



DOC22/352887

6 May 2022

Mr Keith Ng
Senior Planner
Transport Assessments
Department of Planning and Environment

(via Major Projects Planning Portal)

Dear Mr Ng

**Sydney Metro West (Stage 3) – Rail infrastructure, stations,
precincts, and operations (SSI 22765520)
Advice on Environmental Impact Statement (EIS)**

I am writing to you in reply to your invitation to the NSW Environment Protection Authority (EPA) to provide comment on the Environmental Impact Statement (EIS) for the above project.

The EPA understands this SSI project is Stage 3 of the Sydney Metro West project for the 24-kilometre metro line between Hunter Street in the Sydney CBD and Westmead and forms part of the Concept that was approved by the Minister for Planning and Public Spaces, together with Stage 1, on 11 March 2021.

Stage 3 works involve tunnel fit-out and rail systems for metro train operations across the entire line and includes provisions for separate over station developments and surrounding metro precincts, rail interchange works at Westmead and North Strathfield, control centre, test track and stabling/maintenance facility at Clyde (24-hour operation), and the operation and maintenance of the metro line with rail operations to occur between early morning and late at night.

It is understood that construction of Stage 3 is expected to take approximately four years (2024 to 2028) overlapping in part with construction for Stage 1 (The Bays to Westmead) that has already commenced construction, and Stage 2 (The Bays to Sydney CBD) which is currently under assessment.

Based on the information provided, the proposal will require an environment protection licence (EPL) under the *Protection of the Environment Operations Act 1997* (POEO Act) under clause 33 of Schedule 1 for Railway activities – railway infrastructure construction. Under clause 33, an activity requires a licence for construction of a new railway track that is in the metropolitan area and is 3 km or more in length. Stage 3 involves the installation of the new track that is 24 km in length.

While construction works would be on the same footprint as that for Stages 1 and 2, the EPA notes additional construction areas for Stage 3 at Westmead, Sydney Olympic Park, North Strathfield and The Bays stations.

The EPA has reviewed relevant EIS documents including:

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- *Rail infrastructure, stations, precincts and operations Environment Impact Statement*, dated 18 March 2022, prepared by AECOM and bd infrastructure (the EIS)
- *Technical Paper 3 – Operational Noise and Vibration Final*, dated 8 March 2022, prepared by Mott MacDonald (the ONVIA)
- *Technical Paper 4 – Construction Noise and Vibration*, dated 18 March 2022, prepared by SLR (the CNVIA)
- *Technical Paper 7: Contamination – Preliminary Site Investigation, Ver 1*, dated March 2022, prepared by AECOM and bd infrastructure (the PSI)
- *Technical Paper 8 – Hydrology, Flooding and Water Quality*, dated 2 March 2022, prepared by Mott Macdonald (the Water Quality assessment)

The EPA provides comment on noise and vibration impacts, surface water quality, and contamination issues at **Appendix A**. Comments on water quality can be addressed via conditions of approval. However, there are significant issues with the assessment for both contamination and noise and vibration that, unless addressed as part of the planning application, will present challenges to the civil works contractor when applying for a licence, and the EPA in exercising its regulatory role during the construction of the Sydney Metro West project. The EPA requests that these issues are satisfactorily addressed as part of the proponent's Response to Submissions.

Should you require clarification of any of the above please contact Anna Timbrell on 9274 6345 or email anna.timbrell@epa.nsw.gov.au

Yours sincerely



ERIN BARKER
Manager Regional Operations
Regulatory Operations Metro West

APPENDIX A

1. Surface Water

The EPA reviewed Technical Paper 8 (the water quality assessment) as part of its surface water quality assessment review. The EIS documents include some information on existing surface water and groundwater quality considerations that were reviewed as part of the Stage 1 and Stage 2 SSI assessment process.

The proposal includes one operational wastewater treatment plant located at the Clyde stabling and maintenance facility to treat water pumped from tunnels, stations and underground facilities. Treated water will be discharged towards Duck Creek. The proponent has adopted an appropriate level of waterway protection ('slightly to moderately disturbed') and committed to treating wastewater to a level that is compliant with ANZG (2018) default guideline values for 95 per cent species protection and 99 per cent species protection for toxicants that bioaccumulate. Wastewater discharges are therefore unlikely to pose a risk to receiving waterways, and no further assessment of potential water pollution impacts is required.

