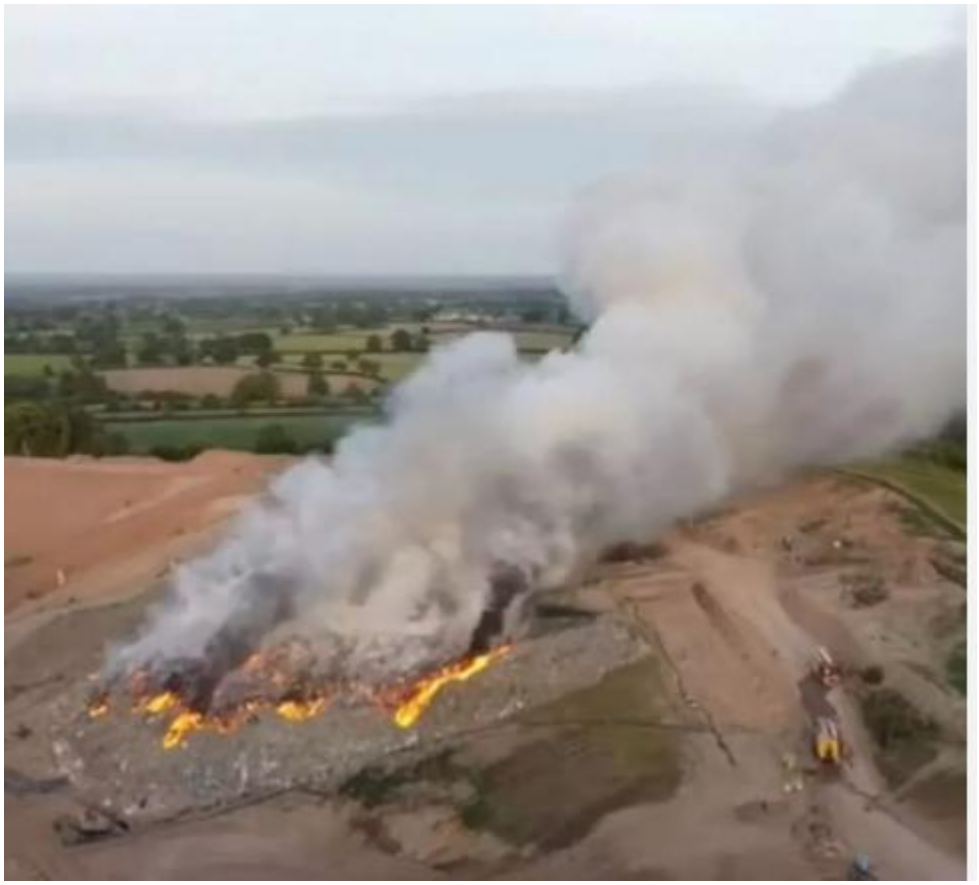

Submission of Evidence to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Opening Statement

To the Chair and Members of the Senedd Petitions Committee,

Firstly, I wish to express my sincere gratitude for the opportunity to provide a comprehensive response to the evidence presented during the initial inquiry session on **22nd September 2025**.

My submission is constructed as a direct, evidence-based rebuttal and augmentation to the transcripts and documents submitted by Natural Resources Wales (NRW), Public Health Wales (PHW), Enovert, and Wrexham County Borough Council (WCBC). This evidence is structured to explicitly address the inconsistencies, technical deficiencies, and management failures that have allowed the persistent public health and odour nuisance from Hafod Landfill to continue.

The following index outlines the critical areas where the operator's and regulators' claims are challenged by the objective monitoring data and established scientific principles.

Steve Gittins

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site

(Petition P-06-1510)

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Steve Gittins

Document No
SG#01

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Inquiry Report: Assessment of Data Presentation in Table 4-2

Subject: Misleading Presentation of Compliance Data by Omission of Exceedance Rates

Submitted by Steve Gittins **Date:** 21st October, 2025

1. Summary

The analysis of "Table 4-2 Summary statistics for whole dataset at each pod" reveals that the data presentation is fundamentally misleading and potentially manipulative. By focusing exclusively on the percentage of measurements **below** 1ppb and 5ppb thresholds (i.e., 'compliance'), the table successfully obscures the actual rate of **exceedance** (measurements greater than the threshold).

Specifically, for the highly scrutinized Community Pod, the original presentation highlights 37% of compliance for the 1ppb threshold. However, the true failure rate—the **exceedance rate** is 63\% The purpose of this report is to discredit the original table's framing and provide a transparent, corrective presentation detailing the actual exceedances.

2. Critique of Original Table 4-2 Data Presentation

The original Table 4-2 includes the following key columns for assessing threshold performance:

Enovert's own monitoring Data for March to August – without non-compliance percentages

Table 4-2 Summary statistics for whole dataset at each pod

Table A

Pod	Min	Max	95%ile	Average	Count	<1ppb	%<1ppb	<5ppb	%<5ppb
Community	0.00	29.16	10.77	3.69	13508	4943	37%	8902	66%
Entrance	0.00	258.85	12.59	4.37	18262	6263	34%	11113	61%
Cell 1 capping	0.00	42.05	4.64	0.77	13189	10607	80%	12608	96%
NW Lagoon	0.00	37.47	12.46	4.03	13556	5237	39%	8668	64%
Western bund	0.00	20.83	5.97	1.20	12850	8975	70%	11903	93%

Enoverts Monitoring Data – with non-compliant data added

Table B

Pod	Min	Max	95%ile	Average	Count	<1ppb	%<1ppb	>1ppb	<5ppb	%<5ppb	>5ppb
Community	0.00	29.16	10.77	3.69	13508	4943	37%	63%	8902	66%	34%
Entrance	0.00	258.85	12.59	4.37	18262	6263	34%	66%	11113	61%	39%
Cell1 Capping	0.00	42.05	4.64	0.77	13189	10607	80%	20%	12608	96%	4%
NW Lagoon	0.00	37.47	12.46	4.03	13556	5237	39%	61%	8668	64%	36%
Western bund	0.00	20.83	5.97	1.2	12850	8975	70%	30%	11903	93%	7%

Compliant
Non-Compliant

1. **Omission of Key Metric:** It deliberately omits the %>1pp and %>5ppb columns, which are the figures regulators and the public are most concerned with (i.e., the failure rate).

2. **Psychological Framing:** By labeling the visible percentages as "compliance" (%<1 ppb and %<5ppb), the presentation suggests the overall situation is one of compliance, but it is not. In **Table A** above, a 37% compliance rate claimed by Enovert, but in **Table B** it is correctly and accurately described as a 63% failure rate.

3. Calculation of Actual Exceedances

The actual exceedance count and percentage must be calculated by subtracting the "below threshold" figures from the total count and 100%, respectively.

Incorrect Detailed Exceedance Calculations

Pod	Total Count	Threshold	Counts < Threshold (A)	Counts Exceeding (Total - A)	Exceedance % (100% - % < ppb)
Community	13,508	>1ppb	4,943	8,565$	63\%
		> 5ppb	8,902	4,606$	34\%
Entrance	18,262	> 1ppb	6,263	11,999$	66\%
		> 5ppb	11,113	7,149$	39\%
Cell 1 capping	13,189	> 1ppb	10,607	2,582$	20\%
		> 5ppb	12,608	581$	4\%
NW Lagoon	13,556	> 1ppb	5,237	8,319$	61\%
		> 5pp	8,668	4,888$	36\%
Western bund	12,850	> 1ppb	8,975	3,875$	30\%
		> 5ppb	11,903	947$	7\%

4. Revised, Transparent Presentation (Table 4-2 - Corrected)

The following table provides the transparent metrics necessary for a fair assessment of environmental performance, making the actual exceedances the primary point of data visualization.

Pod	Total Count	Exceedances >1ppb(Count)	Exceedances >1ppb(%)	Exceedances > 5\ppb (Count)	Exceedances >5ppb(%)
Community	13,508	8,565	**63%**	4,606	**34%**
Entrance	18,262	11,999	**66%**	7,149	**39%**
Cell 1 capping	13,189	2,582	20%	581	4%
NW Lagoon	13,556	8,319	**61%**	4,888	**36%**
Western bund	12,850	3,875	30%	947	7%

5. Conversion to Time-Based Exceedance (Hours per Day)

To contextualize the scale of non-compliance, the calculated exceedance percentages are translated into the equivalent number of hours per day that the thresholds were exceeded, assuming the measured failure rate applies proportionally to a standard 24-hour cycle. This conversion is necessary to demonstrate the persistent nature of the exceedance, which is often masked by the large total count figure.

Pod	Exceedance % 1 ppb	Exceedance Hours >1ppb	Exceedance % Hours > 5ppb	Exceedance Hours >5ppb
Community	63%	15.12 hours	34%	8.16 hours
Entrance	66%	15.84 hours	39%	9.36 hours
NW Lagoon	61%	14.64 hours	36%	8.64 hours

Calculation Example (Community Pod, 1ppb**:** 24 hours times 0.63 = 15.12 hours

The results demonstrate that, on an average day reflecting this dataset:

- **Community Pod:** The lower threshold > 1ppb was exceeded for over **15 hours** per day. The higher, more concerning threshold >5ppb was exceeded for over **8 hours** per day.
- **Entrance Pod:** The lower threshold was exceeded for nearly **16 hours** per day, and the higher threshold was exceeded for over **9 hours** per day.

This time-based conversion highlights the severe and near-constant nature of the non-compliance at these critical locations.

