

This report has been cleared for submission by *Marie O'Connor* Marie O'Connor, Programme Manager. Eve O'Sullivan, Programme Officer. Dated 25/02/2021



**OFFICE OF ENVIRONMENTAL
SUSTAINABILITY**

**REPORT OF THE TECHNICAL COMMITTEE ON REPRESENTATIONS MADE ON A
DRAFT CERTIFICATE OF AUTHORISATION**

TO: Board of Directors

FROM: Anne Lucey, Technical Committee, Environmental Licensing Programme

DATE: 25 February 2021

RE: Representation on draft Certificate of Authorisation issued to **Monaghan County Council** for a closed landfill at **Killycronaghan Landfill, Killycronaghan, Smithborough, County Monaghan.**

Certificate of Authorisation Register Number **H0366-01.**

APPLICATION DETAILS

Type of facility:	Closed landfill as defined in the Regulations ¹ .
Application received:	15 January 2020
Draft Certificate issued:	01 September 2020
First party representation received:	18 September 2020

1. Background to this report

The site is located almost 7km north-east of Clones on privately owned land and covers an area of 9ha. The site is surrounded by agricultural lands and is bounded by the Kilgormly river to the south-east, east and north, and by the Magheramey river to the north-west. There are poultry houses adjacent to the north-east of the site and three dwellings within 500m of the site boundary, the nearest of which is located 230m from the north-eastern boundary. The landfill was operational from 1970 to circa 1984 and comprises of approximately 147,784 tonnes of municipal solid waste (MSW). An appropriate assessment of the activity was carried out as it was determined that there is a hydrological connection between the closed landfill and one SPA site and two SAC sites, the nearest of which is located 16.2km south-west of the closed landfill. Post remedial works, Monaghan County Council intend to use the site for low intensity grazing.

¹ Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations 2008 (S.I. No. 524 of 2008).

The risk assessment has categorised the site as High risk (Class A) with high scoring pollutant linkages identified as:

- Leachate migration into groundwater, and, via groundwater, to surface waterbodies;
- Migration of leachate, via groundwater, to Surface Water Body Protected Areas;
- Migration of leachate, via surface water drainage/runoff, to surface water bodies;
- Human health exposure pathway of off-site lateral migration of landfill gas into nearby buildings; and
- Vertical landfill gas migration.

2. Consideration of the Representation

This report considers one valid first party representation from Monaghan County Council in relation to a number of requirements set out in the draft Certificate of Authorisation which are summarised below.

The representation should be referred to at all times for greater detail and expansion of particular points.

The Technical Committee (TC) comprising of Anne Lucey (Chair) has considered all the issues raised in the representation and this report details the Committee's comments and recommendations following the examination of the representation.

2.1 Condition 1.5 "...beneficial uses of the site..."

The applicant states that Killycronaghan historic landfill is not owned by Monaghan County Council and that the landowner is a local farmer. The applicant asks if this condition precludes future development or can development progress provided that it can be demonstrated that any potential development will not interfere with the integrity of the remediation measures adopted.

Technical Committee's Evaluation:

The TC considers that the condition allows for development to take place in the future provided that there is no interference with the remediation measures adopted. In order to clarify the condition further, the TC proposes to amend the condition as outlined below.

Reason for Decision:

The Technical Committee propose to amend condition 1.5 as set out below and has reached its decision having regard to the following reason:

- To provide clarity on the intent of the condition.

Recommendation: Amend Condition 1.5 to read as follows:

1.5 Nothing in this Certificate of Authorisation shall prohibit authorised beneficial uses of the site of the closed landfill **provided** that **such uses** do not interfere with the integrity of the remediation measures adopted.

2.2 Condition 3.2 Site Notice Board

The applicant suggests that the site notice board is only erected prior to commencement of the remediation works rather than the required one month following the granting of the Certificate

of Authorisation. The applicant contends that erecting the notice board within one month wrongly gives the impression that remediation works would be due to commence shortly. Whereas this would not be the case, as a number of aspects would first be required including planning consent, procurement of consultants and subsequent contractor and securing of funding.

