



**OFFICE OF STATE HUMAN RESOURCES
POSITION DESCRIPTION FORM**

Name of Employee: **Emily Fish**

Position Number: **60012905**

Classification Title: **Boiler & Pressure Vessel Inspector**

Salary Grade or Banded Level: **GN12**

Working Title of Position: **Boiler Inspector-INSERVICE**

Section / Unit: **Boiler Safety Bureau**

Name of Immediate Supervisor: **Paul Martin**

Supervisor's Position Title and Number:

Work Schedule (i.e. Monday-Friday, rotating shifts, etc.):

Work Hours (i.e. 8:00 am-5:00 pm, etc.):

Primary Purpose of the Organizational Unit:

The Boiler Safety Bureau of the Department of Labor, under the direction of the North Carolina Commissioner of Labor, is charged with the responsibility for administering North Carolina General Statute, Chapter 95, Article 7A, known as the Uniform Boiler and Pressure Vessel Act of North Carolina. Activities include but are not limited to inspecting boilers and pressure vessels to insure compliance with the Uniform Boiler and Pressure Vessel Act of North Carolina and the North Carolina Administrative Code, Title 13, Chapter 13.

Primary Purpose of the Position:

The primary purpose of the position is to enforce the Uniform Boiler and Pressure Vessel Act of North Carolina, the North Carolina Administrative Code (NCAC Title 13, Chapter 13) and associated technical codes and standards, that the Act incorporates by-reference and which govern the design, fabrication, construction, installation, maintenance and repair of boilers and pressure vessels in both conventional and nuclear usage. To accomplish this, the Boiler & Pressure Vessel Inspector (Inspector) will conduct inspections and carry out investigations, as assigned.

Changes in Responsibilities and/or Organizational Relationship Since the Position Was Last Classified

Describe in detail the major functions of this position as well as the duties and responsibilities required for each of those functions. In the small left-hand column, indicate the percent of time the employee spends in each functional element. The percentage amounts should add up to 100%. In addition, please place an asterisk (*) next to each essential duty/function as defined by the Americans with Disabilities Act. %

Description of Work:

1.* **Certificate Inspections:** 13 NCAC 13 defines a certificate inspection as an inspection, the report of which is used by the Chief Inspector as justification for issuing, withholding or revoking the inspection certificate. The term certificate inspection applies to the internal and external inspections performed in accordance with this Chapter (NCAC, Title 13, Chapter 13) whether or not a certificate is intended to be issued as a result of the inspection. The Boiler & Pressure Vessel Inspector will conduct these inspections of pressure retaining items (PRI) in a complete and timely manner and in accordance with Bureau procedures, instructions and the NBIC Part 2 to ensure the equipment complies with Administrative Rules and codes governing construction, assembly and maintenance. Complete and thorough inspections are required in order to issue inspection certificates necessary for operation of the equipment.

2. **Shop Inspections:** Shop inspection activities entail conducting inspections of PRI during construction at the manufacturer's facilities, field assembly at field locations, and repair/alteration

activities at the shop or field locations. The Inspector conducts the inspections pursuant to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, National Board Inspection Code, and various other documents as listed in section IIB4 of this document.

3. Compliance Inspections: Compliance inspection activities include special inspections (other than certificate inspections) and investigations to determine operational status of PRI or if user has relocated PRI or the business.

4. Reports: The Inspector will submit written or electronic reports to the Inspector Supervisor for all activities. These reports include PRI inspection reports, shop inspection reports, Reports of welded repair or alteration, daily reports, monthly expense reports, travel logs, monitoring reports, audit follow-up reports, and other compliance or investigation reports pertaining to inspection activities.