Disappointing and Misleading Data Presentation

Furthermore, the Graph presentation of H2S data in the Landfill Monitoring Report (e.g., the "small representation" of graphs on page 12 of the Air Quality Monitoring Report presented by Enovert) is highly **misleading**. By compressing the time-series, the visual impact of the frequent, repetitive, and sustained exceedances above the WHO Nuisance Threshold (4.7 ppb) appears is obscured. See example below :-

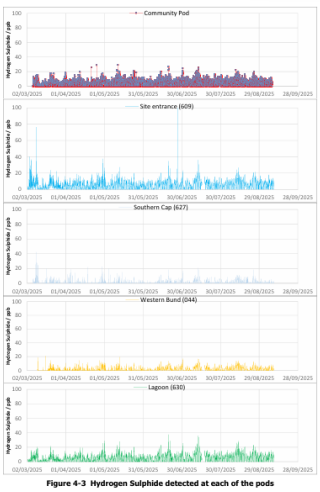

Figure 4-3 Hydrogen Sulphide detected at each of the pods

2551r3v100925 Page 12 of 27

The Enovert graph (above left) does not accurately portray the exceedances of ppb based solely on the size of the image of the graph. The thresholds of ppb 'appear' very low on the graph's vertical scale, and therefore the scale is too dense. This is because the scale goes up to 100ppb in 20ppb intervals, giving the illusion that the recorded data is very low on the graph.

Summary: Disappointing and Misleading Data Presentation

The presentation of data in the Landfill Monitoring Report (e.g., the graphs on page 12 of the Air Quality Monitoring Report presented by Enovert) is **highly misleading**. This is achieved by **compressing the time-series**, which visually **obscures** the frequent, repetitive, and sustained **exceedances** above the **WHO Nuisance Threshold (4.7 ppb)**.

Further contributing to what appears to be a '**smoke & mirrors**' approach, the accompanying graph uses a dense vertical scale that goes up to 100 ppb in 20 ppb intervals. This scale distortion minimizes the visual impact of the recorded data, creating the **illusion** that the thresholds of ppb are very low and that the overall data is compliant.

Also Table 4-2 on page 13 of the same monitoring report demonstrates that the original assertion of "**low and acceptable compliance**" is **severely misleading** for the most critical monitoring locations.

The **Community Pod** shows only **37% compliance**, which translates to a stark **63% failure rate** at the **1 ppb threshold**. This means nearly two-thirds of all measurements recorded were above the lower regulatory concern limit. The **Entrance Pod** has an even higher failure rate of **66% at 1 ppb**. Moreover, **34% of readings at the Community Pod** and **39% at the Entrance Pod** exceed the more concerning **5 ppb threshold**.

The Inquiry is strongly advised to **reject any conclusions drawn from the original Table 4-2**. Future data reporting must prioritize the explicit reporting of **Exceedance Counts and Percentages** to ensure public and regulatory scrutiny is focused on the **actual environmental performance failure rate**.

'The true identity of non-compliance is being hidden in plain sight'

Wrexham's Full Council passed a motion on 19th February 2025, which set out tighter management arrangements for the Hafod Landfill and mandated that if emissions / odour were not eradicated, the Council will expect the necessary plans to made for closure, and the mandatory and effective land restoration of Hafod Landfill site.

THAT TIME IS NOW !

Document No
SG#02

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Subject: The Scientific and Regulatory Case for Permit Revocation based on the Correlation between Rainfall, Leachate Levels, and Public Health Risk from Hydrogen Sulfide (H2S) Emissions.

Submitted by Steve Gittins **Date:** 21st October, 2025

Introduction

1. This submission provides scientific and regulatory context to support the immediate **revocation of the Environmental Permit** for the Hafod Landfill Site. It focuses specifically on the established, acute, and growing correlation between meteorological conditions (**rainfall**), internal site management failures (**leachate accumulation**), and the resultant fugitive emissions of noxious gases, particularly **Hydrogen Sulfide (H2S)**. This nexus of risk is fundamentally incompatible with safeguarding public health and environmental quality under Welsh legislation.

Section 1: The Established Scientific Correlation

2. The operational integrity of any landfill is critically dependent on effective **leachate management**. The scientific evidence clearly demonstrates a direct causal chain linking rainfall to the generation of noxious gases:

1.1. Rainfall and Leachate Levels

3. Heavy rainfall significantly accelerates **leachate production** by increasing the percolation of water through the waste mass. This process can rapidly elevate leachate levels, which may overwhelm collection and storage systems, leading to breaches in environmental permits and increasing the risk of groundwater and surface water contamination (Act Environmental). Studies confirm that extreme rainfall events can significantly increase the concentrations of various pollutants in landfill leachates (Yu, X., et al., 2021, PubMed).

1.2. Leachate and H2S Emissions

4. The accumulation of leachate creates a highly saturated, **anaerobic environment**. This condition is conducive to the proliferation of sulfate-reducing bacteria (**SRB**). These bacteria utilize sulphate often found in common materials and sewage sludge, generating highly odorous H2S as a byproduct (US EPA). Thus, **elevated leachate levels function as a direct mechanism for increased H2S generation** and subsequent fugitive emissions.

Section 2: Exacerbating Factors and Climate Vulnerability

5. The established correlation is significantly compounded by seasonal weather patterns and the **long-term effects of climate change**, making the Hafod site's current **regulatory status unsustainable.**

2.1. Seasonal Variations and Winter Months

6. While microbial activity and gas production are generally higher in warmer months, the risk of high-level fugitive emissions remains acute during winter. Lower temperatures can reduce the thermal efficiency of landfill gas collection and utilisation systems, leading to a rise in uncontrolled fugitive emissions. Concurrently, increased winter precipitation exacerbates leachate accumulation, creating peak-risk conditions where reduced gas capture overlaps with maximum H2S production potential (Dajić, A., 2023, E3S Conferences).

2.2. Climate Change Implications

7. Climate change projections for Wales indicate an **increase in the frequency and intensity of extreme rainfall events**. This trend is expected to lead to prolonged periods of excessively high leachate levels, directly and significantly amplifying the future volume and persistence of H2S emissions from landfills (Bouzonville, A., 2013, atmoterra.com). This requires regulatory oversight to shift from managing status quo risk to mandating climate-resilient and preventative site closure.

Critical Assertion

8. The evidence detailing the impact of rainfall and leachate on H2S generation is internationally accepted, scientifically robust, and directly relevant to the unacceptable odour nuisance and health concerns at the Hafod site.
9. **Any attempt to dismiss or downplay this important correlation would be extremely misleading and could risk public health and environmental safety.**

Section 3: Policy Recommendations for Senedd Consideration

10. Based on the demonstrated scientific risks and the persistent regulatory failures documented at the Hafod site, this submission puts forward the following policy recommendations for Natural Resources Wales (NRW) and the Welsh Government:
11. **Mandate Climate-Resilient Infrastructure:** All remaining permitted landfills must immediately undergo a **climate vulnerability assessment**, specifically focusing on the integrity of leachate collection systems against projected extreme rainfall and flooding events. Permits that fail this assessment should be subject to immediate closure protocols.
12. **Stricter Enforcement on Leachate Levels:** Leachate levels that exceed regulatory limits must immediately trigger a severe enforcement response, including escalating daily fines and mandatory cessation of waste acceptance until remediation is complete. Leachate breaches must be viewed as an imminent public health risk, not merely a technical non-compliance.
13. **Review the Waste Acceptance Criteria (WAC):** Given that H2S generation is linked to sulfate-rich materials (e.g., gypsum), the Senedd should commission a review of WAC in Wales to **restrict or ban the landfilling of such materials**, especially in sites exhibiting chronic H2S problems like Hafod.
14. **Revocation Criteria:** NRW's permitting framework must be revised to include the persistent and unmanageable breach of air quality and odour nuisance standards—compounded by confirmed leachate system failures—as an **automatic trigger for permit revocation**, independent of the operator's proposed action plan. The burden of proof for environmental safety must rest solely with the operator.

Evidence from NRW Officials

15. **James McClymont on Rainfall and Odour Correlation:**
    - "We have got complaints data running **back to 2007, and there isn't evidence in that data to suggest that odours are particularly worse in the winter months**"
16. **James McClymont on Leachate Levels and Odour:**
    - **"So, it doesn't appear that that has an impact,** although there is a link potentially between leachate levels and fugitive emissions of odour. And that's why we are progressing those leachate action plans and we're asking the operator to focus on leachate management, so that we can eliminate that as a source of those odours."
17. **Mark Sylvester on Rainfall and Odour (Paragraph 199):**
    - Mr. Sylvester then clarified that he saw **no direct link regarding landfill gas extraction** (the principal source of H2S), though he conceded a possible influence of rainfall on general waste odour, and committed to analysing the collected data to check for any such pattern.

Astonishment at the Stated Uncertainty

18. It is highly concerning that senior NRW officials appear reluctant to fully acknowledge the scientific connection between rainfall and leachate-driven H2S fugitive emissions.
19. **Mr. McClymont's statement appears to effectively dismiss the direct rainfall-to-leachate correlation,** relying solely on complaint datasets to negate an established scientific mechanism.
20. **Mr. Sylvester** conceded that within the trade such a correlation is recognised, but then narrowed his view to exclude landfill gas, the principal odorous emission of concern.
21. This inconsistency highlights a troubling **disconnect between regulatory statements and established landfill science:**
    - Rainfall ingress is universally recognised as the main source of new leachate generation [1].
    - Leachate head pressure is the driver that forces odorous gases through cover material [2].
    - **To deny or minimise the link between rainfall and hydraulically driven fugitive emissions suggests a position that does not align with established principles of landfill physics, or an overly narrow focus on thermally-dependent gas generation.**
    - Such **equivocation** from **senior regulatory officials** risks undermining public trust, scientific credibility, and effective environmental enforcement.