Technical Committee's Evaluation:

The TC acknowledges the suggestion made by the applicant but considers the notice board to be necessary to provide information and contact details in relation to the closed landfill site in a timely manner. No amendment is therefore recommended by the TC in the relation to the timeframe for providing the Site Notice Board. The TC however recommends amending condition 3.2(b)(iv) which relates to the contact telephone number "in relation to the remediation works". The TC considers that the contact phone number is provided for all matters related to the closed landfill site as set out in the Certificate of Authorisation and not just in relation to remediation works.

Reason for Decision:

The Technical Committee propose to amend condition 3.2 as set out below and has reached its decision having regard to the following reason:

- To provide information to the public on the closed landfill and details of where further information can be accessed.

Recommendation: Amend Condition 3.2(b)(iv) to read as follows:

3.2 Site Notice Board

(b) The board shall clearly show:

(iv) The contact telephone in relation to the **closed landfill site**; and

2.3 Condition 2.4 Environmental Liabilities

The applicant suggests that this condition is removed considering the site is closed >30 years. The applicant also states that they are of the opinion that such a condition may be more appropriate to an active landfill, an opinion they understand was also derived from previous discussions between their Regional Historical Landfill Coordinator and a named OEE (Office of Environmental Enforcement) Inspector. The applicant states that during the construction stage of the remediation works, they can ensure that the main contractor has the appropriate insurance to cover incidents/accidents during the remediation works.

Technical Committee's Evaluation:

The TC considers it necessary that financial resources are provided for the remediation of the closed landfill and for any incident that may arise. For this reason and following consultation with the OEE Waste and Financial Provision Team, the TC proposes to amend condition 2.4 to account for this requirement. It is also recommended to remove the "Environmental Liabilities" header of condition 2.4 and to replace the financial references in the footer of condition 2 in the Certificate of Authorisation with "resources" to reflect the amended condition 2.4 appropriately.

Reason for Decision:

The Technical Committee propose to amend condition 2.4 and the footer of condition 2, and to delete the header of condition 2.4 as set out below, and has reached its decision having regard to the following reason:

- To provide financial resources for the remediation of the closed landfill and for any incidents that may arise.

Recommendation: Delete Condition 2.4 “Environmental Liabilities” header.

Amend Condition 2.4 to read as follows:

2.4 The local authority shall assign the necessary resources, including financial, to complete the remediation measures specified in the risk assessment or this Certificate of Authorisation and to respond to any incident.

Amend Condition 2 footer to read as follows:

Reason:	<i>To provide for the collection and reporting of adequate information on the activity. To provide for adequate resources for monitoring and measures to protect the environment.</i>
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2.4 Condition 3.1 “...implement the following measures within 18 months...”

The applicant suggests that the specified timeframe of 18 months should be removed from any Certificate of Authorisation as the implementation of any measures on site within such a timeframe is not realistic or practical. The applicant highlights a number of time impacting factors including funding, planning consent, procurement of consultants and contractors, approvals by the Agency and the duration of time to complete the works.

Technical Committee’s Evaluation:

The TC acknowledges the factors identified by the applicant but considers it appropriate that a timeframe is retained within the condition to ensure that works are completed within a timely manner. Additionally, the TC notes that the condition contains the provision “...or as otherwise agreed by the Agency” in relation to the timeframe. However, the TC recommends that the timeframe is increased to 24 months having regard to the concerning factors highlighted by the applicant and to the nature of the measures required by condition 3.1 including; the removal of waste, the installation of monitoring systems for landfill gas, leachate and groundwater, installation of a vertical cut-off barrier and surface water drainage system, landfill capping and grass reseeding. This should ensure that adequate time is allowed for the appropriate planning, preparation, implementation and verification of all the required measures.

