



THE NATIONAL BOARD  
OF BOILER AND PRESSURE VESSEL INSPECTORS

# NB-380 Workbook

NATIONAL BOARD GENERAL MEETING  
2023



# Discussion Topics

What is NB-380?

Why a Workbook?

Workbook Overview

Vision for the Future

Feedback





What is NB-380?

**CNA**



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**National Board  
*Inservice*  
Inspector Training Program**

**The National Board of Boiler and Pressure Vessel Inspectors**  
1055 Crupper Avenue  
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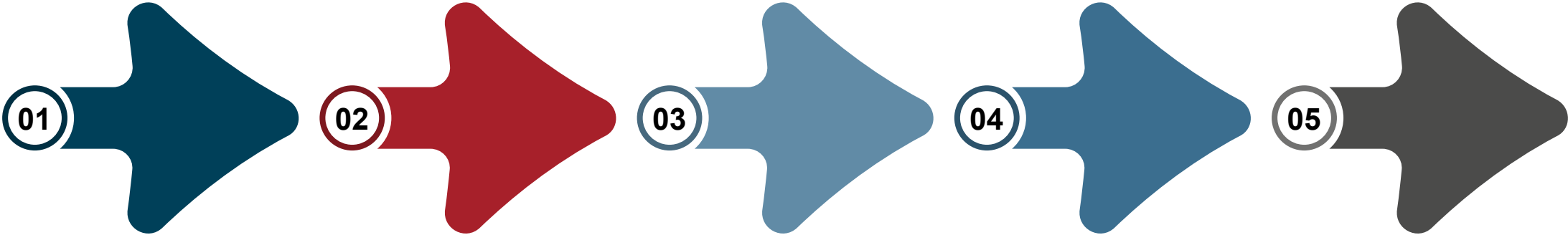
NB-380, Revision 6  
Approved by Committee on  
Qualifications for Inspection:  
9/21/2022



# What is NB-380?

On-the-Job (OJT) style  
inspection training

300 inspections



It is an In-Service  
inspector training  
guide

Classroom training

Designed for Inspector  
candidates who are  
not otherwise eligible  
for an IS commission

# What is NB-380?

## ➤ Education

Education (1 Credit Minimum, 4 Credits Maximum)	Credit Points
Bachelor's Degree or higher in Engineering, Technology, Science, or Mathematics from an accredited institution.	3
Two (2) Year Degree or Certificate in Engineering, Technology, Science, or Mathematics from an accredited institution.	2
Graduation from an accredited technical school in subjects that include, but not limited to, Manufacturing, Building Construction, Construction Technology, Heating Ventilating and Air Conditioning, and Industrial Technology.	2
Completion of an accredited Power Engineering certification program.	2
Completion of an accredited apprenticeship program. For example: boilermaker, steamfitter or pipefitter.	2
Completion of an accredited military or merchant marine training program in the area of marine or stationary boilers, pressure vessels or nuclear reactors.	2
Completion of Certified Welding Inspector (CWI) certification program from the American Welding Society or an equivalent certification.	2
Certification as an American Petroleum Institute API-510 or API-570 Inspector.	2
Completion of a total of eighty (80) hours of classroom technical training in Boiler, Pressure Vessel or Piping Inspection.	1
Acceptable technology courses include such subjects as Quality Systems, Engineering, Fabrication Methods, Nondestructive Examination, courses on the knowledge, understanding and general structure of the NBIC or the ASME B&PV Code or National Board courses on inservice inspection (IS Course) or inspection of ASME B&PV Code items (AI Course).	

## ➤ Experience

Experience (1 Credit Minimum, 4 Credits Maximum)
<p>One (1) credit point may be assigned for each year of experience associated with the pressure equipment industry in the categories below:</p> <ul style="list-style-type: none"> <li>• Engineering or design review.</li> <li>• Manufacturing, including fabrication methods or processes, in either shop or field.</li> <li>• Operation of a high pressure boiler steam plant exceeding 50,000 lbs./hr. of total capacity.</li> <li>• Performance of repairs, alterations, or maintenance of boilers or pressure vessels.</li> <li>• Quality control systems related to boiler or pressure vessel manufacturing, repair, or alteration in either shop or field.</li> <li>• Inspection of boilers or pressure vessels either inservice or during construction including either shop or field.</li> <li>• NDE examiner of boiler and pressure vessels meeting ASNT Level II or III (qualified by examination) or equivalent qualifications.</li> </ul> <p>Note: Credit for concurrent experience in two (2) or more categories will be limited to the experience in one (1) category. For example, consider an individual who has been employed by a repair organization for two (2) years as a quality control manager. The individual has also been qualified, during the same period, as a Level II NDE examiner. The allowable credit for experience is two (2) years only. The two (2) years' experience as a quality control manager and the two (2) years' experience as a Level II NDE examiner are not additive, they are concurrent, and the allowable credit is two (2) years.</p>

# What is NB-380?

## ➤ Exception:

- 1-1.3 In lieu of the requirement for a candidate to have the five (5) credit points described in Table 1, an applicant for the National Board Inservice Commission may complete the National Board Inservice Inspector Training Program described in National Board publication NB-380, available on the National Board's website ([nationalboard.org](http://nationalboard.org)). The training program combines hours of mentored on-the-job inspection training with the successful completion of the National Board's Inservice Inspector Commission Course (IS).



