

# PIRMP – Cross City Tunnel

A Transurban Group plan

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**Document owner**

Head of Tollaust

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**Document author**

HSE Advisor NSW

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# Revision history

Date	Version*	Author	Nature of change (including review history)
24-Feb-20	0.1	Liam O'Grady, HSE Advisor	Internal Development.
30-Mar-20	0.2	Liam O'Grady, HSE Advisor	Review to address comments.
11-May-20	1.0	Craig Watson, HSE Manager, NSW and WestConnex	Reviewed and approved for publishing.
23-Jun-20	2.0	Liam O'Grady, HSE Advisor <b>Craig Watson, HSE Manager, NSW and WestConnex</b>	Appendix A Testing Register removed. <b>Reviewed and approved for publishing</b>
11-Nov-20	3.0	Liam O'Grady, HSE Advisor <b>Craig Watson, HSE Manager, NSW and WestConnex</b>	Removal of sensitive phrases and annual test/review. <b>Reviewed and approved for publishing.</b>

\* An automatic version of this document will be stored upon modifying. Before printing please insert the current version number into the table above and into the footer.

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# PIRMP – Cross City Tunnel

## 1. Abbreviations, acronyms and definitions

Term or acronym	Description
<b>CCT</b>	Cross City Tunnel (This includes tunnel infrastructure only)
<b>DECC, DEC, EPA</b>	Department of Environment and Climate Change, Department of Environment and Conservation, Department of Environment and Climate Change and Water (DECCW), Office of Environment and Heritage (OEH) are all previous names of the NSW government department now known as the Environment Protection Authority (EPA)
<b>DNR (DLWC)</b>	Old NSW Department of Natural Resources (formerly Department of Land and Water Conservation). Most responsibilities are now incorporated into Department of Environment, Climate Change.
<b>DPIE</b>	Department of Planning Industry and Environment
<b>EMR</b>	Environmental Management Representative.
<b>Act</b>	Protection of the Environment Operations Act 1997
<b>HSEMS</b>	Health Safety and Environment Management System
<b>HSE</b>	Health, Safety and Environment
<b>MCoA</b>	Minister's Conditions of Approval
<b>O&amp;M</b>	Operations and Maintenance
<b>OEMP</b>	Operational Environmental Management Plan
<b>OMCS</b>	Operations Motorway Control System
<b>SWMS</b>	Safe Work Method Statement
<b>TMCS</b>	Traffic Management Control System
<b>TCCT</b>	Transurban Cross City Tunnel
<b>Ventia</b>	Ventia Contractors Australia Pty Ltd (formerly Leighton Services) TCCT Maintenance Contractor

# PIRMP – Cross City Tunnel

## 2. Introduction

### 2.1 Background

TCCT holds an Environment Protection Licence with the NSW Environment Protection Authority (EPA) for the 'Cross City Tunnel Emission Stack'. As per the Protection of the Environment Operations Act 1997 (the POEO Act), TCCT as holder has prepared the following Pollution Incident Response Management Plan (PIRMP) that complies with Part 5.7A of the Protection of the Environment Operations Act 1997 and in-line with Protection of the Environment Operations (General) Regulation 2009 95A (1) that restricts this plan to only cover pollution events from "Road Tunnel Emissions".

If a pollution incident occurs in the course of an activity so that material harm to the environment (within the meaning of section 147 of the POEO Act) is caused or threatened, Transurban will immediately implement this plan in relation to the activity required by Part 5.7A of the POEO Act. A written copy of this plan is kept at Cross City Tunnel Office (131 Cathedral Street, Woolloomooloo), is made available on request by an authorised NSW EPA Officer and publicly at (<https://www.linkt.com.au>).

### 2.2 Objectives

The objectives of this PIRMP are to:

- Minimise and control the risk of a emission pollution incident at the project by requiring identification of risks and the development of planned actions to minimise those risks; and
- Ensure comprehensive and timely communication about an incident to the Environment Protection Authority (EPA) and other relevant government authorities and the community who may be affected by the impacts of an emission pollution incident.

