



Response to Complaints from Chideock Parish Council: on behalf of Dorset Council

December 2020



Experts in air quality
management & assessment

Document Control

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1 Introduction

1.1 Chideock Parish Council made formal complaint to Dorset Council on 19th October 2020, to which Dorset Council responded (letter dated 16th November 2020). Since then, this has been followed up by a Stage 2 complaint from Chideock Parish Council, on the 30th November 2020. The complaints cover the following issues:

- Failure to resolve the known illegal levels of traffic related nitrogen dioxide (NO₂) pollution within the village, by not implementing measures which will either reduce air pollution to below the legal limits that have been set by our Government or taking whatever measures are necessary to protect the residents of Chideock from the health risks to which they are currently exposed; and
- Dorset Council's continuing refusal to monitor Particulate Matter (PM_{2.5} and PM₁₀) air pollution within the village.

1.2 This note provides a response from Air Quality Consultants Ltd (AQC), on behalf of Dorset Council, on both of these issues and in doing so, will address some of the specific points made in the letters from Chideock Parish Council. AQC fully understands and appreciates the health effects of both PM and NO₂, and the resulting concern this is causing for residents in Chideock.

2 Response

Failure to resolve the known illegal levels of traffic related NO₂ pollution within the village

- 2.1 As I am sure you are aware, NO₂ falls within the LAQM process. As such, Dorset Council has a statutory duty to carry out regular reviews and assessments of air quality in its area to identify whether the objectives have been, or will be, achieved at relevant locations. If this is not the case, the authority must declare an Air Quality Management Area (AQMA), and prepare an action plan which identifies appropriate measures that will be introduced in pursuit of the objectives.
- 2.2 Within the LAQM process, Dorset Council has, over a number of years been working with Highways England to resolve the exceedance of the annual mean NO₂ air quality objective in Chideock. As has been set out in Dorset Council's response to your first complaint, a number of measures have been investigated and detailed feasibility work undertaken. NO₂ is a predominantly traffic-based pollutant and hence the Action Plan is focussing on traffic measures to resolve this issue.
- 2.3 In relation to the legal responsibilities of the Council, the Environment Act (Section 84 (2) (b)) states that *Where an [AQMA] comes into operation, the local authority which made the order shall prepare, in accordance with the following provisions of this Part, a written plan (in this Part referred to as an "action plan") for the exercise by the authority, in pursuit of the achievement of air quality standards and objectives in the designated area, of any powers exercisable by the authority.*
- 2.4 The review of the 2008 Action Plan for Chideock, which has been delayed by resourcing difficulties heightened by the COVID pandemic, is progressing. The measures which will have the greatest impact, are not within the powers exercisable by Dorset Council and therefore the Council continues to work collaboratively with Highways England. The Action Plan for Chideock will be delivered in 2021, with assistance from AQC, and will include a full review of work that has been undertaken to date, which includes both direct measures investigated by Highways England, but also measures which are within the remit of Dorset Council (traffic and air quality monitoring, ensuring the planning system robustly considers air quality, other transport measures such as increasing the uptake of low emission vehicles etc). Source apportionment undertaken by AQC shows cars and LGVs are the dominant sources of emissions for NO_x. Because the A35 is part of the strategic road network, many of these trips will not be to or from local destinations, although a proportion will be. Both long distance and local trips will be addressed in the plan. These are not an issues which can be easily resolved, which is evidenced by the number of measures which have been investigated, without success in terms of measurable improvements at the roadside properties within Chideock. There are numerous other AQMAs across the country in a similar position.
- 2.5 It would be beneficial for AQC, the Council, Highways England and others to work with Chideock Parish Council on the Air Quality Action Plan, utilising the local knowledge that you have of the area.

Dorset Council's continuing refusal to monitor Particulate Matter (PM_{2.5} and PM₁₀) air pollution within the village