Conclusion

22. The body of scientific evidence overwhelmingly confirms that the complex interaction of high rainfall, elevated leachate levels, and poor site management is the root cause of persistent H2S emissions at Hafod. The failure to effectively manage these factors over many years, combined with the increasing threat of climate change, demonstrates that the site is intrinsically unsuitable for continued operation under its current permit. Decisive action is required by the Senedd to protect the rights, dignity, and health of the local community. The only commensurate regulatory response is the **revocation of the environmental permit.**

23. Supporting References :-

24. Dajić, A. (2023). The Effect of Climate Change on the Potential for Landfill Gas Emissions. *E3S Web of Conferences.*
25. Bouzonville, A. (2013). Review of Long-Term Landfill Gas Monitoring Data and Implications of Climate Change on Future Emissions. *Atmospheric Environment.* (cited as atmoterra.com in original list)

26. Nunes, M. I., et al. (2021). Hydrogen Sulfide Levels in the Ambient Air of Municipal Solid Waste Landfills: A Seasonal Study. *Science of the Total Environment.*
27. Yu, X., et al. (2021). Evidence from Seasonal Variations and Extreme Rainfall Events on the Occurrence of PPCPs in Landfill Leachates. *Environmental Pollution.*
28. US EPA. (Source cited for H2S production via SRB and regulatory monitoring requirements).
29. Act Environmental. (Source cited for general mechanism of heavy rainfall and leachate percolation).
30. Waste360. (Source cited for moisture content increasing H2S production).
31. E3S Conferences. (General citation for climate change/seasonal impact).

Document No
SG#03

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Sniff Testing – Discrepancy in Olfactory Monitoring

Submitted by: Steve Gittins **Date:** 21st October 2025

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1. Statement of Concern

The Hafod Landfill site continues to be a source of persistent and unacceptable statutory nuisance to the local community, primarily due to fugitive odours of hydrogen sulphide (H_2S). Despite numerous complaints and stakeholder meetings, the subjective regulatory "sniff tests" have historically failed to substantiate the community's lived experience of severe and frequent odour impact.

This report formally expresses concern regarding the integrity of nearly two decades of regulatory oversight, which is now **definitively discredited** by the **real-time air quality monitoring data collected between March and August 2025**.

The Committee is urged to acknowledge the clear conflict between these subjective odour checks and the objective gas readings.

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2. Clarification of Odour Protocol (in Layman's Terms)

Odour monitoring at a landfill site involves two main categories of measurement:

Method	What it Measures	Standard	Purpose
Olfactometry (Laboratory)	Concentration of the odour (how much).	EN 13725 (2003)	Determines odour concentration in odour units per cubic metre — the concentration at which 50 % of a panel can just detect the smell. This standard formalised sampling and laboratory testing after 2003.
Field Sniff Test (Community)	Intensity and frequency of the odour (how strong and how often).	EN 16841 (2016)	Determines the actual exposure and nuisance experienced by the community. This standard formalised field inspection methods (e.g. "grid" or "plume" method) to focus on the FIDOL factors: Frequency, Intensity, Duration, Offensiveness, and Location. Includes the use of field olfactometers such as the Nasal Ranger or Scentroid SM100.

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3. The Protocol Evolution: From Paper to Digital (Post-2017)

Prior to 2003, odour regulation relied heavily on subjective intensity scales. The introduction of **EN 13725 (2003)** introduced a **mandatory scientific and quantitative** measure to define source strength.

The field assessment process underwent a further transformation with **EN 16841 (2016)**, which modernised community odour assessment to ensure repeatability, traceability, and legal defensibility.

A. Commencement of the Updated Process

Regulators' field assessments were expected to comply with the full Quality Assurance (QA) and Quality Control (QC) requirements of EN 16841 from:

- **Standard Ratification:** 2016
- **Implementation Deadline : 31 May 2017**

B. Mandatory Shift to Electronic Data Recorders (EDRs) and Screening Tools

From 2017 onward, EN 16841 required systematic field assessments using **Electronic Data Recorders (EDRs)** to ensure robust data integrity. Alongside digitalisation, the standard embedded the requirement for **screened and calibrated assessors** whose sensory performance meets EN 13725 criteria.

Rationale for Digital and Calibrated Tooling (Post-2017)	Why Legacy Methods Are Discredited
Automatic GPS Capture	EDRs automatically record precise GPS coordinates, proving assessor location. Paper logs are easily fabricated or prone to error.
Accurate Time-Stamping	EDRs provide non-modifiable timestamps, essential for correlating odour observations with meteorological data. Manual logs cannot achieve this.
Data Integrity and Audit Trail	Digital entry ensures a verifiable audit trail from field to final report, eliminating transcription errors.
Calibrated Human Assessors	EN 13725 screening tools (n-butanol tests, olfactometers, sensitivity kits) verify each assessor's olfactory capability. Without this calibration, "sniff test" findings are not scientifically defensible.

Therefore, any weekly sniff test logs conducted after 31 May 2017 that were recorded solely on paper and/or performed by un-screened assessors cannot be regarded as compliant with EN 16841 or the Lanfill Permit

4. Training, Qualification, and Screening of the "Sniffer"

The competence and calibration of individuals conducting weekly odour assessments are crucial elements of evidential integrity.

A. Training Requirements

- **Olfactometry Panelists (Laboratory):** Must be periodically tested to ensure their olfactory sensitivity falls within the normal range for the reference odour (n-butanol), as defined by EN 13725.
- **Field Assessors (Sniff Tests):** Must have documented training in the application of the intensity scale and methodology principles of EN 16841 – including the proper use of Electronic Data Recorders (EDRs) and screening tools.

Without verifiable, up-to-date training records and proof of competency in EN 16841 procedures, any regulatory finding of "No Odour Detected" or "Very Faint Odour" cannot be considered robust or defensible.

B. Purpose and Function of Screening Tools

Screening tools are essential for ensuring that the human assessors ("sniffers") used in EN 16841 field odour surveys are **qualified, consistent, and compliant** with EN 13725.
They provide a quantitative means of verifying that each assessor's sense of smell is within the required sensitivity and repeatability range.

Purpose of Screening Tools

Screening tools are used to:

- Verify each panelist's **olfactory sensitivity** (how easily they detect odours),
- Check **repeatability and consistency** over time, and
- Maintain **objectivity** in field odour inspections (EN 16841 allows only assessors who meet EN 13725 criteria).

Main Types of Screening Tools

Category	Tool / Example	Purpose	Typical Use
Standard Odorant	n-Butanol (1-butanol)	The reference odorant specified in EN 13725; determines each person's odour detection threshold.	Used in both laboratory and portable screening setups.
Dynamic Olfactometer	e.g. Olfasense TO8/TO9, Scentroid SC300	Delivers air-diluted odour samples at controlled concentrations.	Used in labs to determine individual detection thresholds precisely.
Field Olfactometer	e.g. Nasal Ranger, Scentroid SM100	Portable version allowing sensitivity screening or quick field checks.	Used on-site to verify that assessors' performance remains within limits.
Odour Test Kits	e.g. Olfasense n-Butanol Screening Kit, Scentroid n-Butanol Sensitivity Test Kit	Ready-made kits with known concentrations of n-butanol.	Used for quick screening before or during field campaigns.
Software / Data Sheets	Electronic threshold calculators, result templates	Logs responses, calculates detection thresholds, and confirms EN 13725 compliance.	Used for traceability and audit documentation.

These tools ensure that both the **human and technological components** of the odour monitoring process are standardised, calibrated, and verifiable — critical for defending regulatory conclusions in any formal investigation or hearing.

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5. Failure to Update the Protocol – A Breach of Best Available Techniques (BAT)

The failure to modernise odour monitoring practices in line with EN 16841 and EN 13725 represents not only a data integrity issue but also an **abdication of the regulator's duty to apply Best Available Techniques (BAT)** as required under the Environmental Permitting Regulations and the Industrial Emissions Directive.
Since May 2017, the use of **paper-based odour logs, unverified assessor locations, and non-calibrated sniffers** falls demonstrably below the benchmark of technical and procedural competence expected of a competent authority, and cannot be scrutinised objectively.
The European and UK guidance on landfill odour management clearly embeds the expectation that **BAT encompasses both technological tools (EDRs, olfactometers, screening kits)** and procedural controls (training, QA/QC systems, traceable audit data). Failure to implement these constitutes a **regression from the minimum standards of evidence** required for credible environmental enforcement and undermines the legitimacy of the monitoring process itself.

6.Evidential Discrepancy and Critical Request

The **new air quality monitoring data** now provides objective evidence that directly contradicts historic subjective sniff test records.

Discredited Sniff Tests

Real-time monitoring from the Community Pod in **March 2025** revealed repeated, sustained hydrogen sulphide peaks well above the odour threshold (~1 ppb). These objective readings directly discredit any weekly field reports that recorded "No Odour (Level 0)" or "Very Faint (Level 1)" during the same periods.

The most compelling evidence lies within the aggregated monitoring dataset. The **zoomed-out graph (Figure 4-3, Page 12 of 27) of Report 2551r3v1d0925** clearly demonstrates the frequency of threshold exceedances across multiple locations. This long-term view objectively captures FIDOL's **Frequency** and **Duration** elements, confirming a **persistent and widespread odour nuisance** irrespective of whether a trained assessor was present.

Critical Evidential Request

In evidence to the Senedd Petitions Committee (14:39:25), **James McClymont** confirmed that NRW has undertaken almost weekly odour assessments in Johnstown and Ruabon since October 2023, alongside ad-hoc responses to incident reports.

Given the contradiction between the subjective sniff test data and the objective community air-quality monitoring, the Committee is requested to issue a **Critical Evidential Request** for the following:

1. **Training and Qualification Records**
   Full, unredacted copies of the training certification and competency records for all authorised officers who have conducted weekly sniff tests at Hafod Landfill over the past 12 months. These must demonstrate compliance with EN 16841 standards, including proficiency in using electronic data loggers and validated screening tools.
2. **Weekly Sniff Test Documentation (2003 – Present)**
   Full, unredacted copies of all weekly sniff test logs and field reports conducted by the regulator from 2003 to the present day, with explicit confirmation of GPS and time-stamped EDR data for all assessments conducted after 31 May 2017.

Recognising that official record retention periods may be limited (often six years), the **year 2003** remains the critical baseline for evaluation, marking the introduction of key EU Landfill Directives and EN 13725.