Reason for Decision:

The Technical Committee propose to amend condition 3.1 as set out below and has reached its decision having regard to the following reason:

- To provide an adequate timeframe for completion of all required measures.

Recommendation: Amend Condition 3.1 to read as follows:

3.1 The local authority shall implement the following measures within **24 months of the date of grant of this Certificate of Authorisation, or as otherwise agreed by the Agency:**

2.5 Condition 3.1(h) "Install at least three gas monitoring boreholes..."

The applicant requests that this condition is removed as there are already three gas monitoring boreholes on site i.e. GW01, GW02 and GW03.

Technical Committee's Evaluation:

The TC notes that the Tier 1 and Tier 2 assessment determined the overall risk score for the closed landfill as high due partly to the risk of migration of landfill gas into the adjacent buildings i.e. the poultry houses, located to the north east, and the farm buildings, situated to the east of the site. The TC further notes that modelling showed that landfill gas will continue to be generated for several years although in minimal quantities. As landfill gas monitoring is carried out in the existing groundwater monitoring boreholes, the TC considers it prudent that monitoring is carried out in the additional boreholes to be installed for groundwater monitoring as required under condition 3.1(i). These additional boreholes will provide further gas monitoring results for the areas outside the waste body and close to the site perimeter where the adjacent buildings are located. It is therefore recommended to delete condition 3.1(h) and amend condition 3.9(c) to include the requirement for gas monitoring in the additional new boreholes.

Reason for Decision:

The Technical Committee propose to delete condition 3.1(h) and to amend condition 3.9(c) as set out below and has reached its decision having regard to the following reason:

- To provide for adequate gas monitoring utilising required infrastructure.

Recommendation: Delete Condition 3.1(h).

Amend Condition 3.9(c) as follows:

3.9 (c) Monitoring on a quarterly basis to detect the presence and concentration of landfill gas **from the existing boreholes GW01, GW02 and GW03 and the additional boreholes as required under Condition 3.1(i).**

2.6 Condition 3.1(i) "Install at least three additional groundwater monitoring boreholes..."

The applicant requests that this condition is removed as there are already three monitoring boreholes on site i.e. GW01, GW02 and GW03.

Technical Committee's Evaluation:

The TC notes the high-risk classification of the site is partially due to the risk to the groundwater aquifer from the migration of leachate from the waste body. The TC also notes that the site investigations determined that the groundwater table likely transects the waste body and that groundwater monitoring results show that leachate is having a deleterious effect on groundwater quality. In light of this the TC considers it insufficient that there is currently only one downgradient monitoring well for groundwater. The Tier 3 report also states that "no groundwater wells upgradient of the site and waste footprint area are present". The TC therefore agrees with the condition, as also proposed in the Tier 3 assessment report, that 3 additional groundwater monitoring wells are installed up and down gradient of the site. As a result, no change is recommended to the condition.

Recommendation: No change.

2.7 Condition 3.1(k) "Install continuous gas monitoring, gas vents and gas alarms in the on-site farm buildings"

The applicant requests that the requirement to carry out continuous gas monitoring in the agricultural building on site is removed. The applicant states that the landowner confirmed that the building is only used occasionally to store farm machinery and that no issues with gas have ever been recorded.

Technical Committee's Evaluation:

The TC notes that low levels of methane and carbon dioxide were recorded in the three monitoring boreholes during the two monitoring events carried out. The TC also notes that a passive gas venting system is to be installed to manage landfill gas from the site and that gas alarms are to be installed in the on-site farm buildings. Additional gas monitoring is also to be carried out in the three new monitoring boreholes required under condition 3.1(i). Having regard to the measures set out, the TC recommends removing the requirement for continuous gas monitoring in the on-site farm buildings.

Reason for Decision:

The Technical Committee propose to amend condition 3.1(k) as set out below and has reached its decision having regard to the following reason:

- To provide for appropriate gas monitoring for on-site farm buildings.

