

POOL FACILITY FINDS EFFECTIVE ALTERNATIVE TO BACKWASHING FOR CHLORAMINE REDUCTION.

THE CHALLENGE

The Kilmore Leisure Centre was faced with the challenge of trying to reduce the level of unpleasant chloramines in their facility because of the irritating effects to the patrons' eye, skin and respiratory regions. However, the only solution used to combat this was to increase the level of backwashing which meant that more and more clean, fresh water had to be used to dilute the chloramines. In the face of prolonged drought and water restrictions, backwashing was certainly not a viable option for the sustainability of the facility.

The health and safety of the patrons and staff members was of paramount importance to the Kilmore Leisure Centre, however, with the only remaining solution jeopardising the township's diminishing water supply, the future of this facility was not only confronted with the rising operational costs and inherent safety issues, but a broader environmental challenge.

THE SOLUTION

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Key Benefits

- Reduces chloramine levels
- Saves water
- Improves disinfection
- Low maintenance costs
- Low energy consumption
- Reduces corrosion of pool hall structure



Leisure Centre to save on energy and maintenance costs while reducing their pool's chloramine levels. The newly installed system uses automatic wipers to keep the UV lamps and sensors clean, which is crucial for monitoring the level of UV output. If the light intensity drops at the sensor, possibly caused by the lamp's quartz sleeve or sensor becoming dirty or fluctuations in water quality, the system will automatically initiate a lamp and sensor clean. However, if the auto wiping system is not successful in correcting the situation, the unit's 'auto disinfection control' (ADC) system will step in and the UV lamp output will be increased from the standard setting (Base 100%) to a higher level (Medium 122% or High 146%). Similarly, as water quality improves through higher levels of UV output, or perhaps, through reduced bathing periods at night, the system will automatically reduce the UV output to its lowest setting (Low 82%) without actually shutting off the lamp. Given that energy costs increase with the rise of the lamps' settings, Kilmore Leisure Centre has been able to achieve reduced energy costs by installing this system with its ADC feature compared to other UV systems.

In addition, with the UV lamp expected to last the whole year and replacement UV lamps at a mere AU\$500.00, the Kilmore Leisure Centre will enjoy low and sustainable maintenance costs for the future. This makes Evoqua's

Barrier® M275 UV System not only an effective solution to reducing pool chloramines, but a cost-saving and sustainable system for the life of the facility. It is no surprise that the Centre was successful in obtaining a State Government grant to assist in the funding work for this project.

CLEANER, CLEARER WATER

During the six month period since commissioning the Barrier M 275 UV System, Kilmore Leisure Centre has recorded a reduction in chloramine levels of between 75% to 80%. The facility now boasts a consistent 0.2mg/L to 0.3mg/L chloramine range which is much lower than the maximum standards set by the State Health pool guidelines for public pools. The significant improvements in water and air quality have been particularly beneficial for pool staff and patrons with less negative impact on their health.

With lower levels of chloramines in the atmosphere, metals found in the plant and pool hall are better protected as the aggressive nature of chloramines when mixed with condensation, can cause corrosion. This is particularly important for the protection of the facility's infrastructure such as their steel roof structure and air handling system.

In terms of the ongoing maintenance of the new system, Kilmore Leisure Centre can now benefit from low maintenance costs with servicing only required yearly and replacement UV lamps at a considerably low cost compared to alternative systems.

Above all, the Barrier M275 UV System has enabled a reduction in the centre's pool filter backwashing program. Now only completed once a week, this reduced backwashing program is saving nearly 1 ML of water per annum which is well in line with the facility's targeted water reductions.



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