Hansma Environmental Consulting Pty Ltd

ACN: 696 941 910
ABN: 60 696 941 910
emma@hansma.com.au
+61 478 011 943
55 Alexandra Avenue
Westmead NSW 2145

Ongoing Operational Noise Monitoring

Tallawarra Power Station

Prepared by Hansma Environmental Consulting Pty Ltd

ACN 696 941 910 | ABN 60 696 941 910

Prepared for:
Energy Australia

Ref	26007_OONM_Rev2
Version	Rev2
Author	Emma Hansma
Date	16/07/2026

Hansma Environmental Consulting Pty Ltd

ACN: 696 941 910
ABN: 60 696 941 910
emma@hansma.com.au
+61 478 011 943
55 Alexandra Avenue
Westmead NSW 2145

Document Control

Table 0-1: Document revision control

Revision	Date	Prepared by	Description
1	02/07/2026	Emma Hansma	Rev1
2	16/07/2026	Emma Hansma	Rev2

Distribution

Table 0-2: Distribution list

Revision	Issue Date	Issued to	Issued by
1	02/07/2026	Energy Australia NSW EPA	Hansma Environmental Consulting
2	16/07/2026	Energy Australia NSW EPA	Hansma Environmental Consulting

Limitations

This report has been prepared for the exclusive use of the client and for the purpose stated in the scope. It should not be relied on for any other purpose without written agreement from Hansma Environmental Consulting Pty Ltd.

Executive Summary

Hansma Environmental Consulting has been engaged by EnergyAustralia to undertake ongoing operational noise monitoring of the Tallawarra Power Station. The site is located at Lot 109, DP 1050302 Yallah Bay Road, Yallah NSW 2530. The objective of the monitoring program is to evaluate the site's compliance with the noise limits set in Environment Protection Licence (EPL) 555 and to satisfy Condition E4 of that licence.
The scope of this report is limited to the following:

- Undertake noise monitoring at nearest sensitive receptors and future Tallawarra lands receptors during normal operating conditions during the day and evening;
- Evaluate status of compliance against operational noise levels at the locations defined in Table 1 and 2 of the Project Approval;
- Assessment of annoying characteristics in accordance with the Noise Policy for Industry (NPfI); and
- Details of meteorological conditions prevailing during the monitoring.

The assessment utilised attended noise monitoring equipment to determine compliance with the noise criteria. The attended noise measurements were carried out by three consultants simultaneously using 1x SVANTEK SVAN957 Type 1 Precision Sound Level Meter, and 2x XL2-MC230A Type 1 Sound Level Meters.

Attended and unattended noise monitoring was undertaken during the day and evening period with one measurement taken at each location on the 23rd June 2026. This was coordinated to be undertaken during peak energy demand when both units would be running simultaneously. Conducting monitoring at other times was not practical, as operating both gas-fired units outside peak energy demand would be financially unviable.

The site was inaudible at existing and future residences. An assessment of annoying characteristics was undertaken, and a low frequency penalty of 2dB applied to one location in the Northern Precinct locations. With the penalty, the measured site contributions comply with the $L_{Aeq(15min)}$ project approval criteria of 40 dB(A). Noise enhancing weather conditions (a feature of the area for some of the Northern Precinct receptors) was occurring during the time of monitoring.

Based on the results of the attended monitoring, Tallawarra A&B Power Station complied with Table 1 and Table 2 of the Project Approval (07_0124) and with Condition L6 of Environment Protection Licence (EPL) 555 at all locations. Therefore, the site also complies with Table 3 and Table 4 of the Project Approval criteria at all locations.

Contents

Page

Tables

Page

Figures Page

Attachments

1. INTRODUCTION

Hansma Environmental Consulting (HEC) has been engaged by EnergyAustralia to undertake an ongoing operational noise monitoring of Tallawarra power station when both units (Tallawarra A and Tallawarra B) are running. The site is located at Lot 109, DP 1050302 Yallah Bay Road, Yallah NSW 2530. This monitoring has been undertaken as OEMP.

The relevant condition has been repeated in Section 3.

In 2010, the Department of Planning's Major Projects approved 2 or 3 'E Class Gas Turbines' (Tallawarra B). The site has modified this application in 2016 and 2020, which now applies to 1 'F Class Gas Turbine' which is to operate at 300 to 400 MW.

1.1 Operational Environmental Management Plan Requirements

The following requirements from the operational noise monitoring plan are provided below.

Table 1-1: Operational Noise Management Plan Requirements

Potential Impact	Location	Parameters	Frequency	Methodology	Reporting	Responsibility	CoA and OEMP Reference
Ongoing Operational Noise Monitoring	T2 (A) Any residence on Carlyle Close, Wollin Place, Coronet Place, and Crompton Street, in Koonawarra. T4 (B) Any residence in Wyndarra Way and Malonga Place in Koonawarra. ML#9 (C) Any residence on The Boulevarde, Park Crescent, Horsley Road and Newton Crescent in Oak Flats. ML#10 (D) Any residence on Reddall Parade and Henricks Parade in Mt Warrigal. ML#11 (E) Any residence in Haywards Bay. (North) Most affected residence – proposed northern residential area. (Central) Most affected residence – proposed central residential area. (South) Most affected residence – proposed south-western residential area.	• L_{aeq} • LA_{10} • LA_{90}; and • LA_{Max} Noise levels shall not exceed criterion stipulated in Table 5-12 and Table 5-13 attended noise monitoring will be undertaken for 15 minutes per location. Monitoring is undertaken at each of the locations for day, evening and night periods.	• Annual basis throughout the life of the project, and • On following an exceedance of noise limits in Table 5-12 and Table 5-13; and • Or in response to a noise complaint.	Noise monitoring will: • Be undertaken in accordance with the *Noise Policy for Industry* (NSW EPA, 2017); • Be undertaken via attended noise monitoring at the locations identified in Table 5-12 and Table 5-13 and as illustrated within Figure 5-4. • Attended noise monitoring will be undertaken for 15 minutes per locations. • Monitoring is undertaken at each of the locations for day, evening and night periods • Include monitoring of operations that have the potential to cause offensive noise including, but not limited to, safety valve operation, blowdown operation and the operation of circuit breakers during the day evening and night time periods; • Include monitoring of the effectiveness of any noise mitigation measures implemented under condition 3.6 of the Project Approval; and • In instances where Modification Factors for Low Frequency Noise apply, noise monitoring is to include an assessment of modifying factors in accordance with Fact Sheet C of the Noise Policy for Industry 2017. This is where noise is assessed for annoying characteristics such as tonal, low frequency or intermittent noise and a penalty of 5 dB will be added.	Reports will submitted to the Secretary and EPA within 28 days of completing the noise event. Reports will be required • Annually • In the event of an exceedance during the ongoing noise review; • In response to a noise complaint; and / or • Additional monitoring as deemed necessary by the Secretary.	Specialist acoustic consultant on behalf of EnergyAustralia	4.5 4.6

NOTE: Monitoring not undertaken at proposed south-west residential area — no longer planned for development.
Monitoring conducted 3:00 pm–9:00 pm only — deemed reasonable to capture worst-case scenario with both units operating.

1.2 Scope of Works

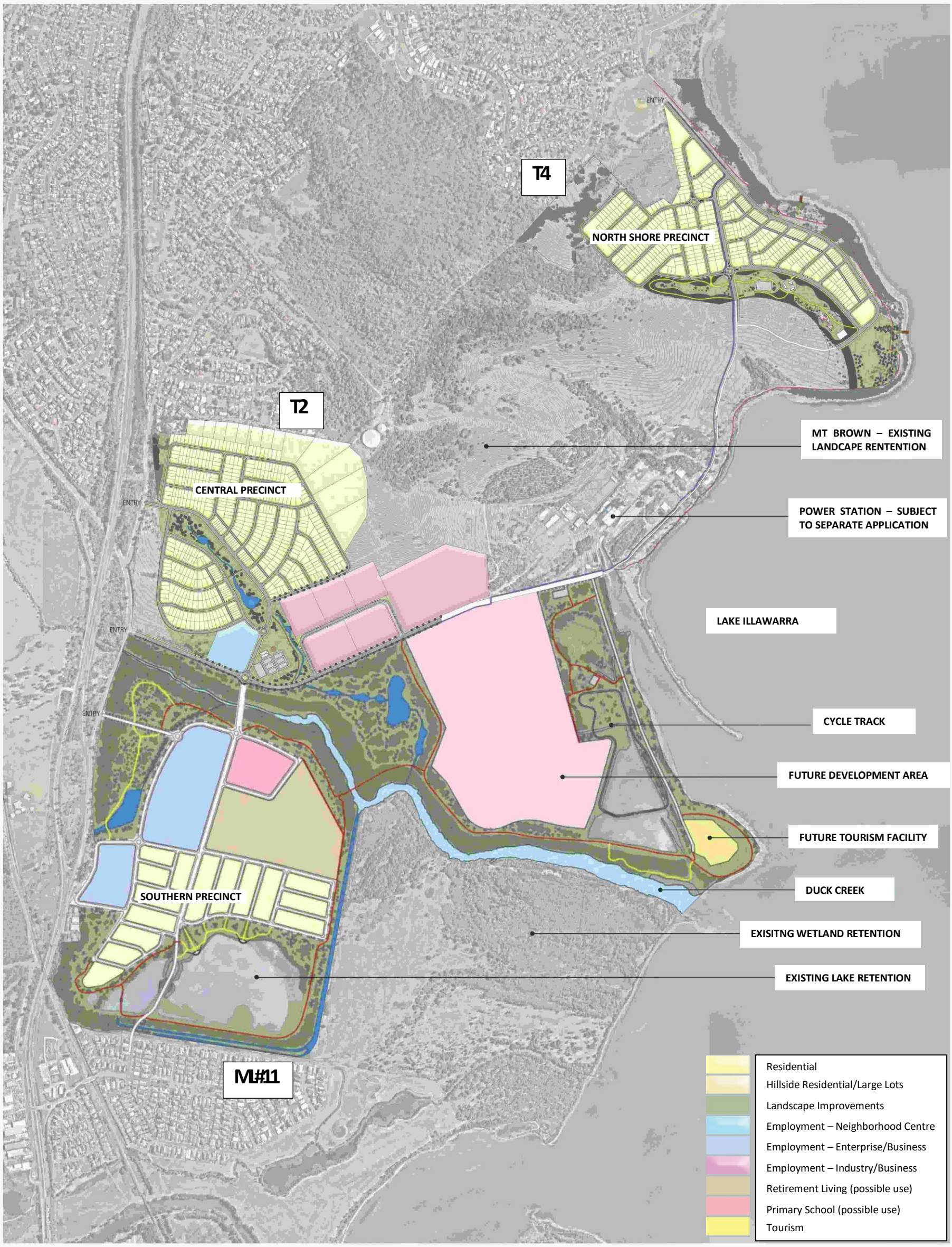
The scope of this report is limited to the following:

- Undertake noise monitoring at nearest sensitive receptors and future Tallawarra lands receptors during normal operating conditions during the day and evening;
- Evaluate status of compliance against operation noise levels at the locations defined in Table 1 and 2 of the Project Approval;
- Assessment of annoying characteristics in accordance with the Noise Policy for Industry (NPfI); and
- Details of meteorological conditions prevailing during the monitoring.

2. Nearest sensitive Receptors

Table 2-1 lists the representative locations of potentially affected existing and future receivers that are considered in this assessment. The locations are shown in the following figures.

Figure 2-1: Future Use Concept Plan



Source: Cardno Landscape Concept Plan 2019

Table 2-1: Nearest Receivers

Receiver ID	Project Approval ID	Address	Direction from Site	Lot and DP	Approximate distance to site (m)	Easting	Northing	Type of receiver
R1	T2	54 Carlyle Close Dapto	NW	Lot 819 DP876973	1,150	297722.26	6177950.65	Residential
R2	T2	44 Coronet Place Dapto	NW	Lot 11 DP703747	1,120	297790.30	6178228.53	Residential
R3	T4	17 Malonga Place Koonawarra	N	Lot 169 DP262210	1,060	298541.81	6178767.46	Residential
R4	T4	83 Wyndarra Way Koonawarra	N	Lot 239 DP262630	1,240	298723.14	6178982.11	Residential
R5	-	68 Gilba Road Koonawarra	N	Lot 220 DP242860	1,450	298875.86	6179230.15	Residential
R6	ML#9	57 The Boulevarde Oak Flats	S	Lot 200 DP13638	3,500	299687.96	6174255.44	Residential
R7	ML#9	23 Park Crescent Oak Flats	S	Lot 421 DP15987	3,800	298913.91	6173834.90	Residential
R8	ML#10	295 Reddall Parade Mount Warrigal	SE	Lot 261DP223828	3,650	301667.93	6175420.38	Residential
R9	ML#11	82 Haywards Bay Drive Haywards Bay	SW	Lot 523 DP1194029	2,370	297736.81	6175681.13	Residential
R10	ML#11	116 Haywards Bay Drive Haywards Bay	SW	Lot 226 DP1112514	2,470	297360.16	6175753.86	Residential
R11	ML#11	142a Haywards Bay Drive Haywards Bay	SW	Lot 381 DP1137139	2,720	297094.94	6175789.77	Residential
Tallawarra Lands Future Receivers								
R12	Most affected residence –	Southern Precinct	SW	Lot 2 DP792664	1,840	297772.00	6176344.10	Residential

Table 2-1: Nearest Receivers

Receiver ID	Project Approval ID	Address	Direction from Site	Lot and DP	Approximate distance to site (m)	Easting	Northing	Type of receiver
R13	proposed south-western residential area	Southern Precinct	SW	Lot 151 DP628980	1,960	297504.86	6176416.91	Residential
R14	Most affected residence – proposed central residential area	Central Precinct	W	Lot 15 DP DP1050255	1,100	297828.31	6177479.52	Residential
R15		Central Precinct	W	Lot 15 DP DP1050255	1,000	297885.37	6177673.22	Residential
R16		Central Precinct	W	Lot 1 DP551658	1,000	297884.38	6177776.82	Residential
R17		Central Precinct	NW	Lot 102 DP716727	1,010	297874.24	6177843.85	Residential
R18	Most affected residence – proposed northern residential area	Northern Precinct	N	Lot 30 DP1175058	870	298713.53	6178645.77	Residential
R19		Northern Precinct	N	Lot 30 DP1175058	820	298767.19	6178592.09	Residential
R20		Northern Precinct	N	Lot 30 DP1175058	750	298820.85	6178537.22	Residential
R21		Northern Precinct	N	Lot 30 DP1175058	710	298875.70	6178497.85	Residential
R22		Northern Precinct	NE	Lot 30 DP1175058	750	299024.79	6178521.67	Residential
R23		Northern Precinct	NE	Lot 30 DP1175058	800	299146.45	6178534.76	Residential
R24		Northern Precinct	NE	Lot 30 DP1175058	890	299302.70	6178559.77	Residential

Table 2-1: Nearest Receivers

Receiver ID	Project Approval ID	Address	Direction from Site	Lot and DP	Approximate distance to site (m)	Easting	Northing	Type of receiver
R25		Northern Precinct	NE	Lot 30 DP1175058	850	299444.62	6178533.50	Residential
R26		Northern Precinct	NE	Lot 30 DP1175058	990	299556.72	6178471.46	Residential
R27		Northern Precinct	NE	Lot 30 DP1175058	990	299655.69	6178362.90	Residential
R28	Most affected residence – proposed south-western residential area	Southern Precinct	SW	Lot 11 DP552933	1,580	297668.70	6176757.99	Aged Care (residential)
R29	-	Central Precinct	W	Lot 31 DP1175058	600	298323.28	6177514.00	Commercial
R30	-	Central Precinct	W	Lot 15 DP DP1050255	1,000	297930.88	6177478.31	Commercial
R31 R31B	-	Future Development Area (Potential Primary School)	SW	Lot 31 DP1175058	580 970	298492.60 298385.18	6177360.11 6176960.58	School
R32	-	Future Tourism Facility	S	Lot 31 DP1175058	1,250	299082.31	6176563.39	Commercial (Potential Holiday Accommodation)

