

Independent Environmental Audit on Sydney Metro Sustainability, Environment & Planning

Final Report

25th January 2019

**Projects: City & South West and Northwest
Scope: Environment Incident Notification & Reporting**

Reference: SM18.19-070-SM-SEP-ENV

Audit Organisation:	QEM Consulting	Audit Date:	14 th December 2018
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1. Executive Summary

1.1 Introduction

The purpose of this Independent Environmental Audit was to assess Sydney Metro implementation of the project-wide Environmental Incident Notification & Reporting Procedure and compliance with Planning & Assessment Approvals relating to external stakeholder notification requirements.

1.2 Background

Planning Approvals issued by the Department of Planning & Environment require Sydney Metro (formerly Transport for NSW) to develop an Environmental Audit Program for independent annual environmental auditing against the terms of both Northwest and City & Southwest (C&SW) Critical State Significant Infrastructure (CSSI) Project Approvals.

QEM Consulting Pty Ltd have been engaged by Sydney Metro Delivery Office (SMDO) Safety, Sustainability & Environment (SSE) to deliver a program of Independent Environmental Audits. As required by Northwest Planning Approval CSSI 5414 (D5 d) and C&SW Planning Approval CSSI 15_7400 (A39) respectively and the associated Environmental Audit Program, an Independent Environmental Audit was undertaken to assess Sydney Metro compliance with Planning Approval requirements relating to Environmental Incident Notification & Reporting.

As background, Sydney Metro utilise nominated (Independent) Environmental Representatives and the Acoustic Adviser identifying or being notified of incidents, in addition to incidents being reported by contractors.

1.3 Objective and Scope

The Audit Objective was to assess implementation of the Sydney Metro Environment Incident Classification & Reporting Procedure in delivering Planning Approval compliance. The Audit Scope included Sydney Metro oversight of, and compliance with, notification and reporting requirements relating to environment incidents occurring during construction works undertaken by contractors delivering City & Southwest (Chatswood to Sydenham) and Northwest projects. Audit criteria included relevant Sydney Metro C&SW Construction Environmental Management Framework requirements, plus the following Project Environmental Planning Approvals:

- CSSI 15_7400 Conditions A24 (f), A27 (f), A34 (f) and A41-44;
- CSSI SSI 5414 Conditions D5 (e) & (f) and D6.

The audit also focussed on appropriateness, accuracy and consistency between Sydney Metro and Contractor documentation, information, and reports, as well as achievement of specified deadlines. The audit was limited to environment (not safety) incident information handled by the Environment Management team from Sydney Metro Sustainability, Environment & Planning (SEP).

1.4 Summary of Findings

The table below provides a summary of key findings noted in this audit and the priority assigned to these findings.

Ref	Description	Priority*
1.	Assessment of contractor Incident Notification & Reporting procedures was not entirely effective in ensuring that incident classifications were consistent with Sydney Metro classifications.	Low
2.	Incidents were sometimes inconsistently classified as issues and non-conformances, and vice versa, both by Sydney Metro and Contractors alike.	Low
3.	The City & South West TSE Contractor did proactively make Synergy based Incident Forms readily available to Sydney Metro.	Low
4.	Whilst the Northwest OTS Contractor captured incident investigations and corrective actions in their systems, these were not updated in the Sydney Metro Incident Register as required.	Low
5.	The Sydney Metro Incident Register did not facilitate informational notification to DP&E upon statutory incident and/or pollution event notifications to the EPA.	OFI
6.	Statutory and/or Approvals reporting timelines and related compliance obligations were not clearly articulated in Sydney Metro Incident Notification & Reporting procedures.	OFI
7.	The Incident Register did not capture or summarise internal communication, notification and record keeping information as prompted.	OFI
8.	Given the disparity between contractor incident classifications, differing requirements from other infrastructure proponents and inconsistencies in events recorded by Sydney Metro, there could be merit in aligning or selective use of RMS Environmental Incident Classifications, definitions and explanations. This should ensure a consistent and efficient approach by the industry, as well as focusing attention on off-site releases and regulatory interest, currently not emphasised in the significant quantum of low consequence Class 3 categories.	OFI

* Priority Definition enclosed as Appendix 2

1.5 Overall Assessment

This section summarises the outcomes of an Independent Environment Audit of project-wide Incident Notification & Reporting procedures implemented by Sydney Metro to ensure compliance with relevant Planning & Assessment Approvals. The audit was conducted at the Sydney Metro office on 14th December 2018, and included a sample of source incident information from construction contractors.

