

Draft Noise and Vibration Management Plan

**Halo Battery Recycling Limited
Bradleys Lane
Tipton
West Midlands
DY4 9EZ**

Permit Number : **EPR/CP3444QR**

Report Written for Stephen Andrew - Chief
Technology Officer

Synopsis – a 1 page (maximum) non-technical summary of the report findings.

Introduction

The Bradleys Lane facility (DY4 9EZ) is a secure recycling site with an installation status. The site carries out a number of activities under the current Environmental Permit, EPR/BP3949QN, and there are a number of proposed activities to be carried out once a substantial variation has been granted.

The main activities under the current permit are the storage, treatment and transfer of Lead Acid Batteries.

The main proposed activities in the variation are changes to the storage, treatment and transfer processes of Lead Acid Batteries and the resultant recycled products. The process involves mechanical equipment for feeding (vibratory feeder), breaking (milling), sizing (vibrating screens), drying (filter press) and hydraulic transport of materials (pumps)

Currently the work carried out for the storage, treatment and transfer of batteries at the site only occurs between the hours of 7am and 7pm, Monday to Friday

- Lorries tend to be unloaded between the hours of 8am and 4pm
- Lorries tend to be loaded between the hours of 8am and 4pm
- No lorries are loaded and no deliveries received at night
- Cleaning and washing down of the site only happens during daylight hours between 8am and 4pm
- There are currently no shift changes

The work proposed under the variation does not deviate from the existing timescale for the storage, treatment and transfer of Lead Battery and associated waste.

The work proposed under the variation for the storage, treatment and transfer of Lead Acid batteries may also occur between 7am and 7pm, Monday to Friday, however, to minimise the effect of noise and vibration, the majority of vehicle movements and machine operation will take place in a narrower time frame, 8am to 4pm, Monday to Friday.

- Lead Acid battery deliveries can be unloaded between the hours of 7am and 7pm
- Lead Acid battery treatment utilises a hammer mill, vibrating screens, drying equipment and a series of pumps, all of which will operate between 8am and 4pm
- The loading of lorries for the despatch of recycled products will happen between 8am and 4pm

The reason for producing this report, is to address the following:

- A preliminary site noise survey
- A potential noise impact assessment
- An environmental permit variation

This report does not refer to any previous reports issued by the previous owners of the site, however it does refer to the Halo Environmental Risk Assessment and the relevant sections are summarised as follows:

“..... All noise generating activities will be undertaken between the hours of 8:00 to 16:00 Monday to Friday and occasionally 08:00 to 13:00 on Saturdays, except for emergency repairs. No operations would take place on Sundays or recognised Bank Holidays.

All plant and machinery will have effective silencers where practicable and will be maintained in accordance with the manufacturers recommendations and observing the guidance of PUWER to minimise the risk of mechanical failure which could result in increased noise emissions.

The loading and unloading of wastes will be undertaken in a controlled manner to keep noise/vibration to a minimum.

All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report excessive noise or vibration issues to the Site Manager.

Noise and Vibration will be managed in accordance with the **Noise and Vibration plan which will be documented once the site enters a testing phase and before it is operational.**

The recycling operation is situated in an enclosed building

To minimise the effect of the noise of vehicle reversing signals, loads will only be delivered to site during working hours (08:00 to 16:00 Monday to Friday and occasional 08:00 to 13: on Saturdays)
Deliveries and collections will take place in a controlled manner to keep noise to a minimum

An anti-idling policy ensures that all equipment and vehicles when not in regular use shall be switched off. The Site Manager will be responsible for ensuring the above measures are implemented.

All noise generated by vehicle movements will be monitored closely and site operatives will be vigilant and report any excessive noise issues to the Site Manager

Vehicle Movements will be managed in accordance with the Noise and Vibration plan which will be documented once the site enters a testing phase and before it is operational.”

Assessment of Bradleys Lane location **Insert**

map(s) of the area that clearly highlight:

- the main noise sources on site
- all the NSRs you have identified (not just residential properties)
- monitoring points (include surrogate site locations if used)
- the site boundary
- buildings

Also provide information about the:

- ground type and ground cover between your site and any receptors
- geographical context of the location, including the history of the location, other sound sources and other elements of context

Provide photographs and measurement positions of the assessment locations, including those of any near-field measurements.

Equipment and meteorology

This section covers equipment and weather conditions.

A full assessment will provide details of the:

- **monitoring equipment used, including serial numbers, and the date it was most recently calibrated by an accredited laboratory**
- **results of field calibration checks, including any offset and drift**
- **equipment used to assess the weather during the monitoring**
- **meteorological conditions for each of the monitoring periods (especially if surveys were carried out on different days)**
- **software and protocol used to predict or analyse the sound levels**
- **audio equipment used to replay audio recordings**

Methodology

In this section you present the assessment standard used (most typically BS 4142) and how you implemented that method.

