

# Assessment of Air Quality Impacts from Combustion Plant with Limited-hours of Operation

**November 2017**

*The IAQM issues Position Statements on matters that could affect the way in which Members carry out their professional tasks and on air quality topics and issues where the IAQM can provide a unique perspective from which to give a professional opinion.*

*This position statement complements the IAQM/EPUK Guidance on “Land-Use Planning & Development Control: Planning for Air Quality”, which includes further detail on assessing combustion and other sources of pollution, including cumulative impacts and the role of good planning policy.*



## The issue

Some air quality assessments for generating plant and other combustion plant with a limited number of operational hours in a year have simply concluded that their emissions will not have a sufficiently adverse impact on long-term pollutant concentrations so as to have a significant effect on local air quality.

If, however, the emissions are sufficiently high (as they can be from large numbers of older diesel-powered generators) then the limited number of hours of operation may not be sufficiently robust as a screening criterion to conclude that effects will not be significant. In addition to the potential long-term impacts, modelling carried out on behalf of DEFRA (by the Environment Agency (EA))<sup>1</sup> has shown the potential for adverse short-term impacts with significant effects on local air quality.

Emissions from new medium combustion plant (MCP, i.e. 1-50 MW<sub>th</sub> input) will be regulated by the EA and the equivalent regulators in the devolved administrations from December 2018. Emissions from existing plant will be regulated later. There are, however, plant that will be exempt from the emission limits within the permitting system.

Risk assessment guidance is to be issued imminently by the EA for environmental permitting of MCP and generating plant. The regulators will use criteria to consider the risk of operations causing exceedences of the limit values; these criteria are different to those used for planning purposes and which are given in the EPUK/IAQM planning guidance. Furthermore, the EA permitting approach does not provide a method for establishing significance of effects; it only enables the screening out of ‘significant impacts’ if certain criteria are met.

## IAQM’s Position on this issue

The EPUK/IAQM planning guidance states that “professional judgement will be required to determine whether an air quality assessment is necessary, as it is not possible to apply an exact and precise set of threshold criteria to cover the wide variety of development proposals.”<sup>2</sup> That guidance also provides advice on how to assess the significance of the effect on air quality in the planning system. The IAQM’s position is that the aforementioned planning guidance should be applied in the assessment of emissions from MCP and generator plant undertaken to accompany planning application and, in particular, to reach a conclusion on the

significance of effect by considering the severity of impacts on long-term average concentrations and other factors.

The IAQM’s position is that the following additional points should be taken into account when using the EPUK/IAQM planning guidance to assess the air quality impacts of MCP and generating plant.

- It is not appropriate to screen out automatically the need for an air quality assessment of these plant in all cases. It may, however, be reasonable to assume that there will not be an adverse impact on air quality without undertaking a detailed assessment provided that the emission rates are considered to be sufficiently low.
- If there is potential for a plant to operate continuously throughout the year, i.e. there is no restriction on hours of operation, it would be normal practice for an air quality assessment to assume it is operating continuously throughout the year. If it is only intended to operate for short periods, then the maximum number of hours should be taken into account in the assessment, as defined by a planning condition, for example.
- When considering the long term impacts it is good practice to consider whether the sum of the process contribution and the Defra ‘mapped’ background concentration is sufficient when calculating the predicted environmental concentration. This approach may not be always be representative of existing ambient concentrations of pollutants (i.e. the baseline concentration), particularly in urban environments where traffic emissions may be significant.

The EPUK/IAQM Guidance provides, where detailed modelling has been carried out, impact descriptors to inform the significance of effects, and these should be presented, unless professional judgement is used to justify not presenting them.

## References

- <sup>1</sup> [https://consult.defra.gov.uk/airquality/medium-combustion-plant-and-controls-on-generators/supporting\\_documents/Generator%20EA%20air%20dispersion%20modelling%20report.pdf](https://consult.defra.gov.uk/airquality/medium-combustion-plant-and-controls-on-generators/supporting_documents/Generator%20EA%20air%20dispersion%20modelling%20report.pdf)
- <sup>2</sup> <http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>

---

### **About the Institute of Air Quality Management (IAQM)**

The IAQM aims to be the authoritative voice for air quality by maintaining, enhancing and promoting the highest standards of working practices in the field and for the professional development of those who undertake this work. Membership of the IAQM is mainly drawn from practising air quality professionals working within the fields of air quality science, air quality assessment and air quality management.

### **Copyright statement**

Copyright of these materials is held by the IAQM. We encourage the use of the materials but request that acknowledgement of the source is explicitly stated.