

Non-Technical Summary

Overview

This Non-Technical Summary (NTS) has been prepared as a supplement to the Peer Review undertaken by Bureau Veritas for the Permit Application submitted in support of the Environmental Permit (EP) application (Ref. S13/006) by Calder Valley Skip Hire Ltd (CVSH). CVSH propose to operate a new small waste incineration plant (SWIP) at their waste transfer station (WTS) site in Sowerby Bridge, West Yorkshire.

The air quality information submitted as part of the application is thorough and shows consideration of different problems inherent to using dispersion modelling to predict changes in air quality. The extent of the work that has been completed shows that there is uncertainty in any modelling approach using this method to predict future emissions. It is considered that dispersion modelling remains the best method for determining the likely air quality impacts where an installation is not already operational and allows for potential risk to be determined.

The effect of trees on dispersion have been considered in the modelling to the extent possible with the limitations of the dispersion modelling software. The software is not designed to account for the effects of trees and the best way to understand the effect of the trees would be to complete monitoring with the SWIP in operation. This would show the 'real world' effect of emissions from the site.

Recommended Improvements and Additional Requested Information

1. Confirmation should be sought that the modelled dimensions match the installed stack for height and diameter to give confidence that the modelled outputs reflect the actual installation. Any changes in the installation compared with the data used to inform the initial modelling would change the modelled inputs which in turn would change the predictions of emissions used in the modelling.
2. The site will emit ammonia (NH₃) and polychlorinated biphenyls (PCBs). These pollutants have the potential to harm human health and have been assessed by the applicant along with other pollutants as detailed in the Air Quality assessment. The data source used to inform the model inputs is based on the European Integrated Pollution and Prevention Control (IPPC) 'Best Available Techniques' (BAT) document published in 2006. This document was superseded in 2019. It should be clarified as to whether the later 2019 version of the BAT reference document would lead to any changes in assumptions around modelling in the applicant's air quality consultant's opinion.
3. One of the reasons for the multiple different modelling tests which have been run is uncertainty around the site-specific weather conditions. Weather conditions significantly affect the movement or 'dispersion' of emissions from a source. Typically, within air quality modelling, meteorological data would be sourced from a representative nearby weather station. In the case of this application, two different weather stations have been used to assess the sensitivity of the site. The limitation of using these weather stations is that they are not necessarily representative of the valley conditions at the site. The applicant has also used 'Numerical Weather Predictions' (NWP) and provided modelled results using this approach. NWP has its own limitations, and while it may be more representative of the conditions on site, it is limited similarly to air quality dispersion modelling in that it is based on mathematical predictions rather than observed data. One solution to this would be to monitor weather conditions on site and determine similarity to the modelled meteorological data used. A full year of meteorological data would likely be needed to provide full confidence around this, and it is recognised that this may not be achievable within the timeframes of the permit application.

Within their modelling using different sources of weather data, the applicant has not completed sensitivity tests using NWP for any other pollutant besides Nitrogen Dioxide (NO₂). Changes in NO₂ are very sensitive due to the proximity of the site to an Air Quality Management Area which has been declared for exceedances of the National Air Quality Objective, so it is appropriate to focus on this pollutant. However, the report also details that emissions of Arsenic from the development have the



potential to be significant. Reporting the predicted modelled concentrations of Arsenic as a result of the NWP sensitivity tests would give greater confidence that there are not predicted to be significant effects from any pollutant of concern from the application site.