



Government of **Western Australia**
Office of the **Appeals Convenor**
Environmental Protection Act 1986

Appeals Convenor's Report to the Minister for Environment

Appeal objecting to conditions applied to Works Approval:
W6384/2020/1 Rocky Crossing Asphalt Plant, Willyung



Appellant	Dr Richard Turner
Works approval holder	Spinifex Crushing and Screening Services Pty Ltd
Authority	Department of Water and Environmental Regulation (DWER)
Appeal number	059 of 2020
Date	August 2021

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Cover image: Works approval W6384/2020/1, DWER (2020)

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Acknowledgement of Country

The Office of the Appeals Convenor acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community.

We pay our respects to all members of the Aboriginal communities and their cultures, and to Elders both past, present and emerging.

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1 Executive summary

1.1 Decision under appeal

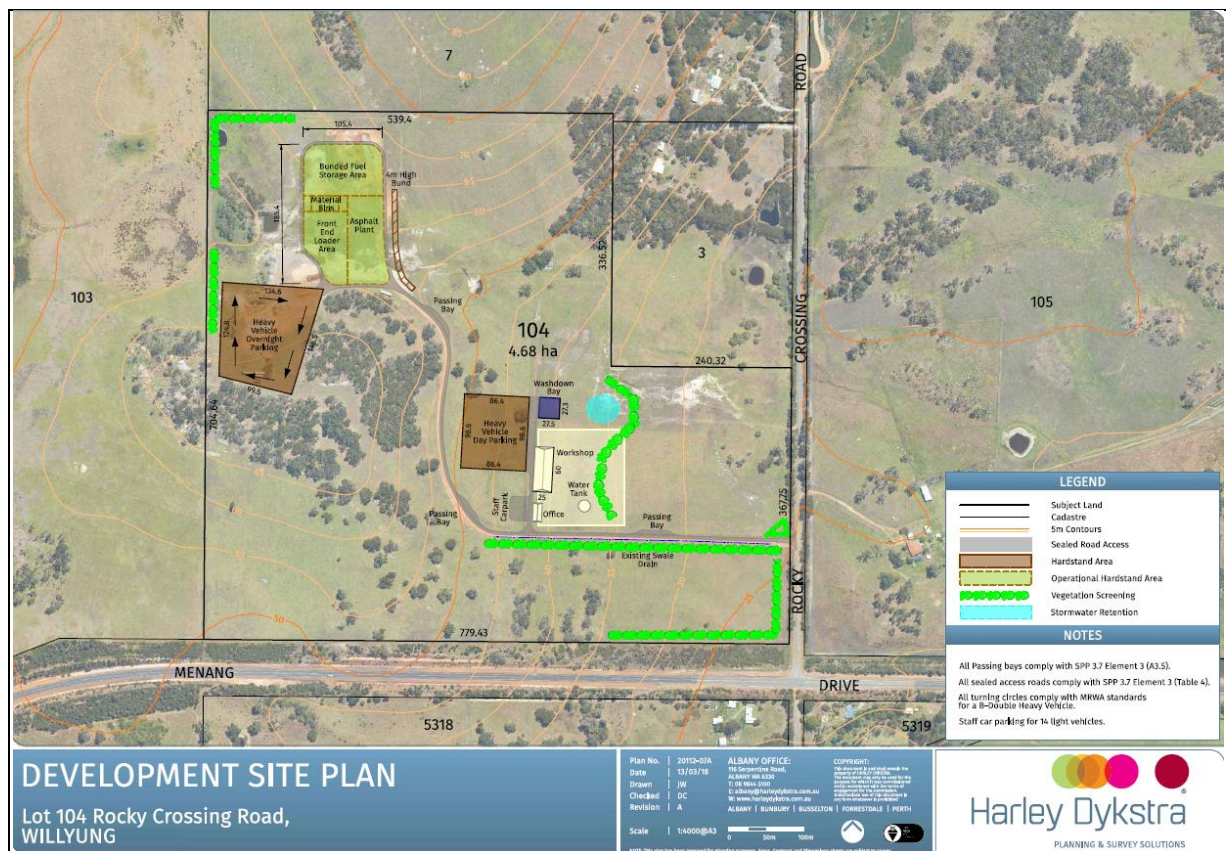
Spinifex Crushing and Screening Services Pty Ltd (the applicant / works approval holder) holds Works Approval W6384/2020/1 for the Rocky Crossing Asphalt Plant, Rocky Crossing Road, Willyung. The Department of Water and Environmental Regulation (DWER) issued the works approval in November 2020.

This appeal is against the conditions of the works approval, which authorises the construction and time limited operations of an asphalt manufacturing plant on Lot 104 (No.303) Rocky Crossing Road, Willyung (the premises / site) in the City of Albany.

The premises are prescribed as Category 35 (Asphalt manufacturing) under Schedule 1 to the *Environmental Protection Regulations 1987*. The works approval specifies the assessed production / design capacity of the premises as 5,000 metric tonnes (tonnes) per annum.

Figure 1 (below) shows the premises layout. The premises is located approximately eight kilometres (km) north-east of the City of Albany as shown in Figure 3 in Section 3.

Figure 1 Premises layout



(Source: Works approval W6384/2020/1)

1.2 Grounds of appeal and appellant concerns

The appellant is Dr Richard Turner, who contended that the location of the proposed asphalt plant is inappropriate and poses a significant health risk to nearby residents. The appellant submitted that the proposal should be located in an industrial area. The appellant was of the

view that DWER’s assessment of the works approval was inadequate, and that the works approval should be rescinded.

In the alternative, the appellant submitted that the works approval application should be further assessed. Further assessment to include a review by a health specialist such as an occupational health physician to consider the medical risk to nearby residents posed by the premises, together with thorough public consultation.

Noting the appeal right is limited to the conditions of the works approval, the appeal is considered to raise 5 grounds: health and wellbeing, emissions to air, fugitive dust, spills and discharges to water, and noise.

We summarise the appellant’s main concerns in Table 1.