Only 1 incident of actual significance had occurred to date, which was a good outcome given the magnitude of both City & South West and Northwest projects, the latter nearing construction completion. A second potentially notifiable incident was observed to be communicated to the Department of Planning & Environment (DP&E), although subsequent investigations reported no significant building damage caused by two unforeseen vibration exceedance events during two separate trial blast exercises.

With respect to these 2 events, project records demonstrated notification and reporting compliance within prescribed time frames as required by Ministers Conditions of Approval (MCoA) A41 relating to CSSI 15_7400. Additionally, information provided included time of occurrence and cause, and whilst not definitively classifiable as causing environmental pollution or material harm, demonstrated implementation of MCoA 42 and MCoA 43. With respect to pollution, required statutory notification to the EPA was observed to be taking place by Sydney Metro Contractors in accordance with their Environmental Protection Licence obligations. Evidence of related “informational” notification to the Department of Planning & Environment appeared to be taking place as required by MCoA A44 (CSSI 15_7400), but there is room for improvement in ensuring that the Sydney Metro Incident Register or database provides compliance information hereof.

From a procedural perspective, it was assessed that the Sydney Metro Environmental Incident Notification & Reporting procedure was generally implemented as intended. The administrative effort to maintain the required Incident Register was acknowledged during this audit, especially given the dependency on contractors to provide reliable and timely information and data, not only to Sydney Metro directly but also to independent service providers including the Environmental Representative and Acoustic Adviser.

The audit noted that Sydney Metro were considering a contemporary incident database solution, which might address incident classification inconsistencies and information availability issues, these being a general audit theme. Related hereto is the industry challenge with project proponents and contractors using different variants of incident classification systems and impact consequence determination. To this end, it is recommended that the established RMS Environmental Incident Classification System be considered, with a view to providing uniformity and efficiency.

In conclusion, it was evident that Sydney Metro, Independent Service Providers and Principal Contractors were aware of incident identification, reporting, and corrective action processes, including requirements for reporting to regulators when required to do so.

Report Author (& Auditor):

L J Weiss
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2. Detailed Findings and Agreed Action Plan

2.1 Audit Findings, Recommendations and Action Plan

This section of the report provides details of audit findings and the agreed action plan, including allocation of responsibility and timeframes.

