



SLR

Environmental Odour
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Litigating Public, Private and Statutory Nuisances for Noise and Smell (including Group Actions).



UKELA South West Regional Group
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Guildhall Chambers, BRISTOL



solutions for today's environment

Overview



- Our Sense of Smell – How & why it works
- Odour Assessment Techniques
- Odour Expert – when and what is required



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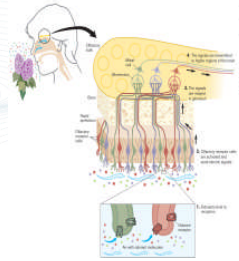
Why do we smell

- Sense of smell alerts us to potential dangers, e.g. smoke, poisons, toxins, off food etc.
- Once we have detected a bad smell, we either act (avoidance) or, if we assess that it is safe for the moment, we switch off.
- As soon as the level of bad smell changes we are aware of it again.



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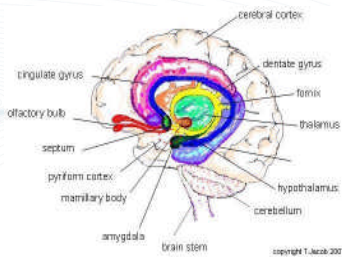
How do we smell – Olfactory bulb



Nobel Institute Press release 2004 Nobel Prize in Physiology or Medicine (Richard Axel and Linda Buck)



How do we smell – brain functions



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Why Are Odours Annoying?

- Our sense of smell can trigger the 'fight or flight response'
- The "fight or flight response" is our body's, primitive inborn response that prepares the body to "fight" or "flee" from perceived attack or harm.
- If we are unable to 'fight or flight' we become stressed /annoyed.



Assessment of Environmental Odours

- Subjective – relies on assessors opinion of the perceived odour. Can be member of public, site operator, regulator or independent consultant.
- Quantitative – relies on standardised measurement techniques typically olfactometry and computer modelling of dispersion.
- Often a combination of both if required to fully investigate an environmental odour.



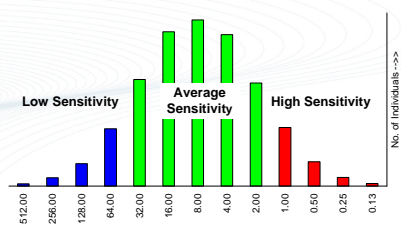
Subjective - FIDOL Model

FIDOL model considers:

- Frequency of detection;
- Perceived Intensity;
- Duration of exposure (actually the length of time over which an odour is regularly detected);
- Hedonic tone or Offensiveness (relative pleasantness / unpleasantness);
- The sensitivity of an individual to offence (influenced by their context / Location and personal circumstances).



Perceived Intensity



Quantification of Odour

- Odour Concentration (ou_e/m^3) measured by dynamic dilution olfactometry (BS:EN 13725 2003)
- Pleasantness measured by Hedonic tone (VDI 3882:1997, part 2; Determination of Hedonic Tone)



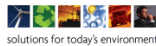
Quantitative Odour Impact Assessment

- Emission Rate & pleasantness quantified
- Exposure Intensity, Frequency & Duration predicted by atmospheric dispersion modelling
- Acceptability of Impact by comparison to benchmark criteria



Odour Impact Criteria

- Environment Agency benchmark levels (as 98th percentile hourly average) must not exceed:
 - 1.5 odour units for **highly offensive** odours;
 - 3.0 odour units for **moderately offensive** odours;
 - 6.0 odour units for **less offensive** odours.
- Supported by extensive research in Europe and Australia.
- Limited research in the UK, not Regulatory, and not wholly supported by EA or industry.



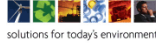
Planning Process

- Odour assessment should be undertaken as part of planning application process for odorous activities.
- Assessment varies depending on site operations / size, proximity to receptors and history (of complaints).
- Disputes arise in relation to how much odour will be released & how much is acceptable.



Environmental Permit

- Most large industrial odour sources in England & Wales (except sewage works) are regulated by EA under the Environment Permitting Regime.
- Environment Agency EPR H4 Guidance on Odour Management issued for Consultation (closes in October).
- Previous H4 odour guidance issued for consultation in 2002 was never finalised.
- Scotland and Northern Ireland don't have EP, Scotland have own 'H4'.



The Odour Boundary Condition

- *Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in an approved odour management plan, to prevent or where that is not practicable to minimise the odour.*



The OMP Condition

The operator shall:

- If notified by the Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Agency for approval within the period specified, an odour management plan.
- Implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Agency.



Breach of EP

- Breach of Permit implies that 'Odour pollution' is occurring because either:
 - The OMP is not being adhered to; or
 - The OMP is inaccurate and 'Appropriate Measures' are not being applied
- H4 states that approval of the OMP cannot be taken to mean that the Agency considers that the measures it contains represent all appropriate measures.
- 'Appropriate Measures' is not defined and reliant on expert opinion.



Statutory Nuisance – EPA 1990

- Typically action taken by local authority under Section 79, 1(c):

“fumes or gases emitted from premises so as to be prejudicial to health or a nuisance”

- Action against EP regulated sites cannot be instigated by local authority except by permission of Secretary of State.
- Leaves sewage works and food premises (i.e. takeaways restaurant) as most likely recipient.
- However Section 82 allows an individual to take action.



Statutory Nuisance – Role of Expert

- Existence of Nuisance
 - Can establish current existence of a nuisance, and likelihood of reoccurrence
 - Assessment of historic nuisance can rely only on interpretation of third party information.
- Assess if Best Practicable Means are being applied.
- Define required measures to abate the nuisance or apply BPM (and timescales).



Private Nuisance – Experts Role

- Assess sensitivity of claimant – physical /physiologically - this can be undertaken quantitatively.
- Assess if odours have interfered with claimants 'use or enjoyment of land'.
- Quantify frequency, intensity and duration of odours.
 - Are these impacts 'unreasonable'.
 - Is it 'reasonable' to expect no odours at all?





-END-



Further reading:

<http://www.cf.ac.uk/bios/staffinfo/jacob/smellmnu.html>

<http://www.environment-agency.gov.uk/research/library/consultations/108783.aspx>

<http://www.odour.org.uk/odour/index.html>

