



ENVIRONMENT
PROTECTION
AUTHORITY

APPROVAL

WORKS APPROVAL

Issued under Section 19B of the Environment Protection Act 1970

This works approval allows the occupier to construct works at the premises subject to the attached conditions.

OCCUPIER: TRANSFIELD PTY LIMITED AND OBAYASHI CORPORATION.

REGISTERED ADDRESS: LEVEL 28 GATEWAY, 1 MACQUARIE PLACE, SYDNEY, NSW AND LEVEL 16, STATE BANK CENTRE, 52 MARTIN PLACE, SYDNEY, NSW.

PREMISES ADDRESS: THE DOMAIN TUNNEL BETWEEN STURT STREET AND OLYMPIC PARK AND THE BURNLEY TUNNEL BETWEEN BARKLY AVENUE AND STURT STREET.

APPROVAL NUMBER: WA30665

DATE OF ISSUE: 24 December 1997

This works approval has been issued in accordance with the directions of the Administrative Appeals Tribunal in its determination dated 16 December 1997 of Appeal No 1997/42959

WAYNE SAUNDERSON

SECRETARY

Works Description

This approval applies to the Melbourne City Link Tunnels Ventilation System

Works Approval Objectives

The objectives in issuing this works approval are to ensure:

- environmental quality requirements for all segments of the environment are met. This includes meeting the general provisions of the *Environment Protection Act 1970*, State environment protection policies, and Industrial waste management policies. In particular,

- ◆ *Industrial Waste Management Policy (Waste Minimisation);*

- ◆ *State Environment Protection Policy (Waters of Victoria);*

- ◆ *State Environment Protection Policy (The Air Environment); and*

- ◆ *State Environment Protection Policy (Noise from Commerce, Industry and Trade).*

- operations are in accordance with good environmental practice at all times; and

- opportunities are taken to minimise waste and continuously improve environmental performance.

Works Approval Structure

This approval consists of the following parts.

1. *General Conditions*

- includes conditions relating the works to the application, and specifies a date for the expiry of the approval

2. *Works Conditions*

- conditions which relate to construction of works necessary for protecting the environment

3. *Reporting Conditions*

- conditions requiring the submission of technical reports to EPA

1 GENERAL CONDITIONS

- 1.1 The works must be designed and constructed in accordance with the works approval application accepted on 29 November 1996, and the information submitted in the response to the recommendations of the conference convened pursuant to section 20B of the Environment Protection Act, except that in the event of any inconsistency arising between the application and the conditions of this works approval the conditions of this works approval shall apply.
- 1.2 This works approval will expire:
- on the issue or amendment of a licence relating to all works covered by the works approval; or
 - two years from the date of issue unless the works have been commenced by that date to the satisfaction of EPA.

2 WORKS CONDITIONS

- 2.1 The works must be designed and constructed to allow for:
- the future doubling in height of the Burnley exhaust stack; and
 - the future retrofitting of electrostatic precipitators within the primary vent chamber of the Burnley exhaust stack.
- If either of these measures are required by the EPA.
- 2.2 The occupier must design and construct the ventilation system to collect and discharge all gaseous and particulate wastes generated within the Melbourne City Link Tunnels.
- 2.3 All gaseous and particulate wastes referred to in condition 2.2 must be discharged to atmosphere from the exhaust stacks described in the application except during an emergency incident as specified in condition 2.4.
- 2.4 The ventilation system must be designed and constructed to ensure efficient extraction of gaseous and particulate wastes from the tunnel during an emergency incident as described in the application for works approval.
- 2.5 The occupier must construct all exhaust stacks to discharge wastes so that:
- the height and diameter of each stack is not less than the specifications in the works approval application;
 - the outlet of each stack will allow free vertical discharge of wastes;
 - provisions for sampling are included in accordance with EPA Publication No 440 "*A guide to the sampling and analysis of air emissions.*"
- 2.6 The occupier must design the works to ensure that the temperature of the wastes discharged from the exhaust stacks referred to in condition 2.5 must at all times be greater than the surrounding air temperature.

- 2.7 The occupier must install monitoring equipment to measure how the system is performing against the requirements of condition 2.6.
- 2.8 The equipment referred to in condition 2.7 must form part of the ventilation control system.
- 2.9 The occupier shall design and construct the ventilation system in such a manner so that concentration of carbon monoxide inside the tunnel does not exceed the limits specified in Table 1.