Table 1 Grounds of appeal

Ground	Main concerns the appellant submitted
1 Health and wellbeing	DWER did not adequately consider the health and wellbeing of nearby residents during its assessment of the works approval application.
2 Emissions to air	DWER’s risk assessment of emissions to air of hydrocarbons and odour was inadequate and the works approval conditions do not provide adequate air quality management.
3 Fugitive dust ¹	The conditions on the works approval relating to dust are inadequate.
4 Spills and discharges to water	The conditions on the works approval for the management of spills and pollution of surface water are inadequate.
5 Noise	DWER’s assessment of noise and the controls applied are inadequate.

1.3 Key issues and conclusions

From the appellant’s concerns we have identified the 5 issues at the heart of the appeal. We summarise our conclusions for these issues below. Section 2 of this report then details our reasoning and Section 3 provides supporting information.

The appellant also raised matters that do not relate to the conditions of the works approval. These are noted under ‘Other Matters’ in Section 3.

Are health and wellbeing within the scope of DWER’s assessment?

DWER agreed with the appellant that potential impacts to health and wellbeing outside of the premises boundary are within the scope of its assessment of the works approval application. DWER advised that statements in the Decision Report to the contrary were made in error, and that consideration of potential amenity and human health impacts on sensitive receptors were included in the assessment.

¹ Fugitive dust is generated from open sources such as unsealed roads, stockpiles and movement of raw materials.

DWER used air quality criteria for various pollutants known as 'Ambient air quality guidelines values' (AGVs), in assessing potential impacts to health, amenity and environmental values. Air quality modelling predicted maximum ground level concentrations (GLCs) for pollutants of concern at the nearest sensitive residential receptor, which were then compared against the relevant AGV standard for each pollutant.

DWER's Draft Guideline: Air emissions, Activities regulated under the *Environmental Protection Act 1986, Environmental Protection Regulations 1987*² (Draft Guideline: Air emissions) states that AGVs are based on the approved health guidelines of Western Australia's Department of Health and the New South Wales Environment Protection Authority publication, *Approved methods for the modelling and assessment of air pollutants in New South Wales* (2016).

DWER's assessment of potential impacts to health, amenity and environmental values from emissions to air from the premises is considered below.

Do the works approval conditions provide adequate air quality management?

The investigation found that DWER followed relevant guidance and applied conditions to the works approval to control and manage the risks and potential impacts it identified during the assessment of the works approval application.

Advice from DWER is that modelled air emissions from the plant are well within relevant AGVs for the various pollutants. For example, maximum predicted short-term GLCs for the individual volatile organic compounds (VOCs) benzene, ethylbenzene, toluene and xylene are all less than 1 per cent of relevant AGVs, and long term (annual average) GLCs are all less than 0.1 per cent of relevant AGVs (refer to Section 2.2).

The works approval contains a number of conditions to ensure that actual emissions from the plant are consistent with modelled predictions, together with requirements to ensure that construction and commissioning of the asphalt plant is undertaken in a manner which minimises off-site impacts.

The works approval also contains conditions that specify the monitoring requirements during the time limited operations phase; and specify compliance monitoring, record keeping and reporting requirements.

DWER recommended however, that the works approval should be amended by limiting the rate of asphalt production to the production capacity that was assessed, which is 5,000 metric tonnes per annum and not more than 300 metric tonnes per day.

We agree that amending the works approval in this way is appropriate to ensure that the risks to air quality are no more than predicted and as assessed by DWER.

Do the works approval conditions provide adequate fugitive dust management?

Our conclusion is that the works approval conditions for dust mitigation are adequate.

The conditions require the works approval holder to implement construction and operational controls to minimise and manage dust from the premises. This includes compliance monitoring, record keeping and reporting requirements.

This ground of appeal should be dismissed.

² DWER, Draft Guideline: Air emissions, Activities regulated under the *Environmental Protection Act 1986, Environmental Protection Regulations 1987*, October 2019, page 5.

Do the works approval conditions provide adequate management of spills and discharges?

Our conclusion is that the works approval conditions for management of spills and discharges from the premises are adequate.

The works approval conditions specify infrastructure and operational controls to minimise and manage spills and stormwater contamination, including bunded storage vessels and the containment and treatment of stormwater. Compliance monitoring, record keeping and reporting requirements are included.

This ground of appeal should be dismissed.

Did DWER adequately assess noise?

The investigation found that noise emissions can be appropriately controlled through the requirements of the works approval and *Environmental Protection (Noise) Regulations 1997* (Noise Regulations), and through planning controls which limit operation of the premises to 7am to 5pm Monday to Saturday (excluding public holidays).

DWER advised that infrastructure and equipment controls applied through the works approval conditions and the City of Albany development approval, will minimise the risk of noise on surrounding residents. Advice from DWER is that noise emissions will comply with the assigned levels set in the Noise Regulations.

We accept DWER's position. This ground of appeal should be dismissed.

1.4 Recommendation to the Minister

We recommend that the appeal be allowed in part by amending the requirements of the works approval as follows:

- plant capacity specified on page 1 of the works approval is amended to read: 'Assessed production capacity' of 5,000 metric tonnes per annum
- plant production capacity of not more than 300 metric tonnes per day is specified as an operational requirement in Condition 6, Table 2.

Otherwise dismiss the appeal.

2 Reasons for recommendation

2.1 Are health and wellbeing within the scope of DWER's assessment?

Our conclusion is that DWER, in assessing the works approval application, did give consideration to potential impacts to the health and wellbeing of nearby residents. We explain our reasoning below.

The appellant raised the following concerns that DWER's assessment of the application had not appropriately considered potential impacts to health and wellbeing:

- the delegated officer who assessed the works approval application mistakenly stated that the consideration of health and wellbeing is outside DWER's remit, noting that pollution and its consequences are within the scope of the *Environmental Protection Act 1986* (EP Act)
- neither the proponent nor DWER submitted any specialist health opinion. The appellant submitted that the available research data suggests there are substantial risks to having an asphalt plant near residential areas. Hydrocarbons, especially benzene and toluene are carcinogenic, and spread in water, the atmosphere and through spills. There are numerous references to various cancers, namely lung, skin, urinary tract and lymph systems which are significantly related to these substances. Living in proximity to an asphalt plant increases the risk of exposure, especially for children. Even minute quantities of these toxic products are a risk.