### 2.3 Description

The 'Road Tunnel Emission Stack' works by exploiting the natural mixing of the atmosphere to efficiently disperse air pollutants this results in nearby residents experiencing little, if any, exposure to vehicle emissions. The stack is located ventilation stack is located between the Western Distributor viaducts near the north-western corner of the existing Harbour and Bathurst Street intersection (outlined in green). The broader location is described in *Appendix B – Broader Location Map*:



Figure 1 Location Map

# PIRMP – Cross City Tunnel

## 2.4 Incident Notification Information

The relevant information about a pollution incident required under S150 of the Protection of the Environment Operations Act 1997 consists of the following:

- (1)
  - a) the time, date, nature, duration and location of the incident,
  - b) the location of the place where pollution is occurring or is likely to occur,
  - c) the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known,
  - d) the circumstances in which the incident occurred (including the cause of the incident, if known,
  - e) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known,
  - f) other information prescribed by the regulations.
- (2) The information required by this section is the information known to the person notifying the incident when the notification is required to be given.
- (3) If the information required to be included in a notice of a pollution incident by subsection (1) (c), (d) or (e) is not known to that person when the initial notification is made but becomes known afterwards, that information must be notified in accordance with section 148 immediately after it becomes known.

## 2.5 Testing, Review and Amendment

The PIRMP will be tested in accordance with the requirements set out in the Protection of the Environment Operations (General) 2009 as follows:

- To ensure that the information included in the plan is accurate and up to date and the plan is capable of being implemented in a workable and effective manner; and
- Any such test is to be carried out:
  - At least once every 12 months; and
  - Within 1 month of any pollution incident occurring.

The PIRMP will be tested undertaking desktop simulations and practical exercises from the *CCT-EV-PL-1 Operational Environmental Management Plan for Cross City Tunnel; Appendix D Significant Environmental Impacts and Risks*, these exercises will be limited to stack exceedance scenarios.

In the PIRMP the following details will be recorded on a continuous basis:

- *Review*: Date, version, author and nature of change (Page 2) and;
- *Test*: Date (tested), description of test, conducted by, date (update) available on Transurban DMS.

## 3. Inventory of Pollutants

There will be no pollutants kept on the premises for use during operation and maintenance. As per the requirements set out in the act; there will be no pollutant register detailing pollutant type, maximum quantity and location of potential pollutants appended to the PIRMP.

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## 4. Roles and Responsibilities

As required by the act; the roles and responsibilities are described below of those key individuals who are responsible for activating the plan, managing the response and notifying relevant authorities:

Role	Responsibility	Contact Details (24hr)
<b>CCT Incident Control Room – TCRO</b>	<ul style="list-style-type: none"> <li>Responsible for managing the response to a pollution incident.</li> <li>Responsible for activating the PIRMP.</li> <li>Authorised to notify relevant authorities under section 148 of the POEO Act.</li> </ul>	13 33 31

## 5. Hazards to the Environment and Human Health

Due to the licence relating to the scheduled activity 'Road Tunnel Emissions' the following hazards related to the environment and human health are exclusively:

- Exceedance of the CO exceedance limits – Stack;
- Exceedance of NO2 exceedance limits – Stack;
- Exceedance of PM10 exceedance limits – Stack; and
- Exceedance of VOC exceedance limits – Stack.

As required under the Act; the likelihood of the abovementioned environmental hazards are detailed under *CCT-EV-PL-1 Operational Environmental Management Plan for Cross City Tunnel Appendix D: Environmental Aspects Register* in the publicly available OEMP.

### 5.1 Controlling Hazards to the Environment

In order to mitigate the abovementioned hazards TCCT implements constant air monitoring at the stack in accordance with the conditions of the EPL and MCoA. Further physical controls are detailed in 5.3 *Environmental Pollution Control Equipment*. Site personnel are also trained in and implement the following related management plans to control factors that may influence an exceedance with stack limits:

Document #	Description
<b>CCT-EV-PL-1</b>	<i>Operational Environmental Management Plan for Cross City Tunnel</i>
<b>CCT-EV-PR-3</b>	<i>Ventilation Stack Air Quality Management for Cross City Tunnel</i>
<b>CCT-OI-MP-3</b>	<i>Incident Management Plan – Tunnel Air Quality Management</i>

- Specifically, in the *OEMP Table D.1 Significant Environmental Aspects, Impacts and Risks* describes the environmental impact and the mitigation, management and monitoring strategies that are being employed to manage hazards.