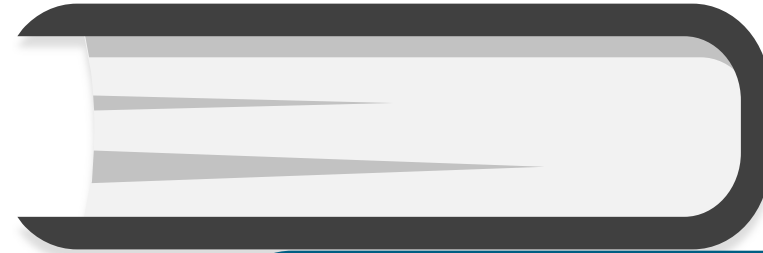
# Why a Workbook?



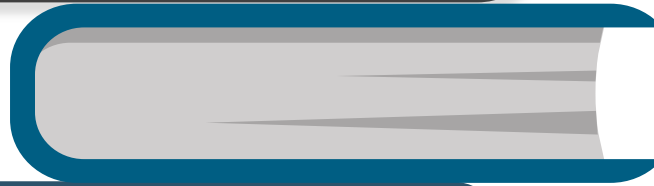
# Why a Workbook?

- Feedback from the Membership, Inspection Agencies, and NB-380 Candidates
- Clear Benefit to the Membership and the Industry

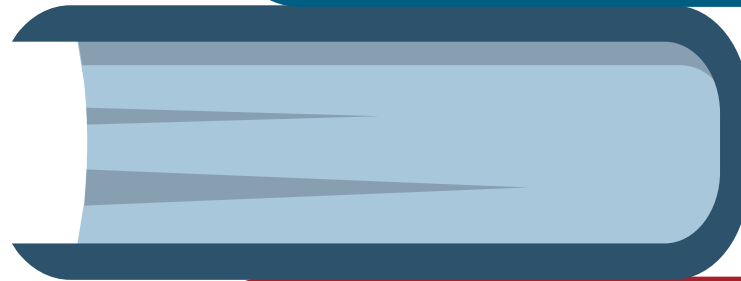
Helps candidates understand what they need to learn



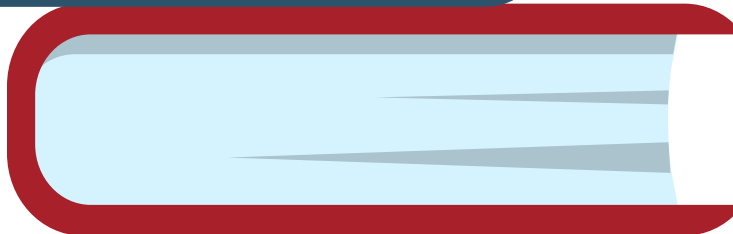
Simplifies the documentation process



Helps trainers ensure training is thorough



Particularly helpful in jurisdictions without an established training program



# Workbook Overview

# Workbook Overview

- Task group appointed by BOT November 2021
- First meeting January 2022
- Monthly virtual meetings

## Task Group Members

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Mike Burns

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Tom Clark

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Don Ehler

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Steve Frazier

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Greg Goosens

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Brian Oliver

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Vinny Scarcella

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Del Schirmer

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# Workbook Overview

- Version 1 Completed November 2022
- Published December 2022
- New Members Added 2023

New  
Task  
Group  
Members

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Steve Noonan

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Tommy Granneman

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Rich Kuziak

---

Craig Bierl

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Milton Washington

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# Workbook Overview

## *TASK BASED PROGRAM*

- Knowledge checks
- Practical applications
- Module reviews
- Inspection Log



# Workbook Overview

## *MODULAR*

- 7 Modules
- Focused Content
- Progressive Learning





# Workbook Overview

## WORKBOOK CONTENT

- 1 Boiler and Pressure Vessel Fundamentals
- 2 Code Reference Overview
- 3 Safety
- 4 Power Boilers and Power Piping
- 5 Low Pressure and Heating Boilers
- 6 Pressure Vessels
- 7 Pressure Relief Devices

