
Project: CDC Eastern Creek - Substation Transformer Assessment **Project No:** 301351150

To: Jak McAlister **Date:** 15/05/2026

From: Jake Emmett

RE: Substation Transformer Assessment

Canberra Data Centre (CDC) and Ausconnex have advised Stantec that an additional transformer unit is proposed to be installed at the Roberts Road substation located in Eastern Creek to support the operation of the CDC Eastern Creek Data Centre facilities. 4x transformers currently operate at the Roberts Road Substation. This modification proposes an increase of 1x transformer and upgrade to 2 of the existing transformers with a total of 5 in operation.

This assessment has been based on the following documentation:

- Mechanical drawings of the proposed substation modification
- Email Correspondence – RE: New Transformer Acoustics, dated 30/04/2026
- Environmental Assessment Report – CBRE – October 2010
- Major Project Assessment – Hewlett Packard Data Storage project 10_0142, dated December 2010
- SSD-10330 Consolidated Consent

The following information has been provided by Canberra Data Centres relating to the original Major Project, the sites transition to a State Significant development, and this proposed modification.

Original Major Project – MP 10_0142 (Hewlett Packard Data Centre)

The original data centre development at the site was approved on 7 December 2010 under Part 3A of the Environmental Planning and Assessment Act 1979 as Major Project MP 10_0142 (Hewlett-Packard Data Storage Project). The Part 3A approval established the foundational electrical infrastructure required to support a high-reliability data centre, recognising the critical need for continuous and uninterrupted power supply to enable 24-hour operations. In particular, the approval included:

- construction of a high-voltage electrical switching station to provide a secure and reliable connection to the electricity network;
- installation of associated electrical infrastructure, including transformers, switchgear and internal distribution systems, to enable on-site power supply to the data halls;

The MP provides the original establishment context for the high-voltage plant at the site.

State Significant Development – SSD-10330

In July 2020, development consent was granted for SSD-10330, which approved a major expansion of the data centre campus. Alongside new data centre buildings (Buildings E3, E4, E5 and E6) and associated generators and back-up power systems, the SSD approved the augmentation of servicing and infrastructure required to support the expanded operation, including expansion of the on-site 132 kV substation.

Accordingly, SSD-10330 is the operative consent governing the configuration, expansion and environmental performance of the high-voltage electrical infrastructure supporting the expanded data centre. The existing substation configuration, including multiple transformers and associated switchrooms, has therefore been lawfully established within the SSD-10330 consent framework.

At the time of writing, four (4) transformers and accompanying switchrooms are operating within the existing high-voltage plant in support of data centre operations, consistent with the infrastructure approved under SSD-10330.

The proposal seeks to modify SSD-10330 as follows:

- Electrical infrastructure
 - o Installation of a new switch room with 11 kV switchgear;
 - o Installation of a new (fifth) Transformer; and
 - o Replacement of the existing Transformer 1 and 2.

CDC has advised Stantec that the proposed noise levels below will apply to the new transformer as well as the 2 x upgraded transformers. For simplicity in the modelling and lack of historical information, these levels have been used for all 5 (total) transformer as a conservative assumption.

Table 1: Documented Transformer Sound Power Levels

Sound Power Level (SWL)	Noise Level
No Load Noise	71 dB(A)
Total Noise	82 dB

Based on the above, Stantec has completed an acoustic engineering assessment of the noise emissions from the substation and compared it against the existing background noise in the area and relevant noise criteria. The noise assessment was completed in a 3D model using the SoundPlan 9.1. Noise emissions were calculated in line with the procedures outlined by the NSW NPfI using the Concawe emissions standard. Environmental conditions were modelled with 3m/s wind speeds, source to receiver wind directionality and Category E Stability Class to simulate the worst-case conditions.

Table 2 below presents the results of the noise assessment at the nearest affected receivers.