As with Stages 1 and 2, **the EPA recommends the following condition:**

Unless an EPL is in force in respect to Stage 1 of the CSSI and that licence specifies alternative criteria, discharges from wastewater treatment plants to surface waters must not exceed:

- (a) the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 (ANZG (2018)) default guideline values for toxicants at the 95 per cent species protection level;
- (b) for physical and chemical stressors, the guideline values set out in Tables 3.3.2 and 3.3.3 of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (ANZECC/ARMCANZ); and
- (c) for bioaccumulative and persistent toxicants, the ANZG (2018) guidelines values at a minimum of 99 per cent species protection level.

Where the ANZG (2018) does not provide a default guideline value for a particular pollutant, the approaches set out in the ANZG (2018) for deriving guideline values, using interim guideline values and/or using other lines of evidence such as international scientific literature or water quality guidelines from other countries, must be used

The EPA also considers the conditions applied in the Stage 1 Instrument of Approval for water quality (D117 to D120) are appropriate for Stage 3.

2. Contamination

The SEARs for contamination deferred to section 5 of the proponent's Scoping Report and as such framed the proponent's own expectations regarding what should be submitted for this SSI assessment, rather than what is required for an appropriate contamination investigation. The proponent's Preliminary Site Investigation (PSI), submitted as Technical Paper 7 to the EIS, is a desktop review only. The report advises that no site inspections were completed to verify the desktop review due to access restrictions caused by both the Covid 19 pandemic and "current ownership and existing infrastructure on sites" at the time of writing. As a result, the report does not meet the requirements of section 3.5.2 of the [planning guidelines](#) regarding the preparation of preliminary investigation reports.

The EPA acknowledges difficulties with site access and understands that the preparation of technical reports may occur concurrently with earlier stages of the Sydney Metro West project rather than in a strictly linear fashion. However, the EPA also notes that approval for Stage 1 was granted in March 2021 and the Stage 3 PSI was issued in March 2022 (with no information about previous versions within the revision history table on the title and author page to indicate when and how it may have been updated). Sufficient justification has not been provided to explain why the PSI is limited to a desktop review only given that Covid restrictions were eased at the beginning of 2022, and site possession was gained 12 months prior to lodgement of the Stage 3 EIS. This would have provided some opportunity to undertake site investigations (in a Covid-safe way) and update the report accordingly prior to its submission. Had site investigations occurred and the report been consequently updated, it is possible that the PSI may have met the expectations outlined in the planning guidelines.

It is also noted that, section 3.1 of the PSI references several reports, including factual contamination reports prepared in 2021, as part of the desktop review. It is unclear if these contamination reports have investigated the additional areas of the project footprint for Stage 3, or how they may have informed this desktop review. However, it indicates that some site access was available, and that contamination assessments were undertaken during 2021. **The limited contamination assessment undertaken for the PSI has flow-on effects in informing the need for detailed site investigations (DSIs).**

The EPA's position is that DSIs should be provided as part of the planning assessment process, given that there are known contamination issues along the project footprint. DSIs are required to determine the nature and extent of contamination and, importantly, to inform the appropriate measures to manage contamination within the project footprint. As DSIs have not been provided as part of the EIS and the PSI is only a desktop review, it is uncertain whether the potential risks due to contamination can be readily managed.

This SSI is likely to be subject to significant community interest, and concern may be heightened by inadequate technical assessments and insufficient measures proposed to manage contamination provided in the EIS, especially during the construction phase. The EPA considers it imperative that a NSW EPA-accredited Site Auditor be engaged across the entire Metro West project footprint for the duration of works for this project to ensure that any work required in relation to contamination, including any unexpected contamination finds, is appropriately managed and so that there is confidence that the land within the project footprint is suitable for the proposed use.

Site auditors independently review work done by contaminated land consultants to ensure the work complies with current regulations and guidelines and meets the standard appropriate for the proposed land use. Site auditing has an important role in decision-making by planning and other regulatory authorities as auditors can provide increased certainty on the nature and extent of contamination and the suitability of a site for a specific use.

The PSI report indicates that a Site Auditor would only be engaged to review the Remediation Action Plans. The EPA considers that this falls short of what is required, and refers the proponent again to the planning guidelines, specifically section 3.6.1, which states that a site audit is necessary when the planning authority:

- believes on reasonable grounds that the information provided by the proponent is incorrect or incomplete
- wishes to verify the information provided by the proponent adheres to appropriate standards, procedures and guidelines
- does not have the internal resources to conduct its own technical review

All three of these reasons apply to this project.

The purpose of the Site Auditor Scheme is not limited to the oversight of “complex” contamination issues, but also to maintain transparency and community confidence in the proposed works. Therefore, it is highly recommended that a NSW EPA-accredited site auditor be engaged across the entire project footprint and throughout the duration of works.

