

INQUIRY AND ADVISORY COMMITTEE (IAC)
APPOINTED BY THE MINISTER FOR PLANNING
PLANNING PANELS VICTORIA

**WEST GATE TUNNEL PROJECT
ENVIRONMENT EFFECTS STATEMENT**

IAC HEARING – DAY 1, 14 AUGUST 2017

**OPENING COMMENTS ON BEHALF OF THE
ENVIRONMENT PROTECTION AUTHORITY**

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Acknowledgement of Traditional Owners

1. The Environment Protection Authority of Victoria acknowledges the Traditional Owners and custodians of the land upon which we live and work. We pay our respects to their Elders past and present. We draw inspiration from their traditional care for the land, water and air and join them in protecting the environment for all Victorians and visitors; today and in the future.

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Who we are

2. The EPA was established as an independent statutory authority under the *Environment Protection Act 1970 (EP Act)* and began operating in 1971. In doing so, it became the first environmental protection authority or agency in Australia and only the second in the world, putting Victoria at the forefront of global environmental consciousness.
3. The EPA is part of the environment portfolio, along with the Department of Environment, Land, Water and Planning and Sustainability Victoria, charged with protecting the Victorian environment. It reports to the Minister for Energy, Environment and Climate Change.

What we do

4. The EPA's sole role is to regulate pollution in terms of its effect on the environment and human health. As mentioned, it has an independent authority to make regulatory decisions under the *Environment Protection Act*. It aspires to create a healthy environment that supports a liveable and prosperous Victoria. By effectively regulating pollution in Victoria, the EPA strives to deliver clean air, healthy waterways, safe land and minimal disturbances from noise and odour for Victorians.
5. Science and engineering are core to the EPA's work as a regulator. Its people are experts in their field and the EPA integrates evidence-based science into its regulatory decision-making.

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Statutory framework

6. The *Environment Protection Act* defines the EPA's powers, duties and functions and provides a framework for the prevention and control of air, land and water pollution, industrial noise and waste. The *Environment Protection Act* is supported by regulations that deal with specific aspects of environmental regulation, which is further informed by both statutory and non-statutory policies and guidelines.

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Approach to infrastructure projects

7. The EPA works with key planning authorities, the community and industry to develop front-end infrastructure planning and to inform planning decisions about environmental risks and to prevent future environmental impacts. This includes working with stakeholders including –
 - (a) Department of Environment, Land, Water and Planning;
 - (b) Department of Economic Development, Jobs, Transport and Resources;
 - (c) Sustainability Victoria;
 - (d) Metropolitan Planning Authority;
 - (e) municipal councils; and
 - (f) project proponents,to ensure that environmental considerations are incorporated into medium and long-term strategic land use plans and infrastructure projects.
8. As a modern regulator, the EPA does not protect Victoria's environment on its own. The community, businesses and other organisations all have a duty to protect the environment.
9. The EPA believes effective engagement enables it to be a proactive, responsive and robust environmental regulator, delivering service that is attuned to the aspirations of the Victorian community.
10. Accordingly, the EPA actively encourages, supports and empowers the community, businesses and organisations to create lasting pro-environmental behaviour change and consciousness. By involving stakeholders in the changes and decisions that affect

them, it is sought to achieve stronger and mutually-beneficial outcomes through the building of intelligence to make informed decisions.

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West Gate Tunnel Project – Pre-hearing