It is noted that the Decision Report states:

The Delegated Officer notes that matters relating to traffic, health and wellbeing, and devaluation of property are impacts that are outside of the Premises boundary and assessment scope under Part V of the EP Act...³

In its advice in response to the appeal, DWER advised:

The Department agrees with the Appellant that 'health and wellbeing' impacts outside of the premises' boundary are within the assessment scope under Part V of the EP Act. The sentence in section 7.1 of the Decision Report stating the contrary is a typographical error. The statement is inconsistent with the Decision Report more broadly, noting that point source emissions to air were assessed against short-term and long-term standards for protection of human health (section 6.1 of the Decision Report).

The 'potential pathways and impact' and 'receptors' columns of Table 13 in section 9 reflect that consideration of potential amenity and human health impacts on sensitive receptors were included in the assessment. The Department commits to updating the Decision Report for any future regulatory instrument for this operation to remove the error.⁴

We agree with DWER's advice that health and wellbeing are within the scope of its assessment of the works approval application.

Air quality criteria used

In relation to the air quality criteria used in assessing potential impacts to health, amenity and environmental values, DWER advised:

³ DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 7.1.

⁴ DWER, Response to the appeal, 2 February 2021, pages 2-3.

Maximum model predicted ground level concentrations (GLCs) for key pollutants were compared with long-term and short-term ambient air quality guideline values (AGVs) sourced from the Department's draft Guideline: Air emissions. The AGVs specified in the draft Guideline are based on the advice from the Western Australian Department of Health (DoH) and other published guidance, including the New South Wales Environment Protection Authority, Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA 2016) and the National Environment Protection Council (NEPC) National Environment Protection (Ambient Air Quality) Measure 2011 (NEPM).

The NEPM provides a nationally recognised framework to monitor and report ambient air quality through set reporting standards for key air pollutants to protect human health. The Ambient Air Quality NEPM reflects the latest scientific understanding for an adequate level of health protection from the impacts of air pollution from key pollutants for Australian communities. Studies previously commissioned by the Department are also referred to in the absence of published criteria for specific pollutants.⁵

We note DWER's advice. DWER's assessment of potential impacts to health, amenity and environmental values from emissions to air from the premises is considered below.

2.2 Do the works approval conditions provide adequate air quality management?

Our conclusion is that DWER appropriately assessed emissions to air resulting from the construction and time limited operation of the asphalt plant. We agree that DWER has applied appropriate controls for air emissions through the conditions applied to the works approval, based on the available evidence.

However, we agree with DWER that this ground of appeal should be allowed in part by amending the works approval to limit the rate of asphalt production to the production capacity that was assessed, which is 5,000 tonnes per annum and not more than 300 tonnes per day.

We explain our reasoning below.

Appellant's concerns

The appellant contended that:

- The separation distance between the premises and nearby residences is inadequate. A large number of homes in the nearby suburbs of Willyung and Warrenup will be impacted by hydrocarbon, odour and dust emissions from the premises blown on the prevailing winds.
- The habitat of humans in proximity to the premises, which is at least as important as the natural environment, is going to be significantly impacted. It is extremely concerning that one industrial site takes preference ahead of the concerns of nearby residents, especially when there are alternative industrial sites nearby.
- DWER's risk assessment of emissions was inadequate. Emissions of dust, odour, combustion gases and particulates were assessed as minor consequence and unlikely to occur, and rated as medium risks. The assessment is subjective and does not align with the many residents who will be impacted by air emissions and risk impaired health. While DWER imposed some restrictions and requirements, the works approval controls will not adequately protect nearby residents.

⁵ DWER, Response to the appeal, 2 February 2021, page 3.

- Odour is recognised as one of the most debilitating repercussions of living near an asphalt plant. The proposed measures to mitigate odour, such as reduced temperatures for heating bitumen, will not adequately control odour emissions.

Concerns relating to fugitive dust are considered in Section 2.3.

Separation distance

DWER's Technical Expert Report *Advice on Air Quality Assessment for an Asphalt Plant at Lot 104 Rocky Crossing Road, Willyung* (Air Quality Technical Expert Report) states:

As noted in the summary of this report, the nearest rural residence is ~380 m from the proposal's activity boundary. This is significantly less than the generic separation distance of 1,000 m recommended in the EPA *Guidance Statement No. 3, Separation Distance between Industrial and Sensitive Land Uses* (2005).

The small size and throughput of the proposed plant, its daytime operation and the limited number of hours of operation (estimated in the assessment report to be 170 hours or five per cent of days in a year if running at design capacity) are mitigating factors to be considered when comparing against separation distances noting that crushing activity is not included in the assessment.⁶

The EPA's *Guidance Statement No. 3, Separation Distance between Industrial and Sensitive Land Uses*⁷ provides generic buffer distances between industrial and sensitive land uses. Where generic buffer distances are not met, industry is expected to apply and demonstrate measures to mitigate emissions and discharges to prevent off-site impacts from occurring, and achieve acceptable environmental outcomes.

In this case, site-specific environmental impact studies were undertaken by the applicant's consultants and have been assessed by DWER. Based on its assessment of predicted emissions from the premises, DWER considered that the nature and scale of the activity is a mitigating factor in the generic separation distance not being met.

We now evaluate DWER's assessment of predicted emissions from the premises.

Air quality assessment

In assessing air emissions, odour and dust from the proposed asphalt plant, DWER considered the following reports provided by the applicant:

- Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia⁸ (Air Quality Assessment Report)
- Update to odour assessment for a proposed small asphalt plant at Albany, WA⁹ (Odour Assessment Report).

The works approval holder's emission studies and documentation attached to the works approval application were based on 5,000 tonnes per annum.¹⁰

⁶ DWER, Technical Expert Report, *Advice on air quality assessment for an asphalt plant at Lot 104 Rocky Crossing Road, Willyung*, 17 May 2017, page 9.

⁷ EPA, *Guidance for the Assessment of Environmental Factors Western Australia (in accordance with the Environmental Protection Act 1986) Separation Distances between Industrial and Sensitive Land Uses No. 3 June 2005*.

