKGROUND

The discussion topic voted on at during the Integrity Challenges Forum at the 2025 IPEIA conference in Jasper was:

B31.3 Owners Inspectors- Competency, build a better definition

Questions regarding the competency requirements for ASME B31 pressure piping owner's inspector (OI) have been gathered from conversations at the conference and within the Stakeholder Engagement group.

- Is there a way to waive experience requirements?
- Who keeps track of owner's inspectors? and how to keep track of them?
- Are the requirements the same in all jurisdictions?

DISCUSSION

Except in cases where both the jurisdictional regulations allow it and provisions are written in the Owner's Manual, competency requirements for OI's **cannot be waived** to maintain compliance with ASME B31. There are however multiple combinations of education and experience that add flexibility to the competence requirements. Personnel assisting an OI on piping inspection activities can be vetted and authorized by the OI to perform tasks they are qualified for. The OI remains responsible for the successful completion of all required piping inspection tasks.

Each jurisdiction may have its own definition of competency, for example ABSA's competency definition is:

A "competent" person is defined as someone possessing the appropriate qualifications, knowledge, skills, and experience to perform work safely and in accordance with the applicable regulations. This competency must be verified through training, assessment, and an auditable process.



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In the context of Technical Safety BC (TSBC), competency is defined as having the necessary knowledge, ability, and skills to safely perform regulated work, including the installation, operation, and maintenance of regulated equipment while BCER's definition is: Proven qualified, trained, and experienced to perform the required duties.

The stakeholder engagement group agreed that another significant challenge is to assess, record and re-assess competency of OIs. Solutions to these range from spreadsheets and scanned credentials to fully implemented online LMS (Learning Management Systems). In all cases, a standard form (hard copy or electronic) should be used to record which one of the competency requirements is satisfied by the OI candidate. See figure 1 as an example.

Some companies experience more difficulties tracking competency in greenfield projects as opposed to brownfield ones. The latter are typically managed internally by the owner company employees or long-term contractors which are easier to track. Greenfield project teams tend to be of a more transient nature, so the OIs utilized are harder to track as they often change from project to project, which requires that competency be assessed in a more frequent basis, even several times during a project.



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Competency Verification for the Owner's Inspector

Contractor / Owners Inspector: _____

Contractor Company name: _____

Competency: Training, Knowledge and Experience		
Elements (check any applicable certifications below)	Assessment Criteria	Comments: (update with descriptions and limitations)
Certification/Verification/Assessment by the Supervisor		
<input type="checkbox"/> Engineering Degree		
<input type="checkbox"/> P.Eng.		
<input type="checkbox"/> Technologist diploma		
<input type="checkbox"/> Meets the "Owner's Inspector" experience and qualification requirements of ASME B31.3		
<input type="checkbox"/> API 570 Inspector Certification		
<input type="checkbox"/> Certified Welding Inspector		
<input type="checkbox"/> Other		
Reference Materials		
<input type="checkbox"/> Owner's policies and procedures		
<input type="checkbox"/> Owner's piping specifications		
<input type="checkbox"/> ASME Codes		
<input type="checkbox"/> ASME B31.3 Code		
<input type="checkbox"/> ASME B31.3 Training Course		
Administrative		
<input type="checkbox"/> Repair organization QC program		
<input type="checkbox"/> Alberta Legislation: Safety Codes Act and PESR		
<input type="checkbox"/> ABSA Form AB-83 & completion guide		
<input type="checkbox"/> BC Legislation: Safety Standards Act and PEBPVRSR		
<input type="checkbox"/> BCSA Form FRM-1329-01		
Inspection Experience		
<input type="checkbox"/> Years of experience in the design, fabrication, or examination of industrial pressure piping.		

I have reviewed the above individual's qualifications and appoint them to act as Owners Inspector for construction of B31.3 piping on behalf of: _____

Verified by Company Rep (print and sign): _____

Verification Date (mm/dd/yyyy): _____

Figure 1 - Example OI competency verification

See Appendix A for an example of a Contract Inspector Competency Form

There is consensus across the Stakeholder Engagement group that the requirement to define the function of an owner inspection in the company's integrity manual are clearly mentioned in AB-527 for the province of Alberta and it is a good practice for all programs applicable to



all jurisdictions. It is also a clear requirement of ASME B31 documents that the owner must appoint its OIs formally.