As part of the Response to Submissions, the EPA recommends that detailed site investigations are provided for reasons outlined above. As a minimum, the EPA requests that the proponent be required to commit to the engagement of an EPA-accredited Site Auditor to provide the required oversight of all contamination-related reports – including DSIs – and that this be augmented through the conditions of approval.

3. Noise and Vibration

The EPA reviewed Technical Paper 3 – the operational noise assessment (ONVIA) – and Technical Paper 4 – the construction noise assessment (CNVIA) – and relevant parts of the EIS and identified key matters of concern that should be addressed as part of the Response to Submissions. Detailed comments on the ONVIA are provided below at 3.1 and for the CNVIA at 3.2. This is preceded by the EPA’s consideration of the noise monitoring approach used in both technical papers.

Noise monitoring in the ONVIA and CNVIA

Table 2-1 in the ONVIA and Table 3 in the CNVIA present the list of noise monitoring locations and measured levels considered in each assessment. The CNVIA appears to consider more monitoring locations in and around the operational sites than the ONVIA. The discrepancy between the monitoring locations in the ONVIA and CNVIA appears not have been addressed, nor justified in the ONVIA.

Noise-sensitive receivers are located at different orientations and distances from proposed Metro Stations and experience different background noise levels. However, in many cases, the ONVIA has used one location to characterise a large area of receivers with multiple and diverse local and regional noise sources within it. Without additional information, this appears to be inconsistent with the *Noise Policy for Industry* (EPA, 2017) (NPfI), and has the potential to lead to poor outcomes.

For example, ONVIA Table 3-11 has used one location at 8 Waterview Street Five Dock for the assessment of impacts at all residential receivers impacted by the Five Dock Station. CNVIA Table 6 has a location on Henry Street Five Dock as well Waterview Street. The location on Henry Street would likely be more representative of receivers on Henry Street than the data from Waterview Street.

It is noted that previous noise and vibration EIS assessments for Sydney Metro West were prepared for either concept or temporary activities such as construction, and not for ongoing noise sources such as operational station and rail activities. The EPA is concerned about the apparent lack of resolution in the monitoring locations, particularly around stations with residential areas, as many of the predicted noise levels in ONVIA Chapter 5 are at or close to the project noise trigger levels.

Chapter B3 of the NPfI requires a statement justifying the choice of monitoring sites. The EPA considers that stating a monitoring location was used in a previous assessment is not a sufficient justification by itself that a location is appropriate, particularly if that assessment was for a different activity.

As part of the Response to Submissions, the proponent should provide the following regarding noise monitoring:

- 1. Clarify the differences in monitoring locations used in the CNVIA and ONVIA relevant to the station sites.**

2. Review the monitoring locations and their appropriateness to represent affected receiver groups.
3. Include justification for each monitoring location specific to each receiver group potentially affected by operational activities.
4. Present additional data that is representative of potentially affected receiver groups not currently covered by the monitoring data in the EIS.
5. Where changes are made to the number and location of monitoring locations for receiver groups, the project noise trigger levels for each receiver group should be reviewed and amended accordingly based on representative monitoring data.

ONVIA Table 2-1 lists the noise monitoring location for Sydney Olympic Park as 1 Herb Elliot Drive. The EPA's [submission](#) to the Sydney Metro West Stage 1 EIS considered that this location is not representative of residential receivers potentially affected by operational activities.

The EPA recommends that the monitoring location at 1 Herb Elliot Drive is not used and that additional data is provided, or the proponent demonstrates and provides evidence that the monitoring used for Olympic Park in the ONVIA is representative of potentially affected residential receivers.

3.1 OPERATIONAL NOISE AND VIBRATION IMPACT ASSESSMENT (ONVIA)

Approach to amenity level

The purpose of the amenity level is to limit continued increases in all industrial noise sources within an area. They form a critical part of the project noise trigger level (PNTL) determination process by providing a ceiling on total industrial noise within an area. The amenity level is scaled based on the perceived expectations of different areas of residential receivers (urban, suburban and rural) and is informed by a number of characteristics of the receiver area as set out in the NPfI.

ONVIA Section 3.4.2 provides an explanation of the approach taken towards the derivation of the (NPfI) amenity criteria including where there is no obligation to take into consideration cumulative industrial noise in determining the amenity criteria. The ONVIA appears to assume no existing or future industrial noise, aside from Metro facilities, at any of the station sites.

However, there is potential for existing and future industrial noise sources typical of commercial operations including air conditioners and handling plant, exhaust fans from kitchens and toilets, compressors, refrigeration units and so on, in addition to operations such as loading docks. The definition of noise considered as industrial noise in Section 1.4 of the NPfI includes noise from commercial premises and therefore should be considered when implementing the NPfI and deriving the amenity criteria.