If the regulator asserts that older records are unavailable, a formal written statement should be provided specifying:

- The **exact date** on which those records were destroyed or archived, and
- The **legal or regulatory authority** under which the data was deemed disposable.

Conclusion

Comprehensive disclosure of this data – or a transparent account of its absence – is essential to restore public confidence and ensure the validity of future regulatory oversight.

Steve Gittins

Document No
SG#04

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Transparency and Engagement Failures.

Submitted By: Steve Gittins : 21st October 2025

Summary

This submission directly addresses the statement of "openness," "transparency," and "resident engagement" associated with the Hafod Landfill site. Specifically, it rebuts the description of the Hafod Liaison Committee as an **"open forum"** by the **Senior Minerals and Waste Planning Officer for WCBC,** during the 22 September 2025 Senedd session. The evidence demonstrates a systemic failure across Wrexham County Borough Council (WCBC), Natural Resources Wales (NRW), and the Liaison Committee itself, projects an image of **exclusion, non-response, inaccessible information, and a refusal to process formal complaints.** This failure compromises community trust and accountability

Rebuttal of Statements by Senior Minerals and Waste Planning Officer for WCBC and the Implied Openness

At the Petitions Committee session of 22 September 2025, the Senior Minerals and Waste Planning Officer for WCBC, stated that the Liaison Committee is an open and transparent mechanism for engagement. Based on my experience and the lived experience of residents, this description is fundamentally inaccurate. The reality of how the Committee and related processes operate is the very opposite of openness.

1. Lack of Openness and Exclusion of Residents

The Committee operates as a carefully curated group, closed mechanism, directly contradicting the term "open forum."

- **Refused Participation:** I formally requested access to the Hafod Liaison Committee in order to attend and participate. My request was declined, without explanation. This exclusion directly disproves any claim that the Committee is a transparent or accessible forum for residents.
- **Ineffective Vehicle:** Two members of the committee, on a confidential basis, described to me that the meetings as a **waste of time and achieve nothing**, characterised by inaction, achieving little of substance, and ultimately proving to be an ineffective vehicle for genuine engagement or accountability, and has become a 'tick box' exercise over many years.

2. Breakdown of Public Accountability and Communication (WCBC)

Senior officials at Wrexham County Borough Council have demonstrably failed in their duty to communicate and provide records, indicating a breakdown in accountability.

- **Cessation of Communication:** The **Head of Wrexham Council's Public Protection Office** has informed me **in writing that he will no longer respond to my communications** and directed me to the Public Service Ombudsman.
- **Ignored Correspondence:** The **Deputy Leader of Wrexham Council is choosing to ignore emails** from myself and, according to my evidence, several ward councillors have also repeatedly failed to reply to resident emails.
- **Inaccessible Records:** The Deputy Leader of WCBC stated that he keeps only brief, un-chronological notes for the Liaison Committee. He advised my **only option for minutes** was to submit a **Freedom of Information (FOI) request to NRW**, imposing an unnecessary administrative hurdle.
- **Lack of Scrutiny Minutes:** WCBC does not provide minutes of the **Homes & Environmental Scrutiny Meeting**, where there appears to be little scrutiny, signalling a systemic lack of transparency in the council's oversight.

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3. Failure of Regulatory Transparency and Recourse (NRW)

NRW's information systems and complaints handling procedures actively obstruct public scrutiny and formal recourse.

- **Dismissal of Formal Complaints:** When I submitted an official complaint to NRW, I was informed they would **not accept or process formal complaints** while Enovert carries out "ongoing updates and improvements," and that they would not respond further. This policy effectively places a **moratorium on regulatory accountability** during a period of acknowledged non-compliance. It is also evident that the said works of updates and improvements, appear to be a catch-up of general maintenance, including temporary capping that has remained permanent.
- **Ineffective Public Information:** The **NRW information portal remains out of date.** The four separate updates issued by NRW in the past ten months were essentially **re-hashed versions** of the last, recycling **rhetoric, platitudes, prevarication and always a promise 'jam tomorrow'**. This demonstrates avoidance, not transparency.
- **Inaccessible Monitoring Data:** The **Public Register is not user-friendly** and is very difficult for ordinary residents to navigate. Furthermore, resident complaints require a publicly accessible platform for **live monitoring data (monthly, not every six months)** to allow for timely verification of site performance

4. Escalation to Ombudsman

Due to the cumulative failures described above—barriers to participation, poor record-keeping, unresponsiveness from officials, inaccessible public information, and the dismissal of complaints—I have **submitted a complaint to the Public Services Ombudsman**, which has now been **escalated to a second-tier process**, it is a timely process, probably made worse by the recent and **shocking Audit Wales results at Wrexham Council,** which included findings, such as :

- **Refusal and very low uptake of mandatory training**
- **Poor clarity of roles**
- **Bullying and harassment allegations**
- **Strained and distrustful relationships**.
- **Ineffective governance and decision-making**
- **Weak understanding of statutory roles and responsibilities**.
- **Persistent lack of attendance at core training**

- **Unhelpful blame culture**
- **Fractured internal relationships**

A prevailing culture that fails to foster transparency, accountability, or constructive engagement with the public."

Conclusion and Recommendations

The claims made in the Senedd that the Hafod Liaison Committee is an open and effective forum do not match the lived reality of residents. The current processes, spanning the Liaison Committee, WCBC's administrative function, and NRW's regulatory oversight, fall demonstrably short of genuine openness and engagement. If any resident were asked what their opinion of the NRW, Enovert and the Council communication and transparency, I could not put the answer into print!

I ask the Petitions Committee to weigh this evidence against the statements made in the 22 September session and recognise that the current governance structures are fundamentally flawed and actively evasive to resident participation. I truly wanted to participate in the Liaison Committee and be a voice for the residents, and aim to make a difference and attempt to cut through the rhetoric, but like the process of complaining to all three bodies, it would be a waste of my time.

Recommendations for the Senedd Committee:

1. **Mandate Public Accessibility and Minutes:** Direct WCBC and Enovert to ensure that they comprehensively and proactively published minutes of the Liaison and Scrutiny Committee meetings on the NRW and WCBC website within 14 days of each meeting.
2. **Require Live Data Platform:** Direct NRW and WCBC to establish a **publicly accessible platform** for **monthly (not six-monthly) monitoring data** on air quality and landfill performance, presented in a user-friendly format.
3. **Restore Complaints Procedure:** Direct NRW to **immediately cease the policy of refusing to process official complaints** during periods of remedial work, thereby restoring the public's right to formal regulatory recourse.
4. **Enforce Communication and Scrutiny:** Direct WCBC to ensure all senior officers respond substantively to resident correspondence and that **minutes for the Homes & Environmental Scrutiny Meeting are published** promptly.

Steve Gittins

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Interrogation of September 22nd Inquiry Transcript

Submitted by Steve Gittins **Date:** 21st October 2025

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1. Introduction and Core Justification

1.1. This document submits **evidence supporting the revocation** of the Environmental Permit (PP3139GB) for Enovert's Hafod Landfill Site.

1.2. The community has suffered from persistent and excessive **Hydrogen Sulphide (H2S) (rotten egg) odour** for nearly two decades.

1.3. The key issue is the repeated, **fundamental failure of the operator, Enovert, to meet the permit's core condition to prevent odour offsite**.

1.4. This submission challenges the evidence presented by regulatory bodies (NRW and Wrexham Council) to demonstrate that the **current regulatory approach is inadequate** and that continued operation is indefensible given the documented health and nuisance impacts.

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2. Failure to Uphold Permit Conditions

2.1. The Environmental Permit requires the operator to prevent odour offsite, or where not possible, to keep it to a minimum. The operator has **demonstrably failed to meet this standard**, as evidenced by:

2.1.1. **Systemic Odour Nuisance (1 ppb Threshold):** A joint report by Wrexham Council and Enovert itself confirmed that H2S exposure levels **exceeded the 1 parts per billion (ppb) benchmark for 63% of the monitoring period** (March to August). The 1 ppb level is the recognised threshold for odour detection and nuisance. Exceeding this limit for over half the time constitutes a gross and systemic failure to "prevent odour offsite."

2.1.2. **High-Level Nuisance Threshold Breaches (4.7 ppb Threshold):** The same report showed that H2S levels **exceeded 4.7 ppb for 34% of the monitoring period**. The 4.7 ppb level was Wrexham Council's initial working threshold for significant nuisance (14:48:49). Breaching these elevated level demonstrates not just continuous odour, but frequent and prolonged periods of severe, unacceptable air quality impact.

2.1.3. **Enforcement Action:** Natural Resources Wales (NRW) was forced to issue an **Enforcement Notice in October 2023** requiring the operator to increase capping and install new gas wells (14:34:16). Enforcement action confirms that the operator was in breach of permit conditions requiring appropriate gas control measures. The need for such drastic, reactive intervention confirms a failure of standard, proactive management.

2.1.4. **Persistent Complaints:** The high number of historical and recent complaints, peaking at **300 in January 2025**, confirms the odour is not a 'minimum' emission but a chronic and severe statutory nuisance. A supporting Senedd Petition received nearly 1,200 signatures in 3 days.

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3. Interrogation of Regulatory Evidence (NRW & Wrexham Council)

3.1. Statements made by NRW and Wrexham Council witnesses reveal **critical regulatory weaknesses and poor technical understanding** that undermine the defence of the landfill operation:

A. Regulatory Standard Conflict and Acceptance of Offsite Odour (NRW)

3.2. **Witness Statement:** NRW witness James McClymont stated, "Most landfills will have an odour." (14:31:12).

3.3. **Contradiction / Weakness:** This statement contradicts the core **Permit Standard which explicitly requires the operator to prevent odour offsite**. By suggesting that offsite odour is practically inevitable, NRW is effectively lowering the regulatory bar. This creates an environment where it is easier for Enovert to claim compliance is impossible or that their failure is within an accepted industry norm. The regulatory objective must be zero offsite nuisance odour.