Recommendation: Amend Condition 3.1(k) to read as follows:

3.1 (k) Install gas vents and gas alarms in the on-site farm buildings;

2.8 Condition 3.9(e) "Monitoring (sample, analyse and characterise) on a quarterly basis of groundwater...include the following parameters:...Coliforms"

The applicant questions the need to monitor and sample for coliforms as they state such monitoring on landfills is extremely difficult as it involves the use of sterile equipment on site. The applicant asks if this parameter can be removed from the monitoring suite.

Technical Committee's Evaluation:

The TC notes from the Tier 2 assessment that all three groundwater monitoring wells had high levels of coliforms which may be evidence of local contamination due to land spreading or poorly functioning septic tanks. It is also noted from the Tier 3 assessment that "no groundwater wells upgradient of the site and waste footprint area are present" therefore it is not possible to confirm if the high levels of coliforms are attributable to off-site sources or the landfill itself. Also having regard to condition 3.4, which requires the applicant to carry out appropriate monitoring to identify any impact on the quality of water abstracted at wells downgradient of the landfill, the TC considers coliforms to be an important parameter to monitor. Consequently, no change is recommended to the condition.

Recommendation: No change.

2.9 Condition 3.6 "...compile a validation report..., the validation report shall be submitted to the Agency within 30 months..."

The applicant references the issues previously outlined in relation to the timeframe for completing the measures required under condition 3.1, as outlined in section 2.4 above. Consequently, the applicant suggests that the requirement for submitting the validation report within 30 months is removed from the condition.

Technical Committee's Evaluation:

The TC considers it appropriate that a timeframe is retained within the condition to ensure that the validation report is completed within a timely manner. Taking account of the additional time recommended in relation to condition 3.1 above, the TC recommends that an additional six months is also provided in relation to the submission of the validation report. This will ensure that adequate time is allowed to assess if remediation objectives have been achieved.

Reason for Decision:

The Technical Committee propose to amend condition 3.6 as set out below. The TC has reached its decision having regard to the following reason:

- To provide an adequate timeframe for submission of the validation report.

Recommendation: Amend Condition 3.6 to read as follows:

3.6 The local authority shall compile a validation report in accordance with the requirements of the Code of Practice. Unless otherwise agreed, the validation report shall be submitted to the Agency within **36** months of the date of grant of this Certificate of Authorisation.

2.10 Condition 3.1(f) "Install passive gas venting system..." and Condition 3.1(m) "...seek agreement of the Agency regarding whether to carry out a gas pumping trial"

The applicant states that the draft Certificate of Authorisation requires the installation of a passive gas venting system within 18 months, in accordance with condition 3.1(f), yet requires a decision as to whether a gas pumping trial is required after a period of 12 months of gas monitoring results, as per condition 3.1(m). The applicant suggests that this needs clarification in the final Certificate of Authorisation.

Technical Committee's Evaluation:

The TC notes that the Tier 3 assessment report states that "active landfill gas management may be required at the site depending on the results of the recommended landfill gas pumping trials". The purpose of gas pumping trials being to determine the quantity and quality of landfill gas actively produced at the site. The TC also notes from the report that low levels of methane were found during gas monitoring. The TC therefore considers that condition 3.1(m) is necessary if the applicant wishes to assess an active gas management system and notes that the condition sets out that a decision on a gas pumping trial is made after a period of gas monitoring. The TC considers this requirement to be prudent based on the low methane monitoring results reported.

Having regard to the EPA report² on the Management of Low Levels of Landfill Gas, it is unlikely that the methane, at the concentrations reported, would be suitable for utilisation. The TC therefore considers it necessary that condition 3.1(f) is also retained, as a passive gas venting system is deemed to be appropriate to manage landfill gas at the reported low levels. To ensure clarity on the purpose of condition 3.1 (m), the TC recommends amending the condition to include “for the purpose of gas utilisation”.

