Environment Agency permitting decisions

Variation

We have decided to issue the variation for Immingham Landfill Site operated by Integrated Waste Management Limited.

The variation number is EPR/PP3830BV/V005

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Description of the changes proposed by the Variation

This is a Substantial Variation.

The operator has applied for a variation to their permit to:

1. Install a reverse osmosis plant at the site to treat the leachate. It is proposed that the filtrate will discharge to sewer and the concentrate tankered offsite for further treatment.
2. Remove the CO_2 limits from the current permit and include the calculated compliance limits, based on ICoP, in the Landfill Gas Management Plan
3. Remove CH4 action (control) limits from the permit. The compliance limits will be retained.
4. Increase permitted tonnages of wastes for restoration
5. Reflect a previously agreed revision to a groundwater trigger level.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues
- Annex 1 the decision checklist
- Annex 2 the consultation, web publicising responses

Key issues of the decision

The following documents have been provided as part of the application:

- Application form and non-technical summary

- Trade effluent Consent
- WAMITAB certificates
- EMS certificate of registration
- ICoP Review of Carbon Dioxide Action Limits
- EA letter confirming trigger level amendment
- Reviewed Opra Spreadsheet
- SGN 5.03 indicative BAT review
- H1 Assessment - Surface Water
- H1 Screening Assessment
- Landfill Gas Management Plan

We technically assessed the documents. As part of the assessment we issued a schedule 5 notice requiring the following:

- An updated monitoring plan drawing
- Justification for the proposed increase in waste for restoration
- Confirmation of the proposed leachate treatment volume per day
- Up to date ISO 9001 certificate
- Details regarding the reverse osmosis stages, produced effluent quality and further treatment of the concentrate
- Confirmation that the permeate will be discharge to sewer
- Details regarding the existence of a methane stripping plant
- Details regarding the site surfacing
- Update the 'Amenity and Accident Risk Assessment'
- Details on the RO plant infrastructure.

As a result of the Schedule 5 Notice all the above mentioned issues have been clarified. The following documents have been updated and/or provided:

- Environmental Monitoring Plan
- RO Plant, Indicative infrastructure detail
- RO process description & SGN 5.03 indicative BAT review
- Amenity and Accident Risk Assessment
- RO Training Plan
- Leachate Treatment Reverse Osmosis Plant, Technical Documentation, Operation Manual
- RO Maintenance Plan
- ISO 9001, 14001, 18001, 50001 certificates
- H1 Screening Assessment
- RO Important error messages documentation

RO plant for leachate treatment

The operator proposes to install a reverse osmosis plant (RO) for treating the leachate, in accordance with the principles outlined in SGN 5.03. The RO will be able to treat 70 m3/day in a two stage filtration process. The permeate will

be discharge to foul sewer. The discharge point is outside the landfill premises, labelled as S1 on “RO plant proposed rising main route” no 2478.03, dated on 31/03/2016. The concentrate will be taken to FCC’s Knostrop waste treatment plant and subsequently discharged to the adjacent sewage works under existing permit and discharge consents.

The following main environmental risks have been identified:

- Contaminated run-off. Potentially exacerbated by floods,
- Failure of plant Infrastructure and loss of containment,
- Collision of vehicles carrying contaminative loads,
- Leak or spillage from tank or vessels containing liquid material,
- Fire.

The following measures are implemented to mitigate these risks:

- Site surfacing is appropriate and is provided with falls and bunds,
- Tanks will be constructed of materials suitable for the materials they will hold, self-contained with appropriate inlet outlet and pneumatic level probes,
- Floor levels will be raised above surrounding road levels and set no lower than 3.0m AOD,
- Electrical access points will be located no lower than 5.06m AOD with Flood resilience and resistance measures,
- All the important parameters and data will be recorded,
- Alarms and failures will be clearly indicated,
- Robust maintenance, emergency and training plan is in place.

Reviewing the received documents, risks and mitigation measures, we agree with the addition of the Reverse Osmosis Plant.

Removal of carbon dioxide (CO_2) limits

The operator has proposed to remove CO_2 limits from the permit and incorporate them into Immingham Gas Management Plan in accordance with The Industry Code of Practice on perimeter soil gas Jan 2011 (ICoP). The ICoP states:

‘The ICoP proposes that no compliance limits should be set for carbon dioxide in the permit, unless there is a sensitive receptor where there is a risk to human health. We accept this is a reasonable approach.’

After reviewing the received information, we have accepted the removal of CO_2 limits for the proposed boreholes, in line with ICoP guidelines.

Amending the methane (CH_4) limits

We have removed the action limits for CH_4 that are currently stated in the permit. We have retained CH_4 compliance limits within the permit, with no modifications to the existing values.

Amending the permitted tonnages of wastes for restoration

Reviewing the information we have received following the schedule 5 notice, we have agreed to include improvement condition 9 to support and propose waste for restoration based on a revised (and approved) restoration plan / planning permission.

Revising the groundwater trigger level for BH4a

The applicant submitted a request temporary increase of the ammoniacal nitrogen trigger level within BH4a on 29th June 2015. The documents have been assessed and approved by the area officer on a temporary basis. Once included in a variation, the request will become permanent, as agreed.

As part of this variation, the ammoniacal nitrogen trigger level within BH4a has been amended to 15.28mg/l.

Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

Aspect considered	Justification / Detail	Criteria met
		Yes
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation, web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance. The application has been published on www.gov.uk and the following agencies have been consulted: - Local authority environmental protection department - Food Standard Agency - Health and Safety Executive - Public Health England and the relevant Director of Public Health	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary. The sight boundary did not change as a result of the variation.	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility, as detailed in the key issue section. The operator's risk assessment is satisfactory.	✓
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. Regarding the reverse osmosis plant, the proposed techniques/ emission levels for priorities for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	the facility. The permit conditions ensure compliance with relevant BREFs and BAT Conclusions, and ELVs deliver compliance with BAT-AELs. The operator also proposed the following main techniques: - Monitoring CO_2 and methane levels in line with ICoP - Incorporate a previously agreed revision to a groundwater trigger level.	
The permit conditions		
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table 2.1.1 in the permit.	✓
Emission limits	We have decided that emission limits should be set for the parameters listed in the permit. The compliance limits for CO_2 have been assessed in accordance with the requirements of the ICoP. The compliance limits for CH_4 have remained the same, but the trigger levels have been removed from table 2.10.11. The ammoniacal nitrogen trigger level within BH4a have been previously agreed with the AO. We consider the emission limit values (ELV) are appropriate. See key issues for further details. It is considered that the ELVs/equivalent parameters or technical measures described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.	✓
Monitoring	We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. Following our assessment and the available documents, we have made the following modifications to the monitoring schedule: - Removed the CO_2 limits from the permit for the proposed landfill gas boreholes - Removed the CH_4 action limits but left the compliance limits in the permit - Increased the ammoniacal nitrogen trigger level within BH4a - Added additional requirement to monitor the RO	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	permeate discharge to sewer.	
Operator Competence		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓
Financial provision	There is no known reason to consider that the operator will not be financially able to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence. The financial provision arrangements satisfy the financial provisions criteria.	✓

Annex 2: Consultation and web publicising

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Centre for Radiation, Chemical and Environmental Hazards (CRCE) at Public Health England
Brief summary of issues raised
None – “Based on the information contained in the application supplied to us, Public Health England has no significant concerns regarding the risk to the health of the local population from the installation.” “This consultation response is based on the assumption that the permit holder shall take all appropriate measures to prevent or control pollution, in accordance with the relevant sector guidance and industry best practice.”
Summary of actions taken or show how this has been covered
N/A