11. As mentioned in the EPA’s submission to the Independent Advisory Committee dated 10 July 2017, the EPA has had early involvement in the Project. Starting in mid-2015, the EPA participated in the working group for the initial design phase. Shortly after the Project was declared by the Minister for Planning to be ‘*public works*’ in December 2015, which triggered the requirement for an environmental effects statement under the *Environmental Effects Act 1978*, the EPA became a member of the inter-agency Technical Reference Group for the environmental effects statement. In this capacity, the EPA had the opportunity to review the EES studies relevant to its areas of interest whilst those studies were in draft form and make recommendations to the Western Distributor Authority.
12. The EPA, in its capacity as State advisor, has provided ongoing advice to the West Gate Tunnel Project team throughout the phases of the Project from initial design, concept design, reference design and tender design, which is the current design reflected in the environmental effects statement. This involvement has enabled the EPA to identify and advise on key technical and regulatory matters within its remit of protecting the environment and public health. The EPA has provided its advice to the WDA as to ways the Project can –
 - (a) achieve compliance with environmental laws and standards;
 - (b) minimise potential impacts on the environment and public health; and
 - (c) respond to changing expectations of the Victorian community.
13. The environmental effects statement is substantial in size and scope, reflecting the nature of the West Gate Tunnel Project and the complex and ‘highly urbanised’ environment within which it’s development is proposed.
14. The EPA’s role in projects such as this develops through the project lifecycle. As the project evolves and details increase along the lifecycle, the more precise the EPA’s assessment and consequent advice becomes.

15. The EPA appreciates the opportunity to add value to the Project through its early involvement in the planning process. Notwithstanding, there are a number of matters where –

- (a) the detail available in the current phase of the development of the Project has been insufficient to enable a complete assessment; and
- (b) the Western Distributor Authority has only partly applied the EPA's advice, leaving some matters, as far as the EPA is concerned, outstanding.

This has constrained the EPA's ability to properly advise.

16. These matters were identified in the EPA's submissions, will be mentioned again later in this opening and may also be raised throughout the course of the hearing. There are also several new matters in the environmental effects statement documents that the EPA have identified since lodging its submissions in July that warrant further investigation. These issues cover both the construction and operational phases of the Project. Any further matters resulting from the conclave discussions between experts are not mentioned in this opening due to the close timing of those conclaves.

IAC public hearings

17. The involvement of the EPA in these hearings is to inform the inquiry and advisory committee within the terms of its reference. Broadly speaking, this is to inform on an integrated assessment of the environmental effects of the construction and operation of the West Gate Tunnel Project, of which the Independent Advisory Committee is tasked to review and consider –

- (a) the environmental effects statement;
- (b) the works approval application for the tunnel ventilation system; and
- (c) public submissions received as part of the exhibition process for the Project.

18. The task of the Panel by the end of the hearing is set out under clause 2 of the IAC Terms of Reference and is to produce a report addressing, but is not necessarily limited to addressing –

- (a) the adverse and beneficial environmental effects of the Project;
- (b) any feasible modifications to the design of the Project within or reasonably proximate to the project boundary that could offer demonstrably superior overall outcomes;

- (c) conditions that should be imposed on any approval for the Project under Victorian law, which obviously includes reasonable and relevant conditions for the tunnel ventilation system if it is to be approved; and
 - (d) any recommendations –
 - (i) for strengthening the environmental management framework; and
 - (ii) concerning specific environmental performance requirements that would be appropriate in order to achieve acceptable environmental outcomes consistent with applicable legislation and policy.
19. This task is achieved through the consideration and, where relevant, the investigation, of –
- (a) the magnitude, likelihood and significance of adverse and beneficial effects;
 - (b) the adequacy of the proposed environmental management framework, including the proposed environmental performance requirements and environmental management measures contained in the environmental effects statement, with reference to applicable legislation and policy;
 - (c) the adequacy of the works approval application for the tunnel ventilation system, with reference to applicable legislation and policy;
 - (d) the adequacy of the impact assessment and whether the proposed environmental performance requirements are capable of being met;
 - (e) feasible design modifications within the reference constraints that could offer demonstrably better outcomes; and
 - (f) all submissions made to the inquiry and matters reasonably incidental to such matters.
20. With this and the EPA's role in mind, I will unpack some of those task references from the preliminary perspective of the EPA.
21. Firstly, the works approval application for the tunnel ventilation system.

