PACE Technical Bulletin

AWT ASSOCIATION OF WATER TECHNOLOGIES

Tower operation during the winter months

Proven steps for improved performance and enhanced protection

No matter what kind of cooling tower system you have one thing is certain—once October rolls around there is much less demand for cooling. In fact, some cooling towers are not needed at all in winter. This is the time to perform that maintenance you couldn't do during the summer because the condenser system needed to be kept running. Just exactly what you do depends on whether the tower will be shut down for the winter.

Schedule a cleanup of the tower and condenser system now that it is not in great demand. Pressure-wash all accumulated dirt and biofouling from the inside of the tower, baffles and distribution decks. If the condenser water is discoloured or cloudy, drain and purge the system using **EXPEL L-49** which is designed for this purpose.

If the condenser system will not be needed until spring, it can be left dry. Temporary covers placed over the openings in the tower will prevent dust and debris from entering. If the *chilled water system* will not be circulated, ensure that its inhibitor is at the high end of the normal range.

For systems requiring year-round condenser operation, the system should be refilled and immediately charged with scale and corrosion inhibitor per the published start-up procedure. Protect against biological activity right away by adding PACE biocides on a weekly alternating basis.

HVAC systems employing heat pumps and hydronic loops are needed all year round. Since very little evaporation is taking place, scaling is not a problem. However, *it is vital to ensure that the system is protected against corrosion*.

Remember that it is not sufficient to have the correct amount of corrosion inhibitor in the condenser water, *it must be circulated frequently* to ensure that fresh inhibitor is being supplied to all parts of the system. This is due to the decreasing concentration of inhibitor in areas where corrosion is active. To make up for this it is necessary to provide a fresh supply from the bulk of the liquid.

The condenser pumps should be programmed to run for at least five minutes twice per day to provide this circulation, or switched on manually for the same period. Bear in mind that a static system is prone to the growth of anaerobic bacteria which can result in severe pitting attack on metals. Frequent circulation and regular biocide additions are the best insurance against this eventuality.

You should always be prepared for the possibility of a freeze-up which could damage valves, pipes and other outside equipment. Either arrange for the system to circulate continuously during these “cold snaps” or use insulation or heat tracing to protect exposed items.

Remember that the pollination season begins in the early spring where there will be lots of nutrients in the air. So, whether you have a year-round or seasonal system, make sure your tower has good biocide levels before the onset of pollination.

Also, refer to the PACE ***Policy Guideline LEG 2015-07*** *for our “**Cooling Tower Maintenance Plan for Legionella Awareness& Risk Management”.*** Contact your PACE Representative for information on how to protect your cooling water system.

Tower and Condenser System Fall Checklist:

- Clean system
- Recharge with inhibitor/biocide (or leave dry)
- Circulate entire system at least twice per day
- Protect from freezing
- Prepare for springtime pollination

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