

GEW173-14

703.7.6, 703.7.6.1 (New)

Proponent: Daryn Cline, EVAPCO, Inc., representing EVAPCO (dcline@evapco.com)

Delete and substitute as follows:

~~**703.7.6 Water** Where nonpotable water is used within cooling towers, evaporative condensers and fluid coolers, it shall conform to the water quality and treatment requirements of the jurisdiction having authority and the water chemistry guidelines recommended by the equipment manufacturers.~~

703.7.6 Potable and nonpotable make-up water quality. Where potable and nonpotable make-up water is used within cooling towers, evaporative condensers and fluid coolers, such water shall conform to the water quality and treatment requirements of a water treatment plan developed in accordance with Section 703.7.6.1.

Add new text as follows:

703.7.6.1 Water Treatment Plan. The water treatment plan shall be based on the water chemistry guidelines recommended by the equipment manufacturers, the authority having jurisdiction and a make-up water analysis of the following parameters:

1. Conductivity in μ S/ml
2. pH
3. Total Hardness in ppm as CaCO₃
4. Ca Hardness in ppm as CaCO₃
5. Mg Hardness in ppm as CaCO₃
6. Alkalinity in ppm as CaCO₃
7. Silica in ppm
8. Chlorides in ppm
9. Sulfate in ppm
10. Iron in ppm

The plan shall:

1. the control of microbiological activity, scale and corrosion.
2. specify the equipment and products used for treating the water of an open recirculating loop.
3. maximize cycles of concentration as required by Section 703.7.7.
4. address equipment and product compatibility with equipment materials of construction and system metallurgy.
5. include a schedule for the required inspection, maintenance and monitoring of the system and shall include a corrective actions log.
6. include owner's training and commissioning documents.
7. identify the persons responsible for providing and maintaining the system water treatment.

Reason: This section is revised and expanded to include a complete water analysis requirement, not just for non-potable, but for potable water used as make up for cooling towers, evaporative condensers and fluid coolers. This complete water analysis is required and to be used to determine the maximum allowable parameters for the recirculating water loop previously submitted by EVAPCO to accurately determine cycles of concentration levels as defined in Section 703.7.7 Discharge based on water chemistry.

This expanded code section also recommends adding the requirement of a documented water treatment plan, based on the make-up water chemistry (potable or non-potable) documented in Section 703.7.6. and 1. A water treatment plan that considers the HVAC system, water temperature and component metallurgy is utilized to further extend the life of the cooling system and to

provide an efficient heat transfer system with minimal biological fouling and scaling, providing an energy saving design for the life of the system.

Cost Impact: Will not increase the cost of construction.

GEW173-14: 703.7.6 #2-CLINE1056
