

784-B023908

10th June 2021

Response following discussions between Nigel Mann (Tetra Tech, for the applicant) and Alison Amoah, Planning Officer of Reading Borough Council (RBC) dated 10th June 2021 regarding the submitted Noise Response by Tetra Tech (formerly WYG) [ref B023908 dated 19th June 2021] for planning application reference 201853.

Maximum Noise levels (dB L_{Amax}) and Quiet Deliveries Demonstration Scheme (QDDS)

Maximum noise levels associated with deliveries are the instantaneous events of around 125ms (milliseconds) such as clatters and bangs, which can occur for a number of reasons, but typically, door slams, tail gate (metal on metal) or braking noise, during the delivery process. It is these types of noise that are mostly associated with complaints or sleep disturbance, rather than generally high average noise levels. Average noise levels (dB $L_{Aeq,T}$), where T denotes the time period over which the fluctuating noise levels were averaged, for example $L_{Aeq,15\text{ min}}$ is the equivalent continuous noise level over a 15-minute period.

Maximum noise events can be effectively managed through good practices and would be included in the Noise Management Plan (NMP).

For example:

- **Docking:** The most effective way to minimise noise produced by dock plates is to ensure they are deployed carefully and to move the pallet truck across the dock plate reasonably slowly.
- **Pallet Trucks:** The primary noise source is from the metal wheels from older style pallet trucks against an uneven surface. Similarly, if a pallet is carefully placed (taking due account of manual handling requirements) rather than dropped, on another or on the ground, very little sound is produced.
- **Air Brakes:** Air brake systems occasionally 'vent' air directly to atmosphere. This produces higher levels of sound. This can be minimised by fitting vehicles with air brake silencers.

The government backed Quiet Deliveries Demonstration Scheme (QDDS) Prepared for the Department for Transport / QDDS Consortium, May 2011 (sent separately), was developed to enable such improvements to be identified. This research shown that by implementing good practices and service yard management plans (SYMP) maximum noise levels can be reduced by up to 10dB. In our experience the difference between a 'poor' and a 'good' delivery/docking events is seen particularly in the reduced number of distinct L_{max} events from around 80 to around 10 per delivery event. However, for simplicity and as a conservative approach, a reduction of average levels, 5-7dB has been applied.

Model Input Data

A point source is a noise source that radiates sound as if from a single point, of which the dimensions are small compared to the propagation distances to the receiver. This is true for unloading events, both averaged and maximum events.

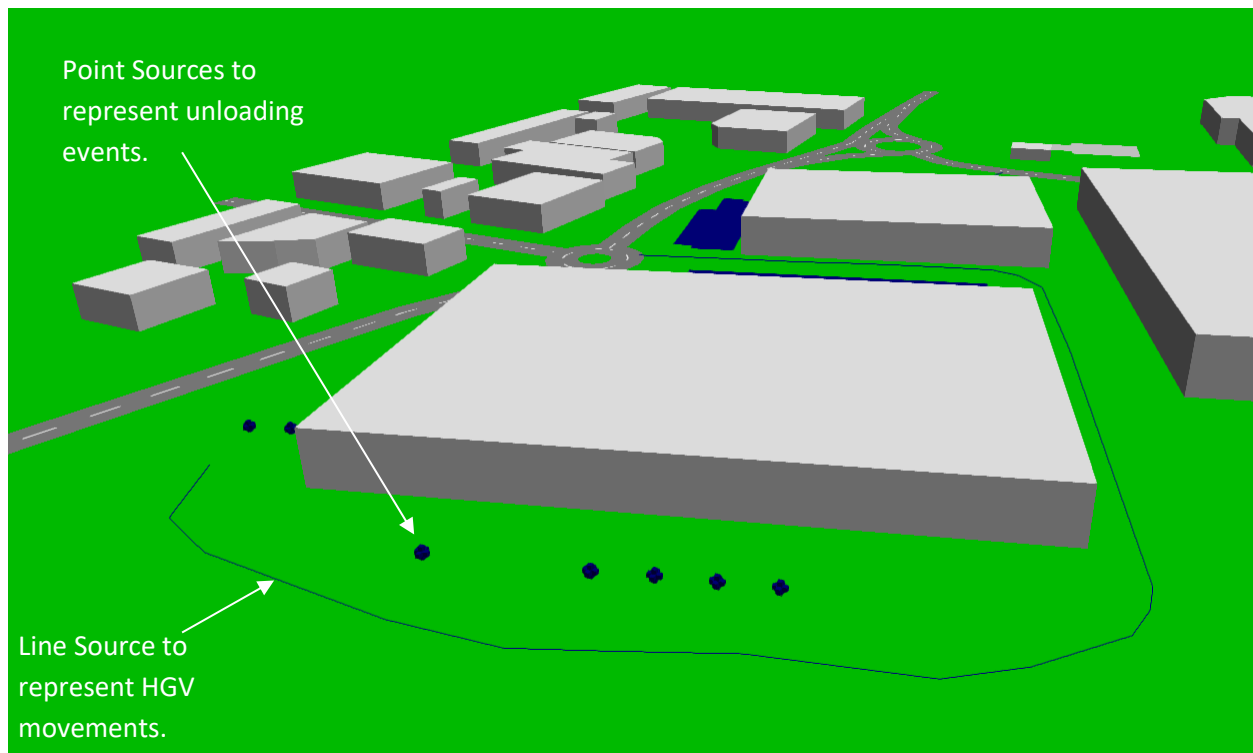
A line source is a noise source composed of many point sources in a defined line, such as a train, flow of traffic on a motorway or a HGV accessing and manoeuvring in a service yard.

The noise model input data included in the submitted assessment takes into account each unloading event and vehicular movements, using both kinds of sources, as appropriate.

The assessment includes at least 40 vehicular movements (arrivals and departures along the line source (access route) during a 1-hour period the day and 25 during a 15-minute period at night, which is considered worst-case and is represented by a line source, as presented in Figure 1. The line source assumes a constant average noise level and is generally less significant than the noise from the point source docking events.

The docking and HGV parking events are static in terms of spatial geography, but vary over time and are therefore included in the model (as shown below) with noise levels calculated to include the worst case time and noise level elements of the docking event as described in the submitted report in Section 3.2.

Figure 1 – Noise Model and Sources



Service Yard Ground Surfaces

The character and noise level from a source moving over the ground can vary depending on the material. In general, the smoother and softer the surface the better. However, this is not always the case, for example, a tarmac/asphalt surface can degrade over time due to the weight and turning of vehicles, causing, rucking, textured or otherwise uneven surfaces. A HGV manoeuvring or cage/dolly being pushed over an uneven surface can similarly elevate noise levels and produce impulsive events. A smooth, concrete surface is preferred if cages are to be regularly pushed across service yards, however if the ground is too smooth, this can cause HGV tyres to squeak when turning, so a smooth (with limited expansion joints) but not polished, concrete surface is usually the best for a service yard. There are other alternatives, such as low noise (painted rubberised) surfacing, which could be introduced on specific routes as part of the noise management plan if the occupier uses noisy trolleys, roll cages or pallet trucks.

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