

CHAPTER 3 - ON-SITE SYSTEMS: RECOVERY & TREATMENT

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603.02 WATER CONSUMPTION FOR HEAT REJECTION INCLUDING COOLING TOWERS



INTENT

Reduce potable water usage by utilising the recycled water in heat rejection equipment.

REQUIREMENT

For all new buildings:

Potable water supplied by Dubai Electricity and Water Authority (DEWA) must not be used for heat rejection purposes.

Where cooling towers are used, Treated Sewage Effluent (TSE), seawater or recycled water must be used to meet the water demand for all heat rejection purposes. Secondary water sources must be approved by Dubai Municipality or DEWA.

A separate totalising meter must be fitted on the water supply line to the individual cooling towers. A daily log of water use must also be kept.

SIGNIFICANCE

Air conditioning systems play a vital role in providing comfortable conditions for the building occupants. Cooling tower is an important component of water-cooled air conditioning system. Large volume of water gets used in cooling towers, to compensate for the losses from evaporation systems and to flush out the build-up of dissolved minerals. Using potable water for such purposes would not only deplete the fresh water source but also would require significant amount of energy to treat and transport the water.

Alternative options include use of water from Treated Sewage Effluent (TSE), on-site treated greywater or other forms of recycled water. Using alternative methods ensure conservation of water, reduction in costs through lower utility charges, less sewerage volume and reduction in energy use.

APPLICABILITY

This regulation is applicable to all building types. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.