Pollutant	Averaging Time	Maximum Concentration (ppm)
Carbon Monoxide	Peak	150
	15 minutes	100
	60 minutes	50

Table 1 In Tunnel Air Quality Limits

NOISE

- 2.10 The fan room surface access doors must be designed and constructed to ensure there is no direct sound path from the fan room to the surface when the external access door is open.
- 2.11 The access panels for fan removal must be designed and installed in a manner to ensure there is no sound loss through the seals during normal operation.
- 2.12 The exhaust fans, air supply fans and silencers must be designed and constructed to ensure that noise levels as measured at the nearest sensitive receptor at each site are consistent with those predicted in the application for works approval.

MONITORING CONDITIONS

- 2.13 The occupier must install equipment to continuously and accurately monitor air quality inside the tunnel.
- 2.14 The equipment referred to in condition 2.13 must be capable of measuring the following parameters:
- a) air flow velocity;
 - b) visibility;
 - c) CO;
 - d) NO₂;
 - e) temperature.

- 2.15 The results of the measurements made by the equipment referred to in condition 2.14 must form part of the ventilation control system and be capable of providing information on emissions from the exhaust stack to the person(s) in control of the operation of the ventilation system.
- 2.16 The occupier must install equipment capable of continuously and accurately monitoring and recording the emissions from each exhaust stack.
- 2.17 The equipment referred to in condition 2.16 must be capable of measuring the following parameters:
- a) NO₂;
 - b) CO;
 - c) particles as PM₁₀ and PM_{2.5}
 - d) air velocity;
 - e) temperature.
- 2.18 The equipment referred to in condition 2.16 must form part of the ventilation control system and be capable of providing information on emissions from the exhaust stack to the person(s) in control of the operation of the ventilation system.
- 2.19 The occupier must conduct an ambient monitoring program acceptable to the Authority in the vicinity of each exhaust stack to measure air quality.
- 2.20 The monitoring program referred to in condition 2.19 must commence at each of the sites no later than within three months of the date of issue of this approval and continue until the ventilation system is operational.
- 2.21 The monitoring program referred to in condition 2.19 must include consideration of:
- a) suitable monitoring sites
 - b) commencement date for monitoring
 - c) method of measurement
- 2.22 The monitoring program referred to in condition 2.19 must be capable of measuring the following:
- a) CO;
 - b) NO₂;
 - c) PM₁₀ and PM_{2.5};
 - d) wind speed;
 - e) wind direction;
 - f) temperature.

REPORTING CONDITIONS

- 3.1 The occupier must advise the Authority in writing when the works are completed so that an inspection of the completed works may be made.
 - 3.2 The occupier must submit a report on how the operation of the ventilation control system will meet the requirements of conditions 2.8 ,2.15 ,and 2.18.
 - 3.3 The report referred to in condition 3.2 must be submitted to the Authority within twelve months of the issue of this works approval.
 - 3.4 The occupier must develop a contingency plan to deal with situations which have the potential to result in the provisions of the State Environment Protection Policy (The Air Environment) and the State Environment Protection Policy (Noise from Commerce, Industry and Trade) (SEPP's) not being met.
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- 3.5 The contingency plan must identify means of predicting and measuring the performance of the ventilation system against the provisions of the SEPP's referred to in condition 3.4 .
 - 3.6 The objective of the contingency plan must be to ensure that action is taken to prevent any breach of the provisions of the SEPP's referred to in condition 3.4 .
 - 3.7 The contingency plan must consider all actions available to ensure the provisions of the SEPP's referred to in condition 3.4 will be met.
 - 3.8 The contingency plan referred to in condition 3.4 must be submitted to the Authority prior to commissioning the works.
 - 3.9 The occupier must submit a report to the Authority detailing the ambient monitoring program referred to in condition 2.19 within 60 days of the issue of this works approval.
 - 3.10 The occupier must compile a report detailing the ambient monitoring results every twelve months.
 - 3.11 A copy of the report referred to in condition 3.10 must be forwarded by the occupier to the Authority within 30 days of the completion of that report.
 - 3.12 The occupier must ensure that the results of analysis used to prepare the report referred to in condition 3.10 bear a NATA stamp endorsement.