GEW176-14
703.10 (New)

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Add new text as follows:

703.10 HVAC system water usage for performance-based compliance. This section shall apply only where a performance-based compliance path for the building and its site is used. Water usage of HVAC systems in the *proposed design* shall be equal to or less than the water usage of HVAC systems in the *standard reference design*.

Exception: Water usage of HVAC systems in the *proposed design* shall not be required to be equal or less than in the *standard reference design* provided that the site energy usage of HVAC systems in the *proposed design* is at least 20 percent less than the site energy usage of the HVAC system in the *standard reference design*.

Reason: This edit will ensure that proposed HVAC systems are as efficient in their use of water as in the standard reference design HVAC system. This edit also allows flexibility, as there will be options that will increase HVAC energy efficiency but also increase the amount of water that is being used at the building site. In many cases, systems that are more efficient in their use of water will also be more efficient in their use of energy.

Example: A two-stage gas-fired absorption 500 ton chiller will use about 6-7 gallons/ton-hour of make-up water in the cooling tower system, and have a rated full load efficiency of 1.0 COP. A 500 ton electric chiller rated at 0.56 kW/ton at full load will use about 3.5-4 gallons/ton-hour of make-up water in the cooling tower system (33- 50% reduction in water use) and have a full load efficiency of 6.28 COP. The more water efficient system will use much less energy.

Cost Impact: Will not increase the cost of construction.

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