- 2.6 PM₁₀ is within the remit of LAQM. Dorset Council have followed due process under the LAQM regime and concluded that there is not a risk of exceedance of either of the PM₁₀ objectives within Dorset and therefore PM₁₀ monitoring is not necessary. This conclusion has been reached using methodologies set out in Technical Guidance (TG16)¹ issued by Defra to review the locations which have the potential to exceed the objectives. Defra independently audit the Annual Status Reports and have agreed with this conclusion.
- 2.7 PM_{2.5} is not within this statutory process. Although Technical Guidance TG16 encourages local authorities to address PM_{2.5} (and this is reported on in the Annual Status Reports), TG16 acknowledges that *"PM_{2.5} is still not incorporated into LAQM Regulations, and therefore there is no statutory requirement to review and assess PM_{2.5} for LAQM purposes (except now in Scotland). Whilst an increase in PM_{2.5} monitoring across the UK is desirable given the links to the Public Health Outcomes Frameworks, it is also recognised that the costs involved can be prohibitive."*
- 2.8 As concentrations of nitrogen dioxide reduce, the focus of air quality work in the UK is likely to turn to Particulate Matter (PM) which is less locally controllable, but is a more important metric in relation to health effects. The Environment Bill, currently before Parliament, requires that the Government set an annual mean target for PM_{2.5}, as well as long term environmental targets. Particulate matter is different from the gaseous pollutants in that it is not a clearly defined chemical compound. In relation to PM_{2.5}, Dorset Council is undertaking collaborative work with Public Health to look at overall population exposure to PM_{2.5}, rather than at hotspot locations (which the LAQM process guides local authorities to do), an approach which is likely to have greater overall health benefits to the population of Dorset. This work on PM_{2.5} is not a requirement of government and is being undertaken in order to improve health, and health inequalities across the area. This does not mean that potential hotspots of PM_{2.5} should be ignored, but as concentrations of PM_{2.5} are driven by a range of sources (including as much as 40-50% being derived from sources some distance away), there are likely to be further controllable sources, such as solid fuel burning and hence actions to reduce PM_{2.5} will be undertaken on a wider basis than traffic.
- 2.9 Compiling emissions inventories and dispersion modelling is considerably more challenging for PM_{2.5} than for other pollutants (such as nitrogen dioxide) and for this reason, the monitoring network can play an important role in measuring PM_{2.5} concentrations in the vicinity of sources that are difficult to quantify in terms of emissions. Monitoring also has uncertainties associated with it. On behalf of Dorset Council, AQC is currently investigating the options for monitoring at this location, and the costs of doing so. The monitoring will need to be relevant for comparison with annual mean limits, and reflect potential local sources, which will include traffic. It should, however, be noted that Dorset

¹ <https://laqm.defra.gov.uk/technical-guidance/>

Council, in common with many other local authorities, have finite resources (both capital and staffing) and that this work on PM_{2.5} is not part of their statutory responsibilities for LAQM.

- 2.10 It should be further noted that monitoring undertaken at the roadside and reported on the Countryfile programme was very short term, and that the objective, which reflects the health effects of PM_{2.5} is measured over the period of a year. Therefore, the peaks identified on the programme of 130 µg/m³ are not comparable to an annual mean limit.
- 2.11 PM_{2.5} emissions from traffic on the A35 will be addressed within the forthcoming Action Plan, although it will not be possible to quantify either the contributions from various sources or the improvements due to specific measures.

3 Summary

- 3.1 The Council has undertaken its statutory duties for NO₂ and PM₁₀ through the LAQM process. The remaining exceedances of the NO₂ annual mean air quality objective at Chideock are not easily resolvable. An Action Plan will be published in 2021 setting out the current air quality conditions in Chideock, it will also describe measures which have been investigated and will either be taken forward or discounted following the template set out by Defra. Input to this work from Chideock Parish Council will be highly beneficial to the process.
- 3.2 For PM_{2.5}, AQC, on behalf of Dorset Council, are costing up some options for monitoring in Chideock. If taken forward, this work is unlikely to affect either measures being put forward for traffic sources through the ongoing LAQM regime, or other measures for PM_{2.5} through the work with public health, which will incorporate wider sources such as solid fuel burning. It is worth re-iterating, that Dorset Council have finite resources and that this work on PM_{2.5} is not part of their statutory responsibilities for LAQM.

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A1 Professional Experience

Penny Wilson, BSc (Hons) CSci MEnvSc MIAQM

Ms Wilson is an Associate Director with AQC, with more than 19 years' relevant experience in the field of air quality. She has been responsible for numerous assessments for a range of infrastructure developments including power stations, road schemes, ports, airports and residential/commercial developments. The assessments have covered operational and construction impacts, including odours. She also provides services to local authorities in support of their LAQM duties, including the preparation of Review and Assessment and Action Plan reports, as well as audits of Air Quality Assessments submitted with planning applications. She has provided expert evidence to a number of Public Inquiries, and is a Member of the Institute of Air Quality Management and a Chartered Scientist.

Dr Clare Beattie, BSc (Hons) MSc PhD CSci MEnvSc MIAQM

Dr Beattie is an Associate Director with AQC, with more than 20 years' relevant experience. She has been involved in air quality management and assessment, and policy formulation in both an academic and consultancy environment. She has prepared air quality review and assessment reports, strategies and action plans for local authorities and has developed guidance documents on air quality management on behalf of central government, local government and NGOs. She has led on the air quality inputs into Clean Air Zone feasibility studies and has provided support to local authorities on the integration of air quality considerations into Local Transport Plans and planning policy processes. Dr Beattie has appraised local authority air quality assessments on behalf of the UK governments, and provided support to the Review and Assessment helpdesk. She has carried out numerous assessments for new residential and commercial developments, including the negotiation of mitigation measures where relevant. She has also acted as an expert witness for both residential and commercial developments. She has carried out BREEAM assessments covering air quality for new developments. Dr Beattie has also managed contracts on behalf of Defra in relation to allocating funding for the implementation of air quality improvement measures. She is a Member of the Institute of Air Quality Management, Institution of Environmental Sciences and is a Chartered Scientist.