

# Eastern Treatment Plant Tertiary Upgrade

## Trials Results

In February 2009 Melbourne Water completed 12 months of technology trials at the Eastern Treatment Plant (ETP). The trials are one of the most comprehensive such investigations ever undertaken by Melbourne Water.

These trials included a wide range of tertiary and advanced tertiary treatment processes to assess their ability to improve the quality of the ETP discharge to the marine environment at Boags Rocks on the Mornington Peninsula.

### Why did we do the trials?

The key objective of these trials was to explore the most efficient way of achieving a treated effluent quality that addressed marine discharge impacts, consistent with the objectives of the State Environment Protection Policy (Waters of Victoria), and produce water suitable for a broader range of recycling purposes.

A tertiary treatment upgrade to ETP will make it one of the largest such plants in the world. The trials have allowed Melbourne Water to assess the performance and final water quality produced by the treatment process in a range of circumstances and conditions.

### What did we find from the Tertiary trials?

The trials found that the advanced tertiary process (Ozone and Biological Media Filtration coupled with ultraviolet and chlorine disinfection) will offer greater benefits than conventional tertiary filtration approaches. The process improves efficiency, and more fully addresses the issues associated with the current effluent quality.

Advanced tertiary treatment has the ability to:

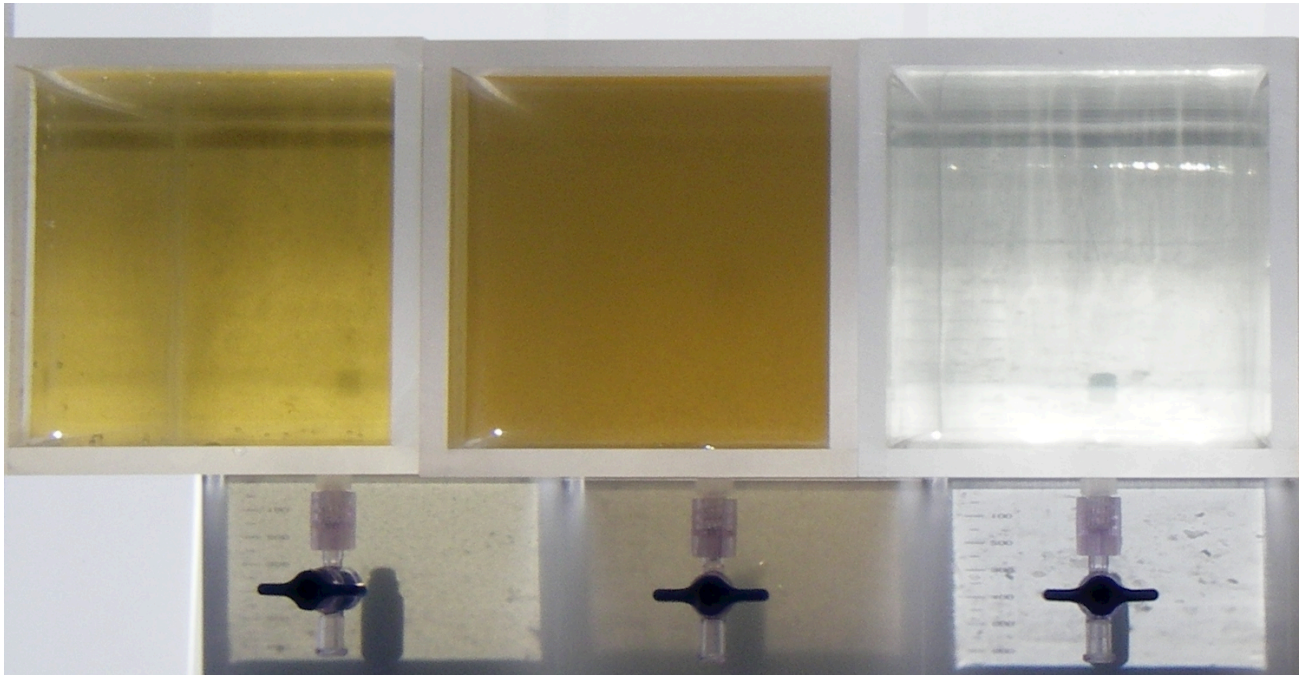
- Reduce colour in treated effluent
- Reduce odour
- Reduce foaming
- Further reduce ammonia and associated marine impacts; and
- Increase the potential for more recycled water use over time.

