Aire Valley Against Incineration (AVAI) response to the Environment Agency Draft Decision Document

Applicant's Noise Assessment – Queries and Objections

1. Selection of Sensitive Receptors (ESRs)

The EA's Noise Impact Assessment Guidance states that "*you must provide a description of local receptors and reasons for selection".*

Are there reasons given for selection? After careful examination of the noise documentation supplied, we failed to find them. And the description of each ESR seems to be limited to its post code and its distance from the site.

Will the EA please ask the Applicant to give reasons for the choice of these particular ESRs?

Moreover, there is **inconsistency in the selection and description of ESR1**. At a late stage it changes from 6 The Croft BD21 4ND to Thwaites House Farm BD21 4NA. No reason for the change is given and no description of either receptor is provided, other than their distance from the site boundary – extremely close, at 80m and 100m respectively. In reality, Thwaites House Farm is Regency Court, a care home for the elderly with a specialist facility for dementia sufferers.

Could the EA please explain why 6 The Croft was replaced as ESR1 by 'Thwaites House Farm' at such a late stage in the permit application process?

Was it at the EA's prompting that the Applicant latterly focused on this extremely sensitive receptor? If so, we regret that they weren't asked also to provide noise assessment data for another particularly sensitive receptor: Strong Close Nursery School at 440m distance from the site. Strong Close provides nursery education and childcare for 100+ children aged 2–5 years, with some children attending for full days from 8.00–5.30. It is a Designated Special Provision for children with complex special needs and disabilities.

Does the EA consider the nursery school to be a relevant ESR?

2. Our Objections to the Choice of ESRs

The three selected ESRs all experience significant levels of road traffic noise. This is noted by the Applicant in their first Schedule 5 response para 2.2 : "*the noise environment in the vicinity of the ESRs is dominated by traffic noise".* As one of the key measurements in noise assessment is the difference between the existing background noise and the new specific sound level, it would be reasonable for at least one of the ESRs to be located away from both main roads (the A650 and the old Bradford Road.)

Of course, the data for quieter locations showing a greater contrast between existing measurements and noise from the new development, might prove inconvenient to the Applicant's assertion that the plant noise will be insignificant and unlikely to give rise to complaints.

We particularly object to the selection of ESR2 – Marley Cottages. These are a small isolated group of houses situated right on a fast stretch of the Aire Valley Road, suffering exceptional levels of traffic noise. This high existing noise level of course enhances the Applicant's conclusions. Marley Cottages are totally unrepresentative of the hundreds of terraced and semi-detached properties in narrow residential streets within 500-700 metres of the site. Indeed, none of the ESRs, including the additional three on Thwaites Brow Road requested by the EA at a late stage, two of which are farms, reflect the typical geographic layout or housing type and density of the area.

Although essentially a planning issue, it is worth noting here the recent findings from the research body Unearthed (The Guardian 31.07.20) that waste incinerators are three times more likely to be situated in the 20% most deprived and ethnically diverse areas of the country. The EE site is located in Keighley East: the ward as a whole is ranked in the 30 most deprived percentile but neighbourhoods near the site are amongst the 10% most deprived in the country. In its descriptions of the area the Applicant has repeatedly airbrushed communities such as Aireworth and Stockbridge out of the picture and has also failed to select an ESR within them.

Why does the EA's third Schedule 5 request ask for additional ESRs higher up the valley but only to the south of the site? As noted in BS 5228 'Code of practice for noise and vibration control on construction and open sites' Annex F *" Meteorological conditions, (particularly wind speed and direction) and atmospheric absorption can also influence the level of noise received ...and result in increased noise levels due to focussing of the sound".* The prevailing south westerly winds would suggest an ESR higher up on the north slope of the valley somewhat to the east of the site would be worth investigation.

Could the EA please ask the Applicant to supply noise assessment data for a broader range of ESRs including:

- ***Residential properties in quieter areas not immediately adjacent to the two main roads eg Garforth Road, Kinara Close, River Street, end of Westlea Avenue***
- ***Strong Close Nursery School***
- ***Location on north slope of valley somewhat to the east of the site***

3. Comparative Noise Data

The documentation contains 3 sets of noise impact assessment data for ESRs 1, 2 and 3.

i) **"Noise note",** neither dated nor attributed, but appears to be in response to EA's first Schedule 5 request. It states that the data used is from CNIM July 2016

ii) **"CNIM Acoustic Study"** revised version July 2016. There are variations between the data set out in (i) and (ii) despite them being attributed to the same source.

iii) **Wardell Armstrong Noise Impact Assessment Report August 2019 [WA Aug 19]** commissioned by the Applicant in December 2018, this is the second version, amended following EA's third Schedule 5 request, which asked for the inclusion of details of '*sound powers from mobile sources'* ie. vehicle movements on site, and data for more ESRs higher up the hill.