There is no quantification or description of existing industrial noise in the ONVIA to offer any credible evidence to support the assertion that there is no existing industrial noise at the station sites. For stations where there is a mix of existing commercial and/or industrial uses next to residential receivers – for example, Parramatta, Olympic Park, Burwood North, Five Dock, and Pyrmont – the ONVIA does not provide sufficient evidence to demonstrate it is not appropriate to apply the correction to the amenity level for proposed industrial noise sources.

Where developments are planned as part of station precincts, Sydney Metro cannot guarantee that there will not be an increase in industrial noise as many of the areas are to be developed separately. As such the EPA considers it is consistent with the NPfI to take into consideration the potential for future industrial noise using the method in the NPfI.

In addition, if future developments are not considered, it may impose unnecessarily stringent requirements on them as the amenity noise allowance has already been taken up by the station and associated activities.

The proposed amendment or adherence to the approach for determining PNTLs in the NPfl does not remove the requirement for the proponent to demonstrate their best achievable noise level using all reasonable and feasible mitigation. However, given the vast majority of predicted noise levels in ONVIA Chapter 5 appear to be below the alternative amenity approach proposed, it is not clear why there is a proposed alternative approach to PNTLs in this assessment.

The ONVIA has also assumed an urban amenity category for all residential receivers. However, reviewing the land use zoning for receivers in North Strathfield, Five Dock and Burwood North, there are large groups of receivers potentially affected by stations that have R2 and R3 zoning. According to Table 2.3 of the NPfl, these land use zoning should typically use a suburban, not urban categorisation.

Use of industrial interface

The industrial interface is an alteration that can be made to a residential amenity level where there is a significant amount of existing industrial noise. It applies to existing receivers that are close to existing industrial noise and is defined either by a planning instrument or the area for the existing industrial noise source to fall by 5 dB.

ONVIA Table 3-11 appears to apply the industrial interface to receivers in Clyde and Rosehill. However, it is not clear if this is appropriate because:

- a) There is no evidence in the ONVIA to indicate if industrial noise (not traffic noise) is the dominant noise source in the area, and if the industrial noise (not traffic noise) exceeds the amenity level for that area.
- b) NPfl Chapter 2.7 states that careful judgment is required where the industrial interface is to be applied. The ONVIA does not provide sufficient discussion or justification that it is appropriate to apply it in this case.

Unless the proponent provides an appropriate justification including evidence and demonstration that it is appropriate to apply an industrial interface for all receivers in the “Clyde and Rosehill” group, the EPA will consider that the industrial interface is not applied.

Non-residential project noise trigger levels

ONVIA Table 5-6 indicates the commercial amenity level is LAeq,15min 60 dBA, however if following the standard procedure in the NPfl, a project amenity level of LAeq15min 63 dBA would apply. This is derived from subtracting 5 from the Leq,period amenity level, and then adding 3 dB to convert the Leq,period to an Leq,15min level.

The EPA recommends that the non-residential receiver’s project trigger levels are reviewed for consistency with the NPfl and are either amended or a justification provided.

Low Frequency noise

ONVIA Chapter 3.4.6 provides commentary on the proponent’s approach to the application of the NPfl Fact Sheet C low frequency noise correction. In this chapter it states:

The NPfl identifies that the corrections should “reflect external assessment locations”, or sensitive receiver locations so the existing noise environment should be considered. The tunnel ventilation fans typically have a difference in weighted C and A noise levels of 15 dB to 20 dB (dependant on the attenuator), so have the potential to trigger the low frequency noise correction. However, for existing high noise environments the correction would often not be triggered in practice.

The existing average ambient noise level is 13 dB higher than the background noise level. For some locations this is as large as 20 dB. A review has identified that by complying with the project noise trigger levels, the low frequency noise correction would not be required.

The ONVIA offers no details, calculations or data to substantiate these conclusions.

NPfI Fact Sheet C is based on the contribution from the premises only at the receiver location, and not the existing or future ambient or background noise level from all sources.

The assertion in the ONVIA – that if the application complies with the PNTL then no low frequency penalty is required – is not consistent with NPfI Fact Sheet C. The process in Fact Sheet C is to identify: if low frequency is a characteristic; mitigate it; then, only if it cannot be mitigated further, apply a penalty. The aim is to remove and/or reduce low frequency characteristics wherever possible, not simply apply a penalty if they are present.

Based on the information in the ONVIA, the EPA considers there is insufficient information presented to understand the risk of low frequency noise occurring as a result of the application.