Different jurisdictions may allow variances for the need of an OI for work related to small bore piping, low-pressure systems, mechanically assembled piping, etc. It is incumbent upon the owner to understand and comply with the requirements for these variances.

CONCLUSIONS

- 1- OI competency requirements cannot be waived.
- 2- An OI competency tracking system is required to ensure only competent people perform the OI role. There are more challenges posed to track competency in greenfield projects than on projects in existing facilities, owner companies should have a way to deal with both.
- 3- OI role definition in the company's integrity management program is a good practice in all jurisdictions but a requirement in some.



APPENDIX A

Sample Contract Inspector Competency Form



PRESSURE EQUIPMENT INSPECTOR COMPETENCY EVALUATION

Name: _____

Position: _____

Fill in the knowledge and job experience level for each item.
To be reviewed at each annual review with Team Lead.
If both *Job* and *Training* experience applies, use the higher value.
1 full project is considered to be an average sized project for each group.
A larger project may be considered as multiple jobs' experience.

JOB EXPERIENCE

- No experience
- 1 Some experience
- 2 Worked on 1 full project
- 3 Worked on 2-4 full projects
- 4 Worked on 5+ full projects or was technical lead on a project
- 5 Extensive knowledge

EVALUATION METHODS USED

- | | |
|------------------|------------------------|
| 1 Certifications | 5 Observation |
| 2 Resume | 6 Interview |
| 3 Past History | 7 Education & Training |
| 4 References | |

TRAINING EXPERIENCE

- 2T 1+ hour(s) of informal training (internal)
- 3T Formal course (internal/external)

PROCESS TYPE	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
REMS Field Reporting					
Filed/Inlet Separation					
Oil Separation					
Mole Sieve					
Fractionation					
Compression					
Dehydration					
Refrigeration					
Amine Sweetening					
Acid Gas Handling					
Steam Power Boilers					
Glycol Power Boilers					
Utility Heat Medium					
Small Package Boilers					
Steam Boilers					
Tanks					
Shop Construction					
Chief Inspector					
External Inspections					
Internal Inspections					
Install Inspections					
Other: _____					

PIPING TYPE	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
ASME B31.1					
ASME B31.3					
Other: _____					

REPAIR TYPES	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
Butt Weld					
Fillet Weld					
Overlay					
Temper Bead					
Flush Patch					
Overlay Patch					
Window					
Structural					
Other: _____					

MATERIAL TYPES	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
Carbon Steel					
Stainless Steel					
High Chrome					
Exotic and Duplex Materials					
Other: _____					



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<u>PROCESS</u>	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
Bake-out					
PWHT					
Standard					
Other: _____					

<u>OWNER'S INSPECTOR</u>	EVALUATION METHOD(S)	EXPERIENCE	DATE	EVALUATOR BY LINE ITEM	COMMENTS
Owner's Inspector					

Extent of Code Exposure _____
(capability of providing guidance off codes) _____

Recommended conditions or restrictions: _____

- Inspector Competency Level:**
- Junior
 - Intermediate +1
 - Chief Inspector
 - Junior +1
 - Senior
 - Owner's Inspector
 - Intermediate
 - Senior +1

Notes: _____

- Disposition:**
- Agrees with
 - Disagrees with
 - Agrees with, but with changes: _____

Recommendations, conditions, etc.: _____

Employee's improvement plan and expectations: _____

Employee Name: _____ **Evaluator Name:** _____

Employee Signature: _____ Evaluator Signature: _____

Date: _____ Date: _____

Supervisor Name: _____ **Technical Coordinator Name:** _____

Supervisor Signature: _____ Technical Coordinator Signature: _____

Date: _____ Date: _____

Next Scheduled Review Date: _____

Explanation of Inspector Competency Levels	
Junior	Shop Inspections
Junior+1	Periodic external inspections of in-service equipment and installation inspections
Intermediate	Periodic internal inspection of in-service equipment
Intermediate+1	Installation inspections
Senior	Pre-inspection planning, assessment of results, determining "next steps"
Senior+1	Repairs and alterations



PRESSURE EQUIPMENT INSPECTOR COMPETENCY EVALUATION

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Chief Inspector

Chief Inspector (this position is not required to have technical knowledge for all processes but must meet at least levels 1 through 4 of Job Experience)

Owner's Inspector

Owners Inspector (not dependent on any other levels)