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# WMRC Project Update - Extended Shutdown Period

# Summary

- Maintenance shutdown extended by an estimated 8-10 weeks.
- Performance trial criteria and conditions for Practical Completion under review.
- AnaeCo not to be appointed Operator of the AWT plant after Practical Completion.

On 14 July we reported that the plant was undergoing a short maintenance shutdown in preparation for the final phase of commissioning under the Design & Construct contract ("D&C"), the performance trials. The shutdown period will be extended by an estimated 8-10 weeks and this update explains the main drivers, which are a combination of further maintenance work and commercial and contractual matters. All of the project stakeholders are working very hard to reach conclusions on all matters.

### Maintenance Shutdown

The maintenance shutdown period which commenced at completion of the biological ramp-up phase of commissioning was planned to conduct routine equipment inspection and maintenance, and to complete mechanical engineering punch list jobs that arose during the previous months of ramp-up commissioning. Those punch list jobs have now been completed.

New matters which have arisen in this period and their likely impact on the timing of commencement of waste processing and performance trials are:

• A requirement to replace two defective gas analysing sensors which are part of the safety system integral to using biogas to fuel the gas powered generator. Whilst the measure of biogas production (volume of gas flow) is the primary test criteria for performance trials in this area, the generation of electricity from a mix of biogas and natural gas is required to demonstrate the net production of power when operating the facility. The generator has been commissioned using natural gas to produce and export electricity. The two sensors need to be replaced before biogas can be used to fuel the generator. The lead time for delivering these parts is 8 to10 weeks.



 The conveying systems integral to the bioconversion vessels are undergoing a more thorough maintenance service and examination aimed at optimising performance. It is expected this work will be completed within the 8 to 10 week timeframe driven by the gas sensor replacement.

## Performance Trials

The trials, defined in the D&C, are to determine that the plant meets the design specification. The trials comprise nine consecutive batch cycles of 21 days each, where each of the three bioconversion vessels performs three cycles. Given the 21 day batch cycle, the duration of performance trials should be 11 weeks.

There are test criteria applicable to the production of compost, the production of biogas, the generation of energy from the biogas and the efficiency of recovery of organic material from the municipal solid waste. Successful completion of the trials leads to the issue of a certificate of Practical Completion ("PC") by the project superintendent, and once this occurs AnaeCo will have completed its obligations under the D&C.

The trials and test criteria, and conditions for achieving PC, are currently under review by the parties to the D&C. The reasons for this review are a combination of commercial, technical and operational matters detailed below.

# i. Changed waste mix

One of the main reasons is the impact of expected changed waste mix and volume, relative to the prevailing waste characterisation when the contract was entered into in December 2010.

The plant is designed to receive and process 55,000 tonnes per annum of mixed municipal solid waste (MSW). The characterisation of the waste at time of design comprised WMRC supply (33,000t or 60%) and City of Stirling supply (22,000t or 40%). The WMRC supply was based on the garbage bin from a two bin collection system, and the City of Stirling supply was based on a single bin collection system. Different collection systems reflect different recycling policies and significantly affect the quantities of paper, cardboard, glass, recyclables and putrescible organics present in the waste. The characterisation of waste to be presented to the plant has changed and is now likely to be approximately 25% from WMRC collections and 75% from City of Stirling collections. Further, City of Stirling has recently changed to a 3 bin system and only the garbage bin will be sent to the plant. All of this means the composition of waste is predicted to change quite significantly relative to the basis of the original design. While the plant can cater for a range of changes in waste inputs, the outputs will change accordingly and therefore the test criteria needs to be reviewed to take into account the changed inputs and outputs.

#### ii. Waste volume

The design capacity of the plant is 55,000tpa of MSW.

During commissioning operations to date we have identified limitations to the operating capacity of the facility (where 'facility' means the WMRC transfer station and the AWT plant together). In relation to the WMRC



transfer station there have been identified tipping floor limitations, uncertainties with waste delivery logistics, and general integration with WMRC transfer station operations. In relation to the AWT plant, in the short term there is a limitation caused by deferred installation of water treatment equipment (explained in iii below). We expect all of these limitations to be overcome or optimised during normal operations, but they have to be recognised in establishing test criteria for the performance trials.