3.4. **Impact on Regulation:** This suggests a **lax or resigned regulatory interpretation** of the permit condition, weakening the legal basis for holding Enovert accountable for every instance of odour nuisance outside the site boundary.

B. Deficient Technical Understanding of Leachate and Rainfall (NRW)

3.5. **Witness Statement:** When asked about the community's belief in a link between rainfall and odour, NRW witness James McClymont stated, "There isn't evidence in that data to suggest that odours are particularly worse in the winter months. So, it doesn't appear that that has an impact." (14:38:29).

3.6. **Contradiction / Weakness:** This shows a **deficient technical assessment** and a reliance on superficial complaint data. It fails to acknowledge the established scientific principle that heavy rainfall raises leachate levels and hydrostatic pressure within the waste. This pressure physically forces landfill gas (including H2S) through cracks in the capping, leading to fugitive emissions. This initial dismissal was immediately contradicted by the same witness who conceded, "...although there is a link potentially between leachate levels and fugitive emissions of odour." (14:38:53).

3.7. **Impact on Regulation:** The regulatory inconsistency and failure to proactively link rainfall to leachate control suggest a **reactive regulatory approach**. NRW is failing to anticipate and enforce robust, preventative measures for seasonal risks, which are crucial for maintaining gas control. *See Document SG#02 attached.*

C. Flaws in Air Quality Monitoring Data Reliability (Wrexham Council)

3.8. **Witness Statement:** Wrexham Council witness Toby Zorn admitted that their monitoring equipment is not reference-standard, and the data collected is **"qualitative rather than quantitative,"** and **"it just gives a general idea."** (14:47:55-14:48:34).

3.9. **Contradiction / Weakness:** The admission that the monitoring equipment is merely "qualitative" and provides only a "general idea" constitutes a severe contradiction and **fundamental weakness** in the Council and Enovert's defence. This concession fundamentally undermines the claimed reliability and precision of their quantitative data.

3.10. If their own on-site monitoring is too imprecise to provide accurate figures, then the alarming breaches, especially the community-reported figures of **60% over 1 ppb and 39% over 4.7 ppb**, must be considered potential underestimates. This exposes a critical failure to accurately manage and report the severity of the pollution.

3.11. **Impact on Inquiry:** This flaw does not diminish the existence of a severe nuisance; rather, it suggests the problem is **likely understated**. If basic, non-reference-standard equipment registered such high breach rates, highly accurate equipment might reveal the problem to be even more severe and prolonged. This admitted vagueness should compel the Committee to favour permit revocation to protect public health against unquantifiable risks.

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4. Conclusion and Call for Permit Revocation

4.1. The combination of the **operator's documented failures** and the regulatory bodies' **inconsistent and technically deficient oversight** proves that the Environmental Permit for Hafod Landfill is unfit for purpose and cannot be successfully regulated under the current regime.

4.2. The regulatory process has failed to protect the health and amenity of the local communities. The issuance of an Enforcement Notice and the concession of fundamental management failures are evidence that the operator has repeatedly breached the core conditions of the permit.

4.3. **Continued operation represents an unacceptable environmental and public health risk.**

4.4. We formally request and mandate the Senedd Inquiry to recommend that Natural Resources Wales **immediately proceeds to revoke the Environmental Permit** for the Hafod Landfill Site.

4.5. The suffering of the local community for nearly two decades warrants this decisive action.

Steve Gittins.

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Health Risks

Submitted by Steve Gittins **Date:** 21st October 2025

1. Introduction

Hydrogen sulphide (H_2S) is a colourless gas with a distinctive "rotten egg" odour at low concentrations. Although detectable by smell before toxic effects occur, H_2S is hazardous to multiple organ systems, particularly the respiratory and nervous systems.

The World Health Organization (WHO) sets a strict 24-hour average guideline of 0.001 ppm (1 ppb) to protect public health. This level reflects evidence that even very low concentrations can cause **respiratory irritation, headaches, fatigue, stress, and neurological effects** when exposure is prolonged.

In addition, the WHO specifies:

- **30-minute guideline: 0.005 ppm (5 ppb)** – to prevent odour annoyance and acute irritation.

Public health priority: The most significant risk to residents comes from **chronic daily exceedance of the 1 ppb and 5 ppb WHO thresholds**. Repeated exposure to these levels is linked to **respiratory symptoms, asthma exacerbation, sleep disturbance, stress, and neurological impacts**. Children, the elderly, and those with pre-existing health conditions are most vulnerable.

This report evaluates measured community pod H_2S concentrations (March–September 2025) against WHO thresholds and discusses the potential health risks, with emphasis on the **cumulative impacts of chronic exceedance**.

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2. Data Overview

Figure 1. Community pod hydrogen sulphide levels compared with WHO guidelines. Data: Enovert & Wrexham Council, 2025 (as presented to the Senedd inquiry, 22 September 2025).

- **Exceedances of WHO 1 ppb 24-hour guideline:** Daily averages were above 1 ppb on **63% of monitored days**. This confirms that community residents are subject to sustained, unhealthy baseline exposure.
- **Exceedances of WHO 5 ppb 30-min guideline:** Peaks above 5 ppb occurred on **34% of monitored days**, showing that short-term spikes in odour and irritation are also a regular occurrence.

3. Health Risk Interpretation by Peak Levels

- **Peaks 1–5 ppb (daily baseline, 63% of days):** Exceeds WHO 1 ppb guideline; linked with odour nuisance, headaches, fatigue, stress, and chronic respiratory irritation.
- **Peaks 5–10 ppb (frequent, 39% of days):** Above WHO 30-min guideline; associated with irritation, headaches, fatigue.
- **Peaks 10–20 ppb (common):** 2–4× above WHO 30-min guideline; stronger irritation, coughing, asthma exacerbation, neurological effects.
- **Peaks >20 ppb (occasional spikes):** 4–6× above WHO 30-min guideline; dizziness, nausea, asthma attacks, stress, neurological symptoms.

4. Health Effects of Exceedances

Concentration Range (ppb)	Exceeds WHO Guideline	Frequency	Short-term Effects	Chronic / Repeated Exposure Effects
1–5 ppb	✓ (1–5× above 24-hr guideline)	**63% of monitored days**	Headaches, fatigue, odour annoyance, mild respiratory irritation	Persistent sleep disturbance, stress, reduced quality of life
5–10 ppb	✓ (above 30-min guideline)	**39% of monitored days**	Eye, nose, throat irritation; headaches; mild fatigue	Chronic odour nuisance; asthma exacerbation; stress-related health issues
10–20 ppb	✓ (2–4× above 30-min guideline)	Common	Coughing, throat discomfort; asthma exacerbation	Chronic cough, bronchitis-like symptoms; neurological issues (irritability, poor concentration, memory loss)
20–30 ppb	✓ (4–6× above 30-min guideline)	Occasional	Dizziness, nausea; asthma attacks; strong odour stress	Neurological symptoms (headaches, poor sleep, reduced concentration); potential reduced lung function

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5. Broader Health Implications

- **Respiratory system:** Chronic irritation, asthma exacerbation, potential reduced lung function.
- **Nervous system:** Low-level neurotoxicity (headaches, fatigue, poor concentration, sleep disruption).
- **Cardiovascular system:** Possible blood pressure fluctuations (evidence still developing).
- **Reproductive health:** Limited evidence of developmental risks in chronically exposed communities.
- **Community well-being:** Persistent odour annoyance, stress, sleep disturbance, and reduced quality of life.

6. Key Findings

1. **Community exposure consistently exceeds WHO's 24-hour guideline (1 ppb).**
    - Exceeded on **63% of monitored days**.

    - Associated risks: headaches, fatigue, stress, respiratory irritation, neurological symptoms.
2. **Frequent peaks exceed WHO's 30-min guideline (5 ppb).**
    - Recorded on **39% of monitored days**.
    - Causes odour stress, irritation, asthma exacerbation, and neurological impacts.
3. **Chronic exceedances are the central concern.**
    - Sensitive groups (children, elderly, asthmatics) are most vulnerable.
    - The persistence of these exceedances suggests **long-term community health impacts**.

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7. Recommendations

- **Continuous monitoring:** Maintain and publish real-time data for transparency.
- **Public health communication:** Inform residents of risks from chronic exceedances.
- **Mitigation measures:** Urgently reduce H_2S emissions from landfill operations.
- **Further research:** Longitudinal health studies in affected communities.

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8. Conclusion

The data supplied by Enovert and Wrexham Council (2025), presented to the Senedd inquiry on 22 September 2025, show that **chronic exceedances of WHO's 1 ppb (24-hour) and 5 ppb (30-min) guidelines are real, frequent, and significant to community health**.

- **63% of days** exceeded the WHO 1 ppb health protection threshold.
- **34% of days** exceeded the WHO 5 ppb acute irritation threshold.

Respiratory irritation, asthma exacerbation, headaches, fatigue, odour-related stress, neurological effects, and reduced quality of life are **likely outcomes of continued exposure**. Immediate mitigation and protective actions are justified.

Document No
SG#07

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Challenging Claims of Regulatory Compliance in Reports by NRW, Enovert, PHW, and WCBC.

Submitted by Steve Gittins : Date : 21st October 2025

The report synthesizes the four written submissions to the Senedd Petitions Committee, using key hydrogen sulphide (H2S) monitoring data to argue that claims of **regulatory compliance and acceptable management** by Natural Resources Wales (NRW), Enovert, Public Health Wales (PHW), and Wrexham County Borough Council (WCBC) are **called into question** by the evidence.

1. The Discrediting Monitoring Data: A Failure of Containment

1.1 Data presented for the March–August monitoring period provides **clear evidence** of sustained, unacceptable air quality impact on the local community.