# Workbook Overview

## ✓ Heating Boilers Knowledge Checks

Knowledge Checks:

Low Pressure and Heating Boilers

Jurisdictional Requirements	Initials	Date
Permitting		
Inspection frequency		
Contractor licensing		
Operator licensing		
Exemptions		
Construction standards		
Variances		
Violations		

## ✓ Pressure Vessel Practical Applications

Practical Applications:

Pressure Vessels

Inspection	Initials	Date
Perform an installation inspection of any pressure vessel.		
Perform an inservice inspection of any pressure vessel.		
Perform an internal inspection of any pressure vessel.		
Inspect a compressed air vessel.		
Inspect a CO2 vessel.		
Inspect a deaerator.		
Inspect a heat exchanger.		
Inspect a hot water storage tank.		
Inspect a sterilizer or autoclave.		
Demonstrate or witness the application of a non-visual NDE method.		
Calculate the volume of a pressure vessel.		
Verify adequate overpressure protection for a pressure vessel.		

# Workbook Overview

## ✓ Inspection Log

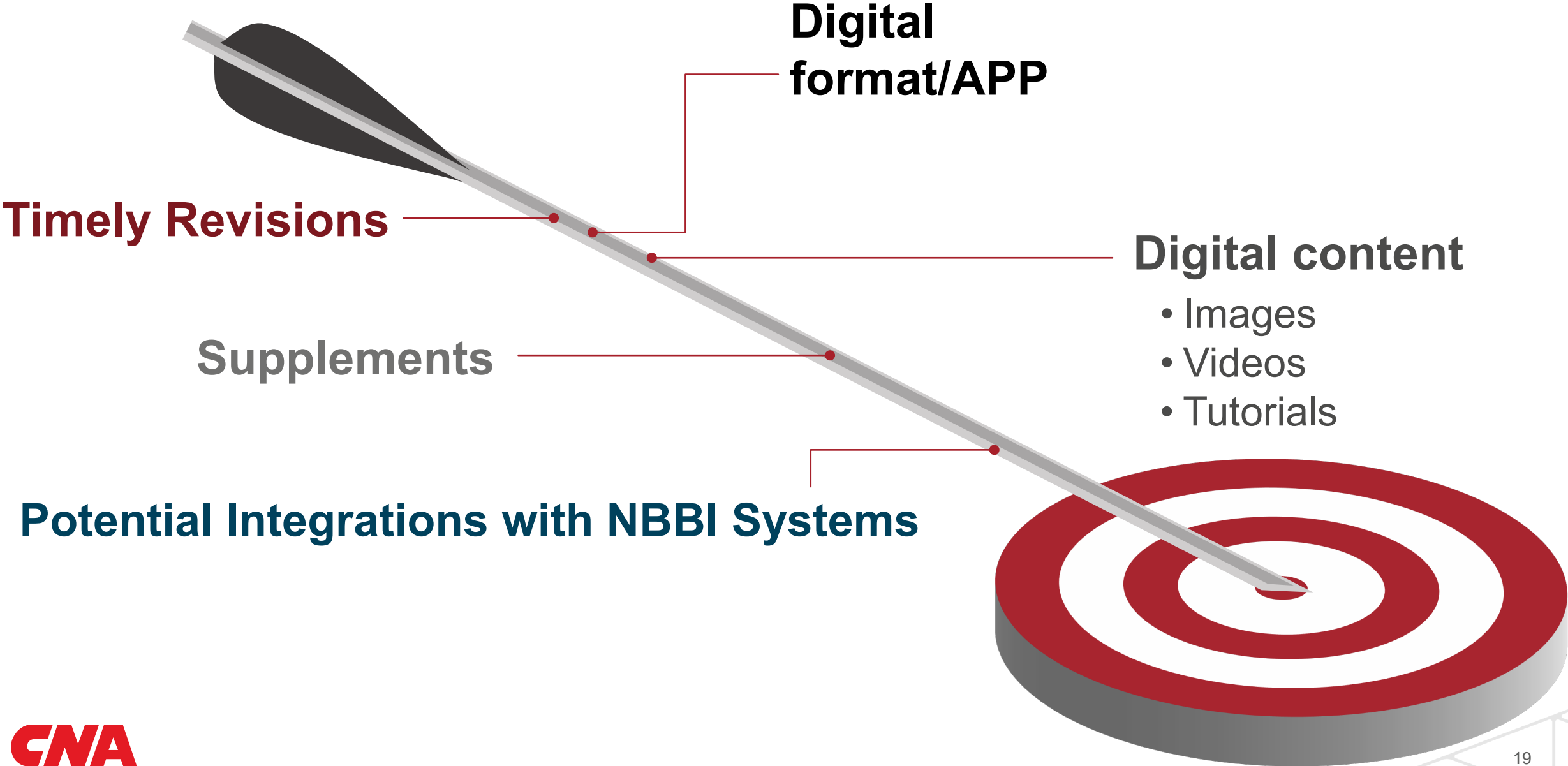
NB-380-1 Workbook Inspection Log Spreadsheet							
List details of each inspection that the NB-380 Candidate observed while accompanying an NBBI commissioned inspector. A minimum of 300 B&PV inspections are required.							
Enter name of the NB-380 candidate here:			Tom Clark				
Date	Object Type	Object Number	Type of Inspection	Who is the commissioned inspector who actually completed the inspection	What is the commissioned inspector's commission number	Inspection Result (removed, cert. issued, violation)	Comments
4/17/2002	Power Boiler	12345	External	Kevin Perdue	13107	Satisfactory	
4/18/2023	Air Receiver	54321	External	Russ Tomka	15370	Violation	Full of water
4/19/2023	Steam Heat	987654	Internal	Andy Adams	14607	Satisfactory	
4/20/2023	CO2 Tank	56789001	External	Britt Hill	10691	Violation	Inadequate PRV Capacity
4/21/2023	Ammonia Rec.	711	External	Fred Childers	15460	Satisfactory	



