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AUTHORITIES MAY IMPOSE CURBS, RECYCLE SEWAGE

Water demand set to rise

TONY CARNIE

FOR the first time in several years, Durban is likely to face water restrictions next year because of the steady growth in demand from people and industry – unless water wastage can be curbed dramatically.

This is the warning from Chris Buckley, a chemical engineering professor and head of the Pollution Research Group at the University of KwaZulu-Natal.

Speaking at a workshop on new water membrane technologies at the Durban University of Technology this week, Buckley said he had been briefed by senior eThekwini Municipality officials about potentially serious water scarcity developing in the city over the next few years.

"We are in a situation where it is conceivable that there will be water rationing in 2010," he said.

Restrictions were most likely to be a ban or curbs on the use of hosepipes to wash cars, water gardens, or top up swimming pools.

Durban water and waste chief Neil Macleod could not be reached for comment.

Buckley said eThekwini was planning to increase dramatically the number of new houses over the next 12 years, with the building of about 30 000 houses planned for this financial year. This would lead to a steep rise in demand for drinking and household water.

Although eThekwini had embarked on several projects to curb water loss, Buckley said a large volume of municipal drinking water was leaking from reticulation systems or being "lost" from illegal connections.

"There may be a reluctance to clamp down on illegal connections, but there have to be some serious campaigns where it becomes an offence to waste water."

Because of the risk of potentially serious water shortages developing, Durban residents could be presented with a variety of options, including higher tariffs to discourage excessive water use, or switching to greater use of recycled wastewater (sewage).

Umgeni Water is investigating a pilot project to recycle treated wastewater from the Darvill sewage and wastewater treatment works in Pietermaritzburg to potable (drinking quality) standards.

Tony Fane and Roger Ben Aim, two visiting international professors who specialise in water membrane research, said they had no reservations about the safety of the membrane purification technology.

Ben Aim, a chemical engineering professor who chairs the International Water Association's membrane technology group, explained that this form of purification was similar to a micro-sieving process.

"The water is pumped through millions of tiny, hollow fibres, which filter out bacteria, viruses, and other pollutants. The resulting product is very much like distilled water, so it is mixed with natural water or minerals to reintroduce calcium and other salts."

Fane, a chemical engineer from the University of New South Wales (Sydney) said: "The reality is that membrane-treated water is totally safe – it's probably a lot better than what we get out of the rivers."

Fane and Ben Aim said there were several examples of "new water" (highly purified sewage effluent) and desalinated sea water being used as drinking water in other parts of the world.

Windhoek in Namibia began recycling sewage effluent in the 1960s and now relied on a significant percentage for drinking water needs.

Singapore was also aiming to rely on "new water" for at least 20 percent of its water needs.