Monitoring Threshold	Exceedance Rate (March–August)	Implication for Management
1 ppb (H2S Detection Limit)	60% of monitoring intervals	Highly frequent exposure to detectable, foul odour.
4.7 ppb (H2S Odour Annoyance Threshold)	39% of monitoring intervals	Chronic exposure to levels recognized by PHW as causing annoyance.

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1.2 The fact that the regulatory system has allowed the odour annoyance threshold to be breached for nearly **63% of the monitoring period** is the core evidence used to **challenge** all claims of successful management or adequate compliance.

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2. Contradictions and Questionable Statements by Responsible Entities

A. Natural Resources Wales (NRW): Regulatory Inaction

2.1 Issue: NRW's compliance test appears to rely on a technicality that creates a regulatory loophole, prioritizing procedure over outcome.

NRW Position (Vague Technicality)	Critique (Management Failure)
Compliance is met if the operator is "taking appropriate measures," even if odour is	This definition **may be considered a form of "institutional evasion."** The 63% exceedance rate of the annoyance threshold is empirical proof that the operator's measures are **demonstrably not appropriate or effective.** NRW's failure to issue breaches despite this

NRW Position (Vague Technicality)	Critique (Management Failure)
present off-site (no breach recorded).	sustained air quality failure **constitutes an insufficient management** of the environmental permit.
Enforcement Notices were issued and audits conducted.	The notices and audits **failed to prevent** the subsequent crisis peak of 240 complaints in January 2025 and the continued 63% H2S exceedance. The regulatory action was **insufficient** to achieve the primary goal of preventing off-site nuisance.

Export to Sheets

B. Enovert: Questionable Operational Claims

2.2 Issue: Enovert's claims of "operational excellence" and being a "responsible neighbour" are **contradicted by the site's measurable performance.**

Enovert Position (Claim)	Critique (Management Performance)
Enovert has completed 32 works and is committed to "operational excellence."	This claim is **not compatible with the measured data.** Operational excellence is not compatible with a site that exceeds the odour annoyance threshold 63% of the time over five months and generates hundreds of complaints. The works undertaken have **demonstrably failed to adequately contain emissions.**
The site is appropriately regulated and complies with the permit.	Compliance with a flawed permit definition **does not equate to acceptable management.** The 63% detection rate shows a **profound, sustained failure** of the gas management infrastructure, directly resulting in community distress.

Export to Sheets

C. Public Health Wales (PHW): Flawed Health Assessment

2.3 Issue: PHW's assessment **appears contradictory,** minimizing the chronic public health impact as mere "odour annoyance" and overlooking the frequency of exceedance.

PHW Position (Contradiction)	Critique (Assessment Critique)
The long-term health risk is low, and the primary impact is "odour annoyance."	This assessment **minimizes the impact.** An exceedance rate of 39% is not a short-term inconvenience; it is a **chronic environmental stressor.** The sustained loss of amenity, sleep disturbance, and psychological distress associated with persistent, noxious odour **constitutes a significant public health burden that has been minimized as simple "annoyance."**
Confirmed that the 4.7 ppb threshold is the relevant standard for annoyance (as opposed to high occupational limits).	By confirming this low-level standard, PHW simultaneously confirms the **unacceptable nature of the site's performance against its own standard.** The monitored data demonstrates that the community is being subjected to conditions PHW acknowledges as unacceptable for 63% of the time.

D. Wrexham County Borough Council (WCBC): Conflicting Stance

2.4 Issue: WCBC's regulatory arm's finding of "no statutory odour nuisance" **conflicts sharply with the political ultimatum** delivered by the Full Council.

WCBC Position (Regulatory Conflict)	Critique (Failure of Local Leadership)
Public Protection officers concluded "no statutory odour nuisance currently exists."	This finding is **contradictory to the empirical data** showing the 39% annoyance exceedance. WCBC's regulatory inaction, based on this finding, **suggests a management failure.**
Full Council Resolution: Failure to address the issue "should result in the necessary plans being drawn up for the closure... of the Hafod site."	The Council's highest governing body has passed an ultimatum that directly supports the campaign's objective and **calls into question the regulatory status quo** accepted by its own officers. The resolution is the clearest evidence that **WCBC recognizes the management is currently unacceptable.**
PHW **shocking advice** for odour management by the public, by Kristian James (Principal Environmental Manager Public Health Specialist. residents	During the Homes and Environmental Scruting Committee Meeting on April 29th 2029 Mr K James suggested that residents should **simply vacate the area and subsequently see doctor**. Such comments demonstrate a total lack of understanding on how Much distress the 'stench - akin to rotten eggs, causes local residents.

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3. Summary of Campaign Evidence

3.1 The four submissions, when reviewed against the H2S monitoring data, **do not demonstrate adequate compliance or effective management.** Instead, they provide evidence of:

- **Systemic Failure:** NRW's regulatory process **appears to prioritize operator effort over environmental outcome,** enabling a regulatory gap.
- **Unacceptable Nuisance:** The **39% exceedance rate** of the odour annoyance threshold is a quantifiable measure of persistent, chronic nuisance, **which challenges** all claims of successful mitigation by Enovert.
- **Conflict of Duty:** PHW and WCBC have either **minimized the health impact or failed to use their full powers,** creating a disconnect between official findings and the severe community impact.

Steve Gittins

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Challenge PHW's "Low Level Risk" Statement

Immediate Reinforcement from Monitoring Data: The data within **Table B on Document SG#01, page 3**, for real-time monitoring data provides irrefutable visual evidence that the fugitive emissions **routinely and significantly exceed** the WHO guidelines for odour and health. The graph demonstrates that concentrations are consistently **well above the 1 ppb and 5 ppb thresholds** and frequently surpass the **WHO Nuisance/Health Threshold**, with peaks reaching up to. This real-time evidence is fundamental to discrediting the Public Health Wales (PHW) conclusion that the long-term (lifetime) health risk is low, a conclusion based only on data showing concentrations below the lowest health criteria.

This conclusion can be discredited as premature and potentially misleading because it seems to ignore or downplay the limitations of the data gathering methods, particularly the ambient real-time monitoring, and the critical difference between chronic (long-term) and acute (short-term) health effects.

1. Neglecting Acute Health Risk from Peak Exposures

The diffusion tube data is explicitly stated to provide averaged concentrations over a defined period (approx. 4 weeks), making it primarily suitable for assessing chronic (long-term/lifetime) risks.

- The lowest health criteria value is for **lifetime exposure**, which is what the diffusion tubes are compared against.
- PHW's conclusion focuses on the long-term (lifetime) health risk being low.

However, Hydrogen Sulphide is an irritant and a major cause of odour annoyance, sleep disruption, and stress at levels below chronic health guidelines. Short-term, high-concentration (**acute**) exposures, which are not adequately captured by the long-term averages of the diffusion tubes, can lead to:

- **Odour Nuisance & Statutory Exceedance (1 ppb & 5 ppb Correlation):** The human nose can detect at very low levels, often less than 1ppb. The monitoring data confirms routine exceedances of 1ppb and 5ppb levels, that can cause **statutory odour nuisance** or annoyance-related health effects (e.g., headaches, nausea, stress, sleep disturbance). This is the direct correlation between these exceedances and community impact.
- **Acute Health Risks (and Above Correlation):** The Table shows concentrations consistently exceeding the Nuisance/Health Threshold. These high-level, short-term exposures represent a significant **acute health risk**, as is an irritant, causing direct symptoms such as eye and respiratory irritation.

Diffusion Tubes as a Misdirection for Ambient Exposures

PHW have incorrectly used Diffusion Tube monitoring data to arrive at a Low Risk assessment. This is a misdirection in terms of ambient human exposure because they mask the **temporal variability and acute peaks** of concentration (clearly demonstrated in the community pod graph), which are the main drivers of community complaints and acute health effects (odour-related annoyance).

Why Diffusion Tubes are Limited:

- **Averaging:** Diffusion tubes only provide a long-term average (approximately 4 weeks). This averages out high peaks with periods of zero or low concentration. A single, very high spike of over over an hour, as seen in the graph, might be undetectable in a 4-week average, yet that spike could cause severe odour nuisance, nausea, or headache for a resident.
- **Focus on Chronic Risk:** They are appropriate for assessing chronic (long-term) health risk, but **inappropriate** for assessing acute (short-term) health effects and odour nuisance, which are the dominant concerns around landfill gas.

The and Context:

- The health criterion is for lifetime exposure—what the diffusion tubes are compared against.
- The level is the approximate lower limit of detection/accuracy for the real-time pods. This means the most important range for community exposure—the levels that cause frequent odour complaints (often below but higher than the tube average of) and any transient peaks up to —is not reliably measured by either method currently presented as "quantitative."

Conclusion on Misdirection:

By presenting the diffusion tube data as the primary quantitative evidence for the "low risk" conclusion, the report draws focus away from the more relevant **acute exposures** captured by the real-time data (AQMesh pods) and the community's lived experience of odour. The graph confirms that emissions are not low-level transient events, but **frequent, high-intensity spikes** which drive statutory nuisance and acute health symptoms. The absence of reliable real-time data below is the biggest informational gap, which the positive reporting of the diffusion tube results risks obscuring.

In summary, while the diffusion tubes accurately suggest a low long-term risk, relying on this data to conclude an overall "low level risk" is a misdirection because it **fails to capture the acute, high-level exposures** that cause the majority of public health impact and annoyance in a landfill context.

Steve Gittins

Submission to the Senedd Petitions Committee Inquiry: Hafod Landfill Site (Petition P-06-1510)

Report on Complaint Fatigue and the Misinterpretation of Statutory Nuisance Data

1. Definition and Core Mechanism of Complaint Fatigue

Complaint Fatigue is a term describing the **emotional and psychological exhaustion** that individuals experience when they repeatedly engage in a process to report a problem or seek a resolution, but consistently fail to achieve a satisfactory outcome. It is a form of learned helplessness and burnout directly resulting from the chronic failure of a reporting and resolution system.