5. *Other Related Duties:

- Conducting special investigations of accidents and complaints under the Uniform Boiler and Pressure Act of N.C. by inspecting sites, locating sources and liaising with fire departments, Fire Marshall representatives, or other officials, police, etc. to obtain and exchange information and where required, recommending and laying appropriate charges;
- Completing necessary reports, listing observations, evaluating cause and effect of accident or explosions and recommending changes to prevent similar occurrences;
- Noting and referring to appropriate officials possible violations or other acts and regulations noted in the conduct of investigations;
- Assisting in the training of new staff; Attending inquests and appear in court, as required as an expert witness;

Competencies, Knowledge, Skills and Abilities Required in this Position:

The Inspector shall possess good technical knowledge in the areas of mechanical engineering, welding, metallurgy, materials testing, all techniques of non-destructive examination, and the design and construction of boilers, pressure vessels and piping systems. Considerable and practical knowledge of the aims and objectives, requirements, procedures and related technical codes of the Uniform Boiler and Pressure Vessel Act of N.C. and associated Codes and Standards.

Successful completion of examinations and meeting the requirements for a North Carolina Commission and National Board Inservice Commission. A National Board New Construction Commission with an "A" endorsement will be required for assignment to ASME shops under contract with the Boiler Safety Bureau.

Good analytical skills to evaluate and assess technical data and reports and verbal and written statements. Ability to maintain detailed diaries and records. Good oral and written communication skills to provide interpretative information. Prepare reports and documents and to conduct investigative interviews. Good judgment, initiative and the ability to work both with considerable autonomy and as part of a team. Good interpersonal skills to maintain effective rapport and working relationships with program clients, the general public and the Bureau staff. Ability and willingness to travel within North Carolina.

1. Accuracy Required in Work: A high degree of accuracy is essential in this position. This requires the ability to understand and communicate very technical aspects of PRI design, construction, installation, maintenance, repair, and operation. An example of this accuracy is the ability to recognize an inherent design flaw in an existing PRI, such as improper heat transfer tube installation. Such a deficiency could result in a nuisance shut-down during operation or a catastrophic release of pressure and steam (explosion).

2. Consequence of Error: Improper inspections may result in significant loss due to boiler or pressure failure including damage to adjoining equipment, buildings, and injury or death. Property loss, injury and death resulting from an improper inspection could result in the loss of credibility and confidence among state executives, state legislators and the state's general population.

3. Instructions Provided to Employee: The Inspector exercises complete authority and independence while conducting inspections in the field. The Inspector makes decisions regarding the safety of PRI operation. As well the Inspector verifies compliance with the General Statutes, the Administrative Code, and other codes and standards adopted by the Department of Labor. The inspector will work closely with the Inspector Supervisor by communicating via telephone or e-mail. The Inspector is required to carry their assigned phone during normal work hours and to check for phone messages and e-mail at least daily. Information will include procedures, report analysis, and similar records. The Inspector Supervisor will provide direct guidance through random and scheduled observation.

4. Guides, Regulations, Policies and References Used by Employee:

North Carolina General Statutes, Chapter 95, Article 7A, "The Uniform Boiler and Pressure Vessel Act of North Carolina"

The North Carolina Administrative Code, Title 13, Chapter 13

American Society of Mechanical Engineers (ASME) Code:

Section I – Power Boilers

Section II – Material Specifications

Section III – Nuclear Power Plant Components

Section IV – Heating Boilers

Section V – Nondestructive Examination

Section VI Recommended Rules for Care and Operation of Heating Boilers

Section VII – Recommended Guidelines for the Care of Power Boilers

Section VIII – Pressure Vessels

Section IX – Welding and Brazing Qualifications

Section X – Fiber-Reinforced Plastic Pressure Vessels

Section XI – Rules for In-service Inspection of Nuclear Power Plant Components

Section XII – Rules for Construction and Continued Service of Transport Tanks

PVHO-1 – Safety Standard for Pressure Vessels for Human Occupancy

CSD-1 – Controls and Safety Devices for Automatically Fired Boilers

B31.1 – Power Piping

American Society of Nondestructive Testing:

SNT-TC-1A – Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing

ANSI/ASNT CP-189 – ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel

American National Standards Institute:

Various material standards

American Society of Testing and Materials

Various materials standards

Various standard test methods

National Board of Boiler and Pressure Vessel Inspectors:

ANSI/NB-23 – National Board Inspection Code

NB-42 – National Board Bylaws

NB-263 – Rules for National Board Inservice and New Construction Commissioned Inspectors.

