

Statement of Case – Air Quality

Dr D R Crump, BSc, PhD.

Submitted to the Appeal at the request of the Inspector reference
APP/M1900/W/24/3346607, Land at former Hatfield Aerodrome.

Summary

1. Dr Derrick R Crump (DRC) contends that the application as submitted fails to adequately demonstrate that there is no significant risk to public health from air pollutants generated by the proposed works. The section concerning air quality in the Environment Statement (ES) (CD 2.3) relies on prediction by modelling with no relevant validation and it does not take into account all the important sources and receptors. Even if the modelling were deemed to be sufficient, the interpretation of the predicted pollutant concentrations is incorrect with respect to current air quality legislation and associated Hertfordshire County Council (HCC) policy. The findings of the ES are applied in the Health Impact Assessment (HIA, July 2023, CD2.6) and this also ignores current air quality legislation and associated HCC policy. Further, the public and many authorities could be expected to focus on the 'Executive Summary' of the HIA which, while written in a reassuring tone, is an alarming statement about the impact of the predicted air quality on public health.

Introduction

2. Residents of St Albans and Hatfield and their elected Members of Parliament are concerned about the impact of the proposed quarry operations and associated infill works on the air quality of the surrounding area, particularly the consequences for those living, working or otherwise using neighbouring properties. The concerns are about the generation of fine and coarse particulate matter as well as gaseous pollutants and the risk to health of people and the adverse impact on the local amenity.
3. As a resident with professional expertise on the science and policy of air quality (now retired), DRC has reviewed the Environmental Statement (ES) and Health Impact Assessment (HIA) and subsequent documents submitted by the appellants to decide whether the evidence presented provides assurance that our air quality (and our health and local amenity) will not be adversely impacted by the proposed works. Detailed evidence was submitted by the Colney Heath Group (CHG) on 29 October and the main findings of that statement on air quality are summarised below.

Summary of main concerns

Reliability of modelling of air quality

4. Noting the large number of factors that impact the emission and dispersion of air pollutants, including those dependent upon proposed planning conditions, DRC has concerns about the accuracy and degree of uncertainty of the

predicted pollutant concentrations (including deposited dust) calculated by the air quality modelling undertaken by SLR in 2021.

Detailed criticism of the modelling exercise that underlies the applicant's assertion about air quality risks is provided in the submitted CHG evidence, including published statements (by DustscanAQ staff) in an academic journal about the inappropriateness of such modelling to assess risks associated with particulate matter generated by quarrying. Further I am concerned that the modelling has not addressed all the emissions associated with the proposed works (including the importation of infill material and the combustion of fuel by machinery e.g. Non-Road Mobile Machinery Emissions (NRMM)) resulting in significant under estimation by the appellants of the predicted airborne concentrations of pollutants. It has also ignored other receptors such as users of the adjacent sports fields and the country park.

Misleading statements on the risks to health

5. DRC considers the air quality assessment undertaken by the applicant does not appropriately assess the risks to health and it is misleading in their conclusion that there is no risk to health. The proposed development is a source of particulate matter, including PM2.5 and silica dust for which there is no safe level of exposure, and the assessment has not given due regard to legally binding targets that must be met during the planned lifetime of the proposed development and the appellant's own modelling predict these will be exceeded. While HCC and other local authorities have a statutory obligation to address PM2.5, these obligations, and associated pledges, are not addressed by the ES or HIA supporting this application.

6. DRC considers the statement about air quality in the 'Executive Summary' of the HIA to be alarming with respect to public health. It states;

'As the proposed development relates to the extraction of sand and gravel, which contains silica, detailed modelling in relation to respirable crystalline Silica has been undertaken for the emissions from the proposed works. The modelling assumed (as a worst case) that all PM10 emissions would be Silica and considered the cumulative effects of neighbouring developments. The highest modelled concentration of Silica as a result of the development would be 21.0µg/m³, which is well below the Air Quality Limit of 40µg/m³ where health effects are observable in the most vulnerable members of the general population. Silica dust is not therefore a health impact arising from this development.'

Even ignoring the risk from silica as an IARC category 1 carcinogen, DRC is not aware of any authority suggesting that an ambient level of silica of 40 µg/m³ (or 21 µg/m³) as being protective against other silica related disease such as silicosis.

Inadequacy of proposed air quality monitoring

7. While welcoming a commitment to air quality monitoring before and during development should the application be approved, DRC considers the scope of the proposed monitoring to be inadequate. At the very least the monitoring should include continuous monitoring of PM2.5 and deposited dust (as well as PM10, NO2 and PM4 silica) and a full 12 months of baseline data should be available.
8. Given the long history of planning applications at this site it is remarkable that the paucity of information on local air quality and meteorological conditions was not addressed in advance of this current application. This would have provided an informed baseline to identify the impact of the proposed work as well as a platform for validation of the air quality modelling undertaken. This demonstrates a high degree of complacency with regards to the applicant's approach to air quality and DRC contends that this cannot now be adequately addressed by conditions and therefore this appeal should be dismissed.

Conclusion

9. The case made by the appellants is far from sufficient to provide appropriate assurance about the possible risks to public health resulting from the air pollutants that will be released by the proposed works. DRC therefore contends that the planning application is insufficient with respect to addressing air quality concerns and that the appeal should be dismissed to protect the health and well-being of local residents and the local amenity. This inadequacy of the air quality assessment means that it cannot be demonstrated that planning conditions can adequately mitigate the possible risks to health and local amenity.
10. DRC also contends that dismissal of the appeal is necessary because the evidence presented in the ES and HIA does not demonstrate that the proposed scheme is compatible with the requirement for HCC and other local authorities to meet the legislated government air quality targets implemented in December 2022 as well as local authority pledges concerning air quality.
11. In summary given the application cannot be made acceptable in policy terms nor conditioned to achieve compliance, the appeal should be dismissed.