

# PIPELINE PERSONNEL QUALIFICATION

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ASME B31Q Update

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# Historical Perspective

- **1999**: PHMSA published Operator Qualification (OQ) rule
- **2002**: NTSB labeled Operator Qualification as “unsatisfactory”
- **2003**: PHMSA issued 13 areas they considered as gaps in the rule
- **2003**: Four public meetings held to address the 13 issues
- **2003**: ASME B31Q Project Team formed to develop a technically sound, holistic, consensus standard for the qualification of pipeline personnel
- **2005**: PHMSA amended OQ rule to address training, on-the-job performance and reporting significant plan changes
- **2006**: ASME published the first edition of B31Q
- **2010**: ASME published the second edition of B31Q
- **2014**: ASME published the third edition of B31Q
- **2016**: ASME published the fourth edition of B31Q
- **2018**: ASME expects to publish the fifth edition of B31Q

# Standards vs. Regulations

## Keeping Things in Perspective

- International standards
- No jurisdictional bounds
- Regulators can adopt all or part of a standard

# Underlying Principles of ASME B31Q

- Scope covers tasks that impact the safety or integrity of the pipeline
- Technically based
- Prescriptive and Performance options
  - Performance options should have higher expectations on processes
  - Limited number of simple processes for each technical issue with freedom to develop operator's own methods

# Underlying Principles of ASME B31Q

- Clear – should be clear and concise
- Durable – adequate for multiple cycles
- Complete – answers all known technical issues
- Sound – technically sound foundation
- Use existing rule where practical
- Not a regulatory document

# ASME B31Q Benefits

- Standardized task list
- Standardized requalification frequencies
- Identifies key qualification components
- Allows for portability
- Rationale are embedded in document
- Accepted by PHMSA
- Reduction in future changes to OQ rule

# PHMSA Perspective

- B31Q addresses the OQ non-compliance issues found to date.
- PHMSA has publicly stated – “If you meet ASME B31Q, you will meet the regulation.”

# Changes from 2006 to 2010

- Editorial refinement
- New technology
- Long-term degradation of distinctive physical abilities
- Jobs vs. Tasks – no change, already included
- Qualification exemptions clarified
- New construction clarified
- New tasks
  - 1631 & 1641 (Launching & Receiving Pigs)
  - 1651 & 1661 (Purging)



# Changes from 2010 to 2014

- New section for interpretations
- Moving generic AOC list to other standards
- Enhancing the qualification standards

# Integrated Task List Components

<b>Task 1291 Locate Underground Pipelines</b>	<b>L</b>	<b>G</b>	<b>D</b>	<b>Difficulty</b>	<b>Importance</b>	<b>Interval</b>	<b>Method</b>	<b>Span of Control</b>
	X	X	X	3	3	3 YRS.	P&W/O	1:1

**Task Guidance:**

This task includes locating underground pipelines utilizing maps, records, and locating equipment. It also includes placing temporary markers or markings.

1) Identify requirements

2) Select method for locating

3) Perform test equipment check

4) Visually inspect locate area

5) Locate pipelines and place temporary marker(s)

6) Recognize & react to AOCs

7) If required, complete documentation

# Enhanced Task Guidance Example

Task 0771 Joining of Plastic Pipe: Sidewall Heat Fusion

<b>Current Criteria</b>	<b>Proposed Criteria</b>
Identify requirements	Select task procedure(s) and appropriate equipment
Perform joining equipment check	Perform joining equipment check <ul style="list-style-type: none"><li>❖ Select proper sized heat adapter that is free of defects and contamination</li><li>❖ Proper iron selection</li><li>❖ Ensure fusion machine is in good working condition</li></ul>

# Enhanced Task Guidance Example

## Task 0771 Joining of Plastic Pipe: Sidewall Heat Fusion

<b>Current Criteria</b>	<b>Proposed Criteria</b>
Select fitting and clean pipe fitting	Select fitting and prepare pipe surface <ul style="list-style-type: none"><li>❖ Select the correct fitting and prepare pipe and fitting for fusion</li><li>❖ Ensure pipe and pipe fittings free from contamination</li></ul>
Set-up heat fusion equipment	Set-up heat fusion equipment <ul style="list-style-type: none"><li>❖ Place fusion machine on pipe</li><li>❖ Place bolster plate under pipe</li><li>❖ Properly secure the machine to the pipe</li><li>❖ Install fitting correctly into the machine</li></ul>

# Enhanced Task Guidance Example

## Task 0771 Joining of Plastic Pipe: Sidewall Heat Fusion

<b>Current Criteria</b>	<b>Proposed Criteria</b>
Heat fitting and pipe mating surfaces	<p>Heat fitting and pipe mating surfaces</p> <ul style="list-style-type: none"><li>❖ Ensure heating iron is at proper temperature</li><li>❖ Apply heating iron to fitting and pipe</li><li>❖ Maintain correct pressure until an acceptable complete melt bead can be seen all the way around concave adapter</li><li>❖ Establish melt pattern</li><li>❖ Visually inspect for the correct melt pattern</li><li>❖ Verify that melt pattern is within tolerances<ul style="list-style-type: none"><li>❖ Bead pattern size</li><li>❖ Uniformity</li></ul></li></ul>

