

**WRITTEN QUESTION TO THE MINISTER FOR TRANSPORT AND TECHNICAL SERVICES BY DEPUTY G.C.L. BAUDAINS OF ST. CLEMENT
ANSWER TO BE TABLED ON TUESDAY 21st FEBRUARY 2012**

Question

Would the Minister update members on the planned cessation of open-air composting and the move to in-vessel operation and give the latest time-scale?

Would the Minister further advise of the present throughput tonnage, whether the end-product is selling satisfactorily and the approximate operational profit?

Answer

The Transport and Technical Services Department's (TTS) current position is that the green waste composting operation will remain open-air. This decision was reached after a detailed technical review of current best practice for industrial composting operations, discussions with the relevant regulators and the implementation of process improvements to abate odour nuisance from the site.

History

A Statutory Abatement Notice was served on the Minister for Transport and Technical Services in November 2007 to abate nuisance arising from the emission of odour from the Green waste collection and composting sites at La Collette. This abatement notice was subsequently put into abeyance in February 2008, on the understanding that site improvements would be carried out to demonstrate that odour release from the site had been reduced to acceptable levels.

At this time the Department was investigating the options for an in-vessel composting system. Following extensive searches there were no enclosed composting facilities identified that only composted commercial and public green waste. All were dealing with a mixture of organic waste including food.

Off-island site visits were carried out during 2008/2009, to review various enclosed compost site solutions and to inform whether this approach would be suitable locally.

The outcome of this review was that even fully-enclosed facilities employing Best Available Technology and with good site management practices had noticeable on-site and occasional off-site odour complaints. These could partially be attributed to the types of waste composted, but reception areas, air fans and bio-filters still have the potential to emit smells.

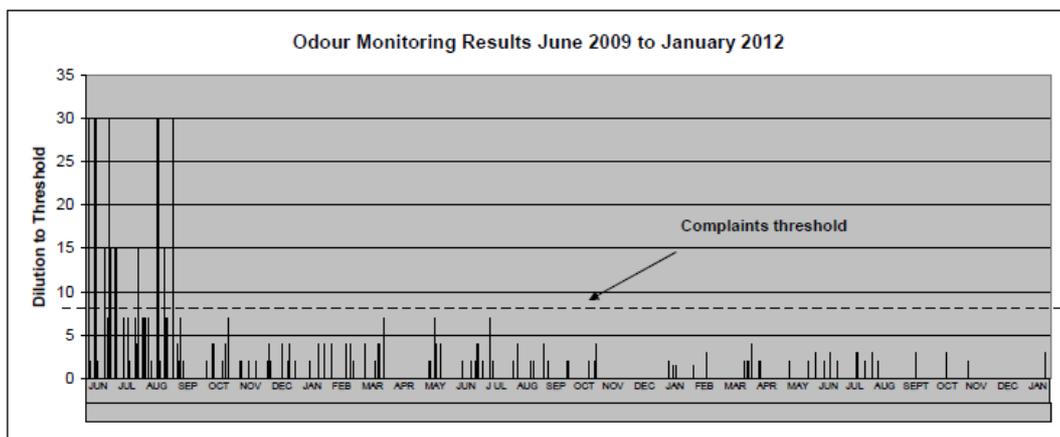
A review of the cost of such facilities suggested that a fully enclosed system of the type that offered the most suitable solution for Jersey - an enclosed tunnel system - would cost in excess of £7 million. This was in excess of £3 million more than the allocated capital budget.

In parallel to this work the Department was implementing a comprehensive odour management programme on the existing site with notable success.

New measures included:

- closer monitoring of waste deliveries to identify and treat odorous loads
- closer concentration on blending loads during shredding to encourage a better carbon to nitrogen balance
- a change to 'within 48 hours' shredding of received green waste into windrows to prevent anaerobic conditions arising within the unshredded waste
- use of an excavator to turn the windrows enabling better mixing of material than can be achieved by a mechanical shovel
- a lowering of windrow height to a maximum of 2.5m and the reorientation of windrows from an east to west layout to a north to south layout, thus reducing the exposed surface area and odour potential
- better management of moisture addition to prevent pockets of anaerobic material from forming
- introduction of constant temperature monitoring using probes with three sensors to enable turning of the windrows at the optimal time i.e. when stabilisation of the compost has occurred.
- introduction of aeration of the leachate lagoon to prevent anaerobic activity
- clearance of accumulated materials in gullies and on aprons
- better management organisation of maintenance of key plant and recognition of the need for rapid repair maintenance regimes where standby equipment is unavailable

An odour monitoring regime was also set up to measure the success of the new controls. The data set (below) very clearly illustrates how the operation now runs within odour levels likely to cause public nuisance and as a result complaints have been reduced dramatically.



On the basis of this success a decision was taken to take further steps to upgrade the site infrastructure to follow leading practice in composting and odour management. These measures include:

- increased processing slab area to enable the shredding and screening to happen off the main composting slab. This will enable the maximum area for windrow turning to be available, preventing the risk of over height windrows which can be the cause of anaerobic odour generation.

- introduction of a straddle windrow turner. This will enable faster and more consistent turning of the composting material improving the efficiency and will also enable more consistent addition of moisture to the compost.
- Introduction of a covered screener or ‘star’ screen that will not issue as much odour during the screening process.
- Introduction of a 2.5 metre high perimeter bank around the site to minimise air flow off site.
- Introduction of a perimeter misting system and mobile misting units to reduce odour and bioaerosol emissions from site
- Improvements to the existing leachate lagoon to introduce multiple stages which will improve and make more efficient aeration and enable removal of potentially anaerobic silts.

This project is now all but complete with the new machinery due by the end of April and other features in the final commissioning stages.

TTS is of the view that with these robust measures in place, a well managed open-windrow composting operation is the best option going forward providing a cost effective solution for the type and quantity of organic material to be composted in the Island.

Compost Outputs

In 2011 the site received 12,776 tonnes of waste.

Due to the variability of moisture content in compost products the output is measured in litres. There are 3 key products leaving the site: 40mm ‘Agricompost’ which goes to agricultural land, 10mm “Soil Improver” and “Landscape Mulch” both sold in bags and loose.

Summary of compost outputs and sales 2011:

<i>Output</i>	<i>litres</i>	<i>Sales Income</i>
Agricompost	12,450,000	-
Soil Improver	4,677,000	£87,700
Soil Improver (small bags) ¹	40,760	£2,664.90
Landscape Mulch	100,000	£2,300
¹ only re-launched in September 2011		

Typical annual costs for the site are £700,000 so there is no operational profit. The site is run as a public waste management service and provides the benefits of recycling, on-island, approximately 12% of the total non-inert waste stream and returning valuable nutrients back to Jersey soils.

Compost sales is not the primary objective for the Department. The key is maintaining a viable outlet for the compost generated on the site which is primarily to agricultural land. Nonetheless with a limited marketing resource, significant sales of the popular Soil Improver are achieved each year.