The fatigue acts as a **masking factor** that hides the true scale and persistence of a problem, such as a statutory nuisance.

2. Root Causes of Complaint Fatigue in Nuisance Cases

The analysis identifies three primary, multifaceted causes for the onset of complaint fatigue, particularly relevant in chronic issues like persistent odours:

2.1. Perceived Ineffectiveness and Lack of Response

- **Wasted Effort:** When individuals report a persistent nuisance (e.g., a stench) but see **no substantial change** in the conditions, the act of complaining becomes a **futile effort**. This repeatedly reinforces the belief that the system is broken and that their reports are not being taken seriously.
- **Apathetic Response:** Negative interactions with the reporting system, such as apathetic or dismissive staff, turn the act of reporting into a **source of additional stress** rather than a step toward relief. This actively drains a person's willingness to engage further.

2.2. High Transactional Cost (The Burden of Reporting)

- **Time and Mental Load:** When residents are instructed to report an issue repeatedly (e.g., "six times a day"), the **transactional cost** of complaining becomes excessively high. Reporting requires constant interruption, recalling details, and navigating the process, imposing a **significant time commitment and taxing mental burden**.
- **Cognitive Dissonance:** The need to repeatedly confront both the problem (the nuisance) and the failure of the system (the ineffective reporting line) leads to a desire to **simply disengage** to protect one's own mental well-being from this constant confrontation.

2.3. Loss of Confidence and Trust

- **Erosion of Trust:** Successful resolution is essential for maintaining **public trust** in regulatory bodies and local government. Consistent failure to resolve the issue causes residents to lose confidence not only in the effectiveness of the process but also in the **sincerity of the authorities' commitment** to solving the problem.

- **Feeling Unheard:** The perceived dismissal of their reports or the lack of demonstrable action leads citizens to feel **unheard** and marginalized.

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3. The Central Danger: Misinterpretation of Complaint Data

The most significant danger of complaint fatigue is its effect on official metrics and decision-making.

Indicator	Official Interpretation (Dangerous)	Reality (Due to Complaint Fatigue)
Drop in Complaints	Sign of **improvement**; problem is being reduced or eradicated.	Sign of **citizen retreat**; people have simply given up on a broken, ineffective system.
Low Complaint Count	Problem is isolated, minor, or not persistent enough to be statutory.	Problem is **chronic and severe**, but the reporting burden is too high or the system is completely distrusted.

Citizen Retreat as a Masking Factor

When bodies focus on a reduced complaint count while residents acknowledge reporting fatigue, it highlights a profound **disconnect** between official data interpretation and community reality.

- The true measure of a **statutory nuisance** is the **persistence of the problem itself**, not the volume of *current* complaints.
- Complaint fatigue creates a feedback loop where an ineffective reporting system *rewards* itself with a low complaint count, which it then uses as evidence of its *success*. This completely **misrepresents the true scale and impact** of the ongoing nuisance on the affected community.

Examples of Case Studies of Complaint Fatigue

Core Principle (The Strap-line) of Complaint Fatigue

"A drop in complaints does not signify problem resolution; it often signals citizen retreat from a broken system."

Case Study 1: Housing Ombudsman – Noise Nuisance and Mental Health Crisis

- **The Problem:** A vulnerable resident suffered nine months of severe noise nuisance (a statutory nuisance category).
- **Complaint Fatigue Factors:** The resident filed **18 noise reports** and sent in numerous recordings, facing an excessively **High Transactional Cost**.
- **System Failure & Misinterpretation:** Despite a physical inspection confirming **"considerable transmission"** of noise, the landlord repeatedly responded with generic letters and **closed the case 10 days before the resident took their own life.** The system failed to recognise the crisis driven by the unrelieved nuisance and the exhausting reporting process.

- **Official Finding:** The Housing Ombudsman found **severe maladministration**, underscoring the failure to apply a "tailored approach" to the suffering masked by repetitive, draining reports.

Case Study 2: Housing Ombudsman – Spotlight on Noise Complaints (Systemic Fatigue)

This thematic report provides systemic evidence of the complaint process itself contributing to fatigue:

- **The Diary Sheet Burden:** The report criticizes the requirement for residents to complete **"countless diary sheets to no avail,"** a clear example of the **High Transactional Cost** factor.
- **Erosion of Trust:** Landlords' tendency to dismiss genuine suffering by labelling severe household noise as "low level" if it didn't meet the high statutory threshold invalidated the residents' experience, leading to **Loss of Confidence and Trust**.

Case Study 3: Local Authority Environmental Health (Systemic Avoidance)

Analysis of the UK's statutory nuisance procedure identifies systemic issues that trigger **Citizen Retreat**:

- **Failure to Investigate:** Research cited the pressure on local resources, leading to the **"quick closure of some complaints"** and one case of an unlawful policy that resulted in **over 6,000 noise complaints not being investigated**.
- **The Masking Effect:** This systemic avoidance demonstrates how **Perceived Ineffectiveness** leads to a low complaint count, which is then used to falsely justify reduced regulatory action, **misrepresenting the true scale** of the environmental problem.

In summary, a reduction in complaints due to fatigue is not an indicator of a successful reduction in statutory nuisance; it is a critical indicator of a failed or exhausted public engagement process.

Steve Gittins

Summary of Submission to the Petitions Committee Inquiry: Justice for Hafod Landfill Communities

This submission is a **heartfelt, final, fervent call for justice** for the families surrounding Hafod Landfill. The communities have been subjected to years of unacceptable, persistent, and harmful exposure to the stench of "rotten eggs" (H2S). The attached evidence proves that **Enovert, Natural Resources Wales (NRW), and Wrexham Council** have failed in their duty, offering only **"bureaucratic shrugs of inaction"** while condemning current and future generations to decades more of this environmental blight.

SG#01: Misleading Presentation of Compliance Data

- **Data Manipulation:** The operator's (Enovert) presentation of air quality data was **misleading and potentially manipulative** by focusing on the percentage of readings *below* compliance thresholds, thereby **omitting the actual failure rate** (exceedance).
- **High Failure Rates:** The Community Pod had a measured **63% failure rate** (exceedance) at the 1 ppb hydrogen sulfide (H_2S) threshold, and the Entrance Pod had a **66% failure rate**.
- **Chronic Exposure:** This non-compliance is chronic, translating to the lower 1 ppb threshold being exceeded for **over 15 hours per day** at the Community Pod, and the more concerning 5 ppb threshold being exceeded for **over 8 hours per day**.
- **Visual Obscurement:** Graphs visually obscured the severity of the problem by using a **compressed, dense vertical scale** (up to 100 ppb) that minimized the impact of frequent exceedances above the WHO Nuisance Threshold (4.7 ppb).

SG#02: Correlation of Rainfall & H_2S Emissions

- **Scientific Correlation:** There is a scientifically established and robust link between **heavy rainfall, rising leachate levels, and fugitive H_2S emissions**. Rainfall raises leachate levels, which creates anaerobic conditions for **sulfate-reducing bacteria (SRB)** to produce H_2S, and the elevated leachate pressure forces these gases through the capping.
- **Climate Risk: Climate change** projections, which forecast increased extreme rainfall in Wales, will **significantly amplify** the future volume and persistence of H_2S emissions, making the current site status unsustainable.
- **Regulatory Disconnect:** Senior **Natural Resources Wales (NRW)** officials showed a **troubling disconnect** by appearing reluctant to acknowledge this core scientific principle, relying instead on superficial complaint data to dismiss the correlation.
- **Revocation Call:** The submission argues that this failure to manage known scientific risks, compounded by the climate threat, is grounds for the **immediate revocation of the Environmental Permit**.

SG#03: Sniff Testing - Discrepancy of Monitoring

- **Failure of Subjective Testing:** The regulatory **"sniff tests" are definitively discredited** by objective, real-time air quality monitoring data.
- **Non-Compliance with Standards:** The continued use of **paper-based logs** and **un-screened, uncalibrated assessors** after May 2017 violates the standards of **EN 16841** and **EN 13725**, representing a failure to apply **Best Available Techniques (BAT)**.
- **Evidential Conflict:** Objective monitoring showed H_2S peaks well above the odour threshold for 63% of the time, directly **contradicting historic weekly field reports** that frequently recorded "No Odour" or "Very Faint Odour" during the same periods.
- **Critical Request:** The document requests that the Committee mandate the production of **training and qualification records** for all odour assessors and **full, unredacted copies of all weekly sniff test logs** (2003–present) to verify compliance with modern standards.

SG#04: Transparency and Engagement Failures

- **Systemic Failure:** Claims of "openness" and "resident engagement" are false, demonstrating a **systemic failure** of transparency and accountability across Wrexham County Borough Council (WCBC) and NRW.
- **Exclusion from Liaison Committee:** The **Hafod Liaison Committee** operates as a **"closed mechanism,"** evidenced by the author's formal request to attend and participate being **declined without explanation**.
- **Regulatory Obstruction: NRW actively refuses to process official formal complaints** during a period when the operator is undertaking remedial work, which effectively places a **moratorium on regulatory accountability**.
- **Communication Breakdown:** Senior WCBC officials have been **unresponsive** to resident correspondence and are not proactively publishing essential public records like Liaison Committee or Scrutiny Meeting minutes.

SG#05: Interrogation of Transcripts - 22nd September Inquiry

- **Permit Breach:** The operator fundamentally failed to meet the permit's core condition to prevent odour offsite, with H_2S levels exceeding the **1 ppb odour threshold for 63% of the monitoring period** and the **4.7 ppb severe nuisance threshold for 34%** of the period.
- **Regulatory Standard Conflict:** NRW weakened the permit standard by stating that "Most landfills will have an odour," thereby creating an environment where it is easier for the operator to claim that their failure is within an accepted industry norm.
- **Deficient Technical Oversight:** NRW's initial dismissal of the scientific link between rainfall, leachate, and H_2S emissions was later contradicted, showing a **deficient technical assessment** and a reactive approach to enforcement.

