National Board
Inservice
Inspector Training Program

The National Board of Boiler and Pressure Vessel Inspectors
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Approved by Committee on Qualifications for Inspection:
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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 Boiler Pressure Vessel Fundamentals Seminar and Inservice Commission Course (IS).
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)
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