⁸ Ektimo, *Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia*, prepared for Great Southern Sands, 27 February 2017.

⁹ Ektimo, *Update to odour assessment for a proposed small asphalt plant at Albany, WA*, prepared for Great Southern Sands, 9 July 2020.

¹⁰ DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 2.

Air quality modelling was undertaken by the applicant's consultant to assess air emissions, odour and dust from operation of the asphalt plant to determine potential impacts to the health and amenity of nearby residences. The Air Quality Assessment Report outlines that air quality modelling methodology used was consistent with relevant guidance of the former Department of Environment Regulation (now DWER)¹¹. Sensitive residential receptors near the premises are shown in Figure 2. DWER's Air Quality Technical Expert Report states that the air quality modelling was undertaken using appropriate methodology and to a competent standard.¹²

The Air Quality Assessment Report identified the following sources of emissions to air from the premises:

- Emissions of odour, VOCs, metals, combustion gases and particulates from a single vent stack servicing the flue gas emissions from the diesel fuel fired burner and mixer/dryer. The flue gas emissions within the mixing chamber are recirculated through the burner to abate VOCs and then discharged via a baghouse to reduce particulate emissions.
- Odour from the asphalt loadout into tip trucks positioned beneath.
- Residual VOCs, combustion gases and particulates from a single small vent for emissions from the diesel fuelled heated bitumen tank that is to provide heated Class 170 low sulphur bitumen at temperatures up to 180 degrees Celsius (C°) to the asphalt plant.¹³

The air quality modelling was based on:

- 6.1 metre (m) high asphalt plant vent stack
- no significant background concentration of 'asphalt fume' pollutants as it was assumed that there are no other existing asphalt plants within two kilometres of the premises.^{14 15}

In response to the appeal, DWER advised that in assessing air emissions, odour and dust, it considered wind direction and speed data from the Bureau of Meteorology Albany weather station, emission sources from the asphalt plant and the proximity of residential homes and environmental receptors.

¹¹ Ektimo, *Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia*, prepared for Great Southern Sands, 27 February 2017, page 4.

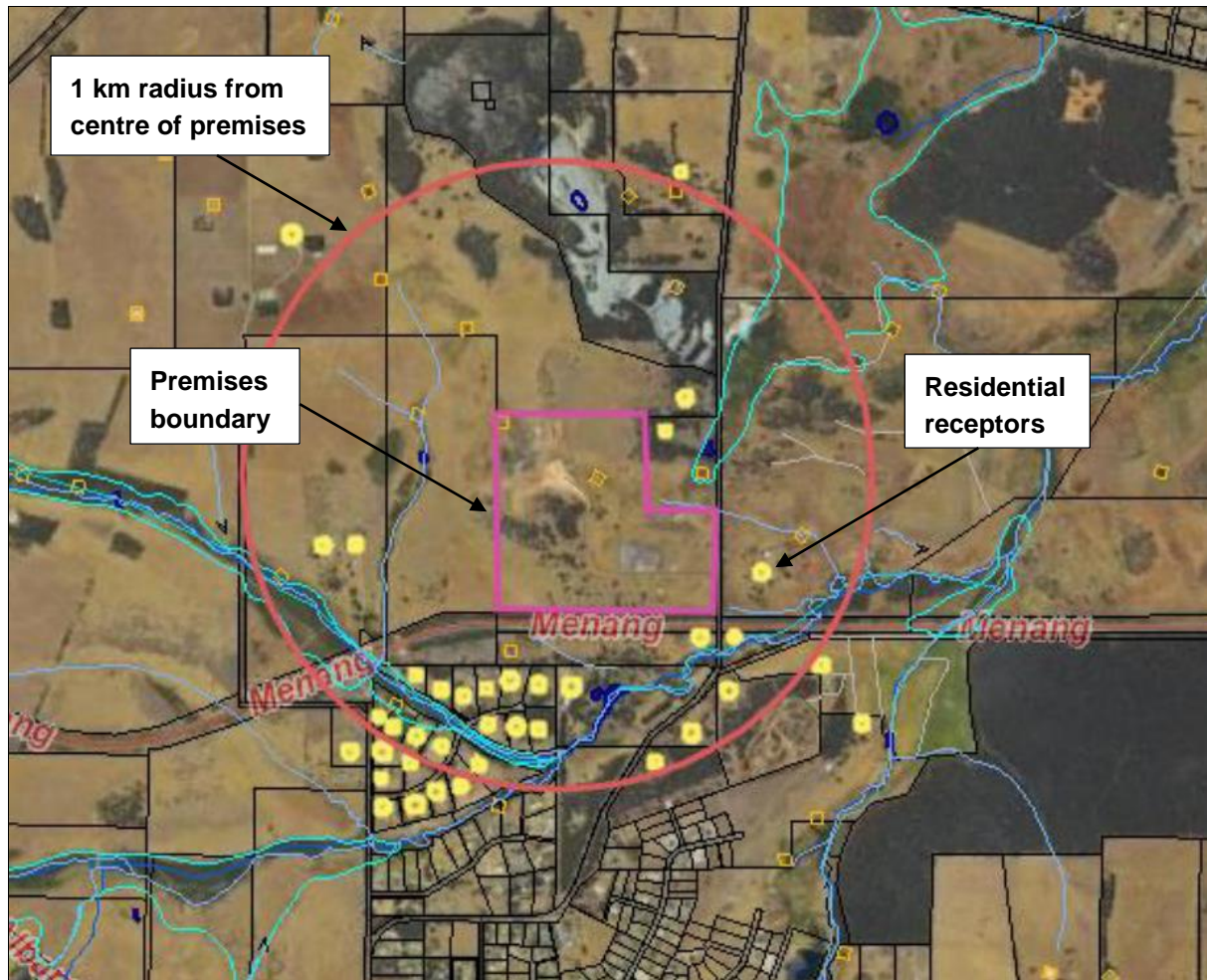
¹² DWER, Technical Expert Report, Advice on air quality assessment for an asphalt plant at Lot 104 Rocky Crossing Road, Willyung, 17 May 2017, page 5.

¹³ Ektimo, *Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia*, prepared for Great Southern Sands, 27 February 2017, page 13.