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
1.	<p>In the case of the C&SW TSE contractor, Sydney Metro document review failed to identify inconsistencies between the contractors Incident Notification & Reporting procedures and the Sydney Metro procedure, including incident classification systems.</p> <ul style="list-style-type: none"> ➤ This required by s3.10 of the City & Southwest Construction Environment Management Framework. (MCoA C1) <p><i>Unless future contractors elect to adopt Sydney Metro procedures, the potential remains for repetition of this issue.</i></p>	<p>Inconsistent reporting</p> <p>Potential regulatory non-compliance</p>	<p>Low</p>	<p>Action to be taken by Sydney Metro:</p> <p>Existing procedures that have been approved by DP&E will be reviewed for consistency and updated where possible. Sydney Metro to increase awareness of staff reviewing Principal Contractors Plans to ensure consistency requirements are checked prior to submission of CEMP documentation to DP&E for approval.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 March 2019</p>
2.	<p>Some incidents were being classified as issues or non-conformances, and vice versa.</p> <p><u>Auditor observation:</u></p> <p>Sydney Metro Risk Management Standard environmental incident consequence descriptors focus around change to the environment or an ecosystem, extent of remediation and impairment / loss to valued ecosystem. This, together with environmental pollution defined by the POEO Act, qualified as non-trivial and/or quantified as exceeding \$10,000 in rectification, may be contributing to events not being classified as incidents.</p> <p><i>It was noted that damage or permanent loss to heritage items may not fit the current definition and/or consequence classification system, this needing to be clarified.</i></p>	<p>Inaccurate statistics</p> <p>Incorrect reporting</p> <p>Potential regulatory non-compliance</p>	<p>Low</p>	<p>Action to be taken by Sydney Metro:</p> <p>Version 5.0 of the Sydney Metro Incident and Non-compliance Classification and Reporting Procedure provides greater clarity on classification logic will be released in Q1 2019. Regular assessments for consistency of incident classification and management will occur following the release of v5.0 to inform the ongoing improvement of incident management processes.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 March 2019</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
3.	<p>The C&SW TSE Contractor did not consistently make their Synergy based Incident Forms available to Sydney Metro or the ER. Consequently, the occurrence of some incidents were not known to the ER and Sydney Metro Contract Implementation Group personnel for some time.</p> <p><i>This was causing inconsistent reporting and an inability by Sydney Metro to ensure that notifications were, and had taken place, in accordance with prescribed notification periods.</i></p>	Potential regulatory notification non-compliance	<div style="border: 1px solid black; background-color: #00FF00; padding: 5px; display: inline-block;">Low</div>	<p>Action to be taken by Sydney Metro:</p> <p>Clause 3.13 of the SWTC for the TSE contractor requires their compliance to the CEMF and the Sydney Metro Incident and Non-compliance Classification and Reporting Procedure</p> <p>The requirement for the written submission of an Incident Report within 48 hours will be re-iterated to the TSE contractor to improve visibility of events causing Environmental Harm.</p> <p>Responsible person: Ben Armstrong, Senior Environment Manager, C&SW, Program Manager Environment, SSE</p> <p>Due date: 31 March 2019</p>
4.	Northwest OTS corrective actions and investigation information were not consistently being entered into the Incident Register,	Potential for corrective actions to be neglected	<div style="border: 1px solid black; background-color: #00FF00; padding: 5px; display: inline-block;">Low</div>	<p>Action to be taken by Sydney Metro:</p> <p>SM Northwest will enter investigation and corrective action details into the Incident Register as required.</p> <p>Responsible person: Hugh Chapman, Principal Manager, Sustainability, Environment and Planning - Northwest</p> <p>Due date: Retrospective from 1 December 2018 and ongoing.</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
5.	The Sydney Metro Incident Register does not correlate with Incident Forms or prompt for data to facilitate compliance with MCoA A44, requiring DP&E to be informed of EPA notifications by Contractors or holders of Environment Protection Licences.	Potential administrative non-compliance	OFI	<p>Action to be taken by Sydney Metro: Sydney Metro will assess this opportunity and consider its implementation in the next development phase of the Environmental Compliance / Incident Register.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 May 2019</p>
6.	Regulatory notification and reporting timeframes was not clearly articulated in the Incident Classification & Reporting procedure. Additionally, the (new) Planning Approval for Sydenham to Bankstown specifies additional and/or different obligations. <i>It is suggested that the Sydney Metro procedural flowchart could be enhanced with a reporting timeline indicating key reporting deadlines.</i>	Potential for administrative non-compliance	OFI	<p>Action to be taken by Sydney Metro: Clearer timeframes for immediate actions, followed by actions within 48 hours and within 7 days have been added to the notification flow chart in the v5.0 procedure.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 March 2019</p>
7.	The Sydney Metro Incident Register prompted internal information capture on initial notification of an incident (e.g. person reporting, method used, date and time), however this was not being utilised.	Information retrieval inefficiency and potential for inaccurate external reporting	OFI	<p>Action to be taken by Sydney Metro: Sydney Metro will assess this opportunity and consider its implementation in the next development phase of the Environmental Compliance / Incident Register.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 March 2019</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
8.	<p>In accordance with CSSI 15_7400 MCoA A39 d), it is recommended that the established process, reporting template / form and/or incident classifications defined by the RMS Environmental Incident Classification & Reporting procedure be considered for implementation and/or partial alignment.</p> <p><i>This could facilitate a consistent and efficient industry or contractor approach, as well as focusing attention on off-site releases and regulatory concerns, which are currently not very visible when grouped with numerous and often trivial Class 3 categories (the lowest possible category, currently accounting for ≥ 99% of recorded incidents to date).</i></p>	<p>N/A</p> <p>Potential agency and industry efficiency and consistency benefit</p> <p>Better focus on leading indicators and improvement requirements</p>	<div style="border: 1px solid black; border-radius: 5px; background-color: #0070C0; color: white; padding: 2px 5px; display: inline-block;">OFI</div>	<p>Action to be taken by Sydney Metro: Sydney Metro will obtain and review the RMS procedure and consider opportunities for improvement.</p> <p>Responsible person: Matthew Marrinan, Program Manager Environment, SSE</p> <p>Due date: 31 May 2019</p>

* Priority Definition enclosed as Appendix 2

2.2 Assessment Details

The following section of this report provides an overview of areas of focus assessed including documentation, plans, records, and systems outlined in the Audit Plan and associated Audit Checklist.

