

# WATER TREATMENT TECHNOLOGY

## TECHNICAL REPORT

# COOLING SYSTEM PRESEASON CHECKLIST



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The time invested in preparation for cooling system start-up can pay big dividends later in the cooling season. Proper preparation will save water, energy and chemical dollars by insuring efficient, deposit free, corrosion free heat transfer surfaces throughout the cooling season. Proper preparation will save time and eliminate maintenance headaches by insuring the smooth running of the system through peak demand periods. The following checklist is a guide to properly prepare cooling water systems for start-up.

## **Preseason Checklist**

### **Operating Personnel Training**

- Review the purpose of each cooling water treatment chemical used in the system with the operating personnel.
- Review chemical treatment dosage rates.
- Review safe handling procedures for all chemicals used in the system.
- Review testing and recording procedures.
- Make sure that there are adequate reagents for test.
- Check the shelf life of the reagents.

### **Cooling Tower**

- Remove all debris from within and around unit, then flush as required.
- Check and clean strainers, bleed, overflow and drain.
- Lubricate fan and motor bearings per manufacturer's recommendation.
- Change oil in gear reducer assembly as per manufacturer's recommendation.
- Check belts, motor pulley and motor mounts. Replace and adjust as required.
- Inspect electrical connections, contactors, relays and operating/safety controls.
- Check motor operating conditions.
- Clean float valve assembly and check for proper operation.
- Check operating conditions. Adjust as required.
- Read water meter prior to filling system to determine system capacity.

## **Water Treatment**

### **OPEN COOLING SYSTEMS**

- Operate all chemical bleed and feed equipment to assure proper operation.
- Chemically test the system water for proper bleed rate and treatment levels.
- Adjust the controls to obtain proper operation.
- Visually inspect the open portions of the system for evidence of corrosion, scale or slime and algae growth.
- Slug feed biocide and antifoam to control slime and algae growth. Conduct microbiological test.
- Furnish a written report of the test and inspection results including recommendations.
- Inventory the remaining water treatment chemicals and re-order as required.

### **CLOSED SYSTEMS**

- Chemically test the system water for proper treatment levels.
- Adjust the treatment level for proper operation.
- Furnish a written report of the test and inspection results including recommendations.
- Conduct microbiological tests.