Source: SixMaps, Tallawarra Master Plan 2020

Figure 2-2: Nearest Sensitive Receivers

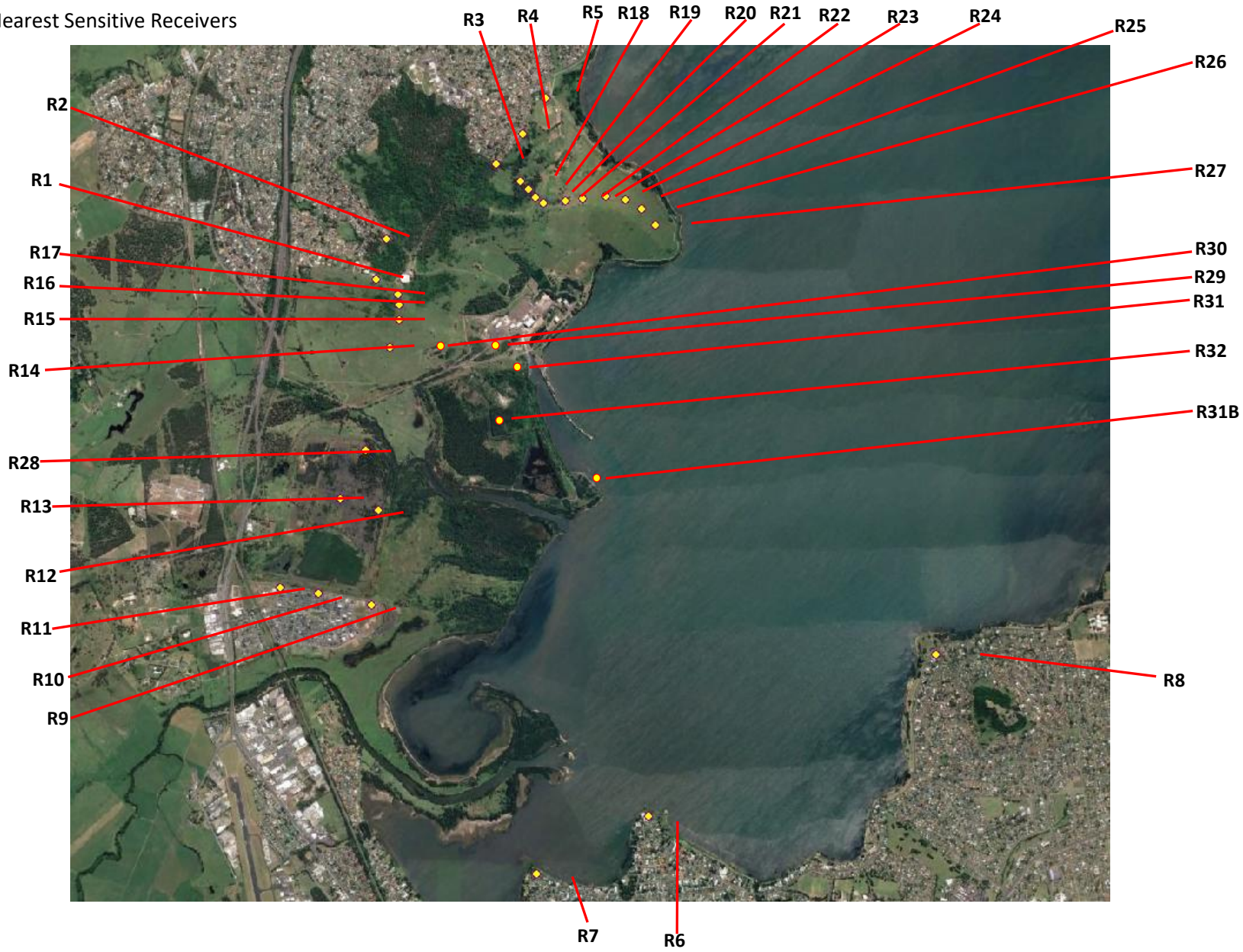
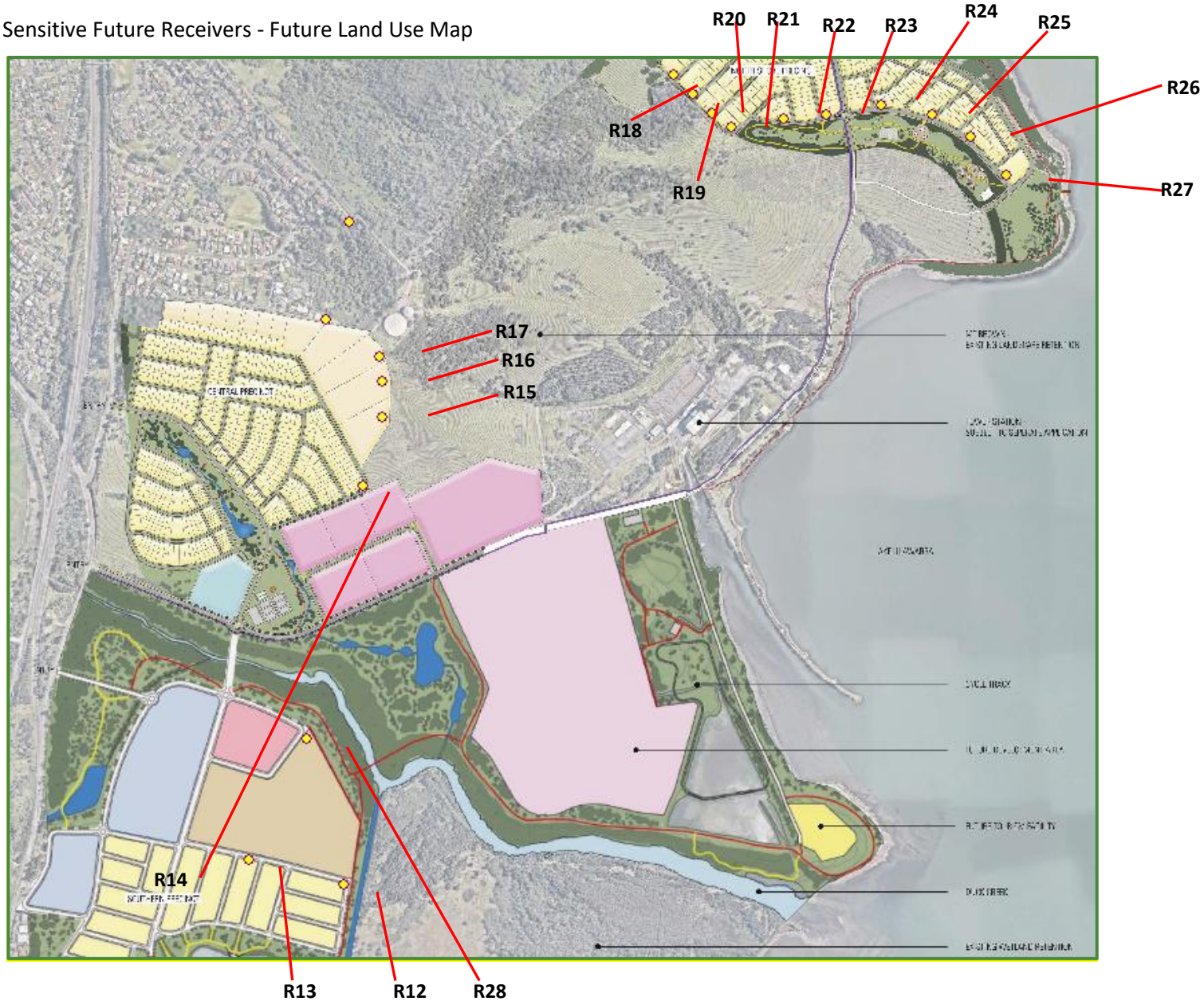


Figure 2-3: Nearest Sensitive Future Receivers - Future Land Use Map



3. Project Approval Criteria

This section has been extracted directly from Schedule 1 Application No: 07_0124.

<table>
<tr><th>Condition</th><th>Requirement</th></tr>
<tr><td colspan="2">Noise Impacts – Operational Noise</td></tr>
<tr><td>3.5</td><td>The Proponent shall design, construct, operate and maintain the project to ensure that the total cumulative noise contribution from the combined operation of the Tallawarra Stage A and Tallawarra Stage B power stations to the background acoustic environment does not exceed the noise limits specified in Table 1 and Table 2.

Table 1 – Maximum Allowable Noise Limits Outside the Tallawarra Lands
<table>
<tr><th rowspan="2">Location</th><th>Day
7:00 am to 6:00 pm Mondays to Saturdays
8:00 am to 6:00 pm Sundays and public holidays</th><th>Evening
6:00 pm to 10:00 pm on any day</th><th colspan="2">Night
10:00 pm to 7:00 am Mondays to Saturdays
10:00 pm to 8:00 am Sundays and public holidays</th></tr>
<tr><th>$L_{Aeq(15\ minute)}$</th><th>$L_{Aeq(15\ minute)}$</th><th>$L_{Aeq(15\ minute)}$</th><th>L_{Amax}</th></tr>
<tr><td>Locality T2
Any residence on Carlyle Close, Wollin Place, Coronet Place, and Crompton Street, in Koonawarra</td><td>35 dB(A)</td><td>35 dB(A)</td><td>35 dB(A)</td><td>45 dB(A)</td></tr>
<tr><td>Locality T4
Any residence on Wyndarra Way and Malonga Place in Koonawarra</td><td>35 dB(A)</td><td>35 dB(A)</td><td>35 dB(A)</td><td>45 dB(A)</td></tr>
<tr><td>Locality ML#9
Any residence on The Boulevarde, Park Crescent, Horsley Road and Newton Crescent in Oak Flats</td><td>38 dB(A)</td><td>38 dB(A)</td><td>38 dB(A)</td><td>45 dB(A)</td></tr>
<tr><td>Locality ML#10
Any residence on Reddall Parade and Henricks Parade in Mt Warrigal</td><td>38 dB(A)</td><td>38 dB(A)</td><td>38 dB(A)</td><td>45 dB(A)</td></tr>
<tr><td>Locality ML#11
Any residence in Haywards Bay</td><td>35 dB(A)</td><td>35 dB(A)</td><td>35 dB(A)</td><td>45 dB(A)</td></tr>
</table>
</td></tr>
</table>

Condition	Requirement

The localities set out in Table 1 are those described in Appendix E of the document listed in condition 1.1c). For the purpose of Table 1, "residence" is defined as any residential dwelling existing at the date of this approval and any residential dwelling, once constructed, on land zoned R2 - Low Density Residential under the Wollongong Local Environmental Plan 2009 at the identified locality.

Table 2 - Noise Limits for Tallawarra Lands Residential Areas

Location	Day 7:00 am to 6:00 pm Mondays to Saturdays 8:00 am to 6:00 pm Sundays and public holidays	Evening 6:00 pm to 10:00 pm on any day	Night 10:00 pm to 7:00 am Mondays to Saturdays 10:00 pm to 8:00 am Sundays and public holidays	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	L_{Amax}
Most affected residence - proposed northern residential area	If the *Noise Policy for Industry* (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	If the *Noise Policy for Industry* (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	If the *Noise Policy for Industry* (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	50 dB(A)
Most affected residence - proposed central residential area	40 dB(A)	40 dB(A)	40 dB(A)	50 dB(A)
Most affected residence - proposed south-western residential area	41 dB(A)	41 dB(A)	41 dB(A)	51 dB(A)

The proposed residential areas set out in Table 2 are those illustrated in Appendix A of the Tallawarra Concept Plan Application – Preliminary Assessment Report prepared by Don Fox Planning and dated June 2009. For the purpose of Table 2, "residence" is defined as any residential dwelling once constructed, either prior to or post the construction and operation of the power station, on land zoned R2 - Low Density Residential or R5 - Large Lot Residential under the Wollongong Local Environmental Plan 2009 within the proposed residential areas.

If noise from an activity is substantially tonal, intermittent or impulsive in nature and contains major components within the low frequency range (as described in Noise Policy for Industry, (NSW EPA, 2017)), 5 dB(A) must be added to the measured noise level when comparing the measured noise with the limits specified in Tables 1 and 2, in accordance with the requirements of the Industrial Noise Policy.

Condition	Requirement
3.6	The noise limits set out in Table 1 and Table 2 do not apply under: wind speeds greater than 3 metres per second (measured at 10 metres above ground level); or under stability category G temperature inversion conditions; or under stability category F temperature inversion conditions and wind speeds greater than 2 metres per second at 10 metres above the ground. Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in the Noise Policy for Industry, (NSW EPA, 2017). The data to be used for determining meteorological conditions is that recorded by the meteorological weather station located at the Tallawarra Stage A power station. Where operational noise monitoring (as required by either conditions 4.1 or 4.5 of this approval) identifies any non-compliance with the operational noise limits specified under condition 3.5 of this approval, the Proponent shall prepare and submit to the Secretary for approval a report including, but not limited to: a) an assessment of all reasonable and feasible physical and other mitigation measures for reducing noise at the source; b) identification of the preferred measure(s) for reducing noise at the source; c) evidence that the EPA is satisfied that the proposed noise mitigation measures are acceptable; and d) location, type, timing and responsibility for implementation of the noise mitigation measure(s). The report is to be submitted to the Secretary within 90 days of undertaking the noise monitoring which has identified exceedances of the operational noise criteria specified under condition 3.5, unless otherwise agreed to by the Secretary. The Proponent shall implement all reasonable and feasible mitigation measures in accordance with the requirements of the Secretary.
Noise Impacts – *Additional Noise Mitigation Measures*	
3.7	If, after the implementation of all reasonable and feasible source controls, as identified in the report required by condition 3.6, the noise generated by the combined operation of the Tallawarra Stage A and Tallawarra Stage B power stations exceeds the noise limits stipulated in Table 3 and Table 4 at the specified localities, upon receiving a written request from an affected landowner (unless that landowner has acquisition rights under condition 3.13 of this approval and has requested acquisition) the Proponent shall investigate and implement reasonable and feasible at-receiver noise mitigation measures such as double glazing, insulation, air conditioning and or other building acoustic treatments at any residence on the land, in consultation with the landowner, to ensure that the noise limits specified in condition 3.5 of this approval are not exceeded.

Condition	Requirement

Table 3 – Additional Noise Mitigation Criteria Outside the Tallawarra Lands

Location	Day 7:00 am to 6:00 pm Mondays to Saturdays 8:00 am to 6:00 pm Sundays and public holidays	Evening 6:00 pm to 10:00 pm on any day	Night 10:00 pm to 7:00 am Mondays to Saturdays 10:00 pm to 8:00 am Sundays and public holidays
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$
Locality T2 Any residence on Carlyle Close, Wollin Place, Coronet Place, and Crompton Street, Koonawarra	40 dB(A)	40 dB(A)	40 dB(A)
Locality T4 Any residence on Wyndarra Way and Malonga Place in Koonawarra	41 dB(A)	41 dB(A)	41 dB(A)
Locality ML#9 Any residence on The Boulevarde, Park Crescent, Horsley Road and Newton Crescent in Oak Flats	41 dB(A)	41 dB(A)	41 dB(A)
Locality ML#10 Any residence on Reddall Parade and Henricks Parade in Mt Warrigal	40 dB(A)	40 dB(A)	40 dB(A)
Locality ML#11 Any residence in Haywards Bay	47 dB(A)	47 dB(A)	47 dB(A)

<table>
<tr><th>Condition</th><th>Requirement</th></tr>
<tr><td></td><td>
Table 4 - Additional Noise Mitigation Criteria for Tallawarra Lands Residential Areas
<table>
<tr><th>Location</th><th>Day
7:00 am to 6:00 pm Mondays to Saturdays
8:00 am to 6:00 pm Sundays and public holidays</th><th>Evening
6:00 pm to 10:00 pm on any day</th><th>Night
10:00 pm to 7:00 am Mondays to Saturdays
10:00 pm to 8:00 am Sundays and public holidays</th></tr>
<tr><td></td><td>$L_{Aeq(15\ minute)}$</td><td>$L_{Aeq(15\ minute)}$</td><td>$L_{Aeq(15\ minute)}$</td></tr>
<tr><td>Most affected residence - proposed northern residential area</td><td>43 dB(A)</td><td>43 dB(A)</td><td>43 dB(A)</td></tr>
<tr><td>Most affected residence - proposed central residential area</td><td>43 dB(A)</td><td>43 dB(A)</td><td>43 dB(A)</td></tr>
<tr><td>Most affected residence - proposed south-western residential area</td><td>44 dB(A)</td><td>44 dB(A)</td><td>44 dB(A)</td></tr>
</table>
If noise from an activity is substantially tonal, intermittent or impulsive in nature and contains major components within the low frequency range (as described in Noise Policy for Industry, (NSW EPA, 2017)), 5 dB(A) must be added to the measured noise level when comparing the measured noise with the limits specified in Tables 3 and 4, in accordance with the requirements of the Noise Policy for Industry, (NSW EPA, 2017).
</td></tr>
<tr><td>3.8</td><td>The Proponent shall bear the costs of any additional at-receiver mitigation measures implemented at an affected property or land.</td></tr>
<tr><td>3.9</td><td>The Proponent shall make a binding written offer to the landowner regarding the mitigation options that can be implemented at the property. If within three months of receiving this request from the landowner the Proponent and landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution, whose decision shall be final. If the landowner refuses to accept the Proponent’s offer within six months of the date of offer, the Proponent's obligations to provide additional mitigation measures at the property or land shall cease, unless otherwise agreed by the Secretary.</td></tr>
<tr><td>3.10</td><td>If a landowner has agreed to, or a property has been the subject of the application of, at-source noise mitigation measures under condition 3.7, the Proponent's obligations to re-consider the land or property under the requirements of condition 3.7 shall cease, unless otherwise agreed by the Secretary.</td></tr>
<tr><td>3.11</td><td>The requirements of conditions 3.7 to 3.10 do not apply if a negotiated agreement consistent with the requirements Noise Policy for Industry, (NSW EPA, 2017) exists between the Proponent and the landowner.</td></tr>
</table>

Condition	Requirement
3.12	The Proponent shall provide written notice to all landowners that are entitled to rights under condition 3.7 within 21 days of determining the landholdings to which these rights apply. This condition only applies where operational noise levels have been confirmed. For the purpose of this condition and condition 3.18, confirmation of operational noise levels means: a) completion of the operational noise review required under condition 4.1 of this approval; and b) implementation of any source controls, as required under condition 3.6 of this approval, should the operational noise review indicate noise levels in excess of the operational noise limits specified in condition 3.5; and c) monitoring of operational noise levels, as per the requirements under condition 4.5 of this approval, following the implementation of any source controls.

Condition	Requirement
3.13	If, after the implementation of all reasonable and feasible source controls, as identified in the report required by condition 3.6, the noise generated by the combined operation of the Tallawarra Stage A and Tallawarra Stage B power stations exceeds the noise limits specified in Table 5 and Table 6 at the specified localities, the Proponent shall, upon receiving a written request for acquisition from the landowner, within two years of the date of that landowner being notified of his/her acquisition rights, acquire the land in accordance with the procedures in conditions 3.14 to 3.16 of this approval. Any landowner that has agreed to, or property that has been the subject of, the application of additional noise mitigation measures under condition 3.7 of this approval waives the right to land acquisition.

Table 5 - Land Acquisition Criteria for Residential Receivers Outside the Tallawarra Lands

Location	Day 7:00 am to 6:00 pm Mondays to Saturdays 8:00 am to 6:00 pm Sundays and public holidays	Evening 6:00 pm to 10:00 pm on any day	Night 10:00 pm to 7:00 am Mondays to Saturdays 10:00 pm to 8:00 am Sundays and public holidays
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$
Locality T2 Any residence on Carlyle Close, Wollin Place, Coronet Place, and Crompton Street, Koonawarra	43 dB(A)	43 dB(A)	43 dB(A)
Locality T4 Any residence on Wyndarra Way and Malonga Place in Koonawarra	44 dB(A)	44 dB(A)	44 dB(A)
Locality ML#9 Any residence on The Boulevarde, Park Crescent, Horsley Road and Newton Crescent in Oak Flats	44 dB(A)	44 dB(A)	44 dB(A)
Locality ML#10 Any residence on Reddall Parade and Henricks Parade in Mt Warrigal	43 dB(A)	43 dB(A)	43 dB(A)
Locality ML#11 Any residence in Haywards Bay	50 dB(A)	50 dB(A)	50 dB(A)

<table>
<tr><th>Condition</th><th>Requirement</th></tr>
<tr><td></td><td>
Table 6 - Land Acquisition Criteria for Tallawarra Lands Residential Areas
<table>
<tr><th>Location</th><th>Day
7:00 am to 6:00 pm Mondays to Saturdays
8:00 am to 6:00 pm Sundays and public holidays</th><th>Evening
6:00 pm to 10:00 pm on any day</th><th>Night
10:00 pm to 7:00 am Mondays to Saturdays
10:00 pm to 8:00 am Sundays and public holidays</th></tr>
<tr><td></td><td>$L_{Aeq(15\ minute)}$</td><td>$L_{Aeq(15\ minute)}$</td><td>$L_{Aeq(15\ minute)}$</td></tr>
<tr><td>Most affected residence - proposed northern residential area</td><td>46dB(A)</td><td>46dB(A)</td><td>46dB(A)</td></tr>
<tr><td>Most affected residence - proposed central residential area</td><td>46 dB(A)</td><td>46 dB(A)</td><td>46 dB(A)</td></tr>
<tr><td>Most affected residence - proposed south-western residential area</td><td>47 dB(A)</td><td>47 dB(A)</td><td>47 dB(A)</td></tr>
</table>

If noise from an activity is substantially tonal, intermittent or impulsive in nature and contains major components within the low frequency range (as described in Noise Policy for Industry, (NSW EPA, 2017)). 5 dB(A) must be added to the measured noise level when comparing the measured noise with the limits specified in Tables 5 and 6, in accordance with the requirements of the Noise Policy for Industry, (NSW EPA, 2017)..
</td></tr>
<tr><td>3.14</td><td>Within three months of receiving a written request from a landowner with acquisition rights under condition 3.13 of this approval, the Proponent shall make a binding written offer to the landowner based on:
(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project which is the subject of the project application, having regard to the -
i) existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request, and
ii) presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date;
(b) the reasonable costs associated with -
i) relocating within the Wollongong or Shellharbour local government areas,
ii) obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
(c) reasonable compensation for any disturbance caused by the land acquisition process.
However, if at the end of this period, the Proponent and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.</td></tr>
</table>

Condition	Requirement
	Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired. Within 14 days of receiving the independent valuer's determination, the Proponent shall make a written offer to purchase the land at a price not less than the independent valuer's determination. If the landowner refuses to accept this offer within six months of the date of the Proponent's offer, the Proponent's obligations to acquire the land shall cease, unless otherwise agreed by the Secretary.
3.15	The Proponent shall bear the costs of any valuation or survey assessment requested by the independent valuer or the Secretary and the costs of determination referred to above.
3.16	If a landowner has already agreed to an offer of acquisition under the requirements of condition 3.13, or an offer of acquisition has been made under the requirements of condition 3.13 and refused by the landowner, the Proponent's obligations to re-consider the landowner's request or property under the requirements of condition 3.13 shall cease, unless otherwise agreed by the Secretary.
3.17	The requirements of conditions 3.13 to 3.16 do not apply if a negotiated agreement consistent with the requirements of *Noise Policy for Industry*, (NSW EPA, 2017) exists between the Proponent and the relevant landowner.
3.18	The Proponent shall provide written notice to all landowners that are entitled to rights under condition 3.13 within 21 days of determining the landholdings to which land acquisition rights apply. This condition only applies where operational noise levels have been confirmed in accordance with the definition in condition 3.12.