¹⁴ Refer below 'Cumulative emissions to air'. An existing asphalt plant owned by Downer EDI Works Pty Ltd, which is a prescribed premises licensed by DWER, is located approximately 600 m away.

¹⁵ Ektimo, *Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia*, prepared for Great Southern Sands, 27 February 2017, pages 10-11.

Figure 2 Sensitive residential receptors near the premises



(Source: Adapted from DWER Decision Report, 16 November 2020)

Risk assessment for combustion gases, VOCs and particulate matter emissions

As the appellant noted, in the Decision Report, combustion emissions from the asphalt plant [nitrogen dioxide (NO₂), sulphur dioxide (SO₂), VOCs, carbon monoxide (CO)] were assessed as medium risk¹⁸.

DWER's published Guidance Statement: *Risk Assessments – Part V, Division 3, Environmental Protection Act 1986*¹⁹ (Risk Assessment Guideline) outlines how DWER will assess the risks of emissions from prescribed premises. The Guideline states that DWER will assess risk and apply regulatory controls in proportion to the level of risk (using consequence and likelihood criteria) that an activity poses to public health and the environment.

In this instance, for combustion gases, VOCs and particulate matter emissions, DWER considered the consequence to be 'minor' and the likelihood as 'unlikely'. Using the Risk Rating Matrix provided in the Guideline, a consequence of 'minor' and likelihood of 'unlikely' equates to medium risk.

¹⁸ DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 9.1.

¹⁹ Department of Environment Regulation 2017, *Guidance Statement: Risk Assessments – Part V, Division 3, Environmental Protection Act 1986*, February 2017.

In its advice, DWER advised that:

During the assessment, the comparison of maximum model predicted GLCs to the AGVs confirmed that they were significantly lower than the respective short-term and long-term criteria. The Decision Report did not specifically include comparison of predicted GLCs with the long-term (annual) AGV for individual volatile organic compounds (VOCs) benzene, ethylbenzene, toluene and xylene, however, long-term predictions were included in the Works Approval Holder's air quality assessment. These are presented in Table 1, together with comparison against relevant AGVs. Maximum predicted short-term GLCs for the individual VOCs are all less than 1 per cent of the relevant AGV and long term (annual average) GLCs are all less than 0.1 per cent of the AGV.²⁰

Table 1: Works Approval Holder's maximum predicted GLCs within the modelling domain

Substance	Averaging period	Maximum model predicted GLC (microgram per cubic metre ($\mu\text{g}/\text{m}^3$) at 25°C)	AGV ($\mu\text{g}/\text{m}^3$ at 25°C)	Source - Relevant AGV
Benzene	1-hour	0.21	29	EPA 2016
	Annual ¹	0.0057	9.6	NEPC 2011
Ethylbenzene	1-hour	1.7	8,000	EPA 2016
	Annual ¹	0.045	270	Toxikos 2011, Air guideline values for selected substances prepared for the former Department of Environment and Conservation
Toluene	24-hour	0.18	3,770	NEPC 2011
	Annual ¹	0.02	377	
Xylene	24-hour	0.48	1,080	
	Annual ¹	0.055	870	

Note 1: The air quality assessment included annual predictions for two scenarios, one operating all of the time and the second based on proposed operation of 170 hours per year. The annual prediction included in the table is the more conservative scenario operating all the time.

(DWER, Response to the appeal, 2 February 2021)

Note 2 for Table 1 (above): Legend for AGVs:

- EPA 2016: EPA, New South Wales 2016, Approved methods for the modelling and assessment of air pollutants in New South Wales.
- NEPC 2011: National Environment Protection Council (NEPC) 2011, National Environment Protection (Ambient Air Quality) Measure, Canberra, ACT.
- Toxikos 2011: Toxikos 2011, Air guideline values for selected substances, prepared for the Department of Environment and Conservation, Perth, Western Australia.²¹

The Decision Report also included maximum predicted ground level concentrations (GLCs) for other combustion emissions (NO_2 , SO_2 , CO) and emissions of PM_{10} and $\text{PM}_{2.5}$ at the nearest sensitive receptor, as outlined in Table 2:

²⁰ DWER, Response to the appeal, 2 February 2021, page 3.

²¹ DWER, Draft Guideline: Air emissions, Activities regulated under the *Environmental Protection Act 1986*, *Environmental Protection Regulations 1987*, October 2019, Appendix A.

Table 2 NEPM / DWER criteria compared to applicant's modelled predictions²²

Substance	Averaging period	^d Applicants peak predictions Maximum concentration µg/m ³ at 25°C	Guideline Maximum concentration µg/m ³ at 25°C	Guideline	
Carbone monoxide (CO)	1-hour	316	30,000	NEPM 2016, 2011 and DWER 2019	
	8-hour	164	10,000		
Nitrogen dioxide (NO ₂)	1-hour	103	226		
	Annual	0.15	56		
Sulphur Dioxide (SO ₂)	1-hour	129	524		
	24-hour	39	210		
	Annual	0.26	52		
PM ₁₀	24-hour ^{a,b}	4.9	46		DWER 2019, where a = NEPM 2016 b = EPA NSW 2016
	Annual ^a	0.029	23		
PM _{2.5}	24-hour ^{a,b}	3.4	23		
	Annual ^{a,b}	0.021	7		

(DWER Decision Report 16 November 2020)

Note for Table 2 (above): Legend for Guidelines:

- DWER 2019: DWER, Draft Guideline: Air emissions, Activities regulated under the *Environmental Protection Act 1986, Environmental Protection Regulations 1987*, October 2019, Appendix A.
- EPA NSW 2016: EPA, New South Wales 2016, Approved methods for the modelling and assessment of air pollutants in New South Wales.
- NEPM 2016: National Environment Protection Council 2016, National Environment Protection (Ambient Air Quality) Measure.²³

As Table 2 shows, DWER's assessment determined that the maximum predicted short-term and long term (annual average) ground level concentrations (GLCs) are significantly lower than the relevant air quality guideline values (AGVs) for emissions of NO₂, SO₂, CO, PM₁₀ and PM_{2.5}.