Table 2: Predicted Noise Levels at the Nearest Sensitive Receivers

Receiver	Existing Substation Noise at Receiver, dBA	Proposed Substation Noise at Receiver, dBA	NPfI PNTL Noise Criteria, dBA	Complies
Commercial Receiver				
C1 - Coca-Cola Europacific Partners Eastern Creek	30	30	63	Yes
Industrial Receiver				
IND1 - Coles Eastern Creek	<10	<10	68	Yes
IND2 - Tamex Transport Sydney	<10	<10	68	Yes
IND3 - Clean Group Australia	11	12	68	Yes
IND4 - Luxco Pty Ltd	25	26	68	Yes
IND4 - Tremco Australia	27	28	68	Yes
IND5 - DHL Supply Chain	26	27	68	Yes
IND5 - DHL Supply Chain	29	30	68	Yes
IND6 - Amazon BWU4	24	25	68	Yes
IND6 - Oakdale East Industrial Estate - North Bld	25	26	68	Yes
IND6 - Oakdale East Industrial Estate - South Bld	25	26	68	Yes
Residential Receiver				
R1 - 104 Burley Rd - North	18	19	38	Yes
R1 - 104 Burley Rd - South	19	20	38	Yes
R1 - 124 Burley Road (30m from Residence)	18	19	38	Yes
R1 - 140 Burley Road	18	19	38	Yes

Receiver	Existing Substation Noise at Receiver, dBA	Proposed Substation Noise at Receiver, dBA	NPfI PNTL Noise Criteria, dBA	Complies
R1 - 142 Burley Road	20	21	38	Yes
R1 - 144 Burley Rd	22	22	38	Yes
R1 - 146 Burley Rd	18	18	38	Yes
R1 - 148 Burley Road	19	20	38	Yes
R1 - 150 Burley Road	21	21	38	Yes
R1 - 150 Burley Road (30m from Residence)	19	20	38	Yes
R1 - 152 Burley Road	20	21	38	Yes
R1 - 152 Burley Road (30m from Residence)	18	19	38	Yes
R1 - 251 Burley Road	<10	<10	38	Yes
R1 - 257-261 Burley Road	15	16	38	Yes
R1 - 273-259 Burley Road	<10	<10	38	Yes
R1 - 275-285 Burley Road	<10	<10	38	Yes
R1 - 321-325 Burley Road	<10	<10	38	Yes
R1 - 58 - 64 Burley Rd	17	18	38	Yes
R1 66-80 Burley Road	17	18	38	Yes
R1 66-80 Burley Road (30m from Residence)	17	18	38	Yes
R2 - 3 Cetus Pl	<10	<10	38	Yes
R2 - 4 Cetus Pl	<10	<10	38	Yes
R2 - 5 Cetus Pl - North	<10	<10	38	Yes
R2 - 5 Cetus Pl - South	<10	<10	38	Yes
R2 - 6 Cetus Pl	<10	<10	38	Yes
R2 - 7 Cetus Pl	<10	<10	38	Yes
R2 - 84 Weaver St	<10	<10	38	Yes

Based on the results presented above, noise levels from the substation with the additional transformer satisfy the NPfI PNTL noise criteria at all sensitive receivers by at least a 17dB.

This assessment has been undertaken specifically to quantify the noise emissions associated with the proposed transformer modification. Noise sources associated with the broader data centre campus remain unchanged by the proposal and have not been reassessed as part of this modification. The predicted increase in transformer noise levels of up to 1 dB at nearby receivers is acoustically negligible and would not result in any material change to the operational noise environment previously assessed for the site. On this basis Stantec does not find any reason to reject the modification based on the grounds of noise emission to the environment.

Notwithstanding the predicted outcomes of the acoustic assessment, the operation of the development as modified will continue to be governed by the operational noise limits, monitoring and verification requirements imposed under Conditions B4 to B7 of SSD-10330. These conditions establish enforceable noise limits at surrounding receivers, specify the applicable meteorological conditions for compliance, and require attended noise monitoring and independent verification reporting, providing an effective and ongoing planning mechanism to regulate operational noise from the site, without the need for additional or amended noise controls

Yours sincerely

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