4. Environment Protection Licence

This section presents the noise limits (L6) and monitoring requirements (E4) for the site in accordance with the site's Environment Protection Licence 555. These are consistent with the OEMP and Project Approval.

L6 Noise limits

L6.1 The Licensee shall operate and maintain the project to ensure that the total cumulative noise contribution from the combined operation of the Unit Stack 1 and Unit Stack 2 power stations to the background acoustic environment does not exceed the noise limits specified in Table 1 and Table 2.

The localities set out in the Table 1 are those described in Appendix E of the Project Approval No. 07_0124.

Definitions - For the purpose of Table 1:

"residence" is defined as any residential dwelling existing at the date of this approval and any residential dwelling, once constructed, on land zoned R2 - Low Density Residential under the Wollongong Local Environmental Plan 2009 at the identified locality.

"Day" is defined as 7:00 am to 6:00 pm Mondays to Saturdays and 8:00 am to 6:00 pm Sundays and public holidays.

"Evening" is defined as 6:00 pm to 10:00 pm on any day.

"Night" 10:00 pm to 7:00 am Mondays to Saturdays and 10:00 pm to 8:00 am Sundays and public holidays.

Table 1 - Maximum Allowable Noise Limits Outside the Tallawarra Lands

Location	Day	Evening	Night	Night
	LAeq (15 minute)	LAeq (15 minute)	LAeq (15 minute)	LAmax
Locality T2 Any residence on Carlyle Close, Wollin Place, Coronet Place, and Crompton Street, in Koonawarra	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)
Locality T4 Any residence on Wyndarra Way and Malonga Place in Koonawarra	35 dB(A)	35 dB(A)	35 dB(A)	45 dB(A)

Locality ML#9 Any residence on The Boulevarde, Park Crescent, Horsley Road and Newton Crescent in Oak Flats	*38 dB(A)*	*38 dB(A)*	*38 dB(A)*	*45 dB(A)*
Locality ML#10 Any residence on Reddall Parade and Henricks Parade in Mt Warrigal	*38 dB(A)*	*38 dB(A)*	*38 dB(A)*	*45 dB(A)*
Locality ML#11 Any residence in Haywards Bay	*35 dB(A)*	*35 dB(A)*	*35 dB(A)*	*45 dB(A)*

L6.2 The proposed residential areas set out in Table 2 are those illustrated in EPA DOC23/735713-2, 'Revised with Koonawarra Location.pdf', dated 28/08/2023. For the purpose of Table 2, "residence" is defined as any residential dwelling once constructed, either prior to or post the construction and operation of the power station, on land zoned R2 - Low Density Residential or R5 - Large Lot Residential under the Wollongong Local Environmental Plan 2009 within the proposed residential areas.

If noise from an activity is substantially tonal, intermittent or impulsive in nature and contains major components within the low frequency range (as described in Noise Policy for Industry (NSW EPA, 2017)), 5dB(A) must be added to the measured noise level when comparing the measured noise with the limits specified in Tables 1 and 2, in accordance with the requirements of the Noise Policy for Industry (NSW EPA, 2017).

The noise limits set out in Table 1 and Table 2 do not apply under: wind speeds greater than 3 metres per second (measured at 10 metres above ground level); or under stability category G temperature inversion conditions; or under stability category F temperature inversion conditions and wind speeds greater than 2 metres per second at 10 metres above the ground.

Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in the Noise Policy for Industry (NSW EPA, 2017).

The data to be used for determining meteorological conditions is that recorded by the meteorological weather station located at the Unit Stack 1 power station.

Table 2 - Noise Limits for Tallawarra Lands Residential Areas

Location	Day	Evening	Night	Night
	LAeq (minute)	LAeq (minute)	LAeq (minute)	LAmax
Most affected residence - proposed northern residential area	If the Noise Policy for Industry (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	If the Noise Policy for Industry (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	If the Noise Policy for Industry (NSW EPA, 2017) Modification Factors for Low Frequency Noise apply – 40 dB(A), otherwise 38 dB(A)	50 dB(A)
Most affected residence - proposed central residential area	40 dB(A)	40 dB(A)	40 dB(A)	50 dB(A)
Most affected residence - proposed south-western residential area	41 dB(A)	41 dB(A)	41 dB(A)	51 dB(A)

Note: Further noise conditions are listed in Project Approval No. 07_0124, which may be applied for noise management at the premises.

E4 Ongoing Operational Noise Monitoring

E4.1 The Licensee shall prepare and implement an Operational Noise Monitoring Program to assess ongoing compliance against the operational noise limits set out in conditions L6.1 and L6.2 of this licence. The noise monitoring program shall be prepared in consultation with, and to the satisfaction of, the EPA. Noise monitoring is to be consistent with the guidelines provided in the Noise Policy for Industry (NSW EPA, 2017) and must include, but not be limited to:

a) noise monitoring at the locations specified in Table 1 and in Table 2 of this licence, in accordance with the requirements of conditions L6.1 and L6.2 of this licence;

b) attended noise monitoring;

c) monitoring of operations that have the potential to cause offensive noise including, but not limited to, safety valve operation, blowdown operation and the operation of circuit breakers during the day, evening and night time periods; and

d) monitoring of the effectiveness of any noise mitigation measures implemented under condition 7.2 of Project Approval No. 07_0124, against the noise limits specified in conditions L6.1 ad L6.2 of this licence.

5. Noise Monitoring Location and Methodologies

A brief outline of the methodology applied to the measurement undertaken for this operational noise review has been detailed below. Attended noise monitoring was conducted 23rd June 2026.

5.1 Instrument and Methodology

Methodology and reporting were undertaken as per requirements of the OEMP (see section 1.1).

The assessment utilised attended noise monitoring equipment to determine compliance with the noise criteria. The attended noise measurements were carried out by three consultants using 1x SVANTEK SVAN957 Type 1 Precision Sound Level Meter and 2x XL2-MC230A Type 1 Sound Level Meters.

In addition three NGARA type loggers were use recording High Resolution 48kHz audio at future residential locations in the northern precinct.

The instrument sets were calibrated by a NATA accredited laboratory within two years of the measurement period. The instrument sets complied with AS IEC 61672.1–2004. The operator attended noise monitoring was undertaken over 15-minute statistical intervals during what was considered to be normal site operating conditions. This procedure therefore, allows for a detailed understanding of site-specific noise characteristics and a meaningful final analysis to determine compliance.

To ensure accuracy and reliability in the results, field reference checks were applied both before and after the measurement period with acoustic calibrators. There were no excessive variances observed in the reference signal between the pre-measurement and post-measurement calibration. The instruments were set on A-weighted Fast Response. QA/QC procedures applied for the measurement and analysis of noise levels have been presented in the Attachments. The microphones were fitted with windsocks and were positioned between 1.2 and 1.5 metres above ground level.

5.2 Noise Monitoring Locations

Noise monitoring has been undertaken at the receiver locations identified in Table 1 and Table 2 (see section 3). The noise monitoring locations are presented in the table and figure below. They include noise monitoring at future residential Tallawarra Lands (CP1, CP2. NP1, NP2, NP3, NP4) and at nearest sensitive residential receptors. No noise monitoring was undertaken at the Tallawarra Lands proposed southwestern residential area as the southwestern residential area is no longer proposed for sale and development by Energy Australia.

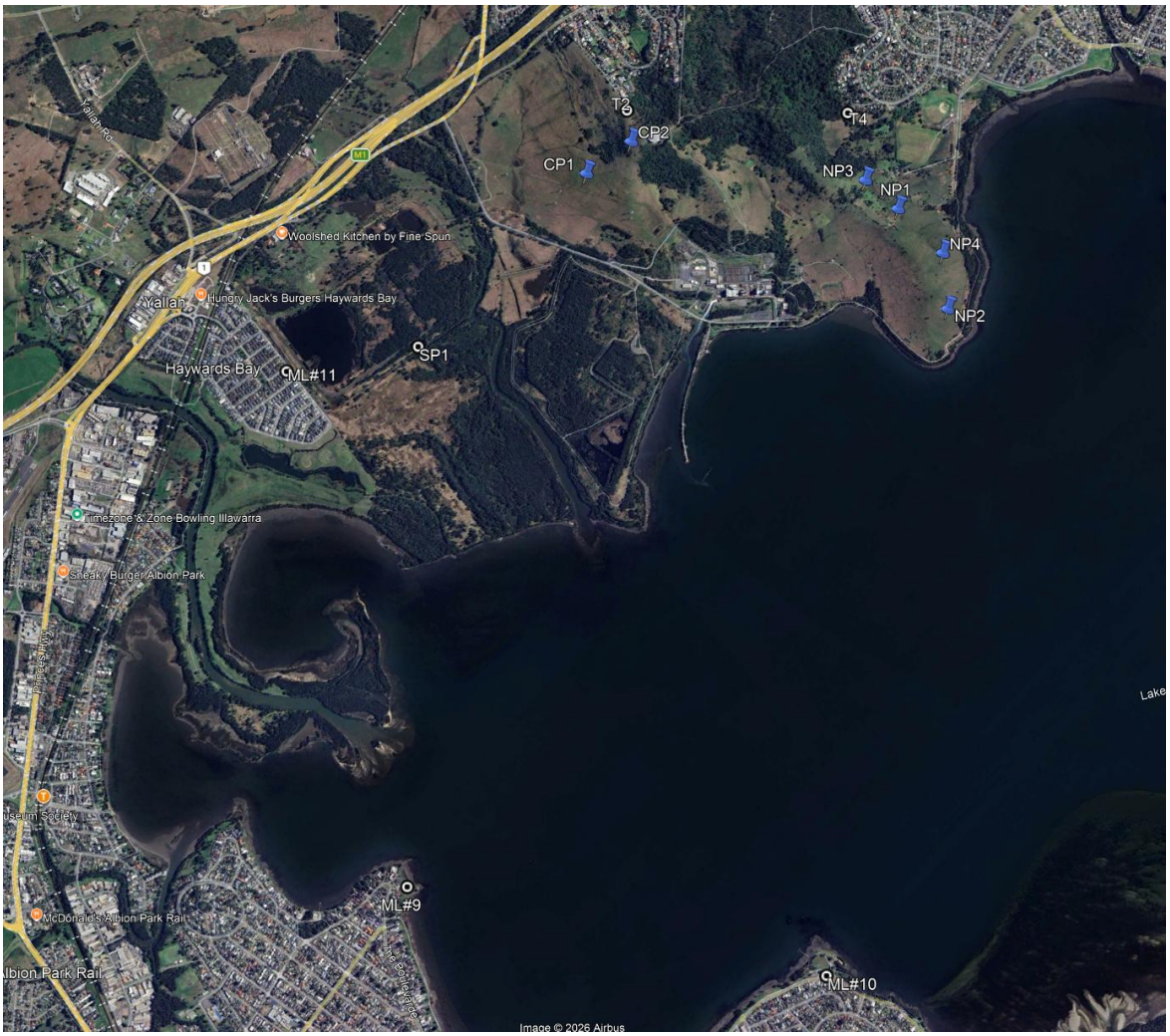
Noise measurement locations were selected at the most affected point within 30 m of the dwelling (proposed dwelling). This corresponds to the closest property boundary for all small residential lots NP1, NP2, T2, NP3, NP4, ML#9, ML#10, ML#11. CP1 is located on a large residential lot at the most affected point within 30m of the proposed dwelling at the coordinates presented.

Due to access constraints, TP4 measurements were taken on the street outside 17 Malonga Place Koonawarra (TP4(1)) and opposite 58 Wyrandarra Way (TP4(2)) where a vacant site presented minimal shielding.

Table 5-1: Noise Monitoring Locations

ID	X – UTM (mE)	Y – UTM (mS)	Measurement details
NP1	299116.44	6178530.21	Attended and Unattended
NP2	299668.05	6178333.30	Attended and Unattended
NP3	298892.72	6178507.28	Attended
NP4	299447.00	6178529.00	Attended and Unattended
CP1	297825.95	6177494.69	Attended
CP2	297880.23	6177785.40	Attended
T2	297722.91	6177944.49	Attended
T4	298544.75	6178764.91	Attended
ML#9	299761.66	6174254.16	Attended
ML#10	301662.94	6175469.81	Attended
ML#11	297397.68	6175736.10	Attended

Figure 5-1: Noise Monitoring Locations



5.3 Noise Monitoring Frequency

Attended noise monitoring was undertaken during the day and/or evening during peak energy demand at each location.

5.4 Weather Conditions During Monitoring

During the monitoring period conditions were cool and relatively calm.

During the monitoring period, the recorded temperature decreased from about 16°C in the afternoon to around 10°C by 9:00 pm. Relative humidity increased over the same period, from approximately 46–57% at the start to around 85% by the end of the period.

Wind speeds were generally light, averaging approximately 1.0 m/s and reaching a maximum of 3.2 m/s. Winds were predominantly from the west to north-west/north, with a circular average direction of approximately 322°. Solar radiation reduced steadily through the afternoon and was near zero after sunset.

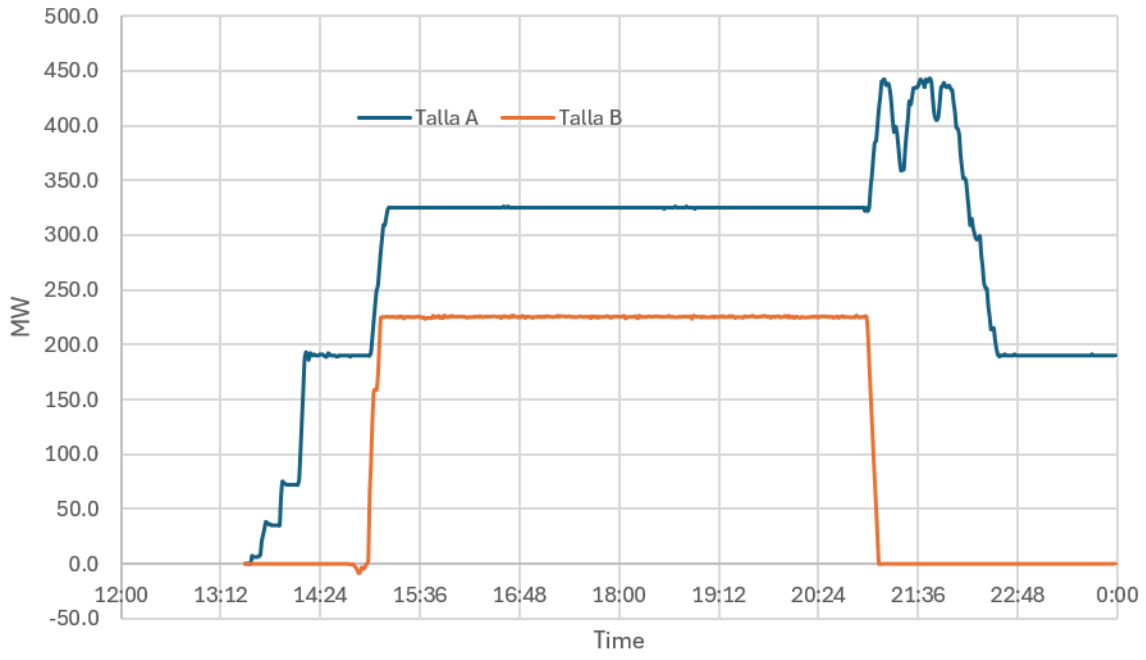
Overall, the weather conditions were characterised by cooling evening temperatures, increasing humidity, low wind speeds, and predominantly westerly to north-westerly winds.

Onsite weather station data is provided in attachment 1.

5.5 Tallawarra A & B Operations During Monitoring

During the testing period, both Tallawarra A & B Power Stations were running. Load profile is shown in the following figure.

Figure 5-2: Talla A&B Load During Measurements



6. Noise Monitoring Results

6.1 Existing Residences

The following table presents the attended monitoring results for the residential locations during the day and/or evening.

6.1.1 Justification of Compliance

Section 7 of the NPfI provides a range of compliance assessment techniques that may be used in determining compliance with a noise limit. An estimate of site noise levels at existing residence is not warranted to determine the status of compliance as this is easily determined based on the high margin of compliance described in the justification below.

The site being completely inaudible or barely audible at residence combined with the understanding of the constant nature of the noise from the site that is verified from nearfield measurements results in the contribution from the site necessarily being 10 dB(A) less than L_{A90} of the measurement or less. Furthermore, considering the measurements taken at the closer Tallawarra lands receptor, nearfield measurements in conjunction relative noise levels predicted in the modelling assessments previously undertaken the estimated site noise levels at existing residence will be less than 30 dB(A). Confidence of compliance with the limits at the existing residence is very high and based on professional judgement using quantitative acoustic understanding of noise from the site as per section 7 of the NPfI.

Table 6-1: Operator Attended Noise Measurements, dB(A)

Location	Date/Time	Total Measurement		Comments	Site Noise Contribution		Criteria	
		L_{Aeq}	L_{A90}		L_{AEQ}	L_{AMAX}	L_{AEQ}	L_{AMAX}
T2	Day 23/06 15:52	55	53	Couldn't get closer to the Ridge or edge due to barbed wire fence along the private driveway. Measured at fence. Pole at 3m. No wind Traffic noise along the M1 from the west and opposite direction to the power station is the most audible source. Not any audible or easily discernible noise from the power station. Traffic is too constant and dominant. Spectrum shows 50Hz, 80Hz, but from M1 and variable more similar to traffic changes. Some music noise from house at #42 audible the whole time. Plane flyover 4:04PM	Site Inaudible <35✓	-	35	-
T2	Evening 23/06 19:22	53	50	Same as above dominant source is Traffic noise along the M1 from the west and opposite direction to the power station. Walked up to end of driveway near #54 but no change (compared to measurement pos) in ambient noise in terms of traffic noise from the M1. 7:32PM car along driveway	Site Inaudible <35✓	-	35	-

Location	Date/Time	Total Measurement		Comments	Site Noise Contribution		Criteria	
		L_{Aeq}	L_{A90}		L_{AEQ}	L_{AMAX}	L_{AEQ}	L_{AMAX}
T4	Day 23/06	54	44	Near power lines Tried Malonga but someone was lawn mowing and there were more birds. Pole 3m as ridge in distance. No wind Passing traffic and birds were the main noise sources. Some kids playing quietly and riding bikes on the road nearby. Not any audible or clearly discernible from the power station. Plane flyover 4:43PM and 4:45pm but high in sky. 4:49PM plane and loud motorbike?	Site Inaudible <30✓	-	35	-
ML9	Day 23-06 17:25	41	39	1.5m high on tripod Facing toward power station approx. 2m from edge of water Main noise source from distant traffic in opposite direction (south/south west) Princes Hwy Some wildlife/bird noise on the water to the north-west. No wind Can't hear anything from across the water toward the power plant. Plane flyover 4:29PM and 5:41PM Water lapping 5:32PM	Site Inaudible <33✓	-	38	-
ML10	Day/Evening 23/06 17:56	41	39	1.5m high on tripod Park near water 5min measurement Traffic from road behind is main noise source and water. Nothing across the water is audible. Plane 5:58PM & 6PM above power station	<30✓	-	38	-

Location	Date/Time	Total Measurement		Comments	Site Noise Contribution		Criteria	
		L_{Aeq}	L_{A90}		L_{AEQ}	L_{AMAX}	L_{AEQ}	L_{AMAX}
#291 Reddall Prd	Evening 23/06 18:05	62	35	1.5m high on tripod Facing toward road and power station across water approx. 1m from resi boundary Main noise source from traffic directly infront on Reddall Prd, and from distant traffic to the west in gaps. Some cricket noise. Can't hear anything in terms of noise that would be from the power station in quiet gaps. Plane overhead 6:06PM 6:11PM resident making noise, doors, etc for a while. 6:19PM quiet ambient. traffic from North-West gradient audible (Freeway?) 6:20PM resi mech for got home in car. Paused measurement.	<30✓	-	38	-
ML11	Evening 23/06 18:45	54	47	No wind. 1.5m high on tripod. A couple of two storey houses, but clear path of site on ground floor too. Facing toward power station just off footpath near road side. Main noise source from traffic to the west and North-West on Princes Mtway. Crickets/frogs. Across road on field side still crickets and traffic noise dominant.	Site Inaudible <35✓	-	35	-

6.2 Tallawarra Lands

6.2.1 Attended Noise Monitoring Results

The following table presents the attended logging results at the future Tallawarra lands residential locations.

