

Sydney Water funding submission

As part of its submission to IPART, Sydney water is seeking \$40.1million funding to “improve performance of biosolids quality”, an activity which they say will become increasingly necessary as population growth in the WWTP’s catchment increases demand on the plant. Population is projected to grow from 1.124million in 2011 to 1,255million in 2020 (end date for current pricing determination) and to 1.462million in 2036 (a 30% increase over 2011). Sydney Water is seeking funds to install two additional digestors (It currently has three digestors on site).

Atkins Cardno technical assessment

Technical experts Atkins Cardno, in their independent report to IPART^[1] states that Sydney Water Corporation has not made a strong case that a single additional digester would not be sufficient to cope with anticipated demand in the medium term (.e.g. next price path + 5 years). They therefore propose a \$13.3million reduction in Sydney Water’s North Head allocation.

In addressing North Head Biosolids Amplification, Atkins Cardno notes that “As a consequence of the current plant’s poor performance, numerous odour complaints have been received about odour from the plant directly and because of trucking the biosolids out of the plant”. In that same section of its appraisal, Atkins Cardno also reports that “The biosolids are also of poor quality and cannot be directly applied to land so are composted rather than sold as fertiliser” – thus increasing operating costs.

^[1] Atkins Cardno (21 Dec 2015). Sydney Water Corporation Expenditure Review Final Report. www.ipart.nsw.gov.au

Plant is operating close to discharge limits

In the 2014 Impact Monitoring Report Sydney Water includes among key findings the fact that the discharge of suspended solids from the North Head plant is near to licence limits; and that oil and grease concentrations from ocean plant discharges increased until 2007 before steadying in response to plant upgrades.

An opportunity to address these issues

Use of the process known as ‘recuperative thickening’, introduced to wastewater treatment at the digester stage, has at the Bondi Wastewater Treatment Plant been shown to (i) reduce the total volatile organic sulphur compounds (responsible for bad odours associated with biosolids); (ii) increase system stability; (iii) increase biogas production. Recuperative thickening may also improve the solid concentration and quality of biosolid end-product. As Ireland^[2] has shown in her award-winning 2010 paper, these outcomes can be achieved “using existing assets for very little investment to increase the available capacity of the digesters”.

It is important that IPART’s pricing decisions contribute to:

- The amount and quality of biosolids produced at North Head being improved;
- The treatments used reducing malodour generation and impacts on the community;
- Funding allocations to Sydney Water’s North Head operation not over-invest in additional digestors;
- Full implementation of the process known as ‘recuperative thickening’ as part of optimising operations at the North Head WWTP;
- Water, stormwater and wastewater pricing being structured to encourage:
 - sustainable practices (environmental, social and economic),
 - a shift to ‘Fit for Purpose’ water use, and
 - decentralisation of water treatment becoming the preferred approach to wastewater treatment.

Kind Regards

^[2] Ireland S (2011). Biosolids process optimisation at Sydney’s North Head STP. Water Journal May2011, pp. 86-89.