Reason for Decision:

The Technical Committee propose to amend condition 3.1(m) as set out below. The TC has reached its decision having regard to the following reason:

- To provide clarity on the purpose of the condition.

Recommendation: Amend Condition 3.1(m) to read as follows:

3.1 (m) The local authority shall, within twelve months of the date of grant of this Certificate of Authorisation, following gas monitoring, as required under Condition 3.9(c), seek agreement of the Agency regarding whether to carry out a gas pumping trial **for the purpose of gas utilisation**; and

2.11 Condition 3.8/3.9 “...submit to the Agency, by the 31st March of each year, an annual update covering the previous calendar year. This update...shall include as a minimum the information specified in Condition 3.9...”

The applicant seeks clarification on whether an annual report is required prior to remediation works being carried out on site or will it only be required upon completion of remediation works.

Technical Committee’s Evaluation:

As the conditions of a Certificate of Authorisation are applicable on issue of the final decision, the TC considers that the annual update will be applicable each year from that point forward. Furthermore, condition 3.8 requires that the annual update shall include as a minimum the information specified in condition 3.9 of the Certificate of Authorisation. Condition 3.9 sets out the monitoring requirements for the closed landfill, which are also applicable on issue of the final decision. Consequently, the TC recommends no change to condition 3.8.

Recommendation: No change.

2.12 Condition 3.4 “...carry out appropriate monitoring on a biannual basis...at wells downgradient of the landfill.” and 3.9(b) Monitoring (sample, analyse, characterise, and measure the level) on a quarterly basis of leachate in all leachate monitoring boreholes;

The applicant states that no parameters appear to be specified in the Certificate of Authorisation.

Technical Committee’s Evaluation:

The TC acknowledges that no parameters are specified within condition 3.4 or 3.9(b), however, the TC notes that condition 3.4 requires “appropriate monitoring” to be carried out and condition

² EPA (2011) Management of Low Levels of Landfill Gas.

3.9(b) requires that leachate is sampled, analysed and *characterised*. This enables the applicant to establish suitable analytical parameters in order to identify any impact on the quality of water abstracted at wells downgradient of the landfill in relation to condition 3.4, and the characteristics of the leachate being generated in condition 3.9(b). The TC also notes that condition 3.9(f) requires the assessment of the monitoring results against standard reference values for relevant pollutants including environmental quality standards in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, and European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended. For clarity, the TC recommends amending condition 3.4 and 3.9(b) to include a minimum number of parameters which must be analysed when completing monitoring. The parameters identified are intended to reflect the risks from the migration of leachate into the surface water and the underlying aquifer as outlined in the site assessment reports. The TC also recommends that condition 3.9(f) is amended to include the assessment of the monitoring results against drinking water standards in relation to condition 3.4.

Reason for Decision:

The Technical Committee propose to amend condition 3.4, condition 3.9(b) and condition 3.9(f) as set out below and has reached its decision having regard to the following reason:

- To provide for appropriate minimum monitoring parameters.

Recommendation: Amend Condition 3.4 to read as follows:

3.4 The local authority shall carry out appropriate monitoring on a biannual basis to identify any impact on the quality of water abstracted at wells downgradient of the landfill. **The monitoring shall, as a minimum, include the following parameters: Heavy Metals, Ammonium, E.coli and Enterococci.**

Amend Condition 3.9(b) to read as follows:

3.9 (b) Monitoring (sample, analyse, characterise, and measure the level) on a quarterly basis of leachate in all leachate monitoring boreholes. **The monitoring shall, as a minimum, include the following parameters: Biochemical Oxygen Demand (BOD) (mg O₂/l), Ammonia (mg N/l), Molybdate Reactive Phosphorus (MRP) (mg P/l), Heavy Metals and Coliforms.**

Amend Condition 3.9(f) to read as follows:

3.9 (f) The assessment of monitoring results against trigger levels and/or standard reference values **or parametric values** for relevant pollutants including environmental quality standards in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended, European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended, Interim Guideline Values (IGV) **and European Union (Drinking Water) Regulations 2014, as amended.**

2.13 Condition 3.9 (a) "A visual inspection of the landfill..." and Condition 3.18 (b) "Quarterly surveys of filled areas for the detection of the growth of invasive species"

The applicant notes that an annual visual inspection of the landfill is specified whereas quarterly surveys of filled areas for the detection of the growth of invasive species is also specified. The applicant requests the quarterly surveys to be carried out annually as part of the landfill inspection instead.

Technical Committee's Evaluation:

The TC considers this request to be an error as there is no condition 3.18(b) within the draft Certificate of Authorisation and no conditions related to invasive species.

Recommendation: No change.

2.14 Condition 3.18.2 The Communications Programme shall inform members of the public what they can and should do to protect their property and health.

The applicant suggests that this condition is removed considering the site is closed >30 years and the proposed remediation works will remove the risks identified. The applicant also states that they are of the understanding that such communication conditions were the subject of previous discussions between their Regional Historical Landfill Coordinator and a named OEE Inspector, which concluded with the opinion that such a condition was more appropriate for licenced landfill sites.

Technical Committee's Evaluation:

The TC considers that the Communications Programme provides an important method for informing members of the public about the closed landfill and associated remediation activities. In relation to condition 3.18.2, the TC considers that the Communications Programme should inform the public on what they can and should do to protect their property and health when and if a risk to property and health arises e.g. in the event of an incident or an unmitigated risk. The TC therefore recommends no change to condition 3.18.2 but considers it appropriate that condition 3.18.3 is amended to require the applicant to publish groundwater monitoring data in addition to the current requirement for publishing landfill gas monitoring data and landfill leachate data. The TC makes this recommendation having regard to condition 3.18.2 and condition 3.4, which requires the applicant to carry out appropriate monitoring on a biannual basis to identify any impact on the quality of water abstracted at wells downgradient of the landfill.

Reason for Decision:

The Technical Committee propose to amend condition 3.18.3 as set out below and has reached its decision having regard to the following reason:

- To provide for appropriate communication requirements.

Recommendation: Amend Condition 3.18.3 to read as follows:

3.18.3 The local authority shall, as part of the Communications Programme, publish landfill gas **and groundwater** monitoring data quarterly and landfill leachate monitoring data biannually in a manner accessible by the public.

3. Appropriate Assessment – Technical Committee Review

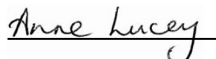
The TC has reviewed the Inspector’s Appropriate Assessment in the Inspector’s Report and, taking into account the representation received, and the content of this TC report, the TC is satisfied that the Inspector’s Report provides an adequate examination and evaluation of the effects of the activities on the European Sites concerned, Upper Lough Erne NI SPA (Site Code: UK9020071), Upper Lough Erne NI SAC (Site Code: UK0016614), Lough Oughter and Associated Loughs SAC (Site Code: 000007), Kilroosky Lough Cluster SAC (Site Code: 001786), Magheraveely Marl Loughs NI SAC. (Site Code: UK0016621), Slieve Beagh SPA (Site Code: 004167), Slieve Beagh NI SAC (Site Code: UK0016622) and Slieve Beagh-Mullaghfad-Lisnaskea NI SPA (Site Code: UK9020302), in the light of their conservation objectives.

4. Recommendation

It is recommended that the Board of the Agency grant a certificate of authorisation to the applicant

- (i) for the reasons outlined in the Draft Certificate of Authorisation,
- (ii) subject to the conditions and reasons for same in the Draft Certificate of Authorisation, and
- (iii) subject to the changes recommended in this report.

Signed



Anne Lucey

Inspector

for and on behalf of the Technical Committee

Date: 25 February 2021