Risk assessment for odour emissions

The applicant's Odour Assessment Report included an odour screening analysis, operational odour analysis, location odour review and an odour source analysis. DWER advised that the Odour Assessment Report was prepared consistent with DWER's *Guideline: Odour Emissions* (2019).

In relation to the assessment of odour, the Decision Report states:

The Applicant's primary proposed controls to minimise odour include: daylight operation hours, production limits, low sulfur bitumen, distillate refined fuel,

²² DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 6.1.

²³ Ibid.

baghouse monitoring, producing asphalt at temperatures below the blue smoke threshold of 180°C, bitumen storage tank fitted with a condenser, asphalt loading on truck with time limits, covers on trucks exiting the Premises and an increase in stack height to 12 magl [metres above ground level] if required.

Assessment of the wind speed and direction ... determined that poor air dilution of emissions (odour and air) from the site would occur with lighter wind speeds of 3.6 m/s (13 km/h) or less. This occurs 38% of the time during the day.²⁴

DWER assessed odour emissions from the asphalt plant as medium risk (i.e. consequence of 'minor' and likelihood of 'unlikely') of impacting the amenity of nearby sensitive receptors²⁵.

The Decision Report states:

The Delegated Officer using the precautionary principle considers that infrastructure construction for controls to manage odours are insufficient. A level of doubt from the Applicant on the appropriateness of the stack height to elevate plumes and no air field assessment to verify the outcomes creates uncertainty and requires further controls.²⁶

Given the close proximity to receptors, the Delegated Officer has specified a 12m stack height to improve dispersion and expects that this will reduce the risk of odour and air impacts on receptors.²⁷

Cumulative emissions to air

During the appeal investigation, further advice was sought from DWER in relation to potential cumulative impacts of air pollutants within the local airshed. In reviewing the applicant's Air Quality Assessment Report and Odour Assessment Report, both reports state there are no other asphalt plants within two km of the premises and it is indicated that, given this, there is no significant background concentration of asphalt fume. It is understood that the air quality modelling undertaken by Ektimo on behalf of the applicant, was based on no significant background concentration of asphalt fume.

The proposed location of the asphalt plant premises is approximately 600 m from an existing asphalt plant owned by Downer EDI Works Pty Ltd, which is a prescribed premises operating under Licence L8614/2011/2. The Downer EDI Works asphalt plant approved premises production or design capacity is 50,000 tonnes per annum.

Given this, supplementary advice was sought from DWER as to whether emissions to air of hydrocarbons, odour and particulate matter from the Downer EDI Works asphalt plant would have altered the risk of air impacts to the health and amenity of nearby residences, and whether additional regulatory controls should be applied to Works Approval W6384/2020/1.

In response, DWER advised:

... The two facilities have comparable maximum hourly production rates and similar stack heights, therefore, the Department expects the incremental cumulative emission impact to be negligible and well below short and long term AGVs. An analysis of particulate emissions data shows a similarly low expected cumulative impact.

²⁴ DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 6.

²⁵ Ibid.

²⁶ Ibid., section 9.1.

²⁷ Ibid., section 10.1.4.

... the Department is satisfied that the cumulative contribution of VOCs, odour and particulate matter from the Downer EDI facility would be unlikely to materially alter its risk assessment outcomes and that the regulatory controls on Works Approval W6384/2020/1 are appropriate and commensurate with risk.

... The Department can also advise that it received a works approval application from Downer EDI in late 2020 to expand its facility, however, this application was declined on the basis of insufficient information. If Downer EDI opts to submit a further works approval application, the Department's assessment will take into account emissions including VOCs, odour and particulates and also the contribution of emissions from the new Rocky Crossing Asphalt Plant to potential impacts on sensitive receptors.²⁸

We note DWER's advice.

Regulatory controls

DWER determined the acceptability and treatment of the potential risks associated with emissions to air of combustion gases, VOCs, particulate matter and odour in accordance with its Risk Assessment Guideline. The Guideline states that a 'medium' rating risk is acceptable and tolerable and is likely to be subject to some regulatory controls.

It is noted that the commissioning phase (time limited operations) brings a facility into operating condition for the first time in order to measure the parameters which are to be monitored during operation. It allows a works approval holder to test, trial or operate a facility for a limited time.

The works approval contains conditions that specify the infrastructure and equipment to be installed, set controls and air emission limits during commissioning, and specify environmental compliance monitoring and reporting requirements.

Given the close proximity to sensitive receptors and potential risks from odour, DWER imposed a requirement in Condition 1 (Infrastructure and equipment) for a minimum stack height of 12 m above ground level to improve dispersion.

In addition, Condition 6 (Time limited operational requirements) includes the following requirements to mitigate odour emissions:

- low sulphur bitumen to be only used in the plant
- if blue smoke is detected the temperature will be immediately reduced.

With respect to monitoring, Condition 7 (Monitoring during time limited operations) requires the works approval holder to (among other things) monitor emissions at discharge point A1 (vent stack) for particulate matter, oxides of nitrogen, carbon monoxide, total volatile organic compounds, stack rate flow and stack velocity.

Further, in response to the appeal, DWER advised that:

Production rates and timing of processing can be considered as surrogate emission control measures where they are a key consideration in determining the risk associated with an emission. As noted in the Decision Report, the Development Approval (P2180244) for the premises restricts the hours of operation hours from 7am to 5pm Monday to Saturday (excluding public holidays), therefore this requirement was not duplicated in the Works Approval.

²⁸ DWER, Supplementary advice in response to the appeal, 22 March 2021.

The Department considers the assessed operational production throughput of 5,000 tonnes to be low with overall low emission potential, but acknowledges that there are not adequate operational controls in the works approval to limit the rate of asphalt production to the production capacity that was assessed.²⁹

As a result, DWER recommended that the works approval be amended so that a plant production capacity of not more than 300 tonnes per day is specified as an operational requirement in Condition 6, Table 2, and the plant capacity specified on page 1 of the works approval is amended to read: 'Assessed production capacity' of 5,000 metric tonnes per annum.³⁰

The works approval holder was provided an opportunity to comment on DWER's recommendation but did not respond.

Beyond this works approval, the works approval holder will require further approval, in the form of a licence granted under Part V of the EP Act, to authorise emissions associated with the continued operation of the asphalt plant.