Noise impact of HGVs on site

From the WA Aug 19 Executive Summary we learn that:

- the revised noise impact assessment assumes 27 HGV movements per day at a rate of 3 per hour between the hours of 8.00am and 17.00pm. The Applicant chose to base the calculations of noise impact on the dB value of an articulated dump truck, listed in table C4.2 of the 2009 BS 5228 Code of Practice at 78dB.
  We note that the 2014 DEFRA update of the tables gives a noise value of up to 85dB for these vehicles. We also question the generic choice of vehicle, which does not account for very large refuse wagons which may deliver the waste.

- In order to calculate the extra noise impact of HGVs throughout the day, an assumption for length of time of each HGV movement is required, also site traffic speed (as required by the EA's own guidance).
  We are unable find any assumption for the average length of time for each HGV movement. Nor is there any information on site traffic speed. Without these assumptions, we do not see how the plant noise emission levels can be accurately calculated.

- Comparing the data for daytime and night (when there are no HGV movements), the differences seem remarkably small, varying between 0 and 2 dBs. It is also noticeable that the CNIM figures for daytime specific plant noise impact at ESRs 2 and 3 are greater that the WA Aug 19 figures even though they don't include HGV movements: CNIM 38, WA 33 dBs.

Will the EA please ask the Applicant to supply assumptions for the average length of time of each HGV movement and site traffic speed?

Will the EA then examine and validate the data provided for daytime plant noise, noting the existing discrepancies between data supplied in the CNIM Acoustic Study and WA August 2019?

Will the EA please inform of us of the type of vehicles (and their dB value) generally used at EfW plants?

Noise contour maps

The documentation contains three noise contour maps: CNIM July 2016 (immediate area and neighbourhood) and WA February 2019, included in the WA Noise Report August 2019. The CNIM maps are night-time, the WA map doesn't specify. We presume that the WA Feb 19 map does not include data for HGV movements. Our queries and observations include:

i) Why are there variations in the contouring and noise banding between the maps when presumably they are drawn using the same data? Why does the CNIM immediate area map show noise bands up to 'greater than 66 dBs' whereas the highest WA noise band is 'greater than 45 dBs'?

ii) The ESRs are plotted on both maps. The CNIM neighbourhood map shows 2 ESRs with lower noise impacts than are attributed to them in the tables in the same document. The WA Feb 19 map shows all three ESRs with lower noise impacts, night or day, than are attributed to them in WA Aug 19 Tables 5 and 6 page 17.

iii) The WA Feb 19 map shows the noise reducing much faster to the west of the site than in other directions eg the first gasometer is in the same noise band as ESR1, although it doesn't have the benefit of the acoustic fence. Why is this?

Trying to read these noise maps is a prime example of the limitations of holding a permit consultation in the middle of a pandemic. Had we been able to attend a consultation event similar to that held in November 2018, or even a virtual version, many questions about data and assumptions could have been asked and hopefully answered.

Will the EA please explain the inconsistencies described in (i) (ii) and (iii) above?

4. Further EA Questions

Four out of the five Schedule 5 requests made by the EA to the Applicant include queries about noise. Perhaps we should be reassured that the permitting body has persistently questioned the Applicant's Noise Impact Assessment. Or should we be concerned about the competency of a developer who couldn't get it right in the first place?

In the fourth Schedule 5 Request, dated 19.09.19, *the EA challenges the Applicant's data for the night-time noise impact on the (new) ESR1, suggesting that it could be significantly higher than +6dBs, resulting in a noise impact between adverse and significant adverse*.

Replying on 08.11.19 to refute this suggestion, the Applicant misquotes the noise impact data for ESR1, stating that the specific plant noise is 39dB in the day and 37dB at night. This ignores the +3dB added to all monitoring results for tonal acoustic feature correction. This brings the specific plant noise to 42dB in the day and 40dB at night, as stated in WA Aug19 tables 5&6 page 17. With background noise levels of 46 – 48dB daytime and 34-38dB at

night, it is simply incorrect of the Applicant to state that "*noise from the proposed EfW plant is over 10dB lower than the ambient noise level at Thwaites House Farm".*

Furthermore, to state that "*during the night-time the noise emission from the EfW facility will be 37dB(A) ....noise from road traffic is significantly higher, and it is likely that bedroom windows would be kept closed to mitigate traffic noise"* is not only inaccurate but dismissive.

[For our further comments and questions on this issue, see section below 'Context and character of noise']

In the same request *the EA asks whether BAT has been applied to noise generally.* We feel extremely concerned that such a fundamental question still needs to be asked almost a year after the permit application was submitted. Although the Applicant's Schedule 5 response deals extensively with BAT relating to various components of the plant, we still could not find an assurance that BAT has been applied to noise.

Will the EA please note and challenge the inaccurate assertions about noise levels detailed above, including the Applicant's sweeping claim that "Noise emissions from the EfW facility are likely to be generally inaudible at ESR1"?

Will the EA please confirm or otherwise that BAT has been applied to noise generally?

5. Context and Character of Noise

Following BS4142 guidance, the Applicant argues that, in addition to the measured difference between background and specific plant sound, there are other factors to be considered when reaching conclusions about acceptable noise levels.