Table 6-2: Operator Attended Noise Measurements, dB(A)

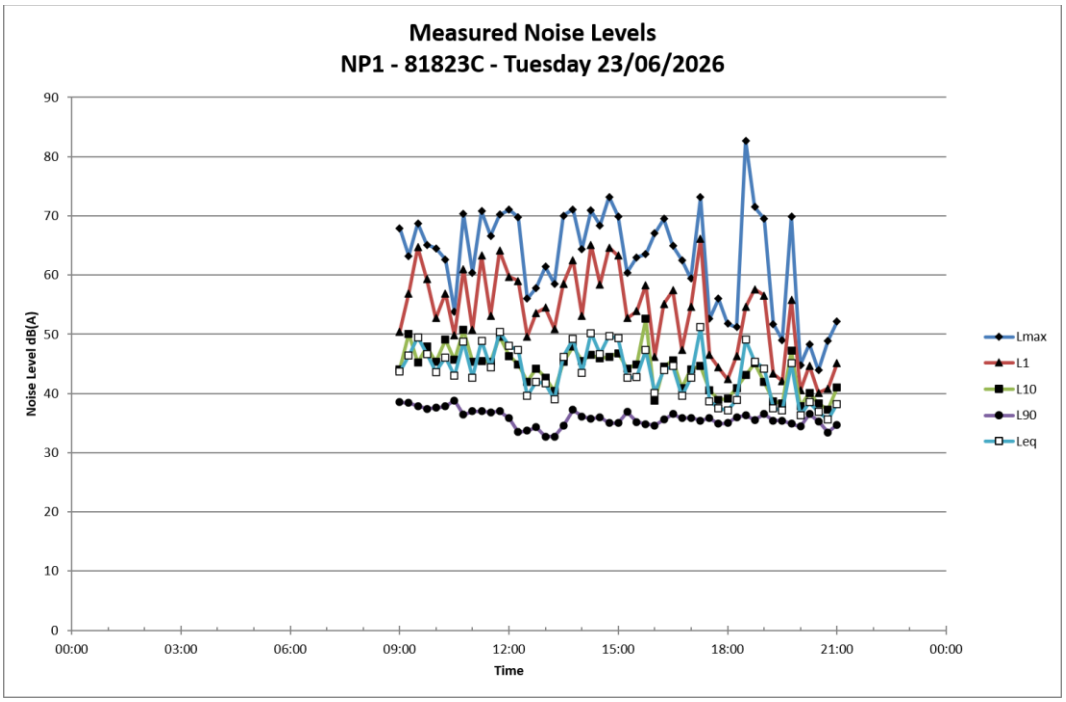
Location	Date/ Time	Total Measurement		Comments	Site Noise Contribution		Criteria	
		L_{Aeq}	L_{A90}		L_{AEQ}	L_{AMAX}	L_{AEQ}	L_{AMAX}
NP1	**Day** 26/06 18:25	38	36	Tallawarra appears to be inaudible	<35✓	-	38-40	-
NP2	**Evening** 23/06 19:45	38	37	Tallawarra appears to be inaudible	<35✓	-	38-40	-
NP3	**Evening** 23/06 19:40	37	34	Insect < 53 dB(A) Aeroplane < 49 dB(A) Site noise inaudible Distant revving < 37, 40 dB(A) Constant distant traffic 34-36 dB(A) Horse < 51 dB(A)	<30✓	-	38-40	-
NP4	**Evening** 23/06 19:23	37	36	Tallawarra appears to be inaudible	<35✓	-	38-40	-
CP1	**Day** 23/06 15:45	-	-	Tallawarra was essentially inadudible over the traffic on Princes Hwy Did not measure	Site Inaudible (<34) ✓	-	40	-
CP2	**Day** 23/06 16:16	53	51	Tallawarra was essentially inadudible over the traffic on Princes Hwy	Site Inaudible (<34) ✓	-	40	-

6.2.2 Logging Results

6.2.2.1 NP1

The following graph presents the logger levels for NP1. The LA90 levels did not significantly change after the units had turned on indicating a contribution in the low 30s however it is difficult to discern as the background levels would increase at this time of day as well.

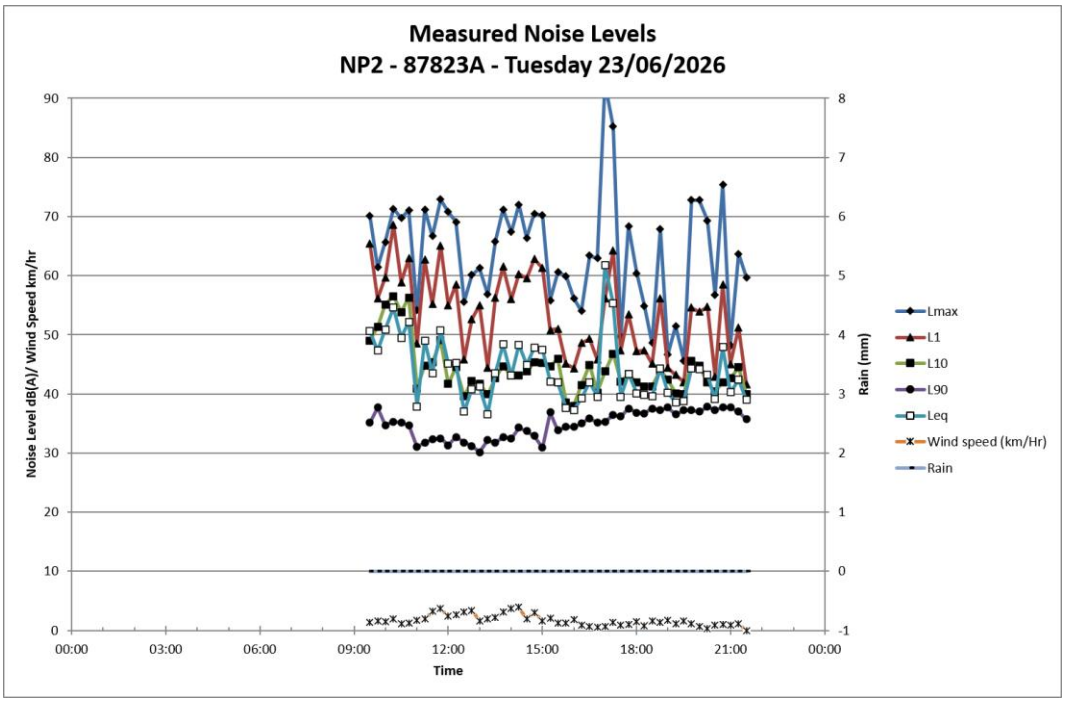
Figure 6-1: NP1 Logger Results



6.2.2.2 NP2

The following graph presents the logger levels for NP2. The LA90 levels increase slightly over 3 hours after the units came online after 3pm. However backgrounds would typically also increase at this time. A contribution of LAeq 36 from the plant has been estimated based on the change in LA90 levels and the reliable Plant-LAeq=Plant LA90+2dB obtained from nearfield measurements in previous assessments.

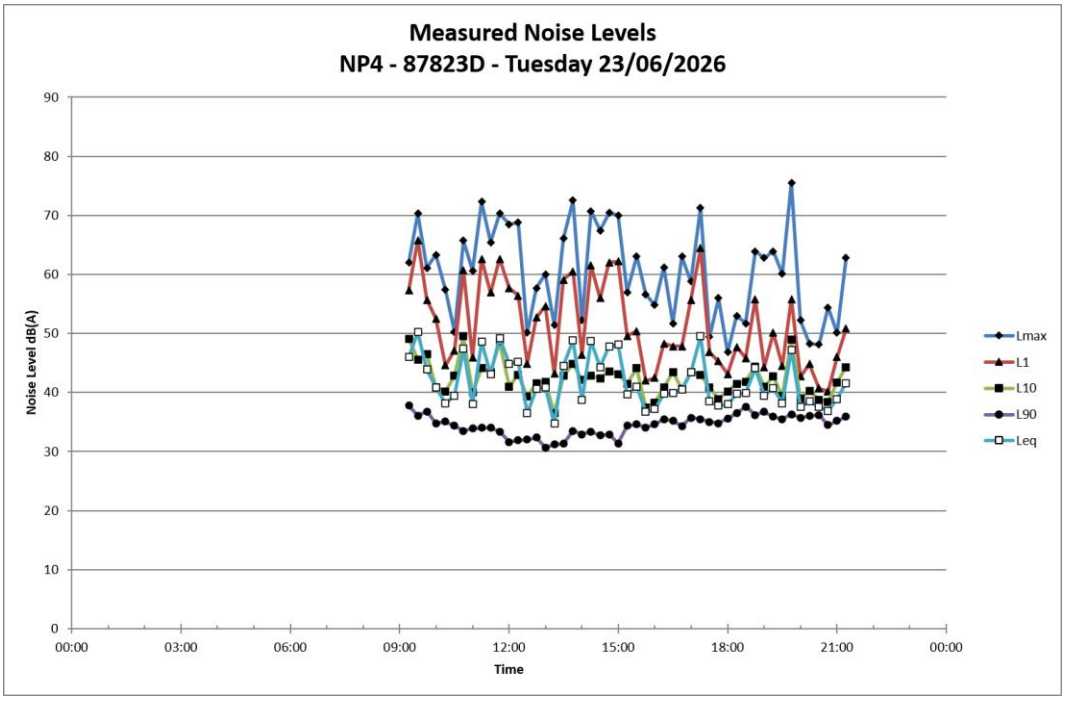
Figure 6-2: NP2 Logger Graph



6.2.2.3 NP4

The following graph presents the logger levels for NP4. The LA90 levels did not significantly change after the units had turned on indicating a contribution in the low 30s however it is difficult to discern as the background levels would increase at this time of day as well.

Figure 6-3: NP4



6.3 Assessment of Annoying Characteristics

6.3.1 Low Frequency

Low frequency noise penalties are considered applicable in accordance with the Noise Policy for Industry when:
Measure/assess source contribution C- and A-weighted $L_{eq.T}$ levels over the same time period. Correction to be applied where the C minus A level is 15 dB or more and:

- *Where any of the one-third octave noise levels in Table C2 are exceeded by up to and including 5 dB and cannot be mitigated, a 2-dB(A) positive adjustment to measured/predicted A-weighted levels applies for the evening/night period.*
- Where any of the one-third octave noise levels in Table c2 are exceeded by more than 5 dB and cannot be mitigated, a 5-dB(A) positive adjustment to measured/predicted A-weighted levels applies for the evening/night period and a 2-dB(A) positive adjustment applies for the daytime period.

Table C2: One-third octave low-frequency noise thresholds.

Hz/dB(Z)	One-third octave $L_{Zeq,15min}$ threshold level												
Frequency (Hz)	10	12.5	16	20	25	31.5	40	50	63	80	100	125	160
dB(Z)	92	89	86	77	69	61	54	50	50	48	48	46	44

Notes:

- dB(Z) = decibel (Z frequency weighted).
- For the assessment of low-frequency noise, care should be taken to select a wind screen that can protect the microphone from wind-induced noise characteristics at least 10 dB below the threshold values in Table C2 for

6.3.2 Tonal Noise

Tonal noise is considered an annoying characteristic in accordance with the Noise Policy for Industry if:

Level of one-third octave band exceeds the level of the adjacent bands on both sides by:
• 5 dB or more if the centre frequency of the band containing the tone is in the range 500–10,000 Hz
• 8 dB or more if the centre frequency of the band containing the tone is in the range 160–400 Hz
• 15 dB or more if the centre frequency of the band containing the tone is in the range 25–125 Hz.

Third octave measurements should be undertaken using unweighted or Z-weighted measurements. Note: Narrow-band analysis using the reference method in ISO1996-2:2007, Annex C may be required by the consent/regulatory authority where it appears that a tone is not being adequately identified, e.g. where it appears that the tonal energy is at or close to the third octave band limits of contiguous bands.

If the above occurs, then a 5 dB penalty applies.

This is assessed in the following section.

6.3.3 Low Frequency Analysis

The low frequency component was analyses with particular attention paid to 50Hz. Based on experience this is the first frequency band to exceed the threshold levels.

Both NP1 and NP4 comply with the 50 dB(Z) threshold level and therefore a low frequency penalty does not apply, however NP2 exceeds the 50 dB(Z) threshold when the LZ90-50Hz level is high, indicating this exceedance is from the power station. Therefore a low frequency penalty applies.

Figure 6-4: NP1 – 50 Hz dB(Z)

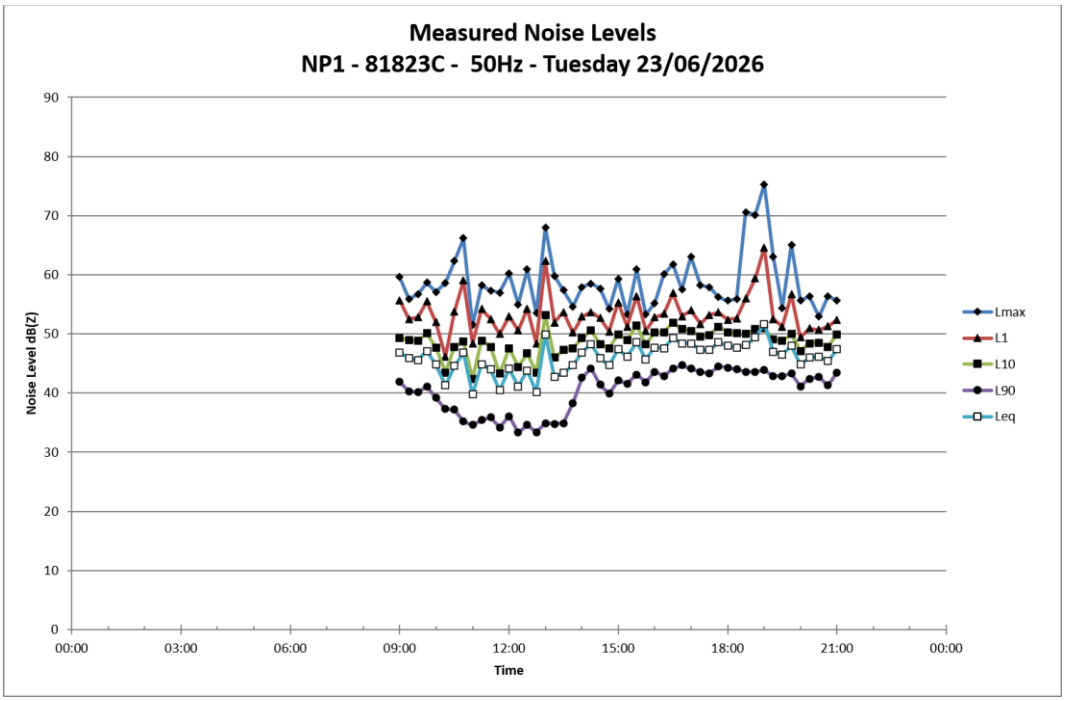


Figure 6-5: NP2 - 50 Hz dB(Z)

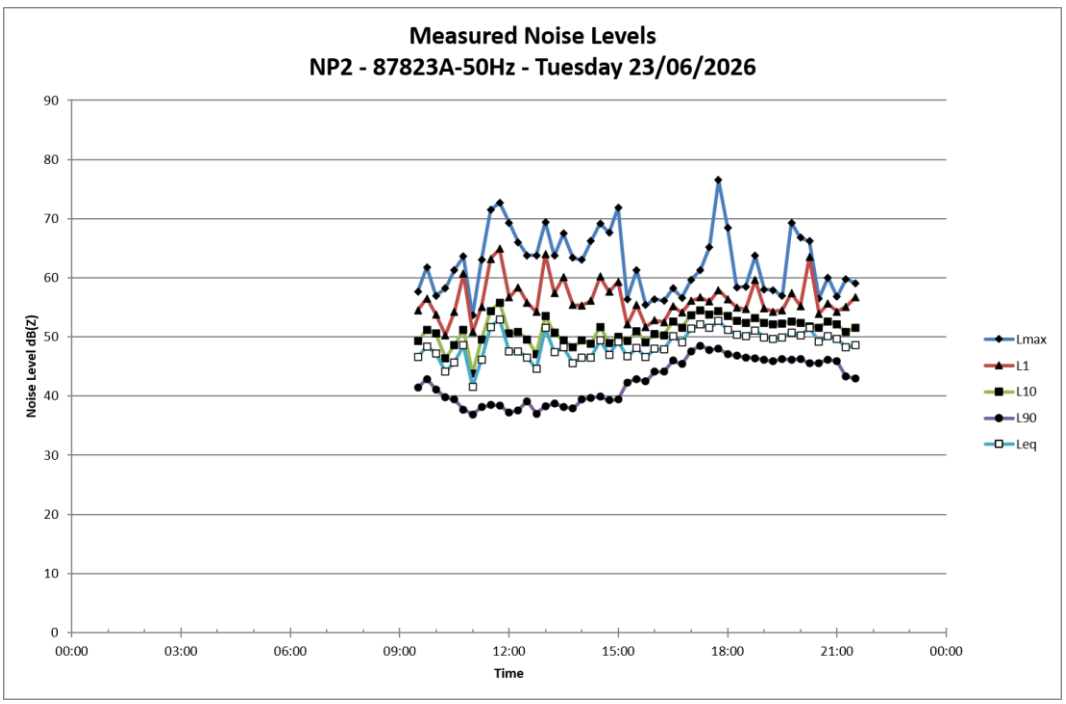
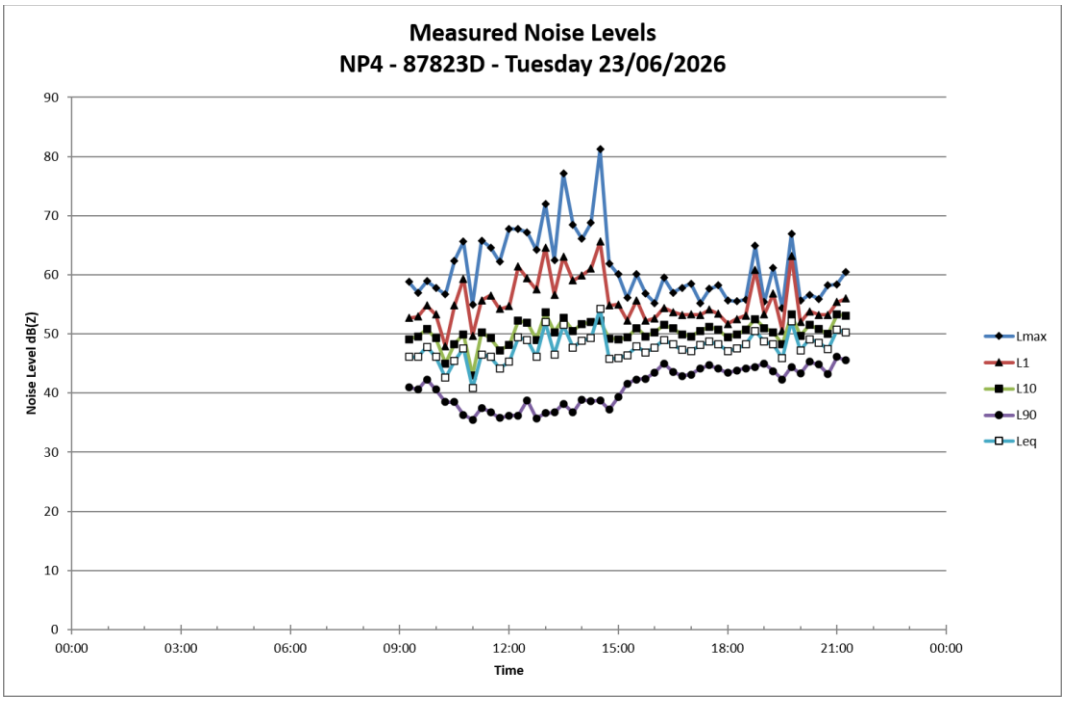


Figure 6-6: NP4 - 50 Hz dB(Z)



6.3.4 Tonal Noise Analysis

The 1/3 octave bands from the attended monitoring are presented in the following figures. As can be seen no tonal component where one band is high than the adjacent bands. Therefore no tonal penalty has been applied.