We agree with DWER's position. This ground of appeal should be allowed in part by amending the works approval in the manner recommended above by DWER.

2.3 Do the works approval conditions provide adequate fugitive dust management?

Our conclusion is that the works approval conditions for dust mitigation are adequate, based on the available evidence. We explain our reasoning below.

The appellant submitted that dust from heavy vehicle work and crushing will be significant, especially in summer.

In its advice, DWER confirmed that crushing activities were not proposed by the works approval holder and are not authorised by the works approval.

The Air Quality Assessment Report identified the following sources of dust emissions from the premises:

The emissions of fugitive dust from the site activities that include vehicle movements on unsealed surfaces, stockpiling and loading of raw materials into the hopper, will be subject to management measures.³¹

In the Decision Report, fugitive dust emissions were assessed as low risk during the construction phase and medium risk during operational activities. DWER's assessment determined that dust emissions would be adequately controlled through the management measures proposed by the works approval holder.

DWER set conditions in the works approval which include the applicant's management measures.

Condition 1 (Construction phase) includes the following requirements:

- Storage bays must be constructed with three walls.
- Sprinkler system installed on storage bays which provides adequate coverage of the bays for dust suppression of contained materials.

²⁹ DWER, Response to the appeal, 2 February 2021, page 5

³⁰ Ibid.

³¹ Ektimo, *Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia*, prepared for Great Southern Sands, 27 February 2017, page 5.

Condition 6 (Time limited operations requirements) includes the following requirements:

- Gravel hardstand watered with a water cart from November – April (inclusive) to suppress dust.
- Sand and aggregate must be stored within the bays.
- Materials stored in the bays shall not be stored higher than the bay walls.
- Sprinkler system is maintained and operated on storage bins to prevent windblown dust.
- All sand and aggregate to be damp upon delivery.
- All sand and aggregate deliveries to be tarped.

In view of the above, DWER considered that the conditions attached to the works approval are sufficient to control fugitive dust.

We accept DWER's position. As a result, this ground of appeal should be dismissed.

2.4 Do the works approval conditions provide adequate management of spills and discharges?

Our conclusion is that the works approval conditions for management of spills and discharges are adequate, based on the available evidence. We explain our reasoning below.

The appellant submitted that spills of hydrocarbons at the premises could contaminate surface water and pollute the environment. The appellant was of the view that DWER's assessment of the risk of spills and the regulatory controls applied were inadequate.

In the Decision Report, the risk of hydrocarbon spills was assessed as low risk and contamination of stormwater from the premises resulting in pollution of local waterways was assessed as medium risk.

DWER set conditions in the works approval which include the applicant's management measures for the containment of spills. This includes Condition 1 (Design and construction requirements) and Conditions 2 and 3 (Compliance reporting) during the construction, and Condition 6 (Time limited operations requirements).

On this issue, DWER advised:

The potential impacts from hydrocarbon spills and contaminated stormwater were considered in the context of soil or water contamination, as potential health impacts are more likely to occur subsequent to impact on the surrounding environment. The risk from leaks or spills of liquid bitumen outside of containment was determined as 'unlikely' and to occur on-site only. Control measures proposed by the Works Approval Holder were included in condition 1, namely bunded storage vessels and the containment and treatment of stormwater.

Noting that potential contamination from spills is expected onsite only and that bitumen rapidly sets to a solid state as it cools (Decision Report, section 9), the Department considers that conditions on the Works Approval provide sufficient control for contamination of the surrounding environment and, therefore, subsequent exposure through this pathway would be a rare risk event.³²

We accept DWER's position that the conditions attached to the works approval are sufficient to control potential discharges from the premises. As a result, this ground of appeal should be dismissed.

³² DWER, Response to the appeal, 2 February 2021, page 4.

2.5 Did DWER adequately assess noise?

Our conclusion is that DWER appropriately assessed noise emissions resulting from the construction and time limited operation of the asphalt plant. We agree that, on the available information, noise emissions can be appropriately controlled through the requirements of the works approval and Noise Regulations, and through planning controls. We explain our reasoning below.

The appellant was of the view that DWER's assessment of noise emissions was inadequate, and that noise from the premises would significantly impact nearby residents.

Operational hours are restricted to between 7 am and 5 pm Monday to Saturday (excluding public holidays) through the City of Albany development approval process under the *Planning and Development Act 2005*. The proposal is required to conform to the Noise Regulations.

In the Decision Report, DWER states that without controls, noise levels from operations at the premises were predicted to exceed the Noise Regulations.

With the applicant's infrastructure and management measures applied, DWER assessed noise emissions during the construction phase as low risk and during the operations phase as medium risk. DWER states that the infrastructure and equipment controls will suitably minimise the risk of noise on surrounding residents, and that noise will comply with the assigned levels set in the Noise Regulations.

DWER set conditions in the works approval which include the applicant's noise management measures.

Conditions 1 includes:

- Asphalt plant infrastructure (excluding the boiler) must be capable of achieving a noise level of no greater than 102 dB(A) at 1 m.
- Boiler located within a metal clad shed with the opening to the east.
- Noise mitigation earth bund must be a minimum of 4 m high and 130 m long and located on the east side of the asphalt plant.
- Piping system and / or stack is fitted with a silencer for noise reduction.
- Stack must be capable of achieving a noise level of no greater than 98 dB(A) at 1 m.

