



## **BOIL-OUT PROCEDURE STEAM BOILERS**

### **PREFACE**

The internal surfaces of a newly installed boiler may be contaminated with oil, grease or other protective coatings used in the manufacturing process. Such coatings must be removed since they reduce the heat transfer rate and could result in tube rupture from overheating. The primary objective of pre-cleaning a boiler is to remove these impurities.

Bond Water Technologies recommends that the following procedure be performed on each new boiler put in service and on existing boilers each time tubes are replaced.

NOTE: Before beginning the boil-out procedure, the burner must be ready for firing. The operator should refer to the procedure outlined under the burner operation section in the operating manual.

### **PROCEDURE**

1. Clear the boiler for firing by taking the standard precautions.
2. Inspect all internal waterside surfaces, including tubes, and remove any debris. It may be necessary to use a high pressure hose to flush out inaccessible areas.
3. Fill the pressure vessel with clean water until the top tubes are covered. Bond Water Technologies recommends that the temperature of the fill water be greater than 70 degrees F.
4. Add the recommended amount of BOND 8050 Boil-out Cleaner. Never pump the cleaning chemical into the boiler before adding water.
5. Fire the boiler intermittently at a low rate sufficient to maintain the solution at the boiling point. No steam pressure should be generated. Continue this step for at least three to five days.
6. After the boil-out period, allow a small amount of water to enter the boiler to create a slight overflow condition. Continue to boil and overflow until the water clears.
7. Shut the burner down.
8. Allow the boiler to cool to 120 degrees F. Drain the boiler using caution to insure that the water is discharged safely and in accordance with local, state and federal guidelines.

9. Remove the hand hole plates and wash the waterside surfaces thoroughly using a high pressure hose.
10. Inspect all waterside surfaces. If they are not clean, the procedure must be repeated.
11. If the boiler is to be put into service immediately, fill with water and boiler treatment, fire until the water is heated to a least 180 degrees F.
12. If the boiler is not going into service, refer to the Bond Water Technologies Boiler Shutdown and Lay-up Procedures.

**CAUTION:** THE CHEMICALS USED IN THIS PROCEDURE ARE CORROSIVE TO EYES AND SKIN. ALWAYS REFER TO THE MATERIAL SAFETY DATA SHEET TO INSURE THAT THE PROPER SAFETY EQUIPMENT AND PRECAUTIONS ARE PRESENT.