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Works approval application

22. Under the *Environmental Protection (Scheduled Premises and Exemptions) Regulations 2007*, the road tunnel ventilation systems proposed for the tunnels

component of the West Gate Tunnel Project, one of which is near the southern westbound portal located along the West Gate Freeway west of Williamstown Road and the other in close proximity to the northern portal located east of Whitehall Street, Yarraville, are scheduled premises (L03). Accordingly, a works approval must be obtained pursuant to section 19B of the *Environment Protection Act* prior to construction of that component of the Project.

23. This application has been made by the Western Distributor Authority and is under consideration by the EPA. In this case, the works approval is jointly advertised with a notice relating to the same proposal under the *Environment Effects Act 1978*, so engages section 20AA of the *Environment Protection Act*.
24. This is significant for several reasons –
 - (a) firstly, the EPA cannot convene a conference under section 20B of the *Environment Protection Act* to consider any discussions with respect to the application; these hearings are effectively *in lieu* of such a conference;
 - (b) secondly, any comments by any person or body interested in the application are to be made by submission on the environmental effects statement, in other words, within the scope of these hearings and not separately; and
 - (c) thirdly, any decision concerning the works application is not appealable to the Victorian Civil and Administrative Tribunal by either the applicant or third parties by virtue of sections 33(3A) and 33B(1A) of the *Environment Protection Act*.
25. The EPA's assessment of the works approval for the tunnel ventilation system for the Project will specifically take into consideration expert evidence on air, greenhouse gas and noise emissions and consider the relevant public submissions received during the EES process.
26. The EPA will be seeking and evaluating evidence that demonstrates the tunnel ventilation system, as designed and constructed, complies with relevant Victorian State Environment Protection Policies, regulations and guidelines. The key issues insofar as the Project is concerned are –
 - (a) treatment of emissions, including the need to filter emissions before leaving the vent stack;

- (b) dispersions of emissions, in particular the height of the vent structures and operation of the fans;
- (c) emerging science and new considerations, in particular regarding carbon monoxide and nitrogen dioxide concentrations within the tunnel;
- (d) best-practice energy usage and minimisation of greenhouse gas emissions;
- (e) management of noise emissions through smart design; and
- (f) assessment of public health risks via ongoing monitoring.

EES and public submissions

27. The EPA's participation in the EES and public submission parts of the hearing is associated with the environmental risks of the Project, generally in the areas of –
- (a) contaminated soil and spoil management;
 - (b) groundwater;
 - (c) surface water;
 - (d) ecology;
 - (e) air quality;
 - (f) noise and vibration;
 - (g) vibration and regenerated noise in respect of the tunnel component;
 - (h) human health; and
 - (i) greenhouse gas.
28. As touched on earlier, the assessment of impacts in some instances reflects the Project's phase of design. For example, key aspects of the Project, including construction methodology, are still being developed, so the EPA's comments on the Project are directed to supporting the IAC in terms of –
- (a) firstly, shining focus on critical areas where the EPA considers further information or clarification is needed to inform the development of the Panel's Report; and
 - (b) secondly, identifying where verification and demonstration of optimal environmental performance will be required once a detailed design, construction methodology and an environmental management framework are formulated.
29. The EPA does not have, nor will be seeking to present, a 'case' for or against the West Gate Tunnel Project. Rather, from the EPA's perspective, which understanding appears

to be held by the Panel, its involvement is in an advisory capacity, consistent with its broader role, but within panel's terms of reference just described.

30. The EPA will have regard to all relevant public submissions received in respect of the Project and the works approval under section 9 of the *Environmental Effects Act*.
31. Its experts have already attended expert conclaves and will attend these hearings to receive and consider the party's evidence, expert and lay, in their respective disciplines. The EPA's experts and fields are –
 - (a) Bert Zebst, noise;
 - (b) Paul Torre, air quality; and
 - (c) Victor Kaby, human health.

