**Boiler Entry Operations -- Permit Required Confined Space Entry Permit**

1. **Boiler ENTRY PROCEDURE AND PERMIT**
   Boilers are a permit required confined space if entry into the boiler is completed through a manway/hatchway. Boilers are not permit required confined spaces when the entire end shell of the boiler is removed for entry/exit. **All Shaded areas must be completed by Entry Supervisor or Entrant.**

2. **Work to be Performed:**

   --boiler
   --boiler
   -boiler
   -boiler
   -boiler
   -boiler

3. **Date Issued:** / /  
   **Time Issued:** : □ a.m. □ p.m.

4. **Permit Space Hazards** (X = Potential Hazard or Testing Rqmt.)

   - X Oxygen - hazardous when less than or equal to 19.5% or greater than or equal to 23.5%.
   - X Flammable Gases or Vapors - hazardous when greater than 10% of LFL / LEL.
   - X Hydrogen Sulfide - hazardous when greater than 10 PPM
   - X Carbon Monoxide - hazardous when greater than 50 PPM (always look for when welding or near a fuel combustion source (cars, utility carts, etc)
   - Other Toxics:
   - X Mechanical Hazards (Pneumatic, Hydraulic, Electrical, Chemical, Steam, Falling Objects, Etc.)
   - X Engulfment Potential
   - X Physical Hazards - (bees, insects, spiders, heat during summer).
   - Confined Space Configuration, Layout or Arrangement

5. **Additional Permits or Forms** (Please attach if required)
   - Hot Work Permit: YES ☐ NO ☐ N/A
   - LOTO / Hazardous Energy Control Procedure: YES ☐ NO ☐ N/A

6. **Equipment Required for Entry & Work** (Check box when complete)

   - PPE
     - Eye Protection, Body Harness, other PPE for heat if necessary (gloves, long sleeves, etc).
   - Atmospheric Testing
     - 4 Gas Meter required for testing, test atmosphere in boiler by using stratified method of checking atmosphere at different levels within the space.
   - Respiratory Protection
     - Not required for this space under normal atmospheric conditions. If levels are outside limits, ventilate space before entry.
   - Ventilation Equipment
     - Full ventilation is required before and during entry unless the space is proven to be free of atmospheric hazards or no atmospheric changes will occur due to work operations within the boiler.
   - Rescue Equipment
     - Entrant will be rescued from horizontal entry by use of a lifeline that is directly connected to the full body harness. The attendant is ready to assist the entrant in an emergency.

7. **Communication method used by attendants and entrants** (Check all that apply)
   - Radio
   - Voice
   - Other:

8. **Confined Space Rescue**
   - The assigned confined space attendant is responsible for evacuating entrants in the event of an emergency by means of vocal communication or retrieval equipment used for the entry. At no time will the attendant enter the confined space. In the event the attendant is unable to evacuate the entrant(s) the Charlotte Fire Department will be notified by UNC Charlotte Police Dispatch at 704-687-2200 to provide rescue assistance. Upon the arrival of rescue personal the attendant should brief the rescuers of any notable information.

9. **Authorized Entrants** (List by name or attach roster)

10. **Authorized Attendants** (List by name)

11. **Preparation for Entry** (Check boxes when complete)

   - Notify affected department of service interruption and complete the Confined Space Entry Permit and any other required permits and forms.
   - Inspect all required equipment, tools and PPE prior to entry. Barricade the area to prevent unauthorized entry or access. Setup necessary equipment for entry operations.
   - Ensure that all Hazardous Energy is isolated per the specific Hazardous Energy Control Procedure. All energy sources (steam, electrical, natural gas) are fully controlled so that safe entry can be completed with no risk of energy release to the entrant. The boiler must be at zero pressure and allowed to cool for at least 72 hours before entry is attempted.
   - Sign in Authorized Entrants in Step 9 and Sign in Attendants in Step 10.
   - Take a preliminary atmospheric reading with approved 4 gas meter and record reading on Step 12. Atmosphere should be continuously tested during entry. Periodically record sample readings in Step 12. Forced air ventilation is required before and during entry into the boiler unless the space is proven to be free of atmospheric hazards or no atmospheric changes will occur due to work operations within the boiler.
   - Upon eliminating or controlling all hazards and the Entry Supervisor signing Step 13, proceed to make entry.

12. **Atmosphere Testing Record Acceptable Conditions**

   - CH4 - Less than 10% of LEL / LFL
   - OXY - Oxygen Range - Minimum allowable = 19.6% to Maximum allowable = 23.4%
   - H2S - Hydrogen Sulfide - < than 10 PPM
   - CO - Carbon Monoxide - < than 35 PPM
   - Other Toxic:

13. **Authorization by Entry Supervisors**

   - I certify that all required precautions have been taken and necessary equipment is provided for safe entry and work in this Boiler confined space.

   - Printed Name:  
   - Signature:  
   - Date:  
   - Time: □ a.m. □ p.m.

14. **Permit Cancellation** (Complete at the end of job not to exceed 24 hours)

   - Date:  
   - Time: □ a.m. □ p.m.

This permit must be posted at the job site -- One Copy to Dept File and One Copy to EH&S Office (Fax 7-5302 or EHS Building)

15-Sep-10 3-Dec-14