Figure 6-7: CP2 - 1/3 Octave Spectrum dB(Z)

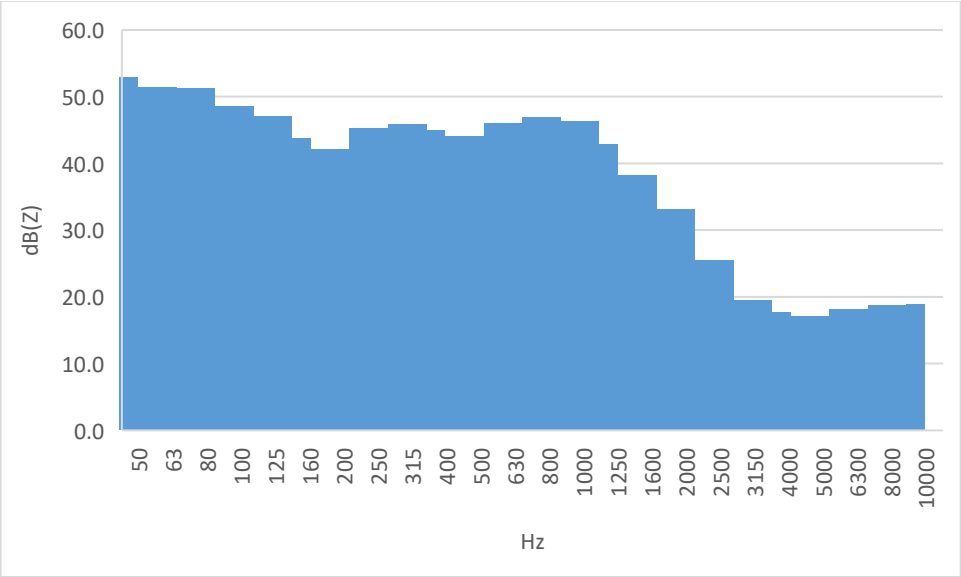


Figure 6-8: NP1 - 1/3 Octave Spectrum dB(Z)

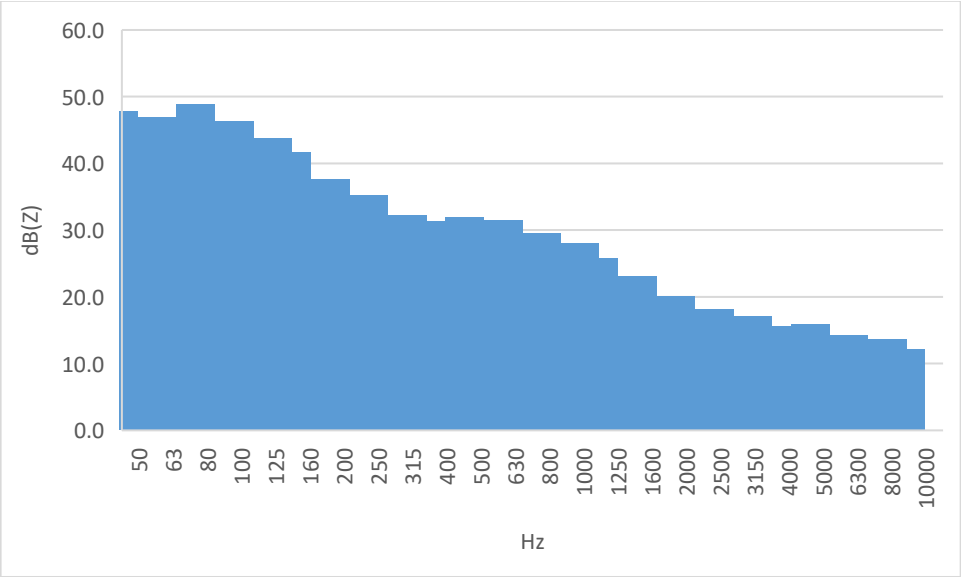


Figure 6-9: NP2 - 1/3 Octave Spectrum dB(Z)

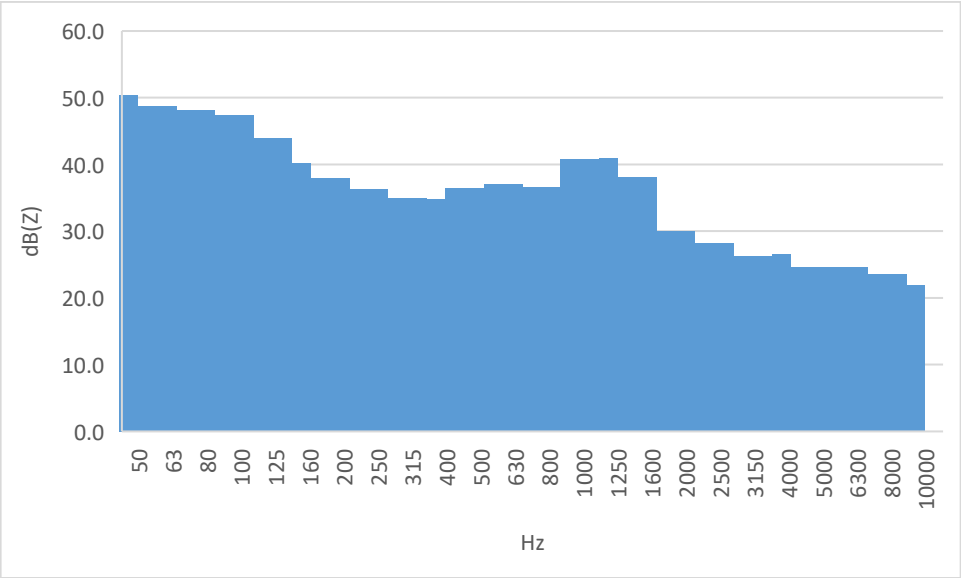
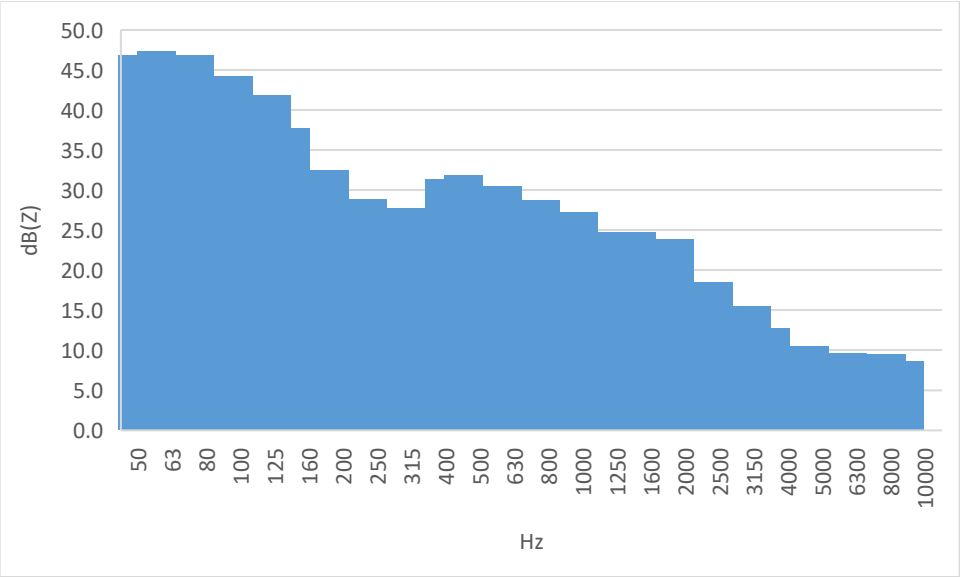


Figure 6-10: NP4 - 1/3 Octave Spectrum dB(Z)



6.3.5 Intermittent Noise

No intermittent noise where the source noise heard at the receiver varies by more than 5 dB(A) and the intermittent nature of the noise is clearly audible was observed during the operational noise review.

7. Concluding Remarks

Hansma Environmental Consulting completed operational noise testing for Energy Australia's Tallawarra A&B Power Station during the day and evening period during peak energy demand.

Attended monitoring was undertaken at the future Tallawarra lands, and at the existing residences. The site was either not audible or barely audible at the existing residences and readily complied with the relevant criteria. The site was not audible at the future Tallawarra lands central precinct.

Weather conditions were worst case for the worst effected receptors at the future Tallawarra Lands Northern Precinct under worst case operating conditions when Tallawarra B was at full load and Tallawarra A was operating simultaneously. No low frequency penalty or tonal penalty applied.

Based on the results of the attended monitoring, Tallawarra A&B Power Station complied with Table 1 and Table 2 of the Project Approval (07_0124) and with Condition L6 of Environment Protection Licence (EPL) 555 at all locations. Therefore, the site also complies with Table 3 and Table 4 of the Project Approval criteria at all locations.

This concludes the report.