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EPA's focus areas

32. The EPA's focus areas will develop, as with the Project itself, from the construction to the operation phases.
33. During the construction phase of the Project, key focus areas will be –
 - (a) from an environmental protection perspective, contaminated soil and spoil management and the management and treatment of groundwater and surface water; and
 - (b) from a human health and amenity perspective, air quality and noise.
34. Once operations begin, the key focus areas will include –
 - (a) noise from fixed plant; and
 - (b) air emissions from roadside and ventilation systems.

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35. The EPA's advice in respect of these areas will be informed by its expertise, knowledge of the details and parameters of the Project, combined with further information obtained during the course of these hearings by way of –
 - (a) rehearsing matters and issues previously raised, including those in the EPA's July submissions;

- (b) raising some new matters identified via an independent assessment of air quality, noise and greenhouse gas; and
- (c) the outcomes of expert conclaves.

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Raised matters

Air Quality

- 36. The air quality modelling in the air quality impact assessment is based on data produced by EPA monitoring stations primarily located outside of the immediate study area, e.g. at Footscray. At the request of the EPA, the proponent has commissioned and installed at least 5 air quality monitoring stations localised within the immediate study area.
- 37. The data from these localised monitoring stations has not been released, despite those stations having been operational for months.
- 38. There appears no apparent reason why the data from these localised monitoring stations should not be made available for the purposes of this hearing, and the EPA requests this be done without delay.¹
- 39. The EPA considers this localised air quality monitoring program should continue throughout the planning, construction and for 5 years from commencement of Project operation.
- 40. In this regard, it is noted by the EPA that the tender design tunnel length has been extended outside of the reference design, so a further station should monitor this new location.
- 41. The current design, along with the proposed truck bans and curfews, causes a redistribution of car and truck traffic and, as a result, predicted increased air pollutant concentrations and potential impacts along identified roads in the Project area.

¹ Paragraph 38 was not read during the EPA's presentation in consideration of the WDA's instructions to the committee conveyed by Mr Morris QC during his opening address that an air quality monitoring report would be delivered in the "next few days" (of day 1 of the hearing)

42. Accordingly, monitoring of PM_{2.5} and PM₁₀ particulate matter should include the affected roads of –
 - (a) Westgate Freeway;
 - (b) Blackshaws Road;
 - (c) Millers Road; and
 - (d) Geelong Road.
43. The EPA is aware of the emerging science and emerging concerns around ultrafine particles. This includes substantial and significant evidence of adverse health impacts from exposure to elevated concentrations of PM₁₀ and PM_{2.5} particulate matter.
44. Ultrafine particles form part of the PM_{2.5} fraction. To monitor, data-collect, understand and correlate these impacts, a roadside monitoring program for PM_{2.5} with community co-design to operate pre- and post-construction is recommended.
45. Public reporting of all air-quality monitoring results should be done to respond to the community's expectations for transparency and to assess and, if necessary, engage management mechanisms in respect of adverse impacts.
46. Following review of the air quality impact assessment, the EPA recommends –
 - (a) the tunnel ventilation system design incorporates design factors for retrofitting emission control equipment for PM_{2.5} and PM₁₀ particulate matter as well as carbon monoxide and nitrogen dioxide;
 - (b) amending the in-tunnel air quality performance standards to include a requirement to minimise health impacts from in-tunnel air exposure;
 - (c) in-tunnel air quality and ventilation structure emissions compliance include remedial action to retrofit emission control equipment if environmental requirements are not met.

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Noise

47. Whilst the EPA's statutory jurisdiction does not directly cover vibration or road traffic noise management, it recognises roadside noise impact is a significant issue. An operational noise management plan should be implemented to monitor, report publicly

and, when necessary, trigger impact management strategies to address predicted roadside noise along the previously identified affected roads.

48. A qualification rationale and operating procedure be developed and incorporated into the Construction Noise and Vibration Management Plan to ensure that all activity asserted to be ‘unavoidable works’ meet the definition and is subject to the management protocols, such as community engagement and notification, outlined in *EPA Publication 1254 – Noise Control Guidelines*.