Area of Focus / Approvals	Objective / Requirements	Summary of Review
<p>1. Identification & Classification Sydney Metro City & Southwest:</p> <ul style="list-style-type: none"> ○ Construction Environment Management Framework, s3.10 (MCoA C1) 	<ul style="list-style-type: none"> • Incidents identified by Principal & Minor Works Contractors 	<p>Sydney Metro and/or Contractor incident reports demonstrated processes in place to identify, classify and report incidents in accordance with Procedures and/or Pollution Incident Response Plans. Unless Sydney Metro forms were being used such by LORA, Contractor implementation did not always ensure consistency with Sydney Metro incident classifications, required by the C&SW CEMF e.g.</p> <ul style="list-style-type: none"> • TSE Monthly Reports only provide narrative on lowest classification/trivial “report only” incidents, with additional incidents recorded by Sydney Metro not explained or tracked in their performance metrics. • TSE Class 2 consequences of CEMP Appendix D differ to that of Sydney Metro i.e. moderately impact/fully and reversible long-term (TSE) <u>versus</u> considerable to extensive remediation required (Sydney Metro). • NRT have differing classification system around Events, Pollution complaints, using a different outcome-based quantitative impact classification <p>Refer Audit Finding 1) above</p>
<p>Approval CSSI 15_7400:</p> <ul style="list-style-type: none"> ○ Definitions <p>Approval CSSI SSI 5414:</p> <ul style="list-style-type: none"> ○ MCoA D6 	<ul style="list-style-type: none"> • Compliance with Approval and Statutory incident classifications 	<p>Reportable incidents were aligned with POEO Act definition of material harm, this definition an inclusion to the draft (v 5.0) Sydney Metro Environmental Incident & Non-Compliance Reporting procedure. Classifications also aligned with recent Planning Approval definitions, differing with earlier MCoA D6 narrative of “significant off-site impact”.</p>
		<p>Some incidents were inconsistently classified as issues and non-conformances, and vice versa though, for example:</p> <ul style="list-style-type: none"> • A TSE Filter Media issue with no water quality impacts or breaches was reported as an Incident (ID 630)

		<ul style="list-style-type: none"> • Waterloo Church subsidence and cosmetic damage not reflected as Heritage Impact incident, only recorded as an issue when cracking was first observed on 29/5/18 • OTS (Northwest) contractor reported off-site releases during the non-mitigatable significant wet weather event of 28/11/18 e.g. LGD and Cherrybrook overflows (both requiring remediation) whereas CSM Central Station inundation and TSE Blues Point harbour sediment runoff plume were not. • EVT 1097022 (ID 582) re excavator tracking through creek raised by NRT as a non-conformance against approvals, was logged by Sydney Metro as an incident • Potential incident resulting from excessive vibration associated with Victoria Cross Trial Blast was reported in the AA's October 2018 Monthly as an incident (in the first instance), however this was reflected in the Sydney Metro report as a non-compliance, even though only confirmed as such after investigation of the potentially affected building by an independent engineer. <p>Refer Audit Finding 2) above</p>
<p>2. Initial Notifications</p> <p>Approval CSSI 15_7400:</p> <ul style="list-style-type: none"> ○ MCoA A24 (f) & A27 (f) <p>Approval CSSI SSI 5414:</p> <ul style="list-style-type: none"> ○ MCoA D5 (e) & (f) 	<ul style="list-style-type: none"> • Incident known and/or communicated to Environmental Representative, Acoustic Adviser and Sydney Metro Director Sustainability, Environment & Planning 	<p>Apart from a few minor incidents and time delays, ER's, AA and the Sydney Metro Director SEP were being made aware of nontrivial incidents in a timely manner. Contractor awareness of monthly ER and AA reports to Department of Planning & Environment (refer focus area 5 further) also facilitated initial notification processes.</p>
<p>Approval CSSI 15_7400:</p> <ul style="list-style-type: none"> ○ MCoA A41 <p>Approval CSSI SSI 5414:</p> <ul style="list-style-type: none"> ○ MCoA D6 	<ul style="list-style-type: none"> • Department of Planning & Environment and other Regulators e.g. EPA, notified within specified timeframes 	<p>Only one (1) DP&E notifiable incident had occurred (Martin Place gas main rupture of 6/7/18, identified as IN585) although initial TSE classification focus was around safety as primary driver. Lessons learnt were seen to facilitate a timely precautionary notification as was the case with the Victoria Cross North trial blast safety incident and vibration exceedance of 17/11/18 subsequently not deemed to be a Class I or 2 notifiable incident. There had been no significant off-site impacts requiring notification for per MCoA D6 associated with CSSI SSI 5414</p>