1. **"Absolute level of noise"**: the Applicant claims [WA Aug 19 para 5.3.18] that both background and specific noise are 'low' and that therefore any excess of specific plant noise over background noise is less significant. No definition of 'low' is given. Moreover, there is a body of research showing that low levels of noise can cause significant nuisance. See for example:

- WHO Guidelines for Community Noise
- Science Direct – Low Frequency Noise
- Noise and Health vol 6 issue 23 'Low frequency noise and annoyance'

We submit that the issue of absolute noise is not relevant in this context

2. The Applicant does not consider the plant noise to be **"tonal, impulsive or intermittent".** [WA Aug 19 para 5.3.5]. We would dispute that claim, on the grounds that the noise from HGV and other vehicle movements is both tonal and intermittent.

3. **Impact is reduced if background and specific plant noise are similar in character.**

Para 3.1.4 [WA Aug 19] explains:

"Partially attended noise monitoring and audio recording allow observations and detailed notes to be made of the significant noise sources which contribute to the measured levels. The observations identified the following:

Road traffic noise: *Noise from the near constant road traffic on the A650 was dominant during the day and night-time periods at MLs1&2 and was clearly audible at MLs3&4.*

Other sources: *Occasional distant industrial noise was audible from the industrial estate to the west of the proposed development at ML1. Occasional noise from the water treatment works was audible at ML2. Birdsong was also audible at each monitoring location*

At para 5.1.14 [WA Aug 19] the Applicant concludes from the data that *"the noise from the proposed development is likely to cause a low to moderate impact in accordance with BS4142 at ESRs during night-time depending on context"*

However, in the final paragraphs of the report, in order to claim that the noise impact from the proposed development can be judged only as low, the Applicant flies in the face of the evidence provided by its own monitoring. Para 5.3.21 states that *"The receptors ESR1&2 are located close to existing industrial and commercial premises and therefore the noise of the proposed development will be of a similar character to the existing noise environment"*. We submit that this is a totally spurious claim, and that neither this nor claims 1&2 above can be used to substantiate para 5.3.24: *"These findings reduce the likelihood of an adverse impact of noise from the proposed development at receptors ESR 1&2".*

Will the EA please comment on the Applicant's assessment of the context and character of the existing and specific plant noise in the light of the information and comments in 1,2 &3 above?

6. Noise Insulation and Attenuation

We are concerned that as late 15.01.20 [fifth Schedule 5 Request] the EA feels the need to ask for details of the cladding around the turbine hall – what materials are to be used and will they achieve the necessary attenuation specified in the Noise Impact Assessment Report. However, the Applicant [25.02.20] eventually supplies information amplifying the tables contained in the CNIM's Acoustic Report revised July.

We do note that the acoustic power levels for the outdoor equipment – where presumably no insulation is possible - are given as follows [CNIM section 8]

Total air-cooled condenser PWL = 91dB(A)

Total turbine coolers PWL = 90,7dB(A)

One stack PWL = 82,5dB(A)

with more detail of the air extraction provided at section 1.1:

Electrical rooms Transformers rooms and 3 air extractors on NE wall MV distribution room Estimated PWL downstream silencer = 77,5dB(A) Height of the three noise sources 8m

Turbine hall 2 air extractors on the roof direction of the outlet of the pipe south east Estimated PWL downstream silencer = 88,8dB(A) Height of the noise source 12m

Air compressor room 1 air extractor on north west wall Estimated PWL downstream silencer = 80,3dB(A) Height of the noise source 6m

Water treatment hall 1 air extractor on the NE wall Estimated PWL downstream silencer = 89,9dB(A) Height of the noise source 10m

Will the EA please confirm the noise levels of the outdoor equipment provided by CNIM and check the calculations that achieve overall night-time plant noise impact of 30–34 dBs despite the high levels quoted for the outdoor equipment?

7. The 3.5m Acoustic Fence

With regard to the screening effects of barriers, the EA's noise impact assessment guidance asks for the manufacturer's engineering specification and construction detail in order to determine the effectiveness of the barrier. We are unable to find this information for the 3.5m acoustic fence proposed for the south side of the site.

BS 5228 (Code of practice for noise and vibration control on construction and open sites) deals with acoustic screens at para B.4, stating that "*the minimum height of barriers is typically such that no part of the noise source will be visible from the receiving point"*

Will the EA please explain why it has not enforced its own guidance and asked the Applicant for information about the engineering specification and construction detail of the acoustic fence?

Given that the turbine hall is 12m high and the stack 60m high, in the light of the guidance in BS 5228, will the EA please comment on the likely effectiveness of a 3.5m acoustic fence for reducing noise impact at ESR1?

8. Regulation

In its response to comments on noise regulation made in the first consultation [Draft Decision Document (DDD) p120] the EA states: *"our preferred approach is not to set numerical noise limits but to use permit condition 3.5.1 to control and limit noise impacts".*

Please explain why the EA rejects a numerical approach to noise regulation when, unlike odour, noise is quantifiable?

Permit condition 3.5.1 reads as follows:

3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

We read this as saying that it is intended there should be no adverse noise impact, that, if there is, the Applicant will try to rectify it, but if unsuccessful then we have to accept that they have done what they can and just live with it.

Will the EA please confirm or refute our reading of this condition?

10 August 2020