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Surface water and ecology

49. A baseline surface water monitoring program that covers water and sediment characterisation at upstream, localised and downstream areas should be developed and implemented to identify and assess existing conditions, risks and potential impacts.
50. A surface water management plan be prepared as part of the construction environment management plan and implemented to manage surface water runoff impacts and any disturbance of contaminated bed soil associated with construction.
51. ‘*SW1 – Design of discharges and runoff*’ should include characterisation, treatment and discharge measures to the satisfaction of the EPA, prioritising actions designed to maintain environmental quality (background conditions) and enhance beneficial uses.

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52. ‘*EP5 – Works on waterways*’ identify, consider and address by way of control measures the potential disturbance to riverbed sediments and changes to waterway geomorphology and quality.

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Contaminated land and spoil management

53. More information than what is currently in the environmental effects statement documents is needed to properly assess the Project against the applicable regulatory requirements and to consider whether options for the reuse and/or treatment of contaminated soil will achieve acceptable environmental outcomes. A detailed

description of the information required by the EPA is included in Appendix C to the EPA's submission dated 10 July 2017.

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Groundwater

54. As mentioned earlier, the tender design tunnel length has been extended outside the reference design. There is insufficient data available for this new section, particularly compared to the balance of the tunnel alignment.
55. The EPA recommends that further site-specific data be collected on groundwater quality, levels and flow to better inform the risk assessment and the development of mitigation measures.
56. The '*GWP5-Groundwater monitoring*' is considered insufficient if it does not include the following –
 - (a) the installation of groundwater wells;
 - (b) sampling and measurements to be undertaken in accordance with the relevant guidelines, including –
 - (i) '*EPA Publication 669 – Groundwater Sampling Guidelines*';
 - (ii) '*EPA Publication 668 – Hydrogeological Assessment (Groundwater Quality) Guidelines*'; and
 - (iii) where relevant, the National Environment Protection (Assessment of Site Contamination) Measure (NEPM);
 - (c) data on transmissivity/ hydraulic conductivity to be obtained from groundwater wells within, up-gradient and down-gradient of the construction area;
 - (d) groundwater flow directions;
 - (e) groundwater level data;
 - (f) groundwater quality data and consideration of the *State Environment Protection Policy (Groundwaters of Victoria)* indicators and objectives;
 - (g) a survey of surface elevations.
57. Following review of the groundwater technical report, the EPA recommends –
 - (a) '*GWP7 – Impacts on groundwater users*' be amended to include –
 - (i) impacts on beneficial uses; and

- (ii) assessment and proposed management strategies to demonstrate that contaminated groundwater is not mobilised and does not impact on sensitive receptors and beneficial uses of groundwater;
- (b) a new environmental management plan be developed in consultation with the EPA to address the management, treatment and disposal of polyfluorinated alkyl-contaminated groundwater and land.

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New matters

Air Quality

- 58. The air quality impact assessment has not quantitatively assessed emissions and potential impacts of air pollutants from the Project during construction. Instead, the assessment adopts a qualitative risk-based approach in relation to construction emissions and potential impacts.
- 59. Considering the magnitude of the construction phase and proximity to residents, a quantitative assessment of significant project features is recommended to ensure that mitigation measures are well planned, proactive and sufficient to avoid adverse impacts.
- 60. Various anomalies have been identified in predicted concentrations of PM_{2.5}, PM₁₀ particulate matter and nitrogen dioxide. These should be investigated and explained.
- 61. The air quality impact assessment has not assessed the potential impacts of the ventilation structures at elevated receptors, for example to consider multi-storey buildings with balconies. Further information should be provided that identifies receptors that are above ground level, including existing and, where possible based on planning documents, future multi-storey developments. Potential impacts of the Project should be quantified at these above-ground receptors.
- 62. There is no detail of the monitoring program that is planned to be implemented during construction in terms of –
 - (a) parameters to be measured, for example total suspended particulate matter, PM₁₀ particulate matter, dust deposition and meteorology taking into account wind speed and direction;

- (b) instruments to be used;
- (c) frequency and duration of measuring;
- (d) monitoring standards; and
- (e) location of proposed monitoring.