WMRC has recorded in its minutes of meetings that it expects the plant to process 36,000t of MSW in its first year (ref: WMRC Minutes of the Ordinary Council Meeting held on 4 June 2015 and the Budget for 2015/2016 year).

# iii. Work to be completed after performance trials

A third reason involves specifying and agreeing detailed terms with the Principal for certain works to be completed after the performance trials, as conditions subsequent. Primarily this means equipment for water treatment and management which is at the back end of the process.

When the D&C was signed in Dec 2010 it was agreed that water treatment equipment could not be specified until the detailed characteristics of process water was known, after a substantial period of bioconversion processing (the ramp-up period as a minimum). We now have that knowledge and equipment can now be specified. By its nature the equipment has a long lead time and to avoid deferring performance trials it will be installed after the trials. The water treatment equipment is necessary to remove the accumulation of substances in the process water. Until the equipment is installed, to mitigate accumulation of those substances, the plant will be operated at a reduced rate.

Detailed equipment specification and clarifying the terms of these 'conditions subsequent' is currently being worked on.

## **Operational Period**

The facility will commence the operational period after completion of the performance trials and award of Practical Completion.

The Principal has yet to confirm who will be the Operator of the facility in the operational period. It has been confirmed that AnaeCo will not be the Operator.

The uncertainty caused by the Operator not being confirmed is causing some inefficiency in the final stages of commissioning and may affect the commencement of performance trials. The D&C envisaged the Operator would be appointed and active in the later stages of ramp-up and would participate in the performance trials.

The delay in confirming appointment of the Operator has caused operations & maintenance activities to become combined with commissioning activities. To date, all work has been performed as if it is within D&C scope. AnaeCo has incurred additional costs because of this and will be seeking to recover costs where possible.



A further factor which AnaeCo is not directly involved in, but is affected consequentially, is that we understand the Principal and the councils to be serviced by this facility, have yet to agree final terms for payment of gate fees for waste to be delivered to the facility. In essence, the waste to be used for the performance trials should be delivered under normal commercial arrangements between the Principal and the councils, and the net revenue generated by the Principal from operation of the facility will be available to pay the Operator. In other words the facility is intended to operate as a commercial business through the performance trials period.

Whilst these operational matters themselves are not the drivers of the commencement of performance trials, until resolved they contribute to uncertainty and the potential for delay.

**ENDS** 

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## **About AnaeCo**

AnaeCo delivers waste resource recovery facilities based on the AnaeCo™ System, incorporating the patented DiCOM™ bioconversion process. The AnaeCo™ System includes advanced sorting, recycling, anaerobic digestion and aerobic composting to recycle municipal solid waste (MSW) into renewable energy from biogas, organic fertiliser and recyclables such as steel, aluminium, glass and plastics, thus maximising diversion from landfill and ensuring social, economic and environmentally sustainable management of MSW.

The AnaeCo™ System enables resource recovery intervention closer to source, with enhancement of existing waste transfer stations now a viable waste management option. AnaeCo's experienced team provides design, and commissioning services for AnaeCo™ facilities.

For further information go to www.anaeco.com

# **About the WMRC Project**

The WMRC Project involves the construction and commissioning of an AnaeCo<sup>™</sup> plant at the JFR McGeough Resource Recovery Facility in Shenton Park, Western Australia.

The JFR McGeough RRF is a solid waste transfer station owned and operated by the Western Metropolitan Regional Council.

The AnaeCo<sup>™</sup> plant is an asset owned by Funds managed by Palisade Investment Partners Ltd and is contracted to receive 55,000tpa of MSW. (The "Principal" is a special purpose entity managed by Palisade Investment Partners Ltd.)

The WMRC Project is the first full operational scale installation of the AnaeCo<sup>™</sup> System and is a transfer station retro-fit occupying less than 4,000m<sup>2</sup>.



**Figure 1 :** AnaeCo<sup>™</sup> AWT Plant at WMRC JFR McGeough Resource Recovery Facility, Shenton Park, Western Australia