

## **Pumps:**

1. Check pump seal and replace if leaking.
2. Check and blow down pump line strainers.
3. Check system air separator and expansion tank on chilled and hot water systems and fill.
4. Check chilled and hot water system back flow preventers and test using a backflow preventer test kit similar to Watts No. TK-99E, to insure that backflow of fluids from the cooling and heating systems to the domestic water system will open the relief valve and discharge to waste.
5. Check pump electrical power and control wiring connections and tighten if required.
6. Lubricate pump motor and pump bearings.
7. Check pump vibration and align pump and motor if required.
8. Check pump flexible shaft coupling for wear and replace if required.

**Warning:** When working on pump motor provide lockout device, a lockout tag and a tag-out device on electrical breaker or on the pump disconnect switch, see sheet Page 5-9 & 5-10 for panel, breaker and/or disconnect switch. The devices shall be in full compliance with Appendix 1i-13.

**Warning:** Disconnect control power circuit when working on pump motor.

**Warning:** Insure that the pump motor is properly electrically grounded before performing any service on that pump.

**Warning:** Use only grounded or insulated (Underwriters' Laboratories [UL] approved) electrical equipment.

**Warning:** When cleaning pump motor never use cleaning fluids with flashpoints below 100 degrees F.

**Caution:** When performing any type of work around rotating machinery, keep extremities, long hair and loose clothing away from all rotating machinery.

**Caution:** Do not lubricate or adjust machinery in operation. If such services must be performed on operating machinery, station a second person at the stop-start switch.

**Caution:** Replace pump coupling guard when maintenance work is completed.

**Caution:** When replacing pump motors or pump casings, be aware of correct lifting techniques and use material hoists and power equipment where needed.

**Caution:** Water in Hot Water Pump is hot. Close pump service valves, drain water from pump, and drain and relieve any pump pressure before disconnecting pump piping. Before returning this pump to service duty insure that the pump service valves have been opened.