This information should be provided.

63. The findings of the air quality impact assessment would be more verifiable if the number of additional exceedances due to the Project were quantified. For the cumulative assessment, whilst the assessment did determine the number of additional exceedances, it was for a small subset of receptors only. This analysis should be extended to all receptors.
64. Licence limits for air emissions from the ventilation structures proposed in the works approval application were based on mass emission rates that were higher than the maximum emission rates assessed in the air quality impact assessment. The air quality impact assessment did not assess the proposed mass emission limits and has therefore not assessed whether compliance with the design criteria in the *State Environment Protection Policy (Air Quality Management) - Schedule A* can be achieved. The Western Distributor Authority proposed licence limits should be based on emission concentrations, not mass emission rates.
65. In-tunnel concentrations of carbon monoxide and nitrogen dioxide and visibility should be based on the in-tunnel standards specified in the Permanent International Association of Road Congresses (PIARC) 2012 as a minimum.

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Noise

66. The Surface noise and vibration impact assessment stated the analysis that was conducted was conservative. However, a consideration of uncertainty would have placed upper and lower bounds on the sound power level and the resultant predicted noise level. This would have assisted in determining the conservatism of the predicted noise levels. To address uncertainty –
- (a) background noise levels and source noise levels need to be assessed and/or clarified; and

- (b) the number of potentially impacted receivers and the degree of impact at various locations needs to be determined.
- 67. The adjustment for open graded asphalt needs to be explained concerning loss of noise reduction with age of the road.
- 68. There are many locations where potential exceedances of noise and vibration criteria will occur based on predictive modelling. Practical mitigation options should be devised sooner rather than later.

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Greenhouse gas

- 69. It is presently unclear on the EES documents how Environmental Performance Requirement GGP1, a greenhouse gas-related objective of the environmental management framework, could be established. Accordingly, it should be amended to clarify its purpose and how its progress can be tracked as part of the environmental management framework.
- 70. The greenhouse gas impact assessment should be amended or a supplementary report prepared to detail the design specifications of the ventilation system, options analysis and how it achieves best practice in terms of energy use compared to other options considered and determined to be inferior.
- 71. A summary of the 'base case' against the Project be provided as part of an amended greenhouse gas impact assessment or supplementary report to improve the transparency and understanding of the impact of the Project and to clearly indicate where greenhouse gas emissions and energy reductions are being targeted.
- 72. Assessment of the Project should be contextualised in comparison with National, State and any local policies relating to greenhouse gas emissions and further actions or mechanisms to limit greenhouse gas emissions should be included in an amended or supplementary report.
- 73. The Project is a net contributor to greenhouse gas emissions, both in terms of operations and forecast vehicle usage, compared to the 'no Project' scenario. Decreased patronage to train travel has also been identified as a potential outcome of the Project.

These factors, on their face, conflict with national, state and local government policies summarised in the greenhouse gas impact assessment. Whilst the benefits of the Project in reducing congestion and addressing public amenity may exist, the Project's alignment with greenhouse and climate policies has not been addressed.

74. These policies should be considered to assess how greenhouse gas emissions of the Project could potentially be reduced or even offset to a neutral position, e.g. by the purchase of renewable energy as was done for Melbourne trams.

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Closing response

75. In light of its advisory role in the process, the EPA requests from the Panel an allocation of time at the close of evidence, that is, before the proponent's closing, and/or the provision of written submissions in order to inform the Panel of matters including –
 - (a) what conclusions have been reached in the EPA's focus areas;
 - (b) what concerns or information deficiencies of the Project have been reconciled and the significance thereof; and
 - (c) what concerns or information deficiencies of the Project remain unreconciled and the significance thereof.
76. That concludes the opening submissions for the EPA.
77. If it pleases the Panel, a written copy of my oral submissions be made available for inclusion in the Panel documents during the course of the next day.

PETER VAN EPS
Counsel for the EPA Victoria
14 August 2017