		<p>The City & South West TSE Contractor JHCPBG did not always furnish Sydney Metro with Synergy based Incident Forms within prescribed notification periods. For example:</p> <ul style="list-style-type: none"> • Martin Place TSE demolition dust incident of 3/11/18 not made known to Sydney Metro, this being entered into the Incident Register as ID640 some weeks after occurrence. • Crow's Nest small hydraulic spill incident Event 062518.00125290 of 25/6/18 entered into the Sydney Metro Incident Register as ID599 on 4/7/18 when this became known. <p>Refer Audit Finding 3) above</p>
<p>Approval CSSI 15_7400:</p> <ul style="list-style-type: none"> ○ MCoA 44 	<ul style="list-style-type: none"> • Department of Planning & Environment Compliance informed within specified notification time frame of reporting to other Regulators such as EPA 	<p>Most project works regulated by Environment Protection Licences were undertaken by Sydney Trains and/or Contractors who report directly to the EPA in satisfaction of MCoA 44 as described in the Sydney Metro Environmental Incident Reporting Procedure. No pollution incidents were apparent to date for pre-construction and/or minor works not requiring an EPL, needing reporting by Sydney Metro.</p>
<p>3. RECORDING Sydney Metro Environmental Incident Classification & Reporting Procedure</p>	<ul style="list-style-type: none"> • Incident forms and/or templates used per procedural requirements 	<p>SM ES-FT-403 Environmental Incident & Non-Compliance Report Template were used by some contractors e.g. C&SW (CSM). Most contractors such as C&NSW (TSE) and Northwest (NRT) use their own forms i.e. Synergy Database Reports and JHET Event Notification & Investigation Reports respectively. Refer to Appendix 1 for a sample of typical contractor records sighted. Whilst these are required to be maintained in Teambinder to be accessible by all stakeholders, the effectiveness hereof was not directly assessed.</p>
	<ul style="list-style-type: none"> • Sydney Metro Incident Database maintained to reflect project incident details 	<p>An Incident "tab" within the Sydney Metro Compliance Register (spreadsheet) was maintained as the procedurally required "Incident Register" capturing source information plus classification, statistics, corrective action et al. Verification of Sydney Metro information capture against source (contractor) data and reported information (incident reports, project reports, ER and AA reports etc.) revealed a reasonable level of correlation and compliance. Other than the one Class 2 incident above the remaining 600+ project incidents were of a lower Class 3's.</p>