5. Supervision Received by Employee: The Inspector receives supervision by the Inspector Supervisor.

The Inspector will participate in a random number of audits conducted by the Inspector Supervisor. The Inspector attends biannual training meetings of the bureau as well as quarterly regional inspector meetings at which time technical and administrative issues are discussed.

6. Variety and Purpose of Personal Contacts: The Inspector is in contact with the shop owners, boiler and pressure vessel owners/users, and other involved citizens daily. On occasion, the Inspector handles complaints received from owners/users, shop owners and other citizens. The types of complaints received involve jurisdictional authority, inspection fees among other concerns. The Inspector is required to be tactful but factual in dealing with complainants.

7. Physical Effort: The Inspector is required to conduct inspections. Physical dexterity is required; this includes bending, lifting (30 lbs.), climbing ladders, crawling, entering confined spaces, and other similar physical activities. Confined spaces include entering a boiler or pressure vessel through a single opening of 15" diameter or 11" x 16" around dimensions. A physical activity checklist is attached.

8. Work Environment and Conditions: Inspections are conducted frequently in boiler rooms and require the Inspector to enter confined spaces. The boiler rooms are often as hot as 120° F. Many are dirty and contain noxious gases, strong odors, vermin, etc. The Inspector also works in an office environment.

9. Machines, Tools, Instruments, Equipment and Materials Used: The Inspector must be capable of using standard office equipment, as well as the equipment required for boiler and pressure vessel inspection including, but not limited to the following:

Weld inspection instruments

Boroscope

Digital camera

Magnifying glass
Chipping and sounding hammers
Ruler
Screwdrivers
Pliers
Wrenches
Wire brushes
Ultrasonic thickness measuring instruments
Air monitors
Lock out/tag out kits
Magnetic particle examination equipment
Liquid penetrant examination equipment
Radiograph/X-ray viewing equipment

10. Visual Attention, Mental Concentration and Manipulative Skills: Due to the highly technical nature of the position, the Inspector must possess the ability to draw on and interpret obscure ASME Code and the National Board Inspection Code requirements and apply these to the situation at hand during moments of intense stress and activity. The Inspector Supervisor must be able to work on numerous projects concurrently, which are mentally stressful.

11. Safety for Others: The activities conducted pose little direct hazard to others. Inspections are conducted to ensure the safety of the public. The employee is also responsible for implementing and monitoring the Department's Health and Safety policies.

12. Dynamics of Work: The Inspector position is involved in the ASME Boiler and Pressure Vessel Code and the National Board Inspection Code which change often. The Inspector must keep up with these changes as well as understand developments in the industry. The employee must respond to Department of Labor policy changes and the changing of goals. The employee must be able to conceptualize the impact of such changes and instruct manufacturers, owners/users and the general public.

Education and Experience Required:

High school & 3 years of experience in the construction, installation, operation, or maintenance of boilers and pressure vessels; or an equivalent combination of education and experience. Necessary special requirement: successful completion of the National Board of Boiler and Pressure Vessels' examination for competency within the first year of employment. A high school diploma or equivalent. The qualification criteria for National Board Inservice Commission as defined in NB-263 (Rules for National Board Inservice and New Construction Commissioned Inspectors) must be met.

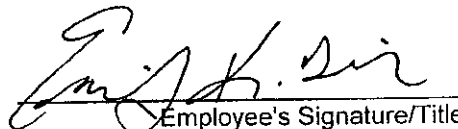
What educational background is needed to perform these duties and responsibilities? What kind of work experience is needed?

License or Certification Required by Statute or Regulation:

The Inspector must possess a National Board Inservice Commission issued by the National Board of Boiler and Pressure Vessel Inspectors. If not a commissioned inspector, must be able to pass the National Board Inservice Commission examination within nine (9) months of hiring. Additionally, the employee must pass the North Carolina commission exam and possess a North Carolina Commission as a Boiler and Pressure Vessel Inspector.

The inspector must possess a North Carolina Class C Driver's License.

Is a license or certificate required? What kind and type?

 10/28/19

Employee's Signature/Title Date

 10/28/19

Supervisor's Signature/Title Date