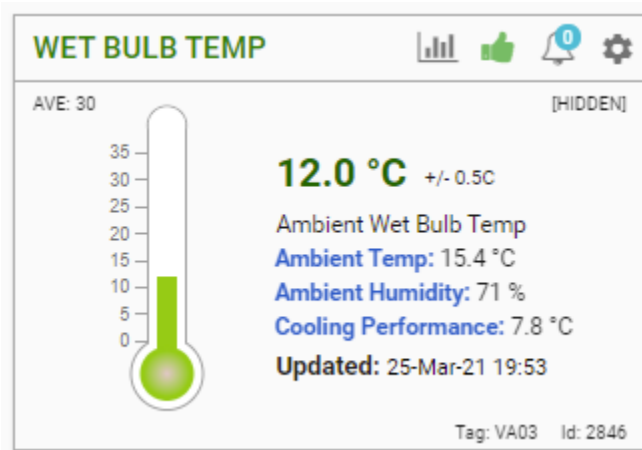


In water cooling scenarios, using a cooling tower, an evaporative cooling device, is rarely useful where humidity rises above 50%. Unfortunately, that covers most of Australia. Whilst cheaper to run than refrigeration units, they can still draw 8kW for modest units. This is still around \$3.50/hr coming out of your pocket.

The way we know when to turn the cooling tower off is by consulting the Wet Bulb Temperature.



The above sensor was recorded at nearly 8.00pm near Warrnambool, Victoria. Wet bulb temperature is the lowest temperature we can achieve by evaporating water. In the example above, our cooling tower can only drop incoming water by 3.4C. Not much and hardly worth the 8kW. Performance for the tower will be much better during the day when the temps are higher and humidity lower.

Arcoflex would apply limits such as 3C as the reason to cancel cooling tower operation. During the day it may be possible to use solar but even on night rate, it is probably more efficient to use refrigeration to cool water. Your energy consultant can advise on appropriate limits and Arcoflex can be used to execute them.