The EPA recommends that the proponent amend the assessment of low frequency noise in the ONVIA, provides justification, and demonstrates evidence to substantiate its conclusions, including an assessment which is consistent with the NPfI and NPfI Fact Sheet C. (Additional guidance on low frequency noise assessment was published in [Acoustics Australia vol 48 No. 2.](#))

Annoying characteristics

The ONVIA does not appear to provide an assessment of other annoying characteristics required by Fact Sheet C (e.g. tonal or intermittent noise), aside from the previously discussed low frequency noise matters.

The EPA recommends that the ONVIA is amended to include consideration of all annoying characteristics as required by NPfI Fact Sheet C.

Emergency plant noise

The ONVIA has proposed an assessment criteria of PNTL + 5 dB for emergency plant. This approach is not consistent with the NPfI as there is no provision in the NPfI that excludes emergency plant and equipment from assessment in the NPfI.

All plant and equipment associated with the premises should be assessed using the NPfI, including scheduled maintenance, testing and emergency operation.

If the noise at receivers from this plant and equipment is above the PNTL – whether during testing, maintenance or operation – reasonable and feasible mitigation should be investigated and recommended. The EPA notes that emergency use is a consideration under the assessment of reasonableness. The proponent must demonstrate and report the investigation and assessment of reasonable and feasible mitigation.

The EPA recommends that the ONVIA is amended to consider all plant and equipment associated with the premises under the NPfI. The proponent must demonstrate and report the investigation and assessment of reasonable and feasible mitigation.

Operational airborne noise predictions and contours

The ONVIA does not appear to provide operational noise contours for the station sites. The way in which the assessment for each site has been presented means it is difficult to understand how different receivers are affected from each station site.

The EPA recommends that the proponent transparently presents noise level predictions and provides operational noise contours (Leq,15min and Lmax) for the assessed scenarios at each station site to allow assessing authorities and the community to review the predicted noise propagation through the community.

Assessment of multiple buildings and facilities at a single station

For stations where there is more than one station building or facility proposed, such as Pymont, Five Dock or Burwood North, the ONVIA presents two tables of predicted noise levels which imply that each station building was assessed individually. However, the station sites should be considered together at each receiver, not individually.

The EPA recommends that the proponent clarifies how multiple buildings/facilities at each station site were assessed and amends the assessment accordingly to consider all buildings/facilities for each station cumulatively at receivers.

The Bays Station

The ONVIA does not appear to provide an assessment or any commentary on potential impacts for receivers in the north west of Pymont (such as receivers in and around Bank Street), nor for receivers in Glebe (such as those in and around Glebe Point Road).

The EPA recommends that the proponent clarifies impacts at residential receivers in Pymont and Glebe from operations at The Bays station.

Clyde stabling yard assessment

ONVIA Table 4-9 sets out the Leq,15min sound power levels for the noise sources within the maintenance and stabling yards however the Lmax noise level in Table 4-10 is up to 5 dB lower than the highest Leq,15min noise source in Table 4-9. Having an Leq,15min noise level lower than an Lmax does not appear reasonable without further information.

In addition, the EPA considers that the sound power level is not the only consideration in a maximum noise level assessment as both the location relative to the receiver and the number and frequency of events across the night period affect the impact at the receiver.

The EPA recommends that the sound power levels for the assessment of maximum noise levels is reviewed and updated accordingly with a justification for the sources selected, their location, number and frequency of events across the night period.

ONVIA Table 5-26 appears to only consider two residential properties. However, it is not clear what other potentially affected receivers can expect to experience or if noise is expected to be below the PNTL.

The noise contour maps in Appendix D appear to show many other receivers with the potential to receive similar noise levels as those in Table 5-26, however, they are not addressed in the ONVIA.

The receiver areas to the west of the proposed stabling yard contain a number of multi-storey and high-rise residential developments located on and around James Rouse Drive. It is not clear how the height of receivers has been considered in the assessment.

The EPA recommends that the ONVIA presents the predicted noise levels at potentially affected receivers and clarifies how the height of receivers has been accounted for in the assessment.

Westmead Station Assessment

ONVIA Chapter 5.3 does not fully evaluate the potential for sleep disturbance impacts from the Draught Relief Shafts because it highlights that receivers are already exposed to railway operations that may produce L_{max} noise levels up to L_{max} 85 dBA. The EPA considers that the presence of existing high maximum noise events is not a mitigating factor and may instead be a compounding factor as the application has the potential to increase exposure by increasing the noise level, number or frequency of events to an already exposed population.

The EPA recommends the assessment of sleep disturbance includes consideration of the number of events and frequency of occurrence throughout the night period.

