

Discussion meeting on IAQM odour assessment guidance

Why, What and How?

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What are we trying to achieve (1)?

- Current Guidance:
 - EIA, EA EP guidance H1
 - AQMAU modelling guidance (RMS & ADMLC)
 - Construction dust assessment
 - TG(09), EPUK guidance, DMRB (MEA)
- Odour – BS EN 13725, H4

What are we trying to achieve (2)?

- Establish an agreed framework methodology
- Improve quality and consistency
- Improve Regulator confidence
- Improve transparency
- Confirm subject as headline technique
- Acknowledge importance in legal cases

Areas for Attention

- Odour Emission Sampling
- Odour Annoyance/Nuisance Thresholds & Criteria
- Odour Dispersion Modelling
- Futures

Odour Emission Sampling

- Point Sources
- Area Sources
- Unusual Sources?
- Number of replicates

Point Sources



DRAFT Method Implementation Document
for stack emissions monitoring of odour
according to BS EN 13725

BS EN 13725:2003 - Air Quality – Determination of odour
concentration by dynamic olfactometry

Environment Agency

Version XX

XXXX 2012



Area Sources

Sewage Treatment Works

- Hood
- Micro-meteorological method
- Odour potential method
- Diurnal variations?
- Seasonal variations?



Surface sampling



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SINCLAIR KNIGHT MERZ
SKM ENVIROS

Area Sources

Landfill Sites

- Hood
- Micro-meteorological
- How reliable is it?
- Black art?



Summary

- Point sources – manageable
- Area sources:
 - Small – hood sampling
 - Large – Combination of hood & micro-met?
 - Unusual – Use initiative; don't stifle creativity

Odour annoyance criteria

Newbiggin

• 5 ou/m³

• Ξ 2.5 ou_E/m³

• 1.5 - 3 - 6 ?



Current State of Play

- Most practitioners happy with 3 – 5 ou_E/m^3 as a C_{98}
- 1.5 ou_E/m^3 for obnoxious odours (rendering)
- Case Law:
 - Mogden Judgement “I would be reluctant to find nuisance if the odour concentration was only 1.5 ou_E per m^3 but as the odour concentration rises to 5 ou_E per m^3 I consider that this is the area where nuisance from Mogden STW would start and that by the time that 5 ou_E per m^3 or above is reached nuisance will certainly be established.”

Current State of Play

- Several Public Inquiry Decisions:
 - Anglian Water
 - Cockermouth
 - Coldharbour Lane Landfill
 - ScotWater Decision (5)
- All rejected $1.5 \text{ ou}_E/\text{m}^3$ and settled for $3 - 5 \text{ ou}_E/\text{m}^3 \text{ C}_{98}$
- Experience strongly indicates that $3 \text{ ou}_E/\text{m}^3$ for non-obnoxious odours is appropriate

Modelling

- Dispersion Models?
 - ISC, R91, Ausplume
 - AERMOD, ADMS, CALPUFF
- Important to get best answer
- Input data most critical (emissions, met data)
- Model set-up also critical
- Handling of low wind speeds and calms?
- Area source characteristics

Summary

- Guidance will help
- Level of coverage and detail?
 - Prescribed methodology
 - Minimum standards
 - Framework approach
 - Water Company example
- Fundamental Questions

Questions

- Do we agree that guidance would be helpful?
- What should its form and content be?
- Who are the important stakeholders?
- What are the next steps?



(a)



(b)

Figure 3-10 Determination of odors in the field using a direct-reading olfactometer. (a) Subject wearing mask (b) Assistant adjusting dilutions. (From EUTEK, *Process Development and Engineering*.)

Competing Methods?



Not Creating this!



Janet & John go
Odour Sampling