- **Unreliable Data:** A Wrexham Council witness admitted that their air quality monitoring equipment is **"qualitative rather than quantitative"** and provides only a **"general idea,"** fundamentally undermining the reliability and precision of the data used in the defense of the landfill operation.

SG#06: Health Risks

- **Chronic Health Exceedances:** Community exposure consistently exceeds World Health Organization (WHO) guidelines, justifying immediate protective action.
- **WHO Threshold Breaches:**
    - The **WHO 1 ppb 24-hour average guideline** (to protect public health) was exceeded on **63% of monitored days**.
    - The **WHO 5 ppb 30-minute guideline** (to prevent acute irritation) was exceeded on **34% of monitored days**.
- **Health Impact:** Repeated and chronic exposure is linked to **respiratory irritation, asthma exacerbation, headaches, fatigue, sleep disturbance, stress, and neurological symptoms**.
- **Vulnerability: Children, the elderly, and those with pre-existing conditions** are the most vulnerable to these chronic exceedances.

SG#07: Challenging Claims of Regulatory Compliance

- **Synthesis of Failure:** This document synthesizes previous arguments, stating that claims of compliance by all four bodies (NRW, Enovert, PHW, and WCBC) are challenged by a **trio of defects**:
    1. **Operator Management Failure:** Persistent, unmanaged **H_2S emissions**.
    2. **Regulatory Technical Failure: Dismissal of the rainfall/leachate link** despite scientific evidence.
    3. **Regulatory Procedural Failure: Refusal to process formal complaints**.
- **Core Data Summary:** Exceedances of the H_2S detection limit (1 ppb) occurred in **60%** of monitoring intervals, and the severe nuisance threshold (4.7 ppb / 5 ppb) was exceeded in **34%** of intervals.

SG#08: Challenging PHW 'low risk' statement - using Diffusion Tubes

- **Unjustified Conclusion:** Public Health Wales's (PHW) initial statement of a **'low risk'** from H_2S exposure is **unjustified and incorrect** given the actual monitoring data.
- **Inadequate Monitoring:** PHW's low-risk conclusion was primarily based on **passive diffusion tubes**. Diffusion tubes only measure a **long-term average** and are inherently **incapable of capturing the peak concentrations** of H_2S that cause acute health and odour impact.

- **Peak Conflict:** The continuous monitors recorded extreme H_2S peaks (up to **29.16 ppb** in the community and **258.85 ppb** at the entrance) that diffusion tubes fail to register.
- **Precautionary Principle:** By dismissing the risk based on inadequate monitoring methods, PHW **failed to apply the precautionary principle** to protect public health.

SG#09: Complaint Fatigue

- **False Negative:** The reduction in official odour complaints does **not** signify a reduction in the nuisance, but is a symptom of **'Complaint Fatigue'**.
- **Mechanism:** Complaint fatigue is the result of residents becoming **psychologically exhausted** from the **non-response, inaction, and perceived futility** of submitting complaints.
- **Objective Proof:** This fatigue is confirmed by the continued high rate of **objective H_2S exceedances (63% over 1 ppb)**, which demonstrates that the **underlying environmental and health nuisance persists unchanged** despite lower complaint volumes.
- **Recommendation:** To avoid misinterpreting lower complaint numbers as mitigation success, odor assessment must prioritize **objective, verifiable monitoring data** (sensor readings) over raw complaint figures

Conclusion and Demand for Decisive Action

The evidence is clear: the Hafod Landfill operation is in **frequent, sustained, and unacceptable breach of public health standards**. The attempts to obscure the severity of these breaches through misleading data presentation and bureaucratic delay must end.

We demand the Petitions Committee act decisively to secure justice, not only for what the communities have suffered but for our children and grandchildren who face another 35 years of this blight. The only commensurate regulatory response to this persistent and unmanageable failure to protect public health is to **mandate immediate corrective action** via an **Abatement Notice**, with the ultimate recourse being **revocation of the environmental permit.**

A permit that shields pollution, instead of providing regulatory and public protection, betrays it's very purpose, and therefore must be revoked.

Steve Gittins

21st October 2025.

Addendum to Doc#01

The document attempts to downplay the significance of higher Hydrogen Sulphide readings by focusing on the limitations of the monitoring equipment (pods) at low concentrations. However, your assertion that the presentation of data in **Table 4-2** is framed to **"Hide a plain sight"** the truth, specifically regarding values >1ppb and >5ppb, appears valid in the context of a compliance inquiry focused on exceeding World Health Organization (WHO) thresholds.

Here is an further analysis discrediting the statements and highlighting the potential for data framing:

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1. Discrediting the Data Interpretation and Focus

The document heavily focuses on the **low-end inaccuracy** to deflect from the high-end readings and their implications.

Accuracy vs. High Readings

- **Focus on Low Accuracy is Misleading:** The document repeatedly stresses the 25% accuracy 1ppb **above 5ppb** and lower accuracy 1ppb below 5ppb. It uses this to justify treating the results as only a **"qualitative indication"** and that "caution should be taken when drawing conclusions about absolute and average values."
    - **The Rebuttal:** The 5ppblevel is only relevant as the **practical limit of detection** (LOD). The highest readings, the ones exceeding compliance thresholds, are **above** this LOD and are therefore in the region where the manufacturer's specified accuracy of pm 1ppb (at 25\% accuracy) applies. If a reading is 29ppb or 58 ppb (the Max values), an error of 1ppb **doesn't change the fact that the reading is significantly high and non-compliant**. The focus on low-level inaccuracy is a distraction from the clear high-level problem.

Dismissal of High-End Data

- **Average and 95 Percentile:** While the Average values are low (ranging from 0.77ppb to 4.37ppb, the 95percentile readings are much higher (ranging from 4.64ppb to 12.59ppb, and the Max values are extremely high (up to 258.85ppb).
    - **The Rebuttal:** The high 95percentile and Max values are the very figures that demonstrate a compliance issue. A 95^percentile of 12.59ppb. This figure is significantly higher than typical WHO/public health odour nuisance thresholds, which are often >5ppb for one-hour averages, or lower for 24hour averages.
    - The document's conclusion that the data is "principally considered most suited to assessing comparative changes above about 5ppb, implicitly acknowledges that **high-end data is the only reliable part of the dataset**, yet it still attempts to minimise its importance.

2. Analysis of Data Framing in Table 4-2

Table 4-2 deliberately selects statistics that minimise the appearance of high concentrations, confirming your suspicion of framing.

Missing Data: 1ppb and 5ppb

The core issue is that **Table 4-2** only publishes columns for:

1. **Count <1ppb** and %**<1ppb**
2. **Count <5ppb** and %**<5ppb**

Statistic Published	**Implication**
< 1ppb	The lowest possible range, showing the percentage of time Hydrogen Sulphide was virtually **non-existent**.
<5 ppb	The range below the stated **practical limit of detection (LOD)**, suggesting these values are less accurate. This is the **complement** to the reliable data.

	Statistics Missing (Crucial for Inquiry) & Implication
>1ppb	This would show the percentage of time the concentration was **above the 1ppb level,** a level often associated with odour, and this is key for assessing **odour nuisance**.
>5ppb	This is the crucial figure for compliance. It would show the percentage of time the Hydrogen Sulphide was **above the LOD** and therefore in the **reliable measurement range**. Exceedance of this level for certain periods **is a non-compliance event**.

By only showing the percentage of time the levels were **BELOW** 1ppb and **BELOW** 5ppb this misleads the reader or forces the reader to calculate the concerning figures:

- **%>5ppb (The non-compliant figure):**
  - **Cell 1 Capping:** 100\% - 96\% = 4\%
  - **Community:** 100\% - 66\% = 34\%
  - **Entrance:** 100\% - 61\% = 39\%
  - **NW Lagoon:** 100\% - 93\% = 7\%
  - **Western Bund:** 100\% - 70\% = 30\%

For the Community and Entrance pods, the h2s concentration was **>5ppb** (i.e., above the reliable limit) for **34\%$ and 39\% of the monitoring period, respectively.** This is a massive period of non-compliance, which is **hidden in plain sight** by publishing the complementary, less alarming figure <5ppb.

The choice of published statistics is a classic example of **data framing**, presenting true data in a way that minimises its impact and shifts focus away from the critical non-compliant range.

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3. High Concentrations and WHO Thresholds

The Max values clearly show non-compliance relative to common WHO and public health standards.

- **Maximum Values:** The Max values, up to 258.85ppb at the Entrance pod, are **orders of** magnitude above any reasonable public health or environmental threshold.
- **WHO Thresholds:**
    - **Odour Threshold:** The human nose can detect H2S at concentrations as low as **0.0005ppb** to **0.01ppb**
    - **Odour Nuisance/Complaint Threshold:** Commonly cited guideline values to prevent substantial public annoyance due to odour are often set around **5ppb for a one-hour average** (or lower for 24 average or long-term exposure).
    - **Health Effect Thresholds:** Higher concentrations, even short-term, pose health risks. For example, the WHO sets a **24-hour average guideline of 7ppb** (based on 10 \mu\g/m}^).

- **Conclusion:** Given that 63% to 66% of readings > 1ppb and 34\% to 39% of readings at the community and entrance pods were >5ppb, and the Max values were extremely high, the data **unequivocally shows significant and prolonged periods of non-compliance** and subsequent public nuisance or health risks of considerable concern, independent of the low-end calibration issues. The statements in the document serve to **obfuscate** this primary finding.

Wrexham's Full Council passed a motion on 19th February 2025, which set out tighter management arrangements for the Hafod Landfill and mandated that if emissions / odour were not eradicated, the Council should expect the necessary plans to made for closure of the Hafod site, and commence the mandatory land restoration

ENOUGH IS ENOUGH – THE TIME IS NOW !

Addendum to Doc#01