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## 5.2 Controlling Hazards to Human Health

To minimise the risk of harm to people at the premises the following measures are implemented as per Transurban minimum requirements:

- All person(s) accessing site are required to wear the appropriate PPE including:
  - Long pants;
  - Long sleeved shirt;
  - Hard hat;
  - High visibility vest;
  - Steel capped boots; and
  - Safety glasses.
- All person(s) are made aware of the PIRMP including notification/response procedures during site induction.
- All personnel are made aware of all site exits and emergency evacuation points.
- The community are to be notified of any changes to works that may affect them, including works outside of normal working hours.

## 5.3 Environmental Pollution Control Equipment

As per s3.2.1 of *CCT-EV-PL-1 Operational Environmental Management Plan for Cross City Tunnel* the following pollution control equipment is implemented to mitigate exceedances:

- A separate, independent ventilation tunnel (beneath the traffic tunnels) augments the normal operation of the ventilation system, exhausting via a 60-metre high ventilation stack on the eastern edge of Darling Harbour; and
- A comprehensive air quality monitoring system is integrated with the CCT's operation systems and includes in-tunnel and in-stack monitoring stations.

## 5.4 Process to be taken during and immediately after a Pollution Incident

The process outlined in *CCT-OI-MP-3 Incident Management Plan – Tunnel Air Quality Management* (attached as Appendix C) is followed during and immediately after a Road Tunnel Emission incident.

## 5.5 Regulatory Authorities

The existing procedure *CCT-EV-PR-3 Ventilation Stack Air Quality Monitoring 4.6 Notification of Appropriate Parties* details notification requirements that are required as part of the effort to prevent or mitigate consequences of an ALPR.

The Operator will notify the TfNSW and the Company during the course of normal operational activity should the stack air quality monitors reach 90% of the hourly limits and provide monthly data on annual load limits. The current contact details of the relevant authorities under section 148 of the POEO Act include:



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Authority	Email	Phone
<b>EPA (NSW)</b>	info@epa.nsw.gov.au	131 555
<b>Health (NSW)</b>	ENHWU@doh.health.nsw.gov.au	(02) 9391 9000
<b>DPIE</b>	rob.sherry@planning.nsw.gov.au; info@environment.nsw.gov.au;	1300 305 695
<b>WorkCover NSW</b>	contact@safework.nsw.gov.au	131 050
<b>Fire and Rescue</b>	contact@frnsw.nsw.gov.au	1800 679 737

## 5.6 Community Stakeholders

The requirements surrounding community consultation and involvement are detailed within *CCT-CS-PL-1 Community Involvement Plan* which was required as part of the conditions of approval.

In order to ensure consultation with each community stakeholder is effective, different stakeholders will be notified depending on the severity of the incident and in terms of whether they would be directly affected by the incident.

## 5.7 Staff Training

All TCROs receive training during the induction process and to ensure that they can effectively implement the PIRMP. Ongoing training ensures that they are able to prevent and respond to exceedances should they occur. Training includes but is not limited to:

- Employee responsibilities and legal obligations in relation to stack exceedances and reporting requirements;
- Identification of site issues that may lead to a stack exceedance;
- Appropriate immediate action to control and contain an incident including provision of contact details of relevant personnel for notification; and
- Staff must be provided with information to reflect the following hierarchy in their response to an environmental incident.

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## 6. Appendix A: Compliance Register

Below describes how the above PIRMP complies with the requirements under Section 3 General requirements for preparing pollution incident response management plans the EPA Guideline (2012):  
Preparation of pollution incident response plans:

Requirement	Section of PIRMP
<b>3.3.1 Description and likelihood of hazards [clause 98C(1)(a) and (b)]</b>	5.0 Hazards to the Environment and Human Health
<b>3.3.2 Pre-emptive actions to be taken [clause 98C(1)(c)]</b>	5.1 Controlling Hazards to the Environment 5.2 Controlling Hazards to Human Health
<b>3.3.3 Inventory of pollutants [clause 98C(1)(d) and (e)]</b>	3.0 Inventory of Pollutants
<b>3.3.4 Safety equipment [clause 98C(1)(f)]</b>	5.3 Environmental Pollution Control Equipment
<b>3.3.5 Contact details [clause 98C(1)(g) and (h)]</b>	4.0 Roles and Responsibilities 6.2 Regulatory Authorities
<b>3.3.6 Communicating with neighbours and the local community [clause 98C(1)(i)]</b>	7.0 Community Stakeholders
<b>3.3.7 Minimising harm to persons on the premises [clause 98C(1)(j)]</b>	5.2 Controlling Hazards to Human Health
<b>3.3.8 Maps [clause 98C(1)(k)]</b>	2.3 Description Appendix B: Broader Location Map
<b>3.3.9 Actions to be taken during or immediately after a pollution incident [clause 98C(1)(l)]</b>	5.4 Process to be taken following a Pollution Incident
<b>3.3.10 Staff training [clause 98C(1)(m)]</b>	7.4 Staff Training

