

Place Management NSW
C/- Thelem Consulting
Suite 3, Level 2, Plaza Building Australia Square,
95 Pitt St, Sydney NSW 2000

Attn: Hannah Bryce-Tierney
Email: htierney@thelem.com.au

Our Reference
392900

Mott MacDonald
383 Kent Street
Sydney
NSW 2000
PO Box Q1678
QVB Sydney NSW 1230
Australia

T +61 (0)2 9098 6800
mottmac.com

White Bay Power Station - Review of the Sydney Metro West Environmental Impact Statement

22 May 2020

Dear Hannah,

Our review is limited to those sections of the environmental impact statement (EIS) that discuss the proposed The Bays Station and the potential structural implications for White Bay Power Station (WBPS).

We have reviewed the following sections of the EIS:

- Chapter 9 – Stage 1 Description
- Chapter 11 – Noise and Vibration
- Chapter 12 – Non-Aboriginal Heritage – Stage 1
- Appendix E – Construction Noise and Vibration Strategy
- Tech Paper 2 – Noise and Vibration (Part 1)

We note the following:

The metro tunnel under the WBPS has been shown at approximately 30m below ground level (Figure 9-2(h)) and aligned to run under the northern end of most buildings.

The tunnels beneath WBPS will be constructed using TBMs (launched from The Bays Station site) and road headers. Rock hammers will be used to excavate secondary elements and the station box. Excavators and some rock blasting (below 20m) will also be used to excavate the station box.

Temporary excavation shoring is proposed for the station box (bored piling). Some ground anchoring may also be required dependent on ground conditions encountered (this has not been mentioned specifically for The Bays Station site). Based on the location of the station box it is unlikely that any ground anchoring will affect the structures of WBPS (beyond the station site boundary).

An acoustic shed is proposed over the cut-and-cover station.

Standard vibration screening criteria for minimal risk of cosmetic damage are provided. A reduced value of 2.5mm/s is provided for unsound heritage structures, subject to a condition survey by Sydney Metro West. It is expected that several buildings within WBPS will fall under this criterion. Tech paper 2 notes that consideration of the 2.5mm/s screening criterion will need to be considered for WBPS. We note this may include vibrations due to blasting in the station box excavation.

No consideration of vibration exceedance has been given in table 11-17 for the bays area including WBPS. As several buildings may be considered structurally unsound exceedance of 2.5mm/s is a potential risk.

No exceedance of screening limits for WBPS is predicted for tunnelling works (Tech Paper 2, Table 83).

Figure 11-34 shows the Coal Handling Shed as at risk of the cosmetic damage vibration criterion exceedance. It is not clear if this is the reduce criterion for unsound heritage structures (2.5mm/s) or for industrial buildings (25mm/s). It is possible that other structures within WBPS will be assessed as at risk of damage due to the tunnel and station box construction.

Section 11.14 also predicts that the vibration criterion for human comfort level will be exceeded in some WBPS buildings as a result of construction works.

Acceptable mitigation measures are in place (NV13, NV16, NV17) for The Bays Station that should capture any risks.

Construction Noise and Vibration Impact Statements are proposed for the works – it is expected that this will cover potential risks to the individual structures of WBPS and include condition assessments by a structural engineer and comment on acceptable vibration limits and methods of control.

No consideration has been given in the EIS to the impacts of ground-borne vibrations transmitted to the WBPS buildings from operation of the Metro trains, or any mitigation measures proposed.


Noise impacts have not been reviewed by us in detail as the WBPS site is not significantly occupied.

Table 12-3 shows no settlement is predicted under the WBPS site as a result of the construction.

Table 12-22 provides comment on vibration impacts (magnitude considered to be minor). This is reasonable if the appropriate mitigation measures are applied.

Please contact the undersigned for further assistance.

Yours faithfully,



Alex Been
Technical Director
+61 (0)2 9098 6822
alex.been@mottmac.com