**2017 NBIC Major Changes**

**Part 1**

**1.6, *General Requirements***

Common requirements for installation of power boilers, heating boilers, and pressure vessels have been removed from their respective sections and consolidated into a general requirements section. This section contains requirements that apply to the installation of all types of pressure equipment.

**Supplement 6, *Special Requirements for the Installation of Condensing Boilers***

This new supplement addresses installation concerns specific to condensing boilers. The new requirements focus primarily on the flue gas venting system, the sealed combustion system, and the condensate drain.

**Part 2**

**2.3.6.9, *Inspection of Static Vacuum Insulated Cryogenic Vessels***

This new section provides guidance for the inspection of cryogenic pressure vessels. Guidance is given for methods of visual inspection for cryogenic vessels.

**2.3.6.10, *Inspection of Wire Wound Pressure Vessels***

This new sections provides guidance for the inspection of wire wound pressure vessels, which are primarily designed for 10,000 psi or greater service. The new section addresses record keeping and possible failure mechanisms for wire wound vessels. Additionally, it gives an inspection checklist for this type of vessel.

**Supplement 11, *Inspector Review Guidelines for Finite Element Analysis (FEA)***

This new supplement provides guidance to be followed when finite element analysis is submitted as a part of a quantitative engineering assessment of in-service equipment. It provides an overview of FEA terminology and minimum requirements for FEA reports.

**Supplement 12, *Inspection of Liquid Carbon Dioxide Storage Vessels***

This new supplement provides guidance for the inspection of liquid carbon dioxide storage vessels, which are primarily used for carbonated beverage systems. It also addresses the piping, pressure relief valves, and vent circuits associated with this type of vessels. The supplement provides a list of items that should be verified during an inspection of a liquid carbon dioxide vessel and associated piping.

**Supplement 13, *Inspection of Biomass Fired Boiler Installations***

This new supplements provides guidance for the inspection of biomass fired boilers, which use organic fiber wastes or organic fiber byproducts as fuel. The supplement provides guidance for the visual inspection of a biomass fired boiler, as well as requirements for emission control on the boiler.

**Part 3**

**Section 1, *General and Administrative Requirements***

Most administrative requirements for the National Board “R”, “NR”, and “VR” programs have been removed from Section 1. These requirements can now be found in the associated procedures NB-415 (“R”), NB-417 (“NR”), and NB-514 (“VR”). Because of these changes, the numbering of Section 1 has changed.

**1.6, *“NR” Program Requirements***

The “NR” Program requirements have been extensively revised. These revisions include clarification of “NR” Quality Assurance Categories, updates to the record retention requirements, and a new revision of the NR-1 and NVR-1 forms.

**3.4.3, *Encapsulation***

This new section allows the use of encapsulation, which involves the fabrication of a new pressure containing boundary over a leaking pipe, nozzle, fitting, or valve on a boiler. A Fitness for Service Assessment is required when encapsulation is performed.

**S3.5.7, *Reimpregnation of Graphite Parts (Tubesheets, Heads, and Blocks)***

This new section provides requirements for the reimpregnation of graphite pressure parts. Reimpregnation reduces porosity, and in turn improves the performance and expected life of the components. The section gives specific requirements for the reimpregnation procedure and control of reimpregnation material.

**Supplement 11, *Weld and Post Repair Inspection of Creep Strength Enhanced Ferritic Steel Pressure Equipment***

This new supplement provides technical information related to weld repair on creep strength enhanced ferritic steel (CSEF), more commonly known as Grade 91 steel. The supplement provides information on proper welding procedures, filler materials, and post repair inspection of CSEF welds.

**Part 4**

In addition to the changes listed above, the release of the 2017 NBIC will mark the debut of NBIC Part 4, *Pressure Relief Devices*. Part 4 will consolidate the requirements regarding pressure relief devices (PRDs) from Parts 1, 2, and 3 into a single volume. The new Part 4 will present the installation, inspection, and repair requirements in one unified standard. PRD installation and inservice inspection requirements in Parts 1 and 2 will be retained in those parts (but will also appear in Part 4). Valve repair requirements previously in Part 3 have been exclusively relocated into Part 4 and will no longer be found in Part 3. This new integrated pressure relief device segment marks the next chapter in the growth and development of the NBIC.