# Vision for the Future

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# Vision for the Future



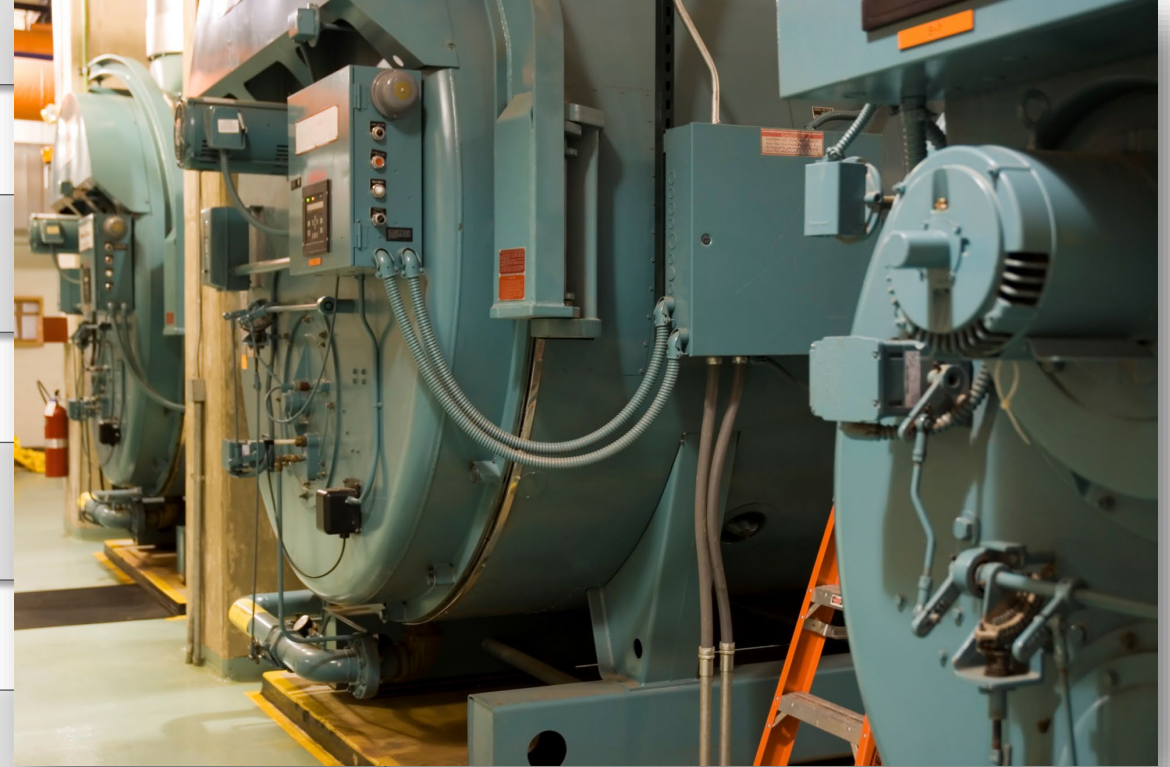
# Feedback

Workbook and Inspection Log available now

Looking for input from trainers and trainees

Feedback is crucial

Task group will review and incorporate feedback into Version 2





# Feedback

Questions

Tom Clark - Chair

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Comments

Milton Washington - Secretary

[mwashington@nationalboard.org](mailto:mwashington@nationalboard.org)

Concerns

Vincent Scarcella – Vice Chair

[Vincent.scarcella@cna.com](mailto:Vincent.scarcella@cna.com)





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