		<i>The Incident Register made provision for capturing incident information and compliance data such as Notification Date, Notification Type, Notification Time, Report Receipt Date etc. but this was not being used. Instead relying on a number of source information records such as emails plus contractor forms and reports.</i>
4. Corrective Action Approval CSSI 15_7400: <ul style="list-style-type: none"> ○ MCoA A43 Approval CSSI SSI 5414: <ul style="list-style-type: none"> ○ MCoA D6 	<ul style="list-style-type: none"> • Incident causes investigated per Planning Approvals and/or procedural requirements 	<p>Extensive C&SW TSE Contractor documentation reflected investigation and root cause analysis of the single Class 2 incident recorded to date. I.e. Martin Place gas leak. There had been no significant off-site impacts requiring DP&E notification per MCoA D6.</p> <p>EPA show cause requests and/or action requirements were noted in contractor documentation, however these were not for “material harm” classified incidents from a Planning Approval perspective.</p>
Sydney Metro Environmental Incident Classification & Reporting Procedure		<p>Version 4.0 of the narrow scope Incident Classification & Reporting Procedure excluded investigation and corrective action, however this was prescribed in s5.2 and 7.0 of the enhanced (draft) Environmental Incident & Non-Compliance Reporting Procedure.</p> <p>Implementation of immediate corrective action and preventive action (to address causes) was mostly undertaken though, evidenced in Contractor incident forms/reports and especially when notification to the EPA was required.</p>
		<i>The Sydney Metro Incident Register prompted recording and tracking of contractor corrective actions, however these were not summarised and/or tracked to completion for most Northwest OTS incidents including NRT EVT 1098719 (ID 603) re 2,000L sediment laden water reaching stormwater system and EVT 1101172 re swimming pool inundation with muddy water from Cherrybrook site</i>
	<ul style="list-style-type: none"> • Corrective Action undertaken as required by Regulators and/or procedural requirements 	<p>Contractor records supported root cause investigation and corrective action undertakings, reported to the EPA as “pollution events”. However: <i>It was noted that the Sydney Metro Incident Register does not prompt and/or evidence how Sydney Metro ensures compliance with MCoA A44, being reliant on Contractor source information.</i></p>

<p>5. Reporting Approval CSSI 15_7400: o MCoA 44</p>	<ul style="list-style-type: none"> Compliance with DP&E and other regulator Notification and/or Reporting requirements 	<p>Sydney Metro Crisis Management processes (broader than just environment) were implemented for the Martin Place gas leak, with notification to numerous authorities, incl. DP&E as mentioned above.</p>
	<ul style="list-style-type: none"> 	<p><i>Authority notifications around incidents reportable to other regulators (acknowledging only lower level Class 3's and EPA reportable too date) were mostly unknown to Sydney Metro.</i></p>
		<p><i>It is suggested that Statutory and/or Approvals reporting timelines be better depicted in the procedural flowchart (s) or a Planning Approval Compliance Matrix, noted that new Planning Approval Sydenham to Bankstown SSI 8256 Sydney Metro dated 12/12/18 requires differing arrangements such as 7 and 30 days, compared to 24 hours in CSSI 15_7400:</i></p>
	<ul style="list-style-type: none"> Internal and Contractor incident reporting requirement compliance 	<p>Apart from ER and AA reports, Sydney Metro has visibility of contractor performance through monthly reports. The Sydney Metro Compliance Register (spreadsheet) provides monthly Dashboard Performance metrics including classification, category, issue frequency / rate. The Incident Register data is also summarised and circulated weekly.</p>

Appendix 1: Audit information

The following indicates key systems, documents, reports, information and records that were reviewed, accessed or sighted during the audit process:

Documentation	Information / Records
Sydney Metro:	
Sydney Metro City & Southwest Construction Environmental Management Framework (CEMF) v3.1 dated 15/08/2016	Sydney Metro Compliance Register (included Incident Register worksheets) - October and November 2018 updates
Sydney Metro Environmental Incident Classification & Reporting Procedure SM-ES-PW-303 (SM-17-0096) issue 5/6/2018 version 4.0	Sydney Metro City & Southwest Construction Compliance Report no. 03 dated 28/11/18
Draft Sydney Metro Environmental Incident & Non-Compliance Reporting Procedure SM-ES-PW-403 (SM-17-0096) version 5.0	Sydney Metro Northwest Construction Compliance Report 10 dated 4/5/2018
	ER email of Saturday 7 July'18 re their 09:30 notification of Martin Place gas main strike at approximately 11:30pm on 6 July 2018
	Director SEP, City & Southwest email to DP&E of Saturday, 17 Nov'18 of 5:17 PM
	Various Environmental Representative Monthly Reports to DP&E
	Acoustic Adviser Monthly Reports incl .October & November 2018.
	Sydney Metro Weekly Incident & Complaints Reports nos. 249 - 260
Contractors:	
Appendix D TSE Environmental Incident Classification & Notification Matrix to JHCPBG Construction Environmental Management Plan PLN-000817-05 dd 05/2017	LORA Environmental Incident & Non-Compliance Report forms including 12/8/18 incident and 22/1018 non-compliance
TSE Contractor Environmental Management Report October 2018: WTSE-SMD-P_GEN-001491-C_CN-SMCSWTSE-JCG-C_CN-001216-SMCSWTSE-JCG-TPW-PM-RPT-090094	JHCPBG Synergy Event records including 062518.00125290 (40L acrylic spill), 060918.00128958 (CN vibration alarm failure)
TSE Contractor Environmental Management Report November 2018: P_GEN-SMCSWTSE-SMD-P_GEN-001491-C_CN-SMCSWTSE-JCG-C_CN-001264-SMCSWTSE-JCG-TPW-PM-RPT-090095	JHCPBG System Improvement Notice re VCN trial blast debris, vibration and overpressure incident of 17/11/18
	JHCPBG correspondence to EPA, other authorities and related reports and investigation reports of gas strike event / incident at Martin Place the night of 6/7/18
	NRT / John Holland Event Notification & Investigation Reports including EVT 1098719, 1101172 and 1097022
	NRT / John Holland Daily Incident Reports (mobile) and Pollution Complaint forms
	NRT / John Holland communications with EPA e.g. EPA Formal Warning Letter dd 13/2/18 and NRT Response to Mud Tracking at Rouse Hill dd 2/3/18

