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ATTN: MR RICHARD SEDDON

17 O'RIORDAN STREET, GREEN SQUARE –DA ENVIRONMENTAL NOISE ASSESSMENT – RESPONSE TO COMMENTS

We have reviewed the Department of Planning comments and provide the following response.

We have assessed noise emissions from the project site which was summarised in the project application noise assessment Ref: 20080916_jzb_r5. In this assessment we developed assessment objectives for both intrusiveness and amenity using EPA/DECC Industrial Noise Policy guidelines.

The operational noise sources in the proposed development can generally be divided into:

- continuous or quasi-continuous noise sources (which generally includes items such as air conditioning, process equipment noise that operates at a relatively constant level),and:
- Intermittent or transient noise sources (which typically includes vehicle movements, carpark door operation and the like).

The cumulative noise level of all noise sources are assessed against (and should comply with) both the intrusiveness and amenity criteria. However, the criteria are assessed over different time periods, as follows:

- Intrusiveness – 15 minute measurement interval
- Amenity – over the whole of the day, evening or night period as applicable.

For intermittent noise sources the intrusiveness (or 15 minute noise level) criterion tends to be the more stringent. When assessing amenity the noise level is averaged over the whole period and because the noise source is not present over the whole period, the average noise level tends to be significantly lower.

For constant noise sources, the intrusiveness noise level and the amenity noise level are the same or similar because the noise source is always present.

In other words, the amenity noise level is always almost always less that the 15 minute intrusiveness noise level, and for highly intermittently operating plant, it can be considerably lower.

For the proposed building at 17 O Riordon Street we determined the following intrusiveness and amenity assessment objectives for residential receivers.

Table 1 – Recommended Noise Levels

Time of day	Recommended Acceptable Noise Level dB(A) L_{eq}	
	Intrusiveness (15 min)	Amenity (Period)
Day (7am to 6pm)	60	55
Evening (6pm -10pm)	53	45
Night (10pm -7am)	46	40

The assessment for O'Riordon Street identified a number of main noise sources including:

- Vehicle movements
- Air conditioning plant
- Ventilation plant
- Internal process equipment noise including vehicle movements.
- Generator

The report presents the worst case (15 minute) noise levels for the above noise sources. When determining the cumulative noise level at the receivers for the whole night time period the following needs to be considered:

- The worst case assessment point for the noise sources is not necessarily the same. For example, the worst case assessment point would be the northern most residential boundary (closest to the plant). For process equipment noise emanating from the louvres on the side of the building the worst affected point would be further to the south since this location has less directivity loss from the louvres.

- The plant may not normally operate at full capacity at night due, for example, to lower temperatures and not all of the building being in operation or occupied at that time.

- The noise predictions are typical calculation to demonstrate the feasibility of meeting the noise objectives. A more detailed investigation would be undertaken at detailed design stage taking all of the above factors into account, and based on the actual proposed equipment.

The following table lists the worst case night time calculated noise levels for various noise sources for the intrusiveness goal of 46 dB(A) L_{eq} (15 min):

Table 2 – Predicted Worst Case Noise Levels – Intrusive Noise Goal

Noise Source	Predicted Worst Case Noise Level dB(A) L_{eq} (15 min)
Internal Process Noise	<30
Chiller (quasi-constant)	35
Generator (quasi-constant)	37
Fume Cupboard (quasi-constant)	32
Night Truck Movements (very intermittent at night)	39
Garage Door (intermittent at night)	35
COMBINED NOISE LEVEL	43

Adding all the noise sources without making any of the allowances noted above gives a noise level of 43 dB(A), which clearly complies with the night time 15 minute intrusiveness noise level goal of 46 dB(A).

We have made conservative allowances for the above factors to convert 15 minute noise levels to night time amenity levels the amenity noise assessment is provided in Table 3:

Table 3 – Predicted Worst Case Noise Levels – Amenity Noise Goal

Noise Source	Predicted Worst Case Noise Level dB(A) L_{eq} (night period)
Internal Process Noise	<30
Chiller (quasi-constant)	33
Generator (quasi-constant)	36
Fume Cupboard (quasi-constant)	32
Night Truck Movements (very intermittent at night)	29
Garage Door (intermittent at night)	32
COMBINED NOISE LEVEL	40

The combined noise level complies with the amenity goal of 40 dB(A).

The assessment demonstrates that (if appropriately designed) the proposed development would comply with both the intrusive and amenity noise goals from the cumulative impact of all noise sources. A more detailed assessment of all noise sources would be undertaken during the building's detailed design using actual plant selections and load profiles to ensure the combined level of noise emissions achieves compliance with the noise goals.

Yours faithfully,

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