Emma Hansma
Principal Consultant

ATTACHMENTS

Attachment 1: Weather Data

Time stamp	Date time	SV	SHTRH	WS	WD	WDSD	GR	WB	T1	T2	RH	AP	X1-P	WB2	AP2	LogMem
06/23/26 3:00:0	23/06/2026 15:00	12.8	42.8	1.6	263	21	178	9.9	16.2	16.4	46	1.02 K	0	10.4	1.02 K	0
06/23/26 3:01:0	23/06/2026 15:01	12.8	42.2	2.3	254	17	143	9.7	16.1	16.3	47.1	1.02 K	0	10.4	1.02 K	0
06/23/26 3:02:0	23/06/2026 15:02	12.7	43.7	1.8	251	12	131	9.8	16.1	16.2	46.9	1.02 K	0	10.3	1.02 K	0
06/23/26 3:03:0	23/06/2026 15:03	12.8	43.6	1.4	239	12	119	9.8	16	16.1	46.4	1.02 K	0	10.2	1.02 K	0
06/23/26 3:04:0	23/06/2026 15:04	12.7	44.5	1.1	226	16	113	9.8	16	16	47.4	1.02 K	0	10.2	1.02 K	0
06/23/26 3:05:0	23/06/2026 15:05	12.7	46	1.7	247	17	109	10	15.9	16	49.1	1.02 K	0	10.4	1.02 K	0
06/23/26 3:06:0	23/06/2026 15:06	12.7	46.3	1.8	263	18	107	10	15.9	15.9	49.5	1.02 K	0	10.4	1.02 K	0
06/23/26 3:07:0	23/06/2026 15:07	12.7	46	2.6	248	20	109	10	15.9	15.8	48.7	1.02 K	0	10.2	1.02 K	0
06/23/26 3:08:0	23/06/2026 15:08	12.8	45.6	2.5	224	21	111	10	15.9	15.8	48.7	1.02 K	0	10.2	1.02 K	0
06/23/26 3:09:0	23/06/2026 15:09	12.7	45.8	2	269	24	113	10	15.9	15.8	49.7	1.02 K	0	10.3	1.02 K	0
06/23/26 3:10:0	23/06/2026 15:10	12.7	45.5	2.4	237	24	113	9.9	15.9	15.7	49.4	1.02 K	0	10.2	1.02 K	0
06/23/26 3:11:0	23/06/2026 15:11	12.7	44.4	3.2	237	24	112	9.7	15.8	15.7	48	1.02 K	0	10.1	1.02 K	0
06/23/26 3:12:0	23/06/2026 15:12	12.8	45.9	3.1	270	25	110	9.9	15.8	15.7	49.7	1.02 K	0	10.3	1.02 K	0
06/23/26 3:13:0	23/06/2026 15:13	12.7	45	2.7	264	23	108	9.7	15.7	15.6	50	1.02 K	0	10.2	1.02 K	0
06/23/26 3:14:0	23/06/2026 15:14	12.7	45.8	2.1	276	23	107	9.8	15.7	15.5	49.7	1.02 K	0	10.1	1.02 K	0
06/23/26 3:15:0	23/06/2026 15:15	12.8	46.6	2.1	264	22	105	9.8	15.6	15.4	51.3	1.02 K	0	10.2	1.02 K	0
06/23/26 3:16:0	23/06/2026 15:16	12.7	46.6	2.2	246	21	103	9.8	15.6	15.4	51.1	1.02 K	0	10.2	1.02 K	0
06/23/26 3:17:0	23/06/2026 15:17	12.7	45.7	1.4	281	20	102	9.7	15.6	15.3	51.8	1.02 K	0	10.1	1.02 K	0
06/23/26 3:18:0	23/06/2026 15:18	12.8	47	1.6	243	19	99.9	9.9	15.6	15.3	52.4	1.02 K	0	10.2	1.02 K	0
06/23/26 3:19:0	23/06/2026 15:19	12.7	47	2.4	262	18	98.1	9.8	15.5	15.2	52.1	1.02 K	0	10.1	1.02 K	0
06/23/26 3:20:0	23/06/2026 15:20	12.7	47.7	1.9	275	17	95.6	9.9	15.5	15.2	53.5	1.02 K	0	10.3	1.02 K	0
06/23/26 3:21:0	23/06/2026 15:21	12.7	48.4	2	256	17	92.6	9.9	15.4	15.1	53.2	1.02 K	0	10.1	1.02 K	0
06/23/26 3:22:0	23/06/2026 15:22	12.8	48.6	2.3	254	17	88.5	9.9	15.4	15.1	53.2	1.02 K	0	10.1	1.02 K	0
06/23/26 3:23:0	23/06/2026 15:23	12.7	48.9	1.2	267	18	83.6	9.9	15.4	15	54.3	1.02 K	0	10.2	1.02 K	0
06/23/26 3:24:0	23/06/2026 15:24	12.8	48.6	1.3	274	20	78.9	9.8	15.3	14.9	54.4	1.02 K	0	10.2	1.02 K	0
06/23/26 3:25:0	23/06/2026 15:25	12.7	49.8	1.2	266	20	74.9	10	15.3	14.9	54.4	1.02 K	0	10.1	1.02 K	0
06/23/26 3:26:0	23/06/2026 15:26	12.8	49.7	1.2	269	20	72.1	9.9	15.2	14.9	54.1	1.02 K	0	10.1	1.02 K	0
06/23/26 3:27:0	23/06/2026 15:27	12.7	50.7	1.8	255	19	70.3	10	15.2	14.7	55.9	1.02 K	0	10.2	1.02 K	0
06/23/26 3:28:0	23/06/2026 15:28	12.7	50.4	0.8	282	19	69.5	9.9	15.1	14.6	56	1.02 K	0	10.1	1.02 K	0
06/23/26 3:29:0	23/06/2026 15:29	12.8	51.2	1.2	276	19	68.9	9.9	15.1	14.6	55.9	1.02 K	0	10.1	1.02 K	0
06/23/26 3:30:0	23/06/2026 15:30	12.7	51.2	1.2	261	18	68.3	9.9	15	14.7	55.7	1.02 K	0	10.1	1.02 K	0
06/23/26 3:31:0	23/06/2026 15:31	12.8	51.1	1.5	276	19	67.5	9.9	15	14.5	56.3	1.02 K	0	10	1.02 K	0
06/23/26 3:32:0	23/06/2026 15:32	12.7	51.8	1.5	271	18	66.4	9.9	15	14.4	57.1	1.02 K	0	10.1	1.02 K	0
06/23/26 3:33:0	23/06/2026 15:33	12.7	51.3	1.8	273	16	65.8	9.8	14.9	14.4	58.1	1.02 K	0	10.1	1.02 K	0
06/23/26 3:34:0	23/06/2026 15:34	12.8	51.6	1.8	280	15	65.6	9.8	14.9	14.3	58.7	1.02 K	0	10.1	1.02 K	0
06/23/26 3:35:0	23/06/2026 15:35	12.8	52.1	1.2	289	16	65.9	9.9	14.9	14.2	58	1.02 K	0	10	1.02 K	0
06/23/26 3:36:0	23/06/2026 15:36	12.6	53.1	1.3	286	16	66.5	10	14.9	14.1	59.8	1.02 K	0	10.1	1.02 K	0
06/23/26 3:37:0	23/06/2026 15:37	12.7	53.4	1.6	290	14	67	9.9	14.7	14	60.7	1.02 K	0	10.1	1.02 K	0
06/23/26 3:38:0	23/06/2026 15:38	12.8	53.8	1.2	290	14	67.4	9.8	14.6	13.8	61.5	1.02 K	0	10	1.02 K	0
06/23/26 3:39:0	23/06/2026 15:39	12.7	53.9	2	293	14	67.4	9.8	14.6	13.7	61.1	1.02 K	0	9.8	1.02 K	0
06/23/26 3:40:0	23/06/2026 15:40	12.8	53.5	1.9	293	11	66.7	9.7	14.5	13.7	61.4	1.02 K	0	9.9	1.02 K	0
06/23/26 3:41:0	23/06/2026 15:41	12.7	53.3	1.7	297	10	65.2	9.7	14.6	13.6	61.6	1.02 K	0	9.8	1.02 K	0
06/23/26 3:42:0	23/06/2026 15:42	12.7	54.4	1.2	289	9	62.7	9.8	14.5	13.6	61.8	1.02 K	0	9.8	1.02 K	0
06/23/26 3:43:0	23/06/2026 15:43	12.7	54.1	1.2	287	9	60.6	9.7	14.5	13.5	63.1	1.02 K	0	9.9	1.02 K	0
06/23/26 3:44:0	23/06/2026 15:44	12.8	54.6	1.3	279	10	58.8	9.7	14.4	13.4	64.1	1.02 K	0	9.9	1.02 K	0
06/23/26 3:45:0	23/06/2026 15:45	12.7	55.8	1.2	264	12	57.1	9.8	14.4	13.3	64.3	1.02 K	0	9.8	1.02 K	0
06/23/26 3:46:0	23/06/2026 15:46	12.7	55	0.8	279	14	56	9.7	14.2	13.2	66.2	1.02 K	0	9.9	1.02 K	0
06/23/26 3:47:0	23/06/2026 15:47	12.8	55.4	0.4	296	14	55.7	9.7	14.3	13.1	66.1	1.02 K	0	9.8	1.02 K	0
06/23/26 3:48:0	23/06/2026 15:48	12.7	56.2	0.6	290	15	56.3	9.7	14.1	13	65.3	1.02 K	0	9.7	1.02 K	0
06/23/26 3:49:0	23/06/2026 15:49	12.8	55.9	0.7	298	15	66.9	9.6	14	13	64.8	1.02 K	0	9.7	1.02 K	0
06/23/26 3:50:0	23/06/2026 15:50	12.7	56.4	0.7	269	19	64.9	9.6	14	13	64.1	1.02 K	0	9.6	1.02 K	0
06/23/26 3:51:0	23/06/2026 15:51	12.7	56.3	0.3	318	21	62	9.6	14	13	65.2	1.02 K	0	9.6	1.02 K	0
06/23/26 3:52:0	23/06/2026 15:52	12.8	57.6	0.8	302	23	60.5	9.7	13.9	12.9	66.2	1.02 K	0	9.7	1.02 K	0
06/23/26 3:53:0	23/06/2026 15:53	12.7	56.6	1	292	23	60.8	9.5	13.9	12.8	64.7	1.02 K	0	9.5	1.02 K	0
06/23/26 3:54:0	23/06/2026 15:54	12.8	56.1	0.9	282	23	61.5	9.6	14	13	63.6	1.02 K	0	9.5	1.02 K	0
06/23/26 3:55:0	23/06/2026 15:55	12.6	55.7	1.6	286	22	59.9	9.5	14	13	65.9	1.02 K	0	9.7	1.02 K	0
06/23/26 3:56:0	23/06/2026 15:56	12.7	55.4	1.7	266	22	59	9.6	14.1	12.8	65.6	1.02 K	0	9.6	1.02 K	0
06/23/26 3:57:0	23/06/2026 15:57	12.7	55.4	1.1	267	23	54.7	9.6	14.2	12.7	68.1	1.02 K	0	9.7	1.02 K	0
06/23/26 3:58:0	23/06/2026 15:58	12.8	57.5	0.6	271	24	52.4	9.8	14	12.6	69.4	1.02 K	0	9.7	1.02 K	0
06/23/26 3:59:0	23/06/2026 15:59	12.8	57.8	0.7	247	25	49.3	9.7	13.9	12.6	68.5	1.02 K	0	9.6	1.02 K	0
06/23/26 4:00:0	23/06/2026 16:00	12.6	57	1.8	278	29	47.2	9.5	13.8	12.5	69	1.02 K	0	9.6	1.02 K	0
06/23/26 4:01:0	23/06/2026 16:01	12.8	55.3	1.2	277	27	44.9	9.4	13.9	12.5	68.1	1.02 K	0	9.5	1.02 K	0
06/23/26 4:02:0	23/06/2026 16:02	12.7	55.5	1.4	278	26	43.5	9.5	14	12.5	66.8	1.02 K	0	9.4	1.02 K	0
06/23/26 4:03:0	23/06/2026 16:03	12.7	55.5	1.3	274	25	41.9	9.5	14	12.5	66.9	1.02 K	0	9.4	1.02 K	0
06/23/26 4:04:0	23/06/2026 16:04	12.8	56	0.5	267	26	40.7	9.6	14	12.4	67.5	1.02 K	0	9.4	1.02 K	0
06/23/26 4:05:0	23/06/2026 16:05	12.8	56.6	0.8	281	25	40.3	9.6	13.9	12.3	68.6	1.02 K	0	9.4	1.02 K	0
06/23/26 4:06:0	23/06/2026 16:06	12.8	57.3	1	293	27	40	9.5	13.8	12.3	68.2	1.02 K	0	9.3	1.02 K	0
06/23/26 4:07:0	23/06/2026 16:07	12.7	56.9	1.1	293	27	40.2	9.4	13.7	12.2	68.1	1.02 K	0	9.2	1.02 K	0
06/23/26 4:08:0	23/06/2026 16:08	12.7	56.7	0.7	290	26	40	9.4	13.7	12.1	68.4	1.02 K	0	9.2	1.02 K	0
06/23/26 4:09:0	23/06/2026 16:09	12.7	60.1	0.7	287	17	39.9	9.6	13.5	12	68.9	1.02 K	0	9.1	1.02 K	0
06/23/26 4:10:0	23/06/2026 16:10	12.8	59.4	0.8	296	19	40.1	9.4	13.4	11.9	69.9	1.02 K	0	9.1	1.02 K	0
06/23/26 4:11:0	23/06/2026 16:11	12.7	61.1	0.6	311	21	40.5	9.5	13.3	11.9	70.3	1.02 K	0	9.1	1.02 K	0
06/23/26 4:12:0	23/06/2026 16:12	12.8	60.1	0.4	1	40	40.3	9.3	13.1	11.7	69.2	1.02 K	0	8.9	1.02 K	0
06/23/26 4:13:0	23/06/2026 16:13	12.7	60.5	1.2	291	38	40.3	9.3	13.1	11.8	70.5	1.02 K	0	9.1	1.02 K	0
06/23/26 4:14:0	23/06/2026 16:14	12.8	59.9	1.1	289	38	40	9.3	13.3	11.8	70.9	1.02 K	0	9.1	1.02 K	0
06/23/26 4:15:0	23/06/2026 16:15	12.8	58.7	0.9	288	37	40.1	9.2	13.3	11.6	70.3	1.02 K	0	8.9	1.02 K	0
06/23/26 4:16:0	23/06/2026 16:16	12.8	58.8	1.3	272	39	38.9	9.3	13.4	11.8	70.1	1.02 K	0	9	1.02 K	0
06/23/26 4:17:0	23/06/2026 16:17	12.7	57.9	1	283	39	38	9.2	13.4	11.7	71.1	1.02 K	0	9	1.02 K	0
06/23/26 4:18:0	23/06/2026 16:18	12.8	57.5	1.3	295	37	37.3	9.3	13.5	11.7	71.3	1.02 K	0	9.1	1.02 K	0
06/23/26 4:19:0	23/06/2026 16:19	12.7	57	1.1	295	37	36.8	9.3	13.6	11.5	70.1	1.02 K	0	8.8	1.02 K	0
06/23/26 4:20:0	23/06/2026 16:20	12.7	56.7	1.4	300	35	35.4	9.3	13.6	11.7	70.3	1.02 K	0	9	1.02 K	0
06/23/26 4:21:0	23/06/2026 16:21	12.6	57.5	0.9	289	14	33.7	9.4	13.6	11.5	69.9	1.02 K	0	8.8	1.02 K	0
06/23/26 4:22:0	23/06/2026 16:22	12.8	59.3	0.7	289	14	32	9.4	13.4	11.5	71.4	1.02 K	0	8.9	1.02 K	0
06/23/26 4:23:0	23/06/2026 16:23	12.7	61.4	0.8	282	18	30.4	9.4	13.2	11.4	72	1.02 K	0	8.8	1.02 K	0
06/23/26 4:24:0	23/06/2026 16:24	12.7	59.5	1.3	297	17	28.8	9.1	13	11.4	72.3	1.02 K	0	8.9	1.02 K	0
06/23/26 4:25:0	23/06/2026 16:25	12.8	58.1	0.8	298	16	27.2	9.1	13.2	11.3	72.3	1.02 K	0	8.8	1.02 K	0
06/23/26 4:26:0	23/06/2026 16:26	12.8	59.6	0.9	301	16	25.7	9.2	13.2	11.2	72	1.02 K	0	8.7	1.02 K	0
06/23/26 4:27:0	23/06/2026 16:27	12.8	58.1	1.1	303	16	24.6	9.1	13.2	11.1	72.7	1.02 K	0	8.7	1.02 K	0
06/23/26 4:28:0	23/06/2026 16:28	12.8	58.6	1	286	17	23.3	9.2	13.3	11	72.2	1.02 K	0	8.6	1.02 K	0
06/23/26 4:29:0	23/06/2026 16:29	12.8	58.5	0.4	290	17	21.7	9.1	13.2	10.9	72.6	1.02 K	0	8.5	1.02 K	0
06/23/26 4:30:0	23/06/2026 16:30	12.8	59.8	0.6	274	24	20.8	9.3	13.2	10.9	73.3	1.02 K	0	8.5	1.02 K	0
06/23/26 4:31:0	23/06/2026 16:31	12.8	59.6	0.1	24	35	20.3	9	12.9	10.9	73.6	1.02 K	0	8.5	1.02 K	0

06/23/26 4:32:0	23/06/2026 16:32	12.7	59.3	0.2	343	42	20.4	9	13	10.9	72.6	1.02 K	0	8.5	1.02 K	0
06/23/26 4:33:0	23/06/2026 16:33	12.7	59.3	0.2	18	49	20	9	13	11.1	70.7	1.02 K	0	8.5	1.02 K	0
06/23/26 4:34:0	23/06/2026 16:34	12.7	59.2	0.4	57	64	19.3	9	12.9	11.2	69.5	1.02 K	0	8.5	1.02 K	0
06/23/26 4:35:0	23/06/2026 16:35	12.8	58.5	0.1	21	89	18.8	9	13.1	11.5	68.3	1.02 K	0	8.6	1.02 K	0
06/23/26 4:36:0	23/06/2026 16:36	12.7	58.4	0.2	23	88	17.8	9	13	11.6	67.3	1.02 K	0	8.6	1.02 K	0
06/23/26 4:37:0	23/06/2026 16:37	12.8	58.6	0.5	39	84	16.6	9	13	11.7	67.2	1.02 K	0	8.7	1.02 K	0
06/23/26 4:38:0	23/06/2026 16:38	12.8	59.5	0.4	16	0	15.1	9	12.9	11.7	67.4	1.02 K	0	8.7	1.02 K	0
06/23/26 4:39:0	23/06/2026 16:39	12.7	60.3	0.7	29	50	13.7	8.9	12.7	11.6	67.4	1.02 K	0	8.6	1.02 K	0
06/23/26 4:40:0	23/06/2026 16:40	12.8	60.2	0.5	25	44	12.8	8.8	12.6	11.5	67.8	1.02 K	0	8.6	1.02 K	0
06/23/26 4:41:0	23/06/2026 16:41	12.7	60.7	0.4	31	35	11.7	8.8	12.5	11.5	67.7	1.02 K	0	8.6	1.02 K	0
06/23/26 4:42:0	23/06/2026 16:42	12.8	61.2	0.3	32	28	10.8	8.7	12.4	11.5	67.4	1.02 K	0	8.6	1.02 K	0
06/23/26 4:43:0	23/06/2026 16:43	12.7	60.9	0.6	56	29	9.8	8.7	12.4	11.5	67.8	1.02 K	0	8.5	1.02 K	0
06/23/26 4:44:0	23/06/2026 16:44	12.8	61.8	0.7	60	28	8.8	8.6	12.2	11.4	67.9	1.02 K	0	8.5	1.02 K	0
06/23/26 4:45:0	23/06/2026 16:45	12.7	62.2	0.5	74	27	7.7	8.7	12.3	11.3	68.1	1.02 K	0	8.5	1.02 K	0
06/23/26 4:46:0	23/06/2026 16:46	12.8	61.3	0.6	351	31	7.3	8.5	12.1	11.3	68.2	1.02 K	0	8.5	1.02 K	0
06/23/26 4:47:0	23/06/2026 16:47	12.8	59.9	0.5	4	42	6.6	8.6	12.4	11.3	67.6	1.02 K	0	8.4	1.02 K	0
06/23/26 4:48:0	23/06/2026 16:48	12.7	60.4	0.7	340	43	5.3	8.7	12.5	11.4	68.1	1.02 K	0	8.5	1.02 K	0
06/23/26 4:49:0	23/06/2026 16:49	12.8	61.6	0.3	20	45	3.8	8.7	12.3	11.1	69	1.02 K	0	8.3	1.02 K	0
06/23/26 4:50:0	23/06/2026 16:50	12.7	62.3	0.5	342	48	2.9	8.6	12.2	11	69.8	1.02 K	0	8.3	1.02 K	0
06/23/26 4:51:0	23/06/2026 16:51	12.7	62.1	0.5	1	47	2.1	8.6	12.1	10.9	70.4	1.02 K	0	8.3	1.02 K	0
06/23/26 4:52:0	23/06/2026 16:52	12.8	62.2	0.3	353	46	1.8	8.5	12	10.7	70.9	1.02 K	0	8.1	1.02 K	0
06/23/26 4:53:0	23/06/2026 16:53	12.7	61.2	0.7	355	44	1.9	8.4	12	10.6	71.4	1.02 K	0	8.1	1.02 K	0
06/23/26 4:54:0	23/06/2026 16:54	12.8	61.3	0.9	354	41	1.4	8.5	12.2	10.7	70.9	1.02 K	0	8.1	1.02 K	0
06/23/26 4:55:0	23/06/2026 16:55	12.8	62.5	0.9	358	28	1	8.5	12	10.5	71.3	1.02 K	0	8	1.02 K	0
06/23/26 4:56:0	23/06/2026 16:56	12.7	63.7	0.8	1	23	0.4	8.5	11.8	10.4	71.2	1.02 K	0	7.9	1.02 K	0
06/23/26 4:57:0	23/06/2026 16:57	12.8	63.3	0.7	2	20	0.7	8.3	11.7	10.4	71.9	1.02 K	0	7.9	1.02 K	0
06/23/26 4:58:0	23/06/2026 16:58	12.8	64.4	0.8	356	19	0.8	8.3	11.6	10.4	71.6	1.02 K	0	8	1.02 K	0
06/23/26 4:59:0	23/06/2026 16:59	12.7	63.7	0.9	353	14	1.3	8.4	11.7	10.5	71.5	1.02 K	0	8	1.02 K	0
06/23/26 5:00:0	23/06/2026 17:00	12.7	63.6	0.7	338	14	1.1	8.3	11.6	10.6	71	1.02 K	0	8	1.02 K	0
06/23/26 5:01:0	23/06/2026 17:01	12.8	61.3	0.7	337	13	0.6	8.2	11.8	10.6	70.9	1.02 K	0	8	1.02 K	0
06/23/26 5:02:0	23/06/2026 17:02	12.8	60.6	0.9	336	14	0	8.4	12.1	10.4	71.6	1.02 K	0	8	1.02 K	0
06/23/26 5:03:0	23/06/2026 17:03	12.8	61.1	0.9	336	14	0	8.5	12.1	10.3	72.1	1.02 K	0	7.9	1.02 K	0
06/23/26 5:04:0	23/06/2026 17:04	12.7	61.5	1	339	13	0	8.4	12	10.3	72.6	1.02 K	0	8	1.02 K	0
06/23/26 5:05:0	23/06/2026 17:05	12.7	62	1	345	13	0	8.4	12	10.3	72.4	1.02 K	0	7.9	1.02 K	0
06/23/26 5:06:0	23/06/2026 17:06	12.7	63.2	0.9	345	9	0	8.3	11.7	10.2	72.2	1.02 K	0	7.8	1.02 K	0
06/23/26 5:07:0	23/06/2026 17:07	12.8	64.5	1	343	9	0	8.3	11.5	10.2	72.3	1.02 K	0	7.8	1.02 K	0
06/23/26 5:08:0	23/06/2026 17:08	12.7	65	1.2	348	6	0	8.2	11.4	10.2	71.7	1.02 K	0	7.8	1.02 K	0
06/23/26 5:09:0	23/06/2026 17:09	12.8	65.2	1.4	344	6	0	8.2	11.3	10.2	71.9	1.02 K	0	7.8	1.02 K	0
06/23/26 5:10:0	23/06/2026 17:10	12.7	64.6	1.1	350	7	0	8.2	11.4	10.1	72.3	1.02 K	0	7.8	1.02 K	0
06/23/26 5:11:0	23/06/2026 17:11	12.7	65	1.2	352	6	0	8.2	11.4	10.1	72.5	1.02 K	0	7.7	1.02 K	0
06/23/26 5:12:0	23/06/2026 17:12	12.8	64.6	0.9	342	6	0	8.1	11.3	10.1	72.5	1.02 K	0	7.7	1.02 K	0
06/23/26 5:13:0	23/06/2026 17:13	12.8	64.2	1.1	352	6	0	8.1	11.3	10.2	72.1	1.02 K	0	7.8	1.02 K	0
06/23/26 5:14:0	23/06/2026 17:14	12.8	64.6	1.4	350	7	0	8.2	11.4	10.2	71.7	1.02 K	0	7.8	1.02 K	0
06/23/26 5:15:0	23/06/2026 17:15	12.8	64.3	1.3	1	7	0.3	8.1	11.3	10.2	71.7	1.02 K	0	7.8	1.02 K	0
06/23/26 5:16:0	23/06/2026 17:16	12.7	63.7	1.5	8	9	0.9	8.1	11.4	10.2	70.8	1.02 K	0	7.7	1.02 K	0
06/23/26 5:17:0	23/06/2026 17:17	12.7	62.8	1.4	2	10	1	8.1	11.5	10.4	69.9	1.02 K	0	7.8	1.02 K	0
06/23/26 5:18:0	23/06/2026 17:18	12.7	62.2	1.4	353	10	1	8.2	11.7	10.5	69.2	1.02 K	0	7.8	1.02 K	0
06/23/26 5:19:0	23/06/2026 17:19	12.7	62.4	1.4	352	10	0	8.2	11.7	10.6	69.1	1.02 K	0	7.9	1.02 K	0
06/23/26 5:20:0	23/06/2026 17:20	12.7	62	1.2	359	10	0	8.2	11.7	10.3	69.8	1.02 K	0	7.7	1.02 K	0
06/23/26 5:21:0	23/06/2026 17:21	12.7	62.4	1.1	5	10	0	8.2	11.7	10.1	71	1.02 K	0	7.6	1.02 K	0
06/23/26 5:22:0	23/06/2026 17:22	12.8	62.9	1	5	9	0	8.2	11.6	10.1	71.8	1.02 K	0	7.6	1.02 K	0
06/23/26 5:23:0	23/06/2026 17:23	12.8	62.9	1	9	10	0	8.1	11.5	10.1	71.4	1.02 K	0	7.6	1.02 K	0
06/23/26 5:24:0	23/06/2026 17:24	12.7	62.2	1.1	31	12	0.7	8.2	11.7	10.2	70.6	1.02 K	0	7.7	1.02 K	0
06/23/26 5:25:0	23/06/2026 17:25	12.7	61.2	0.9	15	14	1.6	8.3	11.9	10.5	69.4	1.02 K	0	7.8	1.02 K	0
06/23/26 5:26:0	23/06/2026 17:26	12.8	60.9	0.8	3	16	1.5	8.4	12	10.7	68.8	1.02 K	0	8	1.02 K	0
06/23/26 5:27:0	23/06/2026 17:27	12.8	61.1	1	13	17	1.1	8.4	12	10.7	68.3	1.02 K	0	7.9	1.02 K	0
06/23/26 5:28:0	23/06/2026 17:28	12.8	61.3	0.7	26	17	0	8.4	12	10.6	68.3	1.02 K	0	7.8	1.02 K	0
06/23/26 5:29:0	23/06/2026 17:29	12.8	61.8	0.9	15	16	0	8.3	11.9	10.3	70.2	1.02 K	0	7.7	1.02 K	0
06/23/26 5:30:0	23/06/2026 17:30	12.8	62.6	0.9	6	17	0	8.3	11.8	10.2	71.2	1.02 K	0	7.7	1.02 K	0
06/23/26 5:31:0	23/06/2026 17:31	12.7	63	0.5	3	18	0	8.2	11.7	10.2	70.9	1.02 K	0	7.7	1.02 K	0
06/23/26 5:32:0	23/06/2026 17:32	12.8	63.6	0.8	356	19	0	8.2	11.5	10.2	70.7	1.02 K	0	7.7	1.02 K	0
06/23/26 5:33:0	23/06/2026 17:33	12.7	64.4	0.9	5	19	0	8.1	11.3	10.1	71.5	1.02 K	0	7.6	1.02 K	0
06/23/26 5:34:0	23/06/2026 17:34	12.8	65	0.8	11	18	0	8	11.2	9.9	72	1.02 K	0	7.5	1.02 K	0
06/23/26 5:35:0	23/06/2026 17:35	12.7	65.5	0.7	351	18	0	8	11.1	9.8	72.9	1.02 K	0	7.5	1.02 K	0
06/23/26 5:36:0	23/06/2026 17:36	12.7	66.1	0.7	353	18	0	8	11.1	9.7	72.9	1.02 K	0	7.4	1.02 K	0
06/23/26 5:37:0	23/06/2026 17:37	12.8	66.6	0.6	1	19	0	8	11	9.7	73.5	1.02 K	0	7.4	1.02 K	0
06/23/26 5:38:0	23/06/2026 17:38	12.7	67	0.7	43	22	0	7.9	10.8	9.6	73.6	1.02 K	0	7.4	1.02 K	0
06/23/26 5:39:0	23/06/2026 17:39	12.7	67.4	0.8	42	25	0	7.8	10.7	9.7	73.9	1.02 K	0	7.5	1.02 K	0
06/23/26 5:40:0	23/06/2026 17:40	12.7	67.1	1	32	25	0	7.9	10.8	9.8	73.6	1.02 K	0	7.6	1.02 K	0
06/23/26 5:41:0	23/06/2026 17:41	12.7	66.3	1.5	20	23	0	8	11	9.9	72.9	1.02 K	0	7.6	1.02 K	0
06/23/26 5:42:0	23/06/2026 17:42	12.8	64.9	1.2	16	23	0	8.1	11.3	9.9	73.2	1.02 K	0	7.6	1.02 K	0
06/23/26 5:43:0	23/06/2026 17:43	12.7	64	1.3	6	22	0	8.2	11.4	9.8	73.1	1.02 K	0	7.5	1.02 K	0
06/23/26 5:44:0	23/06/2026 17:44	12.7	63.9	1.2	20	21	0	8.2	11.5	9.7	73.7	1.02 K	0	7.5	1.02 K	0
06/23/26 5:45:0	23/06/2026 17:45	12.7	63.2	1	12	18	0.2	8.3	11.7	9.8	73.5	1.02 K	0	7.5	1.02 K	0
06/23/26 5:46:0	23/06/2026 17:46	12.8	62.5	0.9	36	16	0.6	8.3	11.8	9.9	72.9	1.02 K	0	7.6	1.02 K	0
06/23/26 5:47:0	23/06/2026 17:47	12.8	61.8	1	36	16	0.8	8.5	12	9.9	72.3	1.02 K	0	7.5	1.02 K	0
06/23/26 5:48:0	23/06/2026 17:48	12.8	61.3	1.1	20	14	2	8.5	12.1	10	73	1.02 K	0	7.7	1.02 K	0
06/23/26 5:49:0	23/06/2026 17:49	12.7	60.6	1	11	13	1.4	8.5	12.3	10.3	71.2	1.02 K	0	7.8	1.02 K	0
06/23/26 5:50:0	23/06/2026 17:50	12.7	60.2	1.1	13	13	0.6	8.6	12.4	10.1	71	1.02 K	0	7.6	1.02 K	0
06/23/26 5:51:0	23/06/2026 17:51	12.8	59.9	0.9	1	14	0	8.5	12.4	10	72	1.02 K	0	7.6	1.02 K	0
06/23/26 5:52:0	23/06/2026 17:52	12.8	59.5	0.7	345	17	0.4	8.6	12.5	9.8	72.7	1.02 K	0	7.5	1.02 K	0
06/23/26 5:53:0	23/06/2026 17:53	12.7	59.3	0.9	349	18	1	8.6	12.5	10	73.2	1.02 K	0	7.7	1.02 K	0
06/23/26 5:54:0	23/06/2026 17:54	12.8	59.5	1.2	352	20	0	8.6	12.5	10	71.8	1.02 K	0	7.6	1.02 K	0
06/23/26 5:55:0	23/06/2026 17:55	12.8	59.3	1.4	349	20	0	8.6	12.5	9.6	73.4	1.02 K	0	7.4	1.02 K	0
06/23/26 5:56:0	23/06/2026 17:56	12.7	58.8	1.2	343	16	0	8.6	12.6	9.3	74.9	1.02 K	0	7.2	1.02 K	0
06/23/26 5:57:0	23/06/2026 17:57	12.7	58.5	1.4	353	14	0.8	8.7	12.7	9.6	74.7	1.02 K	0	7.5	1.02 K	0
06/23/26 5:58:0	23/06/2026 17:58	12.7	57.8	1.4	348	11	3	8.7	12.8	9.9	73.8	1.02 K	0	7.6	1.02 K	0
06/23/26 5:59:0	23/06/2026 17:59	12.7	57.6	1.9	336	10	2.7	8.8	12.9	10.3	71.3	1.02 K	0	7.8	1.02 K	0
06/23/26 6:00:0	23/06/2026 18:00	12.8	58.4	1.5	336	9	2	8.7	12.7	10.4	70.9	1.02 K	0	7.8	1.02 K	0
06/23/26 6:01:0	23/06/2026 18:01	12.7	59.3	1.3	338	9	0	8.6	12.5	10.2	70.9	1.02 K	0	7.7	1.02 K	0
06/23/26 6:02:0	23/06/2026 18:02	12.7	59.4	1.2	355	9	0	8.5	12.3	9.9	72.8	1.02 K	0	7.6	1.02 K	0
06/23/26 6:03:0	23/06/2026 18:03	12.8	58.9	1.2	342	10	0	8.5	12.4	9.8	73.3	1.02 K	0	7.5	1.02 K	0
06/23/26 6:04:0	23/06/2026 18:04	12.7	60.2	1.6	346	9	0	8.6	12.3	9.6	74.5	1.02 K	0	7.5	1.02 K	0