BS 4142 uses a 'rating level' – this is based on a comparison between the sound which is being assessed and the background sound which would exist without it. The rating level is then modified by any corrections for the character of the sound, be that tonal, impulsive, or intermittent.

Finally, an impact assessment is considered with respect to the context in which the sound will be heard. The impact assessment is modified appropriately to provide a final assessment which takes account of the 'context'.

Annex A in the standard provides several useful examples of assessments for users.

Justify any deviations from the relevant British Standard and explain the effects these have on uncertainty For example:

- monitoring during or shortly after rain
- no monitoring at night
- not free field
- higher than recommended wind speed for monitoring
- shorter or longer monitoring periods than recommended by the standard

Describe the methodology used for any predicted sound levels.

See the section on noise and vibration management plans in the guidance [Control and monitor emissions for your environmental permit](#).

Noise and vibration management plan

When applying for a permit the Environment Agency may ask you to submit a noise and vibration management plan if:

- we think there may be a risk of noise and vibration pollution beyond the site boundary
- you have done a noise impact assessment as part of your risk assessment

You must consider the findings from any noise impact assessment you do as part of your risk assessment.

We may also ask you to submit a noise and vibration management plan after we have issued your permit if you cause noise or vibration pollution beyond the site boundary, and either of these apply. You:

- have not already done a noise impact assessment
- do not already have a noise and vibration management plan

You must produce a noise and vibration management plan following the guidance in [Noise and vibration management: environmental permits](#).

Noise monitoring data and predictions

In this section, present the data without further interpretation.

Provide a full justification for the duration of measurements (with comments to explain why you considered them representative).

Also provide:

- statistical analysis to justify the LA90 (background) level
- details of any noise propagation model, including propagation distances, propagation heights, barriers and ground cover
- the data source for any noise propagation model, including directivity
- subjective descriptions of the specific and residual sound – this will allow the noise impact to be put into context (as per the requirements of BS 4142)

Time history figures or frequency analysis for relevant measurement periods are often useful.

Record whether any character corrections are appropriate under BS 4142. Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3dB 'other' correction to be applied for readily distinguishable industrial noise, unless you can demonstrate this is not justified.

Noise impact assessment

This section uses the data from section 7 together with the methodology from section 6 to assess the impact of the noise.

Provide calculations for impact on the receptor. Include:

- relevant measured sound levels
- a subjective description of the sound

If you have applied an acoustic feature correction, clearly indicate the reason for this, and the level of correction applied. For example:

- tonality
- impulsivity
- intermittency
- another reason

Also

- tabulate the site impact for each receptor
- consider the context of the location and the final assessment outcome

Noise control

This section covers how noise impact is (or will be) prevented, or if not practicable, minimised. You can only do this after you have assessed the scale of the pollution (section 8 of your report). If you do not know how bad the pollution is, or where the noise is coming from, you will have great difficulty controlling it.

Rank the identified noise sources on site from highest to lowest (based on level of impact at each receptor).

Target the dominant noise source with appropriate noise control measures that will prevent or minimise noise at the receptors.

Quantify the noise control options in decibels, so you can achieve a noise control target based on the noise impact assessment (section 8).

This can be an exercise which explores several potential actions and then recommends the most practicable option. Take into account cost, timescales and potential benefit. You must consider BAT. Tell us why you made your final choice of action.

Uncertainty

This section covers the sources of uncertainty in the measurements or predictions.

Describe the uncertainties associated with the noise sources, for example:

- **processing different materials**
- **different operators**
- **source directivity and distances, particularly with near-field measurements**
- **representative monitoring periods**

Describe the uncertainties associated with the:

- noise pathway (for example, wind direction or ground cover)
- receptor (for example, facades, other noise sources local to the receptor, uncertainties from the measurement chain or sound level meter drift)

Describe how:

- each source of uncertainty was minimised
- the uncertainty could potentially alter the assessment outcome

Please note that considering and minimising uncertainty is a strict requirement of BS 4142. If you do not show that you have identified and minimised uncertainty, it is very likely we will reject your assessment.

Conclusions and next steps

This section summarises the main findings and proposed tasks or actions, including additional noise control or further monitoring.

Appendices

These should include, but are not limited to:

- raw noise and weather data for each monitoring location or predicted noise source – ideally in graphical format, or any other measurement details
- attended monitoring notes – either scanned or transcribed
- full propagation calculations or predictions
- the date of the most recent lab calibration tests for sound level meter, microphone and field calibrator, or relevant calibration certificates
- credentials of everyone involved in compiling the report – the person undertaking the noise measurements in the field, the report author (if different) and the person authorising the report (if different)