Greater Manchester Combined Authority

Waste and Recycling Committee

Date: 16 October 2024

Subject: Raikes Lane Thermal Recovery Facility and Implications of the Best Available Techniques Reference Document

Report of: Paul Morgan, Head of Commercial Services, Waste and Resources Team

Purpose of Report

This report updates the Committee on work required at GMCA's thermal recovery facility at Raikes Lane in Bolton to meet updated legislation requirements. This work will result in the need for capital investment with ongoing revenue implications which are detailed in the report.

Recommendations:

The Committee is requested to:

1. Note the work required and the reasons for it; and
2. Note the expenditure associated with achieving compliance with the regulatory changes.

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Equalities Impact, Carbon and Sustainability Assessment:

Risk Management

There are a number of unknowns that will need to be addressed when the Environment Agency has confirmed its position. These may result in further improvements and costs.

Legal Considerations

Failure to make the required changes could result in enforcement action by the Environment Agency.

Financial Consequences – Revenue

There will be ongoing monitoring and sampling costs incurred which will be covered through existing budgets.

Financial Consequences – Capital

Capital aspects of the project will be covered through the existing Category A Asset budget.

Number of attachments to the report:

1 x Appendix A – BREF Requirements

Comments/recommendations from Overview & Scrutiny Committee

N/A

Background Papers

- Communication between Suez and GMCA providing background information and known changes. These can be provided by the report's author if required.

Tracking/ Process

Does this report relate to a major strategic decision, as set out in the GMCA Constitution

No

Exemption from call in

Are there any aspects in this report which means it should be considered to be exempt from call in by the relevant Scrutiny Committee on the grounds of urgency?

No

GM Transport Committee

N/A

Overview and Scrutiny Committee

N/A

1. Introduction/Background

GMCA owns a thermal recovery facility (TRF) which recovers the energy locked into non-recyclable waste through incineration. This facility is operated by Suez Recycling & Recovery UK Ltd (Suez) through the Waste and Resource Management Services (WRMS) contract.

Such installations are regulated by the Environment Agency (EA) under a number of EU directives (with obligations transposed into UK legislation). Periodically, environmental permits are reviewed and modified to reflect the development of legislation and best available techniques (BAT) to measure and manage emissions from industrial processes (including the combustion of waste). In this case Suez is required to make changes at the Raikes Lane TRF to demonstrate they are using the best available techniques.

2. The New Requirements

The new requirements are detailed in a Best Available Techniques Reference Document (BREF). A BREF brings together the industry's experiences of BAT to provide reference information for regulators to use when determining environmental permit conditions and contain what are considered the best available techniques for implementing the new requirements.

In this case the new requirements cover a range of emissions such as dust, nitrogen oxides, mercury, heavy metals, dioxins etc. A table of the requirements in respects of each is attached at Appendix A. In most cases the emission limits are being tightened or new limits introduced.

3. Impact for GMCA

The changes required are considered contractually as a Qualified Change in Law and as such GMCA is obligated to meet the costs. There are some historical costs to cover (arising from facilitating the introduction of the required changes), costs from the increased consumption of process materials and from increased testing requirements. In summary the impacts are:

1. Increase in consumables and Air Pollution Control Residues (APCR) production when setpoints are changed;

2. Possibility of engineering changes to improve performance to ensure compliance with the new operating limit of 8mg/m^3 of hydrochloric acid, to be quantified following further extensive trials;
3. There is a potential need for an analyser to be procured at a later stage;
4. Time and effort costs for production of other than normal operating conditions (OTNOC) management plans and NOx improvement condition trials; and
5. Potential or actual impact upon the treatment and disposal of incinerator bottom ash and APCR process outputs from the Facility.

The financial impact on GMCA is estimated at:

- Circa £70k for preparation work to date;
- Circa £35k for changes to infrastructure;
- As yet unknown future monitoring and sampling costs – these are awaiting confirmation once the Environment Agency has finalised requirements; and
- As yet unknown increase in the costs of process chemicals such as lime and ammonia.

4. Next Steps

Suez is liaising with the Environment Agency to finalise requirements. Once these are known they will be included in budgets and a Notice of Change completed. A report will be brought to a future meeting of the Committee once all additional costs and implications are known.

Appendix A – BREF Requirements

BREF emission subject	New BREF requirements	Implications for Suez/GMCA
Dust	Daily emission limit will reduce from 10 to 5 mg/m^3.	There are challenges in monitoring dust at these low levels. It is expected that fabric filter bags will need replacing more often.
NO_x	Daily limit reduced from 200 to 180 mg/m^3.	It is expected that following trials the EA will reduce the emission limit further requiring an increase in ammonia at an increased cost.
Ammonia	No daily limit currently, new limit 15mg/m3 for facilities with selective non-catalytic reduction and without wet abatement systems.	May have a limited impact.
Mercury	Daily limit reduced from 50 to 10 ug/m^3. A new monitoring protocol will be introduced allowing the continuation of periodic extractive sampling rather than permanent analysis at the stack but this is dependent on achieving the new limit of 10ug/m^3.	Extra costs must be expected for increased extractive test requirements prior to the 2023 BREF deadline, changes in testing standard for metals and retests. Anticipated increase in costs of £15k p.a. dependent on legislation and achieving the required limit standard. A dedicated mercury analyser will be required if at any

		point the protocol is not met or future legislation dictates.
PCDD/F + Dioxin like (PCB)	Daily limit reduced from 0.1 to 0.06 ng/Nm^3. A new monitoring protocol will be introduced allowing the continuation of periodic extractive sampling rather than permanent analysis at the stack but this is dependent on achieving the new limit.	A dedicated dioxin analyser will be required if at any point the protocol is not met or unless future legislation dictates. Additional costs have to be expected for potential increase in extractive tests prior to the BREF deadline, changes in testing standards and retests.
Other Than Normal Operating Conditions (OTNOC)	Under OTNOC there is a requirement to measure dioxin and furan emissions during start-up and shutdown. The tests are to be repeated every three years.	Additional costs of around £6,000 for extractive sample testing on every third year.
Heavy Metals	Reduction in daily limits for cadmium and thallium from 0.05 – 0.02mg/m^3 and group 3 metals from 0.5 to 0.3 mg/m^3.	Additional costs for testing.
Gross Electrical Efficiency 20-35% and Gross Energy Efficiency 72 - 91%	This is a Best Available Technique requirement with Associated Emission Levels and therefore a value can be agreed with the Environment Agency if the level cannot be met. Current values are approx. 23.8 % for Gross Electrical Efficiency and approx. 91.8 % for Gross Energy.	

Brominated Dioxins PBDD/F	New requirements to monitor through extractive periodic testing.	No guidance from the Environment Agency but will attract a new cost
Acid Gases	The daily limit change for hydrochloric acid reduces from 10 to 8 mg/m^3 and sulphur dioxide from 50 to 40 mg/m^3.	Dropping the central setpoints to achieve these new limits will result in an increase in reagent consumption and an increase in production of air pollution control residues.