06/23/26 6:05:0	23/06/2026 18:05	12.8	60.3	1.5	3	9	0	8.4	12.1	9.6	74.5	1.02 K	0	7.5	1.02 K	0
06/23/26 6:06:0	23/06/2026 18:06	12.8	60.4	1.4	355	13	0	8.4	12.2	9.5	74.2	1.02 K	0	7.3	1.02 K	0
06/23/26 6:07:0	23/06/2026 18:07	12.7	61.9	1.2	340	12	0	8.4	12	9.6	74.6	1.02 K	0	7.5	1.02 K	0
06/23/26 6:08:0	23/06/2026 18:08	12.7	63.5	0.9	321	16	0	8.3	11.6	9.5	74.6	1.02 K	0	7.4	1.02 K	0
06/23/26 6:09:0	23/06/2026 18:09	12.8	63.6	0.5	313	23	0	8.1	11.4	9.5	74.9	1.02 K	0	7.4	1.02 K	0
06/23/26 6:10:0	23/06/2026 18:10	12.7	63.1	0.6	329	24	0	8	11.4	9.4	75.2	1.02 K	0	7.4	1.02 K	0
06/23/26 6:11:0	23/06/2026 18:11	12.7	61.4	0.7	338	24	0	8.2	11.8	9.5	75.3	1.02 K	0	7.4	1.02 K	0
06/23/26 6:12:0	23/06/2026 18:12	12.8	62	0.5	11	27	0	8.3	11.8	9.4	74.8	1.02 K	0	7.3	1.02 K	0
06/23/26 6:13:0	23/06/2026 18:13	12.8	63.7	0.4	7	28	0	8.2	11.5	9.3	75.5	1.02 K	0	7.3	1.02 K	0
06/23/26 6:14:0	23/06/2026 18:14	12.8	64.5	0.6	349	30	0	8.1	11.3	9.3	75.7	1.02 K	0	7.3	1.02 K	0
06/23/26 6:15:0	23/06/2026 18:15	12.8	64.4	0.8	308	29	0	8	11.2	9.4	75.5	1.02 K	0	7.3	1.02 K	0
06/23/26 6:16:0	23/06/2026 18:16	12.7	63.7	0.9	308	30	0.3	8.1	11.4	9.5	75.2	1.02 K	0	7.5	1.02 K	0
06/23/26 6:17:0	23/06/2026 18:17	12.7	62.7	0.9	295	33	0	8	11.4	9.5	74.7	1.02 K	0	7.4	1.02 K	0
06/23/26 6:18:0	23/06/2026 18:18	12.8	62	1	296	33	0	8.1	11.6	9.5	74.7	1.02 K	0	7.4	1.02 K	0
06/23/26 6:19:0	23/06/2026 18:19	12.8	61.4	0.5	308	35	0	8.2	11.8	9.3	75.2	1.02 K	0	7.3	1.02 K	0
06/23/26 6:20:0	23/06/2026 18:20	12.8	62.3	0.6	257	40	0	8.2	11.6	9.2	75.6	1.02 K	0	7.2	1.02 K	0
06/23/26 6:21:0	23/06/2026 18:21	12.7	62.3	0.7	254	39	0	8.2	11.6	9.2	76.1	1.02 K	0	7.2	1.02 K	0
06/23/26 6:22:0	23/06/2026 18:22	12.8	62.1	0.2	6	49	0	8.2	11.7	9.1	76.1	1.02 K	0	7.2	1.02 K	0
06/23/26 6:23:0	23/06/2026 18:23	12.7	62.2	0.6	272	42	0	8.2	11.6	9	76.8	1.02 K	0	7.1	1.02 K	0
06/23/26 6:24:0	23/06/2026 18:24	12.7	61.4	0.5	284	41	0	8.2	11.8	9	76.8	1.02 K	0	7.1	1.02 K	0
06/23/26 6:25:0	23/06/2026 18:25	12.8	61.2	0.7	314	42	0.5	8.2	11.8	9.1	76	1.02 K	0	7.2	1.02 K	0
06/23/26 6:26:0	23/06/2026 18:26	12.8	61.1	0.7	320	44	1.7	8.3	11.9	9.5	74.6	1.02 K	0	7.4	1.02 K	0
06/23/26 6:27:0	23/06/2026 18:27	12.8	60.8	0.8	344	48	3.2	8.3	12	9.8	73.2	1.02 K	0	7.6	1.02 K	0
06/23/26 6:28:0	23/06/2026 18:28	12.8	60.6	0.9	331	53	2.2	8.3	12	10.2	71	1.02 K	0	7.7	1.02 K	0
06/23/26 6:29:0	23/06/2026 18:29	12.8	60.7	1.6	309	52	2.5	8.3	12	10.1	71.7	1.02 K	0	7.7	1.02 K	0
06/23/26 6:30:0	23/06/2026 18:30	12.7	61.2	1.6	304	49	2.5	8.3	11.9	10.1	71.3	1.02 K	0	7.7	1.02 K	0
06/23/26 6:31:0	23/06/2026 18:31	12.8	61.8	1.8	305	32	2.7	8.3	11.9	10.2	71.3	1.02 K	0	7.7	1.02 K	0
06/23/26 6:32:0	23/06/2026 18:32	12.8	62	1.7	301	27	2.9	8.3	11.8	10.3	71.1	1.02 K	0	7.8	1.02 K	0
06/23/26 6:33:0	23/06/2026 18:33	12.8	62.2	1.8	303	24	3.1	8.3	11.8	10.4	70.6	1.02 K	0	7.8	1.02 K	0
06/23/26 6:34:0	23/06/2026 18:34	12.7	62.5	1.6	306	19	2.8	8.3	11.8	10.4	70.5	1.02 K	0	7.9	1.02 K	0
06/23/26 6:35:0	23/06/2026 18:35	12.7	62.5	1.2	305	18	1.8	8.2	11.7	10.5	70.4	1.02 K	0	7.9	1.03 K	0
06/23/26 6:36:0	23/06/2026 18:36	12.7	62.9	1.3	315	14	1.5	8.2	11.7	10.4	71.1	1.02 K	0	7.9	1.02 K	0
06/23/26 6:37:0	23/06/2026 18:37	12.8	63	1.1	307	7	1.1	8.1	11.5	10.3	71.1	1.02 K	0	7.8	1.03 K	0
06/23/26 6:38:0	23/06/2026 18:38	12.8	63	1.4	319	8	0.9	8.1	11.5	10.2	71.7	1.02 K	0	7.8	1.03 K	0
06/23/26 6:39:0	23/06/2026 18:39	12.8	63.2	1.8	313	8	0.5	8.1	11.4	10.1	72.1	1.02 K	0	7.7	1.03 K	0
06/23/26 6:40:0	23/06/2026 18:40	12.8	63.2	1.8	310	8	1.1	8.1	11.4	10	72.5	1.02 K	0	7.6	1.03 K	0
06/23/26 6:41:0	23/06/2026 18:41	12.7	62.7	1.9	306	7	0.7	8	11.4	10.1	72	1.02 K	0	7.7	1.03 K	0
06/23/26 6:42:0	23/06/2026 18:42	12.8	62.4	2.1	305	7	0.6	8	11.4	10.1	71.9	1.02 K	0	7.7	1.03 K	0
06/23/26 6:43:0	23/06/2026 18:43	12.7	62	2	301	7	0.5	8	11.5	10	71.8	1.02 K	0	7.6	1.03 K	0
06/23/26 6:44:0	23/06/2026 18:44	12.8	61.6	2	299	8	0	8.1	11.6	10.1	71.7	1.02 K	0	7.6	1.03 K	0
06/23/26 6:45:0	23/06/2026 18:45	12.8	61.2	1.3	275	11	0	8.1	11.7	10	71.7	1.02 K	0	7.6	1.03 K	0
06/23/26 6:46:0	23/06/2026 18:46	12.8	60.7	1.2	262	14	0	8.1	11.7	9.7	73.5	1.02 K	0	7.4	1.03 K	0
06/23/26 6:47:0	23/06/2026 18:47	12.7	59.6	2.1	267	20	0	8.1	11.9	9.5	74.6	1.02 K	0	7.4	1.03 K	0
06/23/26 6:48:0	23/06/2026 18:48	12.8	58.1	2	264	20	0	8.2	12.2	9.7	73.5	1.02 K	0	7.5	1.03 K	0
06/23/26 6:49:0	23/06/2026 18:49	12.8	57.3	2	280	19	0	8.3	12.4	9.8	72	1.02 K	0	7.4	1.03 K	0
06/23/26 6:50:0	23/06/2026 18:50	12.8	59.2	2.2	301	18	0.8	8.5	12.4	9.8	72.4	1.02 K	0	7.4	1.02 K	0
06/23/26 6:51:0	23/06/2026 18:51	12.8	61.5	2.1	298	18	1.2	8.3	11.9	10	71.7	1.02 K	0	7.6	1.03 K	0
06/23/26 6:52:0	23/06/2026 18:52	12.8	62.6	1.7	288	17	1.2	8.2	11.7	10.1	71.5	1.02 K	0	7.6	1.03 K	0
06/23/26 6:53:0	23/06/2026 18:53	12.8	62.9	2	296	17	1.1	8.1	11.5	10.1	71.2	1.02 K	0	7.7	1.03 K	0
06/23/26 6:54:0	23/06/2026 18:54	12.8	63.1	1.5	284	16	1	8.1	11.4	10.2	70.9	1.02 K	0	7.7	1.03 K	0
06/23/26 6:55:0	23/06/2026 18:55	12.8	63	1.7	290	17	0.6	8.1	11.4	10.2	70.6	1.02 K	0	7.7	1.03 K	0
06/23/26 6:56:0	23/06/2026 18:56	12.7	62.9	2	296	14	0.5	8.1	11.4	10.2	70.6	1.02 K	0	7.7	1.03 K	0
06/23/26 6:57:0	23/06/2026 18:57	12.7	62.8	1.3	297	11	0.5	8	11.5	10.2	70.5	1.02 K	0	7.7	1.03 K	0
06/23/26 6:58:0	23/06/2026 18:58	12.8	62.8	1.5	288	10	0.9	8.1	11.5	10.2	70.6	1.02 K	0	7.7	1.03 K	0
06/23/26 6:59:0	23/06/2026 18:59	12.7	62.1	1.2	266	12	0.7	8	11.5	10.2	70	1.02 K	0	7.7	1.03 K	0
06/23/26 7:00:0	23/06/2026 19:00	12.8	60.9	1.7	284	12	0.4	8	11.6	10.2	69.8	1.02 K	0	7.6	1.03 K	0
06/23/26 7:01:0	23/06/2026 19:01	12.7	60.2	1.1	285	12	0	8	11.7	10.2	70	1.02 K	0	7.6	1.03 K	0
06/23/26 7:02:0	23/06/2026 19:02	12.8	59.8	1	270	13	0	8.1	11.8	10.1	70.4	1.02 K	0	7.5	1.03 K	0
06/23/26 7:03:0	23/06/2026 19:03	12.7	59.4	1.1	283	13	0	8.1	11.9	9.9	71.6	1.02 K	0	7.5	1.03 K	0
06/23/26 7:04:0	23/06/2026 19:04	12.8	59.6	1.1	287	12	0	8.1	11.8	9.6	72.4	1.02 K	0	7.3	1.03 K	0
06/23/26 7:05:0	23/06/2026 19:05	12.8	59.8	1.1	301	13	0	8.1	11.8	9.6	73	1.02 K	0	7.3	1.03 K	0
06/23/26 7:06:0	23/06/2026 19:06	12.8	60.1	1.1	298	13	0	8	11.7	9.6	72.3	1.02 K	0	7.3	1.03 K	0
06/23/26 7:07:0	23/06/2026 19:07	12.7	60.3	1.4	310	16	0	8	11.7	9.7	71.6	1.02 K	0	7.3	1.03 K	0
06/23/26 7:08:0	23/06/2026 19:08	12.8	60.8	1	318	16	0	7.9	11.5	9.6	72	1.02 K	0	7.2	1.03 K	0
06/23/26 7:09:0	23/06/2026 19:09	12.7	61.1	1	328	19	0	7.9	11.4	9.5	72.5	1.02 K	0	7.2	1.03 K	0
06/23/26 7:10:0	23/06/2026 19:10	12.8	62	1	331	20	0	7.9	11.3	9.5	72.8	1.02 K	0	7.2	1.03 K	0
06/23/26 7:11:0	23/06/2026 19:11	12.8	63	1	343	21	0	7.7	11.1	9.4	73	1.02 K	0	7.2	1.03 K	0
06/23/26 7:12:0	23/06/2026 19:12	12.7	63.6	1.1	338	21	0	7.7	11	9.5	72.7	1.02 K	0	7.2	1.03 K	0
06/23/26 7:13:0	23/06/2026 19:13	12.7	63.8	1	322	17	0	7.6	10.9	9.4	72.7	1.02 K	0	7.1	1.03 K	0
06/23/26 7:14:0	23/06/2026 19:14	12.8	63.2	1.2	324	15	0	7.7	11	9.4	72.9	1.02 K	0	7.2	1.03 K	0
06/23/26 7:15:0	23/06/2026 19:15	12.8	63.1	1.1	323	13	0	7.7	11	9.3	73.5	1.02 K	0	7.1	1.03 K	0
06/23/26 7:16:0	23/06/2026 19:16	12.7	63.3	1.1	337	11	0	7.6	10.9	9.2	73.3	1.02 K	0	7	1.03 K	0
06/23/26 7:17:0	23/06/2026 19:17	12.7	64.9	0.6	354	12	0	7.5	10.6	8.9	74.6	1.02 K	0	6.9	1.03 K	0
06/23/26 7:18:0	23/06/2026 19:18	12.7	66.6	0.9	357	14	0	7.4	10.3	8.8	76.1	1.02 K	0	6.8	1.03 K	0
06/23/26 7:19:0	23/06/2026 19:19	12.8	67.1	1	349	14	0	7.3	10.2	8.7	76.7	1.02 K	0	6.8	1.03 K	0
06/23/26 7:20:0	23/06/2026 19:20	12.8	67.4	1.4	341	14	0	7.2	10	8.7	76.5	1.02 K	0	6.8	1.03 K	0
06/23/26 7:21:0	23/06/2026 19:21	12.7	67	1.4	343	14	0	7.3	10.2	8.7	76.4	1.02 K	0	6.8	1.03 K	0
06/23/26 7:22:0	23/06/2026 19:22	12.8	65.1	1.4	344	13	0	7.4	10.4	8.6	76.5	1.02 K	0	6.7	1.03 K	0
06/23/26 7:23:0	23/06/2026 19:23	12.8	62.8	1.9	343	12	0	7.6	10.9	8.7	76	1.02 K	0	6.8	1.03 K	0
06/23/26 7:24:0	23/06/2026 19:24	12.8	60.3	1.9	348	11	0	7.7	11.4	8.8	74.7	1.02 K	0	6.7	1.03 K	0
06/23/26 7:25:0	23/06/2026 19:25	12.8	58.1	2	345	7	0	7.9	11.8	8.9	74.5	1.02 K	0	6.8	1.03 K	0
06/23/26 7:26:0	23/06/2026 19:26	12.8	57	1.9	333	7	0.2	8.1	12.2	8.9	74.4	1.02 K	0	6.8	1.03 K	0
06/23/26 7:27:0	23/06/2026 19:27	12.8	56.3	1.5	333	6	2.9	8.1	12.3	9	73.7	1.02 K	0	6.8	1.03 K	0
06/23/26 7:28:0	23/06/2026 19:28	12.8	56.2	1.3	323	8	3.5	8.2	12.4	9.6	70.6	1.02 K	0	7.1	1.03 K	0
06/23/26 7:29:0	23/06/2026 19:29	12.8	57.4	1.8	319	10	2.4	8.2	12.2	10	69	1.02 K	0	7.3	1.03 K	0
06/23/26 7:30:0	23/06/2026 19:30	12.7	59.3	1.6	311	12	1.2	8	11.8	9.9	69.8	1.02 K	0	7.3	1.03 K	0
06/23/26 7:31:0	23/06/2026 19:31	12.7	60	1.5	310	14	0	7.9	11.6	9.6	71	1.02 K	0	7.1	1.03 K	0
06/23/26 7:32:0	23/06/2026 19:32	12.8	61	0.9	303	15	0	7.9	11.5	9.2	73.6	1.02 K	0	7	1.03 K	0
06/23/26 7:33:0	23/06/2026 19:33	12.7	62.1	0.1	343	16	0	7.7	11.1	8.8	75.1	1.02 K	0	6.8	1.03 K	0
06/23/26 7:34:0	23/06/2026 19:34	12.7	64	0.1	10	25	0	7.5	10.7	8.4	77.7	1.02 K	0	6.6	1.03 K	0
06/23/26 7:35:0	23/06/2026 19:35	12.7	66.1	0.1	19	35	0	7.4	10.4	8.2	79.1	1.02 K	0	6.6	1.03 K	0
06/23/26 7:36:0	23/06/2026 19:36	12.8	67.2	0	6	55	0	7.3	10.1	8.2	79.3	1.02 K	0	6.5	1.03 K	0
06/23/26 7:37:0	23/06/2026 19:37	12.7	67.7	0.5	23	60	0	7.2	10	8.2	79.1	1.02 K	0	6.6	1.03 K	0