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## 7. Appendix B: Broader Location Map



Figure 2 Broader Location Map

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## 8. Appendix C: Incident Management Plan – Tunnel Air Quality Management

**NETWORK PERFORMANCE**

**INCIDENT MANAGEMENT PLAN - TUNNEL AIR QUALITY MANAGEMENT**  
DOCUMENT No: CCT-OI-MP-3

**1 PURPOSE**

The purpose of this document is to outline the Traffic Control Room Officer's response to dealing with air quality goals.

May be initiated as part of a response to another incident, or equipment malfunction or partial system failure etc.

Introduction of a staged set of traffic management plan and ventilation responses to restore air quality to acceptable levels.

**2 DISTRIBUTION**

- RA - Operator
- SA - RMS


**3 RESPONSE DETAIL**

Issues relevant to the handling of an air quality incident are as follows:

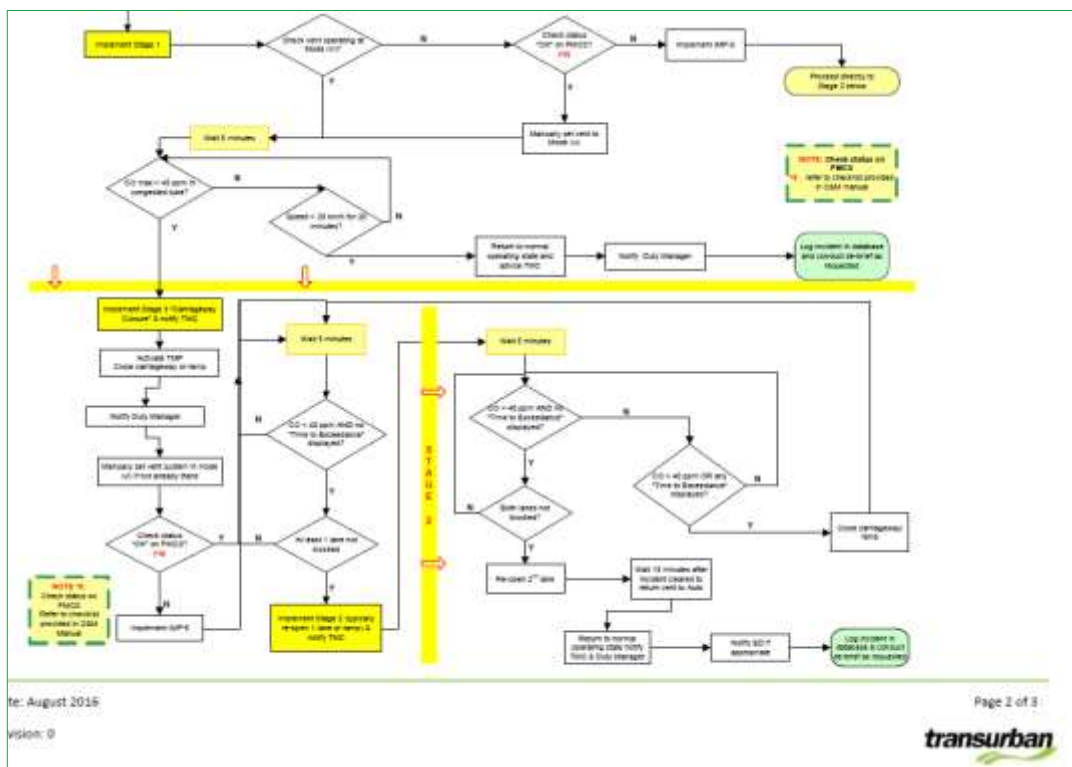
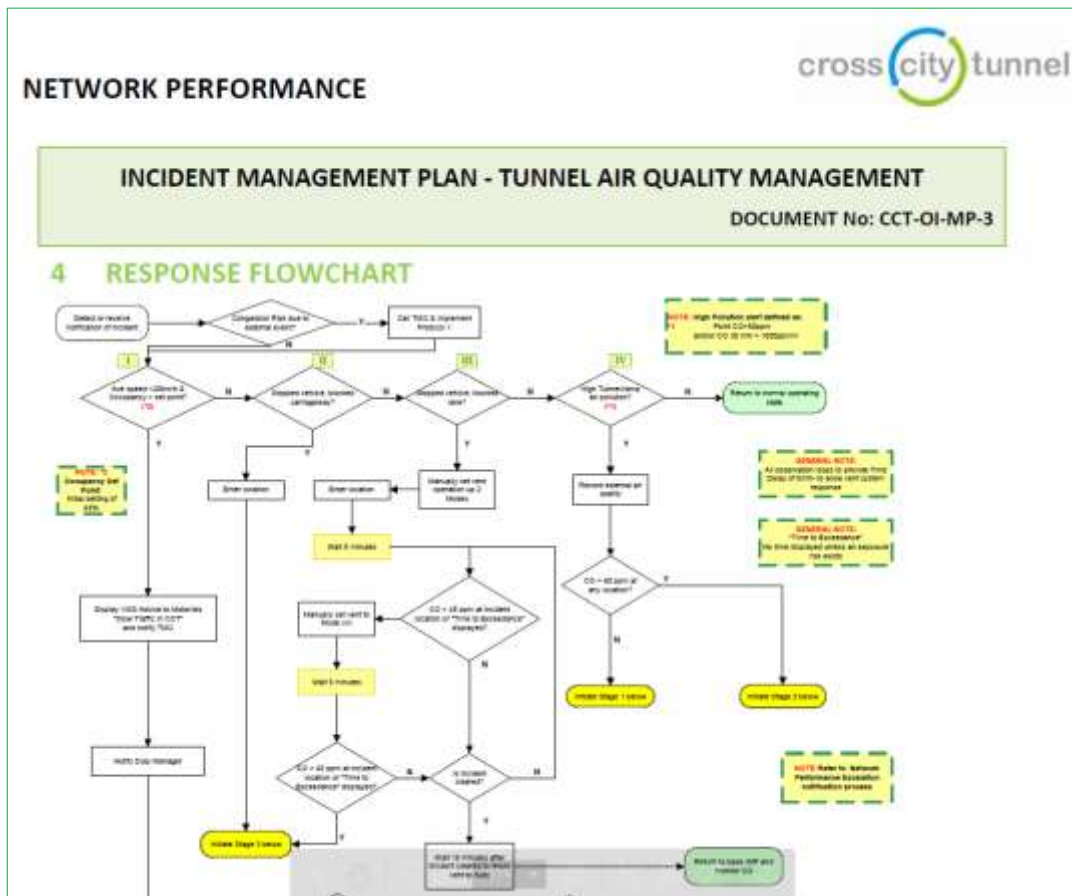
- Beyond safety, initial concern is to define the impact on traffic flows.
- Operator to maintain observation of air pollution and exposure time indicators. These include Time To Exceedance counter as well as point CO measurements and Time Weighted Averages
- Phased Ramp Closure may be operated with timing based actual pollution monitored. Operator may consider monitoring vehicle count leaving the tunnel or other methods of defining vehicle entry to be permitted as an initial indicator.