# Enhanced Task Guidance Example

## Task 0771 Joining of Plastic Pipe: Sidewall Heat Fusion

<b>Current Criteria</b>	<b>Proposed Criteria</b>
Join fitting and pipe	Join fitting and pipe <ul style="list-style-type: none"><li>❖ Remove heating iron</li><li>❖ Join the fitting and the pipe together</li><li>❖ Apply and maintain proper pressure until the correct beads is formed and the joint has cooled</li></ul>
Visually inspect	Visually inspect the joint for <ul style="list-style-type: none"><li>❖ Uniformity</li><li>❖ Proper alignment</li><li>❖ Acceptable bead appearance</li></ul> <p>Make appropriate notifications if fusion is not acceptable</p>

# Enhanced Task Guidance Example

Task 0771 Joining of Plastic Pipe: Sidewall Heat Fusion

<b>Current Criteria</b>	<b>Proposed Criteria</b>
Recognize and react to AOCs	
If required, complete documentation	Document, as required

# Changes from 2014 to 2016

- New non-mandatory appendix for implementing the Standard and Task List
- Enhanced definition of “documentation” for task standards
- Enhancing the qualification standards for diving tasks (enhanced 11, deleted 9 that mirrored the above ground tasks)
- Combined 2 mobile gas leakage survey tasks into 1
- New tasks
  - Dehydrators (2 tasks – Glycol and Mole Sieve)
  - Separators
  - Heaters
  - Internal Sealing: Cast/Ductile Iron – Anaerobic
  - Relocation of Existing Pipe
  - Inspect Water Crossings



# Nonmandatory Appendix H

## Implementing B31Q

- Background
- Implementation of Nonmandatory Appendix A, the B31Q Task List
  - Process Flowcharts
  - Example 1-year Plan
- Implementation of the B31Q Standard
  - List of Standards for Comparison to Plan

# OQ Program Comparison to B31Q Standard

## OQ PROGRAM COMPARISON TO B31Q STANDARD

Section #	Standard	Comments	Determination
4.2.1(a)	Identify the operating or business unit(s) of the entity to which the qualification program applies	<i>The Corporation is identified, but the individual operating entities are not</i>	<i>May need change</i>
4.2.1(b)	Describe the purpose and scope for the program	<i>Our Program has a description of the purpose and scope</i>	<i>Match</i>
4.2.1(c)	Contains other information required within this Standard or that is necessary to clarify the purpose and scope of the program	<i>Our Program doesn't have anything additional, but I don't know that there is anything additional to document</i>	<i>No change</i>
4.2.2	Definitions – key terms and phrases included within the qualification program shall be defined, terms and phrases do not need to be defined if its use or meaning is consistent with the definitions found in Section 2	<i>We have definitions similar to the Standard, but need to keep them there to influence the understanding of our employees</i>	<i>No change</i>
4.2.2(a)	Definitions include those unique to the qualification program	<i>There aren't many differences between our definitions and the Standard's or Industry's</i>	<i>No change</i>
4.2.2(b)	Definitions include those that are different from what is found in section 2 of this Standard	<i>We may need to consider whether we need to change the definition or our thinking on the "pipeline facility" concept</i>	<i>May need change</i>
4.2.3	The program shall describe the process used to identify covered tasks	<i>We list who determines Covered Tasks, but not the method by which they were developed</i>	<i>Supplemental Program info may need to be documented</i>
4.2.3	Include or reference the list of the identified covered tasks that are being utilized in the program	<i>The Task List is referenced</i>	<i>Match</i>

# Implementation of the B31Q Task List

- Review the B31Q Task List
- Review Company's Current Task List
- Combine Task Lists to Create a B31Q Compatible Task List
- Evaluate and Develop Training Material
- Reconcile Qualification Records
- Manage Program Change
- Record and Document Qualifications

# Changes after 2016 Standard

- New tasks being considered  
(strike-out indicates they were considered and won't be added)
  - ~~Coolers~~
  - ~~Internal Sealing: Installation of Mechanical Rubber Seals~~
  - ~~Use of ROV or Drone for Patrols~~
  - Strain Gauge
  - Pressurized Break-Out Tanks
  - Above Ground Storage Tanks
  - Jeeping
  - ~~One-Call Activities~~
  - ~~Mapping/Surveying~~
  - ~~Inspection~~
  - ~~Excess Flow Valves~~
  - Underground Storage (likely 2020 edition)

# Changes after 2016 Standard

- Other changes being considered
  - Definition for “interval”
  - Standardization of Task Language
    - Action verb, then object
    - Reference to other tasks
  - Development of an Index of tasks by topic (will likely include topic items for “new tasks” and “removed tasks”)
  - Changing the interval on plastic pipe fusion to match current regulation
  - Review SOC max of 5 – should it be lower
  - Review guidance of how SOC is employed
  - Update example of Evaluation Criteria in Appendix D
  - Ensure the welding of fittings is included in Task 0801
  - Include evaluator training in evaluator requirements
  - Review guidance for Measure Program’s Effectiveness

# Ways to Participate

- Comments to secretary
- Work through members
- Attend meetings
- Upcoming meetings
  - September 20-21, 2017, Vancouver, WA (Portland, OR)
  - April 4-5 (or 18-19), 2018, Savannah, GA (or Pensacola, FL)
  - September 19-20, 2018, San Antonio, TX (or Indianapolis, IN)
  - February, 2019, San Diego, CA (or Reno, NV)
  - June, 2019, Louisville, KY (or Portland, ME)
- Web site: [www.asme.org](http://www.asme.org)
  - Search on B31Q Committee

# Summary

- Value of current standard
- More work to be done
- Your participation is welcome
- Using the standard now and in the future

# *Questions*



# Contact Information

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