Parramatta Station Assessment

The exceedances identified at Macquarie Street church and education facilities in ONVIA Chapter 5.4 appear to require further investigation and therefore should be addressed in conditions in the planning consent (if approved) by Department of Planning.

The EPA recommends the Department of Planning and Environment (DPE) carefully consider how the exceedances of the PNTLs at the church and educational facilities on Macquarie Street would be managed in the event the application is approved.

Olympic Park Station assessment

The PNTLs for the nearest receivers appear to have been derived from monitoring conducted at a location (1 Herb Elliot Drive) that is not representative of the background noise environment at the residential receivers as commented by the EPA in its submission to Stage 1 (noted previously).

The EPA recommends that the proponent does not use the monitoring location at 1 Herb Elliot Drive to determine impacts at residential receivers and amends the assessment to use additional data that is representative of potentially affected residential receivers.

Burwood North Station assessment

The ONVIA does not appear to have considered impacts at St Luke's Church on Burton Street adjacent to the proposed metro station.

The EPA recommends the ONVIA considers all sensitive receivers potentially affected by the station site, including St Luke's Church.

Hunter Street Station assessment

ONVIA Chapter 5.11.2 states: "Note that residential receivers have not been identified in the vicinity of the Hunter Street (Sydney CBD) Station, so residential noise criteria have not been included below."

However, Appendix A map Page 14 of 14 shows a residential land use at the corner of O'Connell, Hunter and Pitt Streets and several mixed-use buildings on Hunter Street. It's not clear what mixed use means in this context.

The EPA recommends that the proponent reviews the sensitive receivers in the vicinity of the proposed stations, clarifies the receiver types, and amends the maps and assessments in the ONVIA accordingly.

Operational noise mitigation

ONVIA Chapter 6.3 states: *“With the inclusion of feasible and reasonable noise attenuation measures, each station and services facility assessed in Section 5 would comply with the applicable noise criteria.”*

The ONVIA identifies some exceedances of the PNTLs throughout the document but has not provided a sufficient evaluation of reasonable and feasible mitigation for these exceedances. The matters raised by the EPA on the ONVIA such as noise monitoring and PNTLs may have a material impact on the outcome which may affect the ability for the development to meet its objectives.

Additionally, discussion in ONVIA Chapter 3.4.2 raises some of the inherent limitations on mitigation options available to the project and how it may affect its ability to meet the PNTLs. These statements in ONVIA Chapter 3.4.2 and 6.3 appear to be potentially contradictory on the one hand saying that PNTLs can and will be met, but also saying there are circumstances where they may not be able to met.

The EPA is primarily interested in the proponent presenting their evaluation of reasonable and feasible mitigation and an achievable noise level for each case where the PNTLs are exceeded. NPfI Chapters 3 and 4 set out the NPfI’s requirements for the evaluation of reasonable and feasible mitigation measures. Deferring any evaluation of mitigation measures to post-approval is not considered appropriate or consistent with the NPfI and the SEARs, in particular SEARs Outcome 3, Requirement 2.

Whilst the EPA appreciates that the design will be developed further post-approval, this does not prevent the identification and evaluation of concept level mitigation measures, identification and reporting of key sources to be controlled, and potential measures applied to them, the potential benefit of these measures, and the potential for residual impacts to remain.

Where the assessment of reasonable and feasible mitigation identifies residual impacts the ONVIA should identify what safeguards or additional measures (such as at-property treatment for residual impacts when all other measures have been exhausted) are available for affected receivers.

ONVIA Chapter 6.4 states the following regarding mitigating noise exceedances from the Clyde and Rosehill facilities: *“The noise assessment in Section 5.12 identifies a minor exceedance of the applicable noise criteria. Further investigation would be undertaken during detailed design to determine reasonable and feasible noise mitigation measures to comply with the applicable noise criteria.”*

The EPA does not consider that sufficient information has been presented to provide confidence that there are practical measures available to reduce noise from the identified exceedances at these facilities, or what safeguards are available should residual impacts occur.

The EPA recommends that:

- **the recommendations for mitigation are amended accordingly in consideration of matters raised on the ONVIA;**
- **the proponent provides the evaluation and assessment of reasonable and feasible mitigation where noise levels are predicted to be above the PNTLs. NPfI Chapter 4 provides an example of an assessment;**
- **the proponent provides additional information that identifies the key sources to be controlled, potential measures to control them and their benefit, reasonable and feasible evaluation, and the potential for residual impacts to remain; and**
- **where residual impacts are identified as a potential, the proponent should nominate safeguards and/or additional measures to manage them.**

3.2 CONSTRUCTION NOISE AND VIBRATION IMPACT ASSESSMENT (CNVIA)

Construction working hours

CNVIA Chapter 4.4 states the justification for extending standard working hours to 6 pm on Saturdays as: *Earlier completion of the proposal would bring considerable benefits to the community and would reduce the duration of construction related disruption.*

CNVIA Table 17 states that the overall length of duration would be reduced by around 3 months for each site. CNVIA Table 18 indicates that works at each site are expected to last around 36-40 months.

