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PENRITH LAKES HELIPAD ACOUSTIC ASSESSMENT: REVIEW

Dear Fadi,

As instructed, I have conducted a review of potential noise impacts resulting from proposed helicopter operations at Penrith Lakes Heliport.

Original Noise Assessment

My first report, dated 18 November 2021, was based on the assessment provided in the report "Sydney Helicopter Relocation: Noise Impact Assessment", project ID 20200346.2 revision 2, by Acoustic Logic Consultancy Pty Ltd ("the first AL report"). My report (attached) notes the following issues in the first AL report:

- Noise level criteria proposed were based on documents that have since been withdrawn. There is, in fact, no current document from any relevant regulatory authority that sets criteria for newly-introduced helicopter noise. However, my report argues that a reasonable criterion in this case would be approximately 47 dBA $L_{Aeq,24hr}$ at residences, which is significantly more restrictive than the criteria proposed in the first AL report.
- The first AL report did not identify the two residences closest to the proposed heliport or describe potential noise levels at those locations.
- There appeared to be differences between measured and predicted noise levels at some points. However the prediction methodology was not clear, and measurements were not conducted at the locations that are potentially most impacted. My report indicates that more detailed measurements are required to confirm the accuracy of the predictions.

Subsequent Discussion

In subsequent discussion with the proponents and their acoustic consultants it was agreed that:

- The noise criterion for newly-affected residences would be 48 dBA $L_{Aeq,24hr}$, consistent with recent court decisions in similar cases. For other relevant land uses, notably the nearby golf course and regatta, it was agreed that a criterion could be set at 55 dBA $L_{Aeq,24hr}$. This is approximately in accordance with the EPA's amenity criterion for industrial noise in active recreation areas.
- The two closest residences would be included in the assessment.
- Calculations would be more explicit and would be based on Sound Exposure Level (SEL) values rather than Sound Power Level (SWL) values as in the first report because that calculation process is more direct and verifiable.

Following this discussion a further report was produced - "Sydney Helicopters 89-151 Old Castlereagh Rd, Castlereagh NSW 2749: Noise Impact Assessment", project ID 20200346.2 revision 1, by Acoustic Logic Consultancy Pty Ltd ("the second AL report"). This responds to the points above and concludes that noise impacts will be within the agreed criteria at all relevant locations.

However in this second report I still considered that there was uncertainty in the calculations. In particular, the sources of the assumed SEL values for helicopter operations were in some cases not available and in another case the source indicates SEL values above those that were shown.

Noise Measurements

As a result, further measurements of noise from helicopter movements at the proposed site were carried out on 11 April 2022, at which I was present. As agreed, these were conducted only at the most-affected residence (47-65 Old Castlereagh Rd), on the basis that if noise levels were acceptable there they would also be acceptable elsewhere. Also, they involved only the most common helicopter type proposed (AS350). It is considered that differences in noise level between different helicopter types can be adequately accounted for based on available information.

The results indicated an energy-mean SEL value consistent with the value assumed in the second AL report (82 dBA for an AS350 at this location), and hence given the proposed numbers of operations, the criterion of 48 dBA $L_{Aeq,24hr}$ would be complied with at this location.

Final report

A revised report incorporating the above results was prepared, namely "Sydney Helicopters 89-151 Old Castlereagh Rd, Castlereagh NSW 2749: Noise Impact Assessment", project ID 20200346.2 revision 2, by Acoustic Logic Consultancy Pty Ltd.

I am satisfied, on the basis of the above measurements and the results incorporated in the third report, that provided:

- operations are conducted in the manner undertaken during the tests; and
- the proposed limits to numbers of operations are adhered to;

then noise levels from the proposed operations will be acceptable at all adjacent residences and other land uses.

Recommendations For Monitoring

The proposed numbers of helicopter operations per day are based on the measured SEL values at the nearest residence. If higher SEL values were found during operational use, then these movement numbers would need to be modified.

It is recommended that noise monitoring be conducted

- within one month of the beginning of regular operations, at 47-65 Old Castlereagh Rd ; and
- in response to any subsequent complaints, at the relevant location

to confirm that the measured SEL values comply with those assumed in the final AL report. Monitoring should be conducted during normal operations, over one day, and results should include at least measured (A-weighted) SEL values.

I trust this report is satisfactory. If you require further information or clarification, please do not hesitate to contact me.

Yours sincerely,

ROB BULLEN CONSULTING



Rob Bullen
Principal