Along with the additional benefits of a standard tertiary upgrade of:

- Eliminating litter and small fat balls occasionally observed near the discharge point at Boags Rocks
- Reducing turbidity and suspended solids,
- Further improving disinfection

The trials also found that by using the advanced tertiary treatment process, it will adequately address the residual marine impacts without the need to extend the outfall at Boags Rocks.

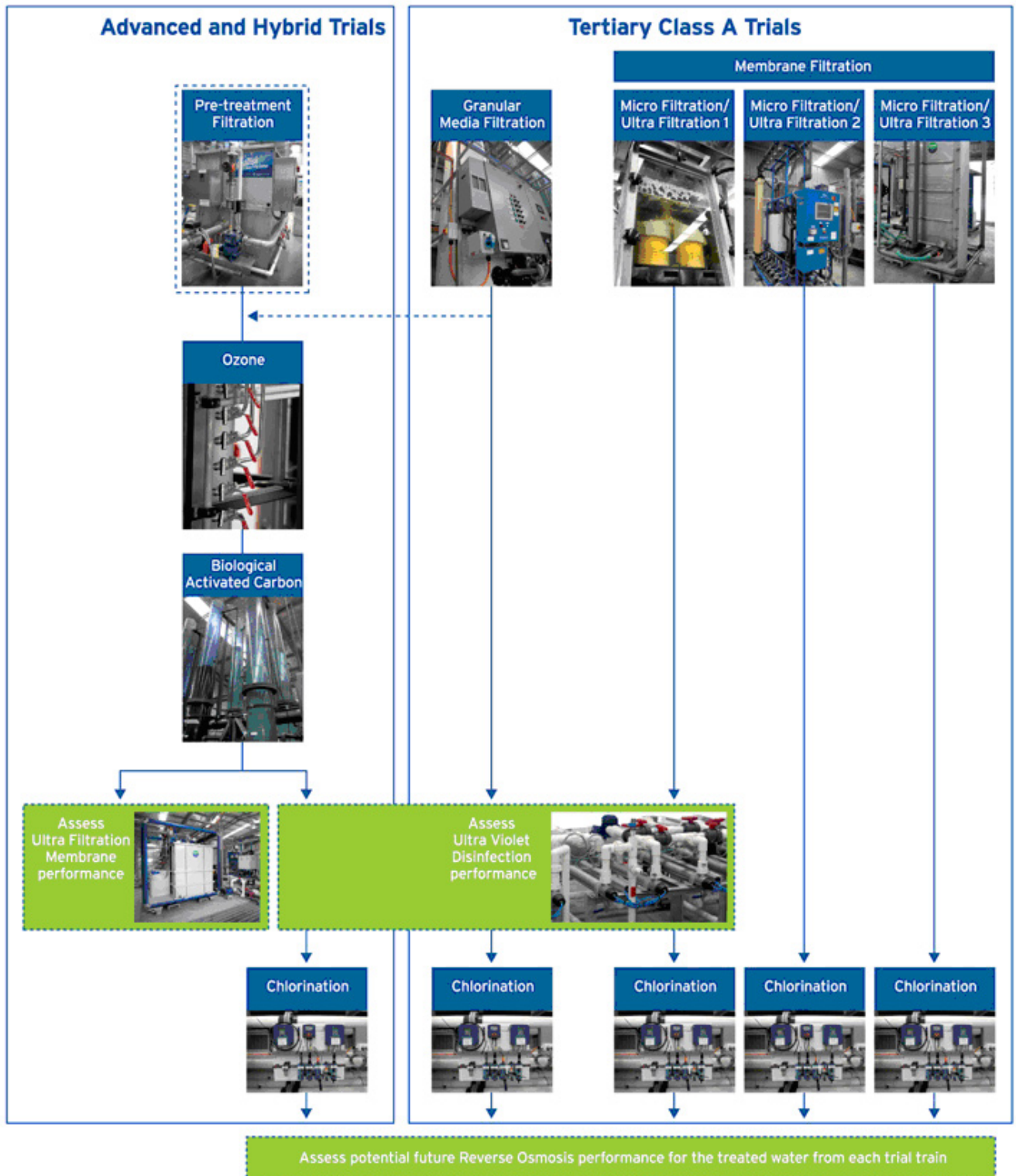
Samples from the trials, showing the changes possible through the advanced tertiary process, are depicted below (advanced tertiary effluent on the right).



See ETP Marine Environment Fact Sheet for more information about the outfall.

See diagram below for tertiary trial process.

## Tertiary Treatment Trials – processes and sequences



For more information  
Please call 131 722.