

**Minutes of a Meeting of the Environmental Authority
Held on Tuesday, 23 November 2021 via Electronic Mail**

RESPONDENTS: Ms. Davida Morris, Chair
 Mr. Eugene Saunders, Deputy Chair
 Mr. Andrew Barnes, Member
 Mr. James Morrison, Member
 Mr. Willie Ferguson, Member
 Mr. Jonathan Starling, Member
 Mrs. Susan Armstrong, Member

**1. TYNES BAY WASTE TO ENERGY FACILITY: TEMPORARY APPROVAL TO
SEND GARBAGE TO MARSH FOLLY COMPOST FACILITY:**

Issue: As per the minutes of the email meeting (attached) once contingency measures are adopted then there is a risk that further mechanical failures at Tynes Bay Waste to Energy Facility will lead to there being insufficient contingency measures remaining. The baler has failed and there is not a replacement part in Bermuda nor at the manufacturer's site who are located in Germany (due to current Covid challenges). Tynes Bay are trying to manufacture the part using a 3-D printer but there is a risk that this may fail. The manufacturer can supply a larger assembly unit that includes the failed component but this will need to be sent by air freight to Bermuda which may take up to 7 days to arrive and 1 day to install (i.e. 1st Dec). The clinker crane replacement is due to complete: 4th Dec and the welding repairs to the boiler/economizer of both streams is due to complete: 1st Dec. Note there are currently four (4) specialized welders from Germany working on the plant with two (2) more on their way. The pit at Tynes Bay has been receiving additional waste as the baling has not been running and cannot receive much more and is many metres above the top of the pit (See attached photos from today). Tynes Bay believe that they will need to divert raw garbage to Marsh Folly from Thurs this week.

In summary: there is expected to be of the order of 6-8 days of raw garbage sent to Marsh Folly for landfilling. At the current rate of 130 Tonnes per day this equates to 1040 Tonnes. There is also expected to be approximately 30 Tonnes per day of wood waste (pallets, couches, public drop off, etc.) that would be stored at Marsh Folly but recovered to Tynes Bay once the incinerator is operating (i.e. 240 Tonnes)

History: Marsh Folly was last used to receive raw garbage on the following dates:

- 7 to 10 July 2010 (3 days) Approx. 600 Tonnes – deposited along the eastern edge of Marsh Folly closest to Glebe Road and was covered daily with about 6" of compost.
- 22 Aug to 12 Sept 2008 (3 weeks): 4000 Tonnes

Proposed Location: Eastern edge of Marsh Folly closest to and parallel to Glebe Road. See map of Marsh Folly pdf attached.

DENR Recommendation: Permission is effectively sought from the Authority to dispose of raw garbage at Marsh Folly under their operating licence OL-349. However, it is very much seen as a fait accompli at this stage and the greatest influence that the Authority can have is on the conditions associated with such an approval.

Suggested recommendations include:

- Cover garbage at the end of each day with compost material (6 inches) to help limit odour issues.
- Notify/consult with neighbours of plans and complaint procedure (public notices)
- Notify public to limit garbage production over the next week or so by: (i) Increasing effort to recycle (i.e. 15% of total is TAG), (ii) Encouraging offices and paper managing shredding companies to limit their disposal, (iii) Other – To Be Determined.
- Construction of a berm of soil (not compost) to the south of the area to limit risk of garbage leachate washing into the Pembroke Canal.
- Consideration of recovery of the garbage at a later date once the incinerator is operating is expected to create additional odours to the neighbourhood compared to when the garbage is covered with compost. Perhaps not recommended.

- Monitoring at the nearby monitoring well on the edge of the compost facility adjacent to the Canal for changes to the redox potential of the ground water and associated parameters (i.e. is the groundwater becoming more anoxic?).
- Improved spares holding of the baler or perhaps reason to consider purchasing a second baler unit.
- OL-004 – Consideration for increased surveillance of the garbage storage pit with respect to the risk of fire and practicing the associated contingency measures. Involvement of BFRS to add comment on the surveillance.

The Authority **CONSIDERED** the information presented and stated that they were very concerned that Bermuda needed to resort to landfilling garbage in the Pembroke area when the reliability issues associated with an aging municipal incinerator facility are well known. The Authority considered that this is largely related to a lack of commitment by Government to budget for the third stream, which will allow for the current two (2) streams to be refurbished and replaced. Inadequate maintenance of spares for the single baling contingency measure was also considered to contribute to this urgent need for approval to temporarily landfill garbage at Marsh Folly.

The Authority **APPROVED**

The application by MPW Tynes Bay (OL-004) to temporarily landfill garbage to the Marsh Folly Compost Facility (OL-349) while repairs to the incinerator and baler are completed. The conditions of this approval for the licensee, MPW, are listed below:

1. Record the dates and amounts of garbage transferred to and landfilled at Marsh Folly.
2. Propose a method to cover the garbage daily to help limit nuisance odours and limit access of vermin e.g. cover with compost to a depth of at least 6 inches at the end of each day of landfilling.
3. Notify the public of the landfilling at Marsh Folly and the formal procedure for the public to follow to log complaints.
4. Publicise messages in newspapers and online to offset garbage generation over this period and beyond. For example, by increasing/mandating TAG recycling, encouraging offices and paper management companies to limit their disposal, etc.
5. Ensure that garbage is landfilled at Marsh Folly well above the water table with the construction of a berm to the south of relatively impermeable material to help limit surface leachate runoff into the Pembroke Canal.
6. Monitor groundwater every 1-2 weeks at the well located next to the Pembroke Canal for potential anoxic conditions caused by the leachate (i.e. redox potential). DENR can assist.
7. Consult with the manufacturer of the baler to recommend a suitable inventory of spares for a remote Island and to procure and stock those items, once those spares become available.
8. Consult with Bermuda Fire & Rescue Service (BFRS) on measures to manage the risk of fires in the landfill at Marsh Folly while the garbage is stored there.
9. Consult with Bermuda Fire & Rescue Service (BFRS) on measures to manage the risk of fires in the tipping hall and garbage storage pit at Tynes Bay while at/over capacity.
10. Consult with the Department of Health to ensure that all reasonable precautions must be taken to ensure that no nuisances arise as a result of these new temporary garbage disposal procedures; in particular, enhanced systems should be put in place to avoid nuisances in relation to odor and rodent / insect activity.
11. Explore recovering the landfilled garbage in the future and incinerating it at Tynes Bay. It is noted that once the bioavailable organic material has degraded within the landfill that the remaining refractory organic matter and plastics will still have measurable calorific value while the associated odour may well have reduced.

It was further noted that the Authority would write to the Minister of Finance to emphasise the environmental importance of ensuring the country has the funds to provide a well-maintained municipal incinerator with appropriate contingency plans.

2. ENVIRONMENTAL AUTHORITY OPERATIONAL POLICY #14 – GUIDANCE ON IMPORTING CONTROLLED CHEMICALS, INCLUDING REFRIGERANTS AND HALONS:

DENR, MPW and Bermuda College are due to start presenting the latest updates on refrigerants with respect to legislation, local policies, health and safety, disposal and certification to the refrigerant handlers who are due to apply to renew their permits. This will occur over six (6) late afternoon and

evening meetings in addition to meetings at the premises of the larger companies. Many meetings are being held in order to not exceed 30 person per meeting. One element of these presentations will include the new Operating Policy that DENR agreed to prepare at the EA meeting of the 31st August 2021.

A copy of this operating policy was provided to the Authority for consideration and feedback before it can being approved by the Authority.

The Authority **DECIDED:**
that they would require more time to review this operating policy.



CHAIRMAN

25 January 2022
DATE