The CNVIA does not establish if it is in fact a benefit to the community to have the overall duration reduced from an estimated 36 to 33 months with works happening every day, Monday to Saturday 7 am to 6 pm, or if it is more beneficial or preferable to have regular respite on weekends from 1 pm on a Saturday through until Monday morning for the duration of the program, as is intended by the *Interim Construction Noise Guideline* (DECC, 2009) (ICNG) recommended standard hours.

It is also not clear how, or if, the benefits would be realised or compensated for in the event that the duration of the project extends beyond what is currently projected in Table 18.

The EPA recommends that the proponent clarifies what is meant by “considerable benefit to the community” including any community feedback on preferred working hours. This should be substantiated by evidence and justification that supports the assertion about the benefits. This includes contingencies in the event of a duration extension. In the absence of sufficient justification, the EPA recommends that the standard working hours as set out in the ICNG are applied to the project.

Assessment methodology for construction impacts

CNVIA Chapter 5.1 presents how the assessment of impacts has been conducted. The EPA notes that the method is the same, or similar to, methods adopted in other Sydney Metro planning applications and that the EPA has previously made clear its concerns that this method is not appropriate.

The EPA considers that categorising construction noise impacts in the way described in the CNVIA is likely to misrepresent the extent of impact that may be experienced by the community and set unrealistic expectations for the community. The EPA’s position is set out in its submissions to both Sydney Metro West Stage 1 and [Stage 2](#).

For example, categorising noise levels as “low impact” where they are significantly (10 dB) above the noise management level established by government policy (the ICNG) and describing construction noise levels below the (ICNG) noise management level as a “negligible” impact is not consistent with the ICNG. The EPA considers there is the potential to set unrealistic community expectation about likely noise impacts where terms such as “low impact” and “negligible impact” are used to describe activities.

An example of the inappropriate use of this type of noise-impact classification in the CNVIA is set out in Figures 45 and 46. This illustrates predicted impacts at residential receivers in Pymont where almost all affected receivers are marked green which indicates a “low impact” or orange to show “moderate impact” with eight properties marked as “high impact”. Meanwhile, Figure 48 shows more than three times this many properties are highly noise affected as defined by the ICNG, however at no point does it appear that the majority of these receivers were classified as “high impact” by the CNVIA.

Note 1 to CNVIA Table 20 states:

This subjective classification is indicative and follows the approach outlined in the Sydney Metro CNVS for reporting of construction impacts in Detailed Noise and Vibration Impact Statements. The subjective response would vary and depends on the period in which the impacts occur (i.e. people are generally more sensitive to impacts during the evening and night-time). The assessment approach and subjective classification are consistent with the approach used on previous Sydney Metro West planning applications.

The EPA considers that the CNVIA approach does not follow the approach outlined in the Sydney Metro Construction Noise and Vibration Strategy (SMCNVS) in EIS Appendix H due to the following:

- Detailed Noise and Vibration Impact Statements (DNVIS) are post-approval documents according to the SMCVNS prepared when detailed information is available. The EIS is not a post-approval document.
- The SMCNVS does not appear to apply a classification of “negligible impact”.
- Whilst the SMCNVS does mention the words low, moderate and high, it does not directly associate the subjective impact listed in the CNVIA with noise level only.
- Pages 20 and 21 of the SMCVNS provide a detailed list of all the factors which should be considered when making an assessment about the level of impact in a DNVIS. These factors have not been adequately addressed or considered in the CNVIA.

The EPA considers there is no validity to the justification that an approach is appropriate because it has been used on previous applications without demonstrating it is appropriate to the particulars of the application, particularly when the EPA has repeatedly raised issues and considers it inappropriate.

Previous comments from Sydney Metro have stated that the classification will be refined post approval. The EPA does not consider it appropriate to continue to use these categorisations due to their inappropriateness and potential to be misleading in the application for approval.

The EPA recommends the proponent reviews the EPA’s comments, and amend the EIS accordingly including revising the CNVIA. The documents should be amended to remove the classification as presented and defined in CNVIA Chapter 5.1 and the EIS is revised to remove all reference to it.

The EPA welcomes alternative approaches to be used, provided they can be robustly justified and are consistent with the EPA’s guidelines and policies and those listed in the SEARs.