06/23/26 7:38:0	23/06/2026 19:38	12.7	67.4	0.1	0	65	0	7.2	10	8.2	78.4	1.02 K	0	6.5	1.03 K	0
06/23/26 7:39:0	23/06/2026 19:39	12.8	67.8	0.5	296	81	0	7.2	9.9	8.1	79	1.02 K	0	6.3	1.03 K	0
06/23/26 7:40:0	23/06/2026 19:40	12.8	67.8	0.6	338	77	0	7.1	9.9	7.9	79.7	1.02 K	0	6.3	1.03 K	0
06/23/26 7:41:0	23/06/2026 19:41	12.8	66.6	0.6	347	0	0	7.2	10.1	7.9	79.7	1.02 K	0	6.3	1.03 K	0
06/23/26 7:42:0	23/06/2026 19:42	12.8	64.9	0.9	8	64	0	7.4	10.5	7.8	79.6	1.02 K	0	6.2	1.03 K	0
06/23/26 7:43:0	23/06/2026 19:43	12.8	65.1	0.9	38	53	0	7.7	10.8	7.6	79.7	1.02 K	0	6.1	1.03 K	0
06/23/26 7:44:0	23/06/2026 19:44	12.8	65.7	0.8	13	48	0	7.8	10.9	7.5	80.9	1.02 K	0	6.1	1.03 K	0
06/23/26 7:45:0	23/06/2026 19:45	12.7	65.5	1.1	313	37	0	7.7	10.7	7.5	81.5	1.02 K	0	6.1	1.03 K	0
06/23/26 7:46:0	23/06/2026 19:46	12.8	66.6	1.1	320	36	0	7.7	10.6	7.5	81.5	1.02 K	0	6.1	1.03 K	0
06/23/26 7:47:0	23/06/2026 19:47	12.8	65.5	0.8	329	33	0	7.7	10.7	7.6	81.7	1.02 K	0	6.1	1.03 K	0
06/23/26 7:48:0	23/06/2026 19:48	12.8	64.9	0.8	329	30	0	7.8	11	7.6	81.9	1.02 K	0	6.2	1.03 K	0
06/23/26 7:49:0	23/06/2026 19:49	12.8	64.2	1.3	314	31	0	7.9	11.1	7.6	81	1.02 K	0	6.2	1.03 K	0
06/23/26 7:50:0	23/06/2026 19:50	12.8	64.7	1.2	312	33	0	7.7	10.9	7.6	81.1	1.02 K	0	6.1	1.03 K	0
06/23/26 7:51:0	23/06/2026 19:51	12.8	64.7	1.1	308	34	0	7.7	10.9	7.5	81.5	1.02 K	0	6	1.03 K	0
06/23/26 7:52:0	23/06/2026 19:52	12.7	63.5	1.4	310	29	0	7.7	11	7.6	81.9	1.02 K	0	6.2	1.03 K	0
06/23/26 7:53:0	23/06/2026 19:53	12.7	62.5	1.5	310	14	0	7.7	11.1	7.5	81.1	1.02 K	0	6.1	1.03 K	0
06/23/26 7:54:0	23/06/2026 19:54	12.8	61.2	1.1	310	9	0	7.8	11.4	7.5	82.1	1.02 K	0	6.1	1.03 K	0
06/23/26 7:55:0	23/06/2026 19:55	12.8	59.5	1.1	306	9	0	7.9	11.7	7.5	81.6	1.02 K	0	6.1	1.03 K	0
06/23/26 7:56:0	23/06/2026 19:56	12.8	59.6	0.9	285	12	0	8	11.7	7.5	82	1.02 K	0	6	1.03 K	0
06/23/26 7:57:0	23/06/2026 19:57	12.8	60.9	0.5	295	11	0	7.8	11.3	7.5	81.4	1.02 K	0	6	1.03 K	0
06/23/26 7:58:0	23/06/2026 19:58	12.8	64.1	0.6	169	44	0	7.6	10.7	7.4	81.6	1.02 K	0	5.9	1.03 K	0
06/23/26 7:59:0	23/06/2026 19:59	12.7	67.1	0.8	173	58	0	7.3	10.1	7.2	82.4	1.02 K	0	5.9	1.03 K	0
06/23/26 8:00:0	23/06/2026 20:00	12.8	68.9	0.7	177	66	0	7.2	9.9	7.2	82.8	1.02 K	0	5.9	1.03 K	0
06/23/26 8:01:0	23/06/2026 20:01	12.8	69	0.3	180	70	0	7.1	9.8	7.2	83	1.02 K	0	5.9	1.03 K	0
06/23/26 8:02:0	23/06/2026 20:02	12.8	69	0	0	67	0	7.2	9.8	7.2	82.9	1.02 K	0	6	1.03 K	0
06/23/26 8:03:0	23/06/2026 20:03	12.8	69.3	0.2	116	126	0	7.1	9.7	7.3	82.6	1.02 K	0	6	1.03 K	0
06/23/26 8:04:0	23/06/2026 20:04	12.7	70	0	0	131	0	7	9.6	7.2	81.8	1.02 K	0	5.9	1.03 K	0
06/23/26 8:05:0	23/06/2026 20:05	12.8	70.6	0	2	138	0	6.9	9.4	7.1	83.4	1.02 K	0	5.9	1.03 K	0
06/23/26 8:06:0	23/06/2026 20:06	12.6	70.9	0.1	6	0	0	7	9.4	7	82.7	1.02 K	0	5.6	1.03 K	0
06/23/26 8:07:0	23/06/2026 20:07	12.8	71.1	0.4	35	0	0	6.9	9.3	6.8	83.6	1.02 K	0	5.6	1.03 K	0
06/23/26 8:08:0	23/06/2026 20:08	12.7	71.3	0.5	4	0	0	6.9	9.3	6.9	84.2	1.02 K	0	5.6	1.03 K	0
06/23/26 8:09:0	23/06/2026 20:09	12.8	70.9	0.5	348	0	0	6.9	9.3	6.8	83.9	1.02 K	0	5.6	1.03 K	0
06/23/26 8:10:0	23/06/2026 20:10	12.7	70.8	0.3	329	0	0	6.9	9.3	6.7	84.1	1.02 K	0	5.4	1.03 K	0
06/23/26 8:11:0	23/06/2026 20:11	12.7	70.9	0.3	282	0	0	6.9	9.3	6.5	84.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:12:0	23/06/2026 20:12	12.8	70.7	0.5	285	0	0	6.9	9.3	6.5	85.2	1.02 K	0	5.3	1.03 K	0
06/23/26 8:13:0	23/06/2026 20:13	12.8	70.4	0.4	273	69	0	6.9	9.4	6.3	85.3	1.02 K	0	5.3	1.03 K	0
06/23/26 8:14:0	23/06/2026 20:14	12.7	70.2	0.1	335	75	0	6.9	9.4	6.2	85.8	1.02 K	0	5.1	1.03 K	0
06/23/26 8:15:0	23/06/2026 20:15	12.7	70	0.3	347	76	0	6.9	9.4	6.3	86.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:16:0	23/06/2026 20:16	12.8	70.2	0.4	21	75	0	6.9	9.4	6.3	85.9	1.02 K	0	5.3	1.03 K	0
06/23/26 8:17:0	23/06/2026 20:17	12.8	70.6	0.6	35	75	0	6.9	9.3	6.2	85.7	1.02 K	0	5.1	1.03 K	0
06/23/26 8:18:0	23/06/2026 20:18	12.8	71.5	0.6	29	74	0	6.9	9.2	6.2	86.9	1.02 K	0	5.2	1.03 K	0
06/23/26 8:19:0	23/06/2026 20:19	12.8	71.7	0.4	359	72	0	6.8	9.1	6.2	86.8	1.02 K	0	5.2	1.03 K	0
06/23/26 8:20:0	23/06/2026 20:20	12.8	72.6	0.5	341	65	0	6.9	9.1	6.2	86.6	1.02 K	0	5.2	1.03 K	0
06/23/26 8:21:0	23/06/2026 20:21	12.7	71.6	0.2	6	46	0	6.8	9.1	6	86.8	1.02 K	0	5	1.03 K	0
06/23/26 8:22:0	23/06/2026 20:22	12.8	72.5	0.5	341	40	0	6.7	9	6.1	87.6	1.02 K	0	5.2	1.03 K	0
06/23/26 8:23:0	23/06/2026 20:23	12.8	73.8	0.8	7	27	0	6.9	9.1	6.2	87.6	1.02 K	0	5.3	1.03 K	0
06/23/26 8:24:0	23/06/2026 20:24	12.8	73.8	0.7	17	26	0	7.3	9.4	6.2	86.7	1.02 K	0	5.2	1.03 K	0
06/23/26 8:25:0	23/06/2026 20:25	12.7	72.8	0.7	20	24	0	7.4	9.7	6.2	86.9	1.02 K	0	5.2	1.03 K	0
06/23/26 8:26:0	23/06/2026 20:26	12.7	71.7	0.8	27	23	0	7.3	9.7	6	86.7	1.02 K	0	5.1	1.03 K	0
06/23/26 8:27:0	23/06/2026 20:27	12.8	72.6	1	20	21	0	7.6	10	6.1	87.5	1.02 K	0	5.3	1.03 K	0
06/23/26 8:28:0	23/06/2026 20:28	12.8	69.7	0.7	11	21	0.1	7.6	10.2	6.2	87.5	1.02 K	0	5.3	1.03 K	0
06/23/26 8:29:0	23/06/2026 20:29	12.8	67.2	0.8	336	22	0.4	7.7	10.6	6.2	86.7	1.02 K	0	5.3	1.03 K	0
06/23/26 8:30:0	23/06/2026 20:30	12.7	63.9	0.9	327	22	0.4	7.7	10.9	6.2	87	1.02 K	0	5.3	1.03 K	0
06/23/26 8:31:0	23/06/2026 20:31	12.8	62.6	0.8	335	23	0	7.7	11	6.2	86.2	1.02 K	0	5.2	1.03 K	0
06/23/26 8:32:0	23/06/2026 20:32	12.8	62.2	0.6	336	23	1.2	7.7	11.1	6.1	87.1	1.02 K	0	5.2	1.03 K	0
06/23/26 8:33:0	23/06/2026 20:33	12.7	61.6	0.6	332	24	1.4	7.8	11.3	6.4	86.8	1.02 K	0	5.4	1.03 K	0
06/23/26 8:34:0	23/06/2026 20:34	12.7	60.4	0.5	1	23	0.5	7.8	11.5	6.5	85.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:35:0	23/06/2026 20:35	12.8	59.3	1	299	24	0.2	7.9	11.7	6.3	85.3	1.02 K	0	5.3	1.03 K	0
06/23/26 8:36:0	23/06/2026 20:36	12.8	58.9	0.6	298	27	1.4	7.9	11.7	6.3	86.5	1.02 K	0	5.3	1.03 K	0
06/23/26 8:37:0	23/06/2026 20:37	12.7	57.2	0.1	357	25	0.9	8	12.1	6.6	86.8	1.02 K	0	5.3	1.03 K	0
06/23/26 8:38:0	23/06/2026 20:38	12.8	57.6	1	309	25	0	8.2	12.3	6.5	84	1.02 K	0	5.3	1.03 K	0
06/23/26 8:39:0	23/06/2026 20:39	12.8	60.2	1.4	313	25	0	8	11.7	6.2	85.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:40:0	23/06/2026 20:40	12.8	61	0.9	311	25	0.6	7.8	11.4	6.4	86.2	1.02 K	0	5.4	1.03 K	0
06/23/26 8:41:0	23/06/2026 20:41	12.8	60.7	1.2	296	26	0.5	7.8	11.4	6.5	85.9	1.02 K	0	5.4	1.03 K	0
06/23/26 8:42:0	23/06/2026 20:42	12.7	59.7	0.9	296	25	0.5	7.8	11.5	6.5	85.9	1.02 K	0	5.4	1.03 K	0
06/23/26 8:43:0	23/06/2026 20:43	12.8	59.8	1.4	309	24	0.7	8	11.7	6.4	85.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:44:0	23/06/2026 20:44	12.8	61	1.1	294	17	0	7.9	11.4	6.4	85.7	1.02 K	0	5.4	1.03 K	0
06/23/26 8:45:0	23/06/2026 20:45	12.8	61.5	1	311	11	0	7.7	11.2	6.3	85.5	1.02 K	0	5.2	1.03 K	0
06/23/26 8:46:0	23/06/2026 20:46	12.7	61.1	1.2	314	10	0	7.7	11.2	6.1	85.8	1.02 K	0	5.1	1.03 K	0
06/23/26 8:47:0	23/06/2026 20:47	12.7	60.8	1.1	321	11	0	7.8	11.3	6	86.9	1.02 K	0	5	1.03 K	0
06/23/26 8:48:0	23/06/2026 20:48	12.7	62.1	0.8	312	11	0	7.8	11.2	5.9	86.8	1.02 K	0	5	1.03 K	0
06/23/26 8:49:0	23/06/2026 20:49	12.8	63.6	0.5	309	11	0	7.5	10.8	6.1	87.6	1.02 K	0	5.2	1.03 K	0
06/23/26 8:50:0	23/06/2026 20:50	12.8	65.4	0.1	349	12	0	7.3	10.4	6.1	87.6	1.02 K	0	5.2	1.03 K	0
06/23/26 8:51:0	23/06/2026 20:51	12.7	66.9	0.2	12	21	0	7.2	10	6.4	88	1.02 K	0	5.2	1.03 K	0
06/23/26 8:52:0	23/06/2026 20:52	12.7	68.2	0	7	21	0.2	7.1	9.8	6.4	88.1	1.02 K	0	5.5	1.03 K	0
06/23/26 8:53:0	23/06/2026 20:53	12.8	69.1	0	0	34	0.1	7	9.6	6.5	86.7	1.02 K	0	5.5	1.03 K	0
06/23/26 8:54:0	23/06/2026 20:54	12.8	69.5	0.3	0	36	0.3	6.9	9.5	6.5	86.2	1.02 K	0	5.5	1.03 K	0
06/23/26 8:55:0	23/06/2026 20:55	12.8	69.7	0.5	334	41	1.4	6.9	9.4	6.7	86.9	1.02 K	0	5.7	1.03 K	0
06/23/26 8:56:0	23/06/2026 20:56	12.8	69.1	0.6	319	41	1.4	6.9	9.5	6.9	85.3	1.02 K	0	5.6	1.03 K	0
06/23/26 8:57:0	23/06/2026 20:57	12.8	68.7	0.6	317	62	1.1	7	9.6	6.8	84.1	1.02 K	0	5.6	1.03 K	0
06/23/26 8:58:0	23/06/2026 20:58	12.8	68.1	0.7	299	41	0.4	7	9.7	6.8	84.3	1.02 K	0	5.7	1.03 K	0
06/23/26 8:59:0	23/06/2026 20:59	12.7	67.1	0.9	277	42	0	7.1	9.9	6.6	83.7	1.02 K	0	5.3	1.03 K	0
06/23/26 9:00:0	23/06/2026 21:00	12.8	65	0.9	275	38	0.3	7.3	10.4	6.4	85.1	1.02 K	0	5.3	1.03 K	0