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## National Board *Inservice* Inspector Training Program

**The National Board of Boiler and Pressure Vessel Inspectors**

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NB-380, Revision 6  
Approved by Committee on  
Qualifications for Inspection:  
9/21/2022

# NATIONAL BOARD INSERVICE INSPECTOR TRAINING PROGRAM

## 1.0 Overview

### 1.1 Purpose

The purpose of this National Board Inservice Inspector Training document is to provide the elements for an alternate method for individuals to meet the educational/experience requirements for a National Board Inservice Commission. Use of this alternative must be tied to an approved quality system or approved as required by National Board's Board of Trustees.

An Inspection Agency of prospective commissioned inspectors may use this training document as a guide to develop basic educational and on-the-job training requirements for inspector candidates. An Inspection Agency's specific training may be more extensive in scope described in this document.

### 1.2 Scope

This program is open to any regular employee of a Jurisdiction, an Authorized Inspection Agency (AIA) an Owner-User Inspection Organization (OUIO), a Federal Inspection Agency or a Non-member Enforcement Agency collectively referred to as the Inspection Agency within this document.

## 2.0 Program Requirements

### 2.1 Required Body of Knowledge and On-the-Job Training

The employer shall provide the trainee with a minimum of training as described in Part 3.0. The on-the-job (OJT) training, described in Part 4.0, must be in the presence of and documented by a National Board Commissioned Inspector. A minimum of 300 jurisdictional inspections must be conducted.

Use of this program must follow a documented training/quality control program or system such as a training workbook recognized by the National Board. If a Qualified Manual is already in place, this program must be addressed within that manual.

### 2.2 National Board Training

The individual must successfully complete the National Board Classroom Inservice Commission Course (IS).

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Successful completion of each of the following National Board Online Training Courses:

NBIC Part 1

NBIC Part 2

Rules for Commissioned Inspectors

### **3.0 Body of Knowledge Topics:**

Boiler Theory and Principles

Boiler Construction and Design

Boiler Systems and Controls

Water Supply Systems and Controls

Boiler Water, Feed Water and Condensate

Fuel Systems, Controls and Safety Devices

Draft and Flue Gas Systems and Controls  
The Dangers of Carbon Monoxide

Instrumentation and Control Systems

Boiler Operation and Maintenance

Pressure Vessels

General Safety Practices

Codes and Regulations

Boiler Repairs

Boiler and Pressure Vessel Casualties, Common Failures, and Failure Mechanisms

Non-Destructive Examination

Violations and Violation Documentation

Fitness for Service

Inspection Reports

Quality Program (if applicable)

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The Topics must be covered, and completion logged and verified by the employer. An assigned mentor is required for each candidate. Documented assessments are required to ensure subject matter is retained by the candidate. It is desirable that after any initial required training is conducted, the Topics are introduced at the beginning of each week, field visits (OJT) related to the material are conducted, and a review of the subject material and inspection activities are made at the end of the week.

### 4.0 Boiler and Pressure Vessel Inspection and Testing

Participate in a minimum of 300 boiler and/or pressure vessel inspections

- 4.1 The trainee shall participate during internal inspections, operational inspections, pressure tests, and testing of various types of boilers, associated piping and appurtenances including safety controls (pressure relief devices, low water cutoff, level, pressure, temperature).

Boiler types may include:

- Cast Iron
- Firetube
- Watertube
- Electric
- Fired Coiled Heaters
- Thermal Fluid Heaters
- Waste Heat
- Heat Recovery Steam Generators

- 4.2 If applicable, the trainee shall participate during internal inspections, external inspections of various types of pressure vessels including associated piping and appurtenances.

Pressure vessel types may include:

- Deaerators
- Compressed Air
- Expansion Tanks
- Liquid Ammonia
- Storage Tanks
- Autoclaves
- Jacketed Vessels