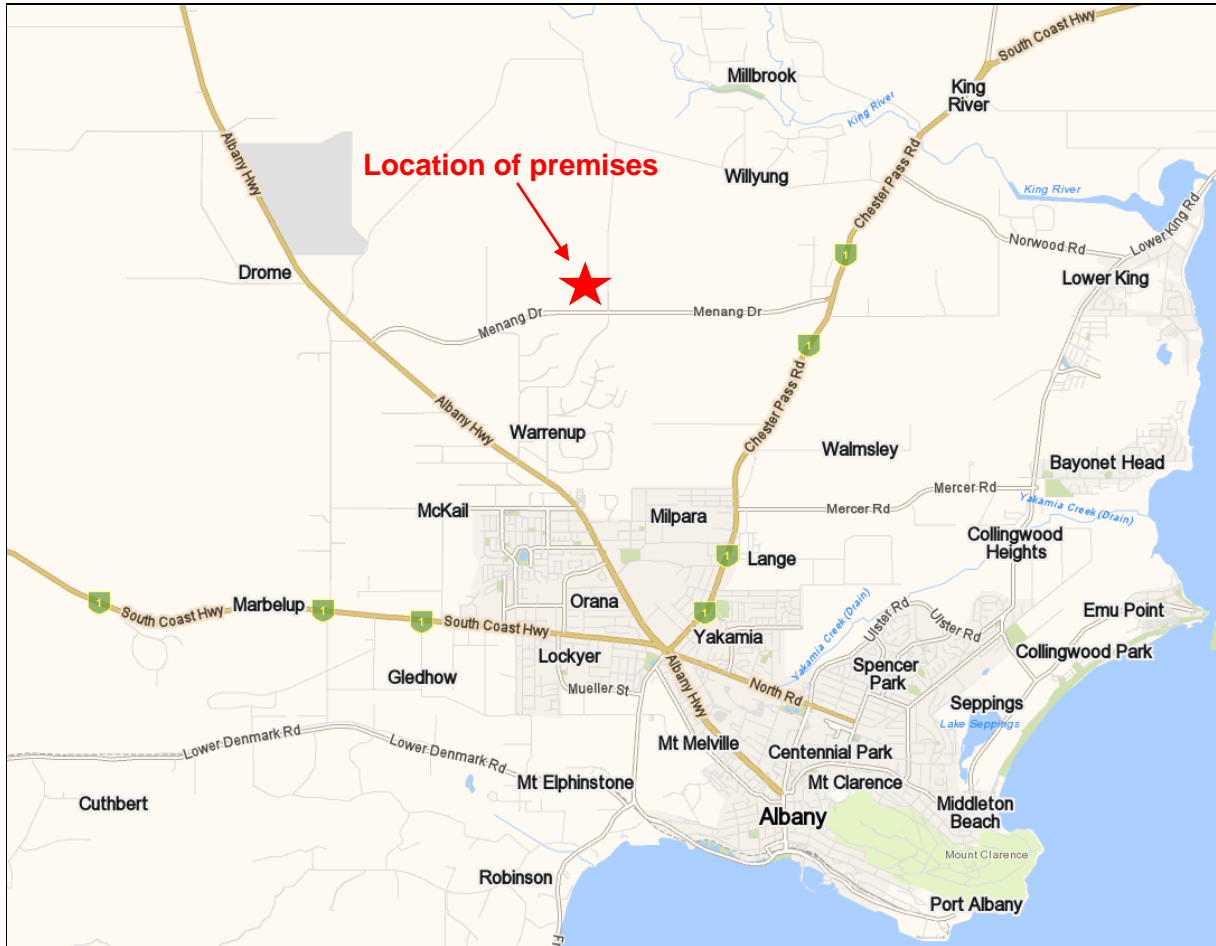
As noted above, and relevant to noise control, the works approval contains conditions that specify compliance monitoring, recordkeeping and reporting requirements. In particular, Conditions 13 and 14 require the works approval holder to keep records in relation to any complaints received, including any actions taken to investigate or respond to a complaint.

We accept DWER's position. As a result, this ground of appeal should be dismissed.

3 Supporting information

3.1 Maps

Figure 3 Location of premises



(Source: Whereis.com)

3.2 Other matters

The appellant raised matters in the appeal that are not related to the conditions of the works approval. The appellant's concerns in respect to these matters are noted below together with DWER's advice, however as these matters do not relate to the conditions of the works approval they are not considered further in the context of this report.

Public consultation

The appellant raised concerns in respect to the adequacy of public consultation for the proposal. The appellant noted that over 20 public submissions were submitted to DWER during the public comment period for the works approval application, which expressed opposition to the proposal. The appellant contended that many more local residents would have lodged objections had they been fully informed about the proposal.

In its advice, DWER advised that:

Section 54 of the EP Act requires the Department to advertise and invite comment from the public, any public authority or direct interest stakeholder when receiving an application for a new licence or works approval. The Department's Guideline:

Industry Regulation Guide to Licensing (Guide to Licensing) sets out the way works approval applications are accepted and advertised.

The Department advertised the application on its website on 14 April 2020 for 21 days and wrote to the City of Albany and 46 pre-registered members of the public on 20 April 2020 inviting comment on the application. The Department also advertised the application in the standard weekly notification on 20 April 2020 in the Public Notices section of The West Australian, which directs the public to the Department's website. Twenty-one submissions were received during the Department's public consultation process (refer to Table 8 Decision Report).

The Department considers that consultation was undertaken for this Works Approval in accordance with the requirements of the EP Act and the Guide to Licensing.

The Department notes that appeals to the Minister for Environment under the EP Act are merits appeals. The right of appeal and the investigation within the appeals process therefore provide for independent review of the Department's assessment and conditions applied to the Works Approval.³³

As noted earlier, the works approval holder will require a licence under Part V of the EP Act, to authorise emissions associated with the continued operation of the asphalt plant. We note that licensing provisions provide for public comment on licensing applications, and an opportunity for third party appeals in respect to the amendment of, or the conditions applied to a licence.

Fire risk

The appellant raised concern that the asphalt plant will present an unacceptable fire risk to nearby landholders and residences.

In the Decision Report, DWER states:

Fire risk, zoning and operating hours are outside of the Part V assessment scope but managed through local government development approval process under the *Planning and Development Act 2005*.³⁴

³³ DWER, Response to the appeal, 2 February 2021, page 6.

³⁴ DWER, Decision Report, Application for Works Approval W6384/2020/1, 16 November 2020, section 7

Appendix 1 Appeal process

The Minister assesses the merits of a decision

The environmental appeals process is a merits-based process. Appeal rights in relation to a works approval are normally against the specifications of a works approval and whether the conditions of the works approval are adequate or appropriate to control the environmental impacts of the design and construction of the plant. Issues of whether the plant operates so as to manage or abate pollution and to ensure that it operates in an environmentally acceptable