Predicted level of impacts

Table 21 predicts some noise levels which appear to be very high. For example, levels of between Leq,15min 86 and 95 dBA at Pyrmont, Leq,15min 88 dBA at The Bays and Leq,15min 86 dBA at Burwood North, Leq,15min >90 dBA at Hunter Street, Parramatta and The Bays. CNVIA Chapter 6 does not discuss mitigation for these very high noise levels.

These noise levels are very high and may warrant special consideration of mitigation due to their potential to impact be potentially more than annoyance or intrusiveness.

The EPA recommends that the CNVIA provides mitigation and management for these very high noise levels.

Westmead Station site construction

Note 3 to CNVIA Table 26 states: “Two day rail possessions would likely occur four times per year...” However, in CNVIA Page 62 it states: “It is currently anticipated that about 16 individual weekend rail possessions would be required.”

The EPA recommends that the proponent clarify the number of possessions required at Westmead.

Construction in commercial areas

The assessments for Parramatta and Hunter Street sites predict impacts on commercial land uses at a number of buildings. Given the lack of residential buildings reported in the CNVIA near these station sites and the significant impacts predicted at nearby commercial uses typically used during standard hours, it is not clear how the proponent has considered working alternative hours to minimise impacts on the different receiver types.

The EPA recommends that the proponent clarify the mitigation measures considered at Parramatta and Sydney CBD given the potential difference in sensitive times for usage.

Rail System Access Shafts

A typical acoustic shed was used to provide indicative impacts from mitigation and CNVIA Chapter 5.3 states that an equivalent measure could be used. However, the potential equivalent feasible and reasonable mitigation measures as an alternative to an acoustic shed have not been provided.

The EPA recommends that the proponent advise of the potential equivalent noise reduction measures where an acoustic shed is not feasible and reasonable.

During the evening and night period, the surface ancillary works being undertaken to support the station tunnel and fit out works (that may be permitted to be undertaken 24 hours a day 7 days a week) must be carefully considered by DPE. The local environment has been a factor at a number of sites, to not repeat the experience at Waterloo Metro Station, where the absence of this consideration resulted in noise complaints, and restricted the EPA's ability to take action.

The EPA considers it imperative that DPE carefully considers the activities permitted outside of standard hours for rail access and station fit out works as this will significantly impact the EPA's ability to regulate noise impacts at the licensing stage.

Construction Mitigation

CNVIA Chapter 6 provides limited commentary on the mitigation that may or may not be applied to the activities proposed by the application. The CNVIA appears to reference the SMCNVS without adequately explaining which measures from the strategy could be applied, what their potential effectiveness is (such as reduced noise level, reduced duration, exposure, change in character etc.), and the factors at each construction site and receiver group that could impact their adoption.

With the exception of mitigation measures for Rosehill Racecourse, the CNVIA has only provided generic statements about what may be done post. Deferring mitigation in the manner presented in the CNVIA is not appropriate.

Sydney Metro is well experienced in managing construction noise from similar activities and sites and could reasonably be expected to present its experience and methods as part of the assessment for all types of activities proposed, including measures that may not be listed in the SMCNVS. Despite these capabilities, the CNVIA has relied on generic statements with a lack of transparent information about what can be done at each site and for each receiver group.

The ICNG requires that mitigation is applied where reasonable and feasible to minimise noise. However, the CNVIA does not appear to provide site specific mitigation recommendations, nor any information on the assessment of reasonable and feasible mitigation for each site and/or measure.

At a minimum, the EPA recommends that the following information should be provided:

- **the potential mitigation measures that can be applied at each site and receiver group;**
- **how, and by how much, the potential mitigation measures would reduce impacts, by addressing noise level and character, duration, time of day and community attitudes; and**
- **the factors that would affect the adoption of measures for each receiver group and/or station site.**

Community feedback

CNVIA Table 83 provides a summary of the community feedback on the project and the proponent's response. The EPA notes that there are several comments regarding respite and work scheduling. However, the proponent's response does not appear to address the proposed extension of hours beyond the ICNG's recommended hours and subsequent reduction in the default respite per week in return for a potential 3-month reduction in a 4-year construction program.

The EPA requires the proponent to clarify the respite measures proposed.

The community feedback also mentions at-property treatments. However, the response in Table 83 is unclear about the circumstances under which at-property treatments would be provided. This includes to receivers affected by project noise over the 4-year construction period, receivers where changes to the noise environment are brought about by the project, or any other relevant situation.

The EPA recommends that the proponent provide clear information to the community on eligibility for at-property treatment at noise-affected receivers.