- Stage 1 defined as "monitoring". Action comprises boost vent mode and observe.
- Stage 2 defined as "Phased Ramp Closure". Action comprises opening and closing of traffic lane to limit vehicle queuing inside tunnel.
- Stage 3 defined as "Ramp Closure". Action comprises closure of ramp to limit risk to motorists and prevent build-up of traffic inside tunnel or to permit start of phased ramp closures for Stage 2.

**NOTE:**

When applying this IMP, the Operators may use their training, experience, common sense and best judgement, with due regard to dynamically assessing risk, to deal with the situation in the most effective and safest way practicable. Where there is deviation from the procedure, this shall be noted in the incident log and the circumstances subsequently reviewed by the Operations Management Team.

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**NETWORK PERFORMANCE**

**INCIDENT MANAGEMENT PLAN - TUNNEL AIR QUALITY MANAGEMENT**

DOCUMENT No: CCT-OI-MP-3

**5 DOCUMENTATION**


CCT-OI-MP-5      Power supply and systems failure or degradation

**6 REFERENCES**

Operating Procedures as defined by Network Performance  
Traffic Management Plans: 2300

**7 SUPPLEMENTS**

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## Read and Acknowledge

If required for training purposes, please indicate that you have read this document by selecting the link below:

[Click here to acknowledge that you have read this document.](#)