Appendix 2: Priority Definition

The priority for findings raised in this report is described in the table below.

Priority	Definition	Guidelines for Implementing Actions
Very High	A significant control weakness / issue or fundamental non-compliance that exposes the project or area under review to a very high level of risk	Requires immediate management attention, with actions plans to be developed and enforced within an agreed time frame. The matter will be escalated immediately to senior management from all parties
High	A control weakness / issue or non-compliance that may expose the project or area under review to a high level of risk	Action plans to be developed and implemented within an agreed time frame. The matter will be escalated to relevant senior executives where it is deemed necessary
Medium	A control weakness / issue or non-compliance that may expose the project or area under review to a moderate level of risk	Action plans to be developed and implemented within an agreed time frame
Low	A control weakness / issue or non-compliance that may expose the project or area under review to a low level of risk	Action plans to be developed and implemented within an agreed time frame
OFI	Opportunity For Improvement (OFI) – opportunity to implement a good or better practice to improve efficiency or further reduce exposure to risk	Suggestion to be considered for implementation
Observation	Good Practice – process / system in place and implemented effectively across business.	Maintain to current standard. Share with other areas of business.

Appendix 3: Personnel Consulted and Timeline

We would like to extend our appreciation to the following individuals involved this audit:

Name	Title
Matthew Marrinan	Program Manager Environment, SSE
Alex Cooper	Environment Co-coordinator, SSE
Ben Armstrong	Senior Environment Manager, C&SW
Adam Koutsamanis	Environmental Manager, C&SW
Andrew Hendy	Environment Manager, C&SW
Pam Tummers	Environment & Sustainability Manager, C&SW, TSE IG
Chris Berg	Environmental Manager, Northwest
Fil Cerone	Director Sustainability, Environment & Planning

The Audit timeline is shown in the table below.

Milestone	Date
Issuance of Terms of Reference	3 December 2018
Briefing Meeting	N/A
Desktop Audit	13 December 2018
Audit	14 December 2018
Issuance of Draft Report	15 January 2019
Issuance of Final Report	25 January 2019

Appendix 4: Audit Credentials

Audit process

This Independent Environment Audit comprised an off-site desktop review, a Proponent audit and a post audit assessment of documentation and records. The entire process was undertaken by Larry Weiss, of QEM Consulting Pty Ltd in accordance with AS / NZS / ISO 19011:2018 – Guidelines for Auditing Management Systems.

Auditor information

Audit Organisation:	QEM Consulting Pty Ltd
Auditor & Report Author	Larry Weiss
Auditor Qualification	EMS Auditor, Exemplar Global Certification 12355
Affiliations	Member, Engineers Australia 938517

Auditor certification

The abovementioned Auditor certifies as having personally undertaken this Independent Audit and preparing the contents of this Independent Audit Report; and that the findings of the audit are reported truthfully, accurately and completely; and that he has exercised due diligence and professional judgement in conducting the audit. The signed Statement of Interests and Association in our services agreement with Sydney Metro confirm our Auditor’s independence and absence of pecuniary interest in the audited project.

Audit disclaimer

It should be noted that this report is a snapshot in time, based on selected and supplied documentation, as well as observations on the day only, and does not purport to be a definitive confirmation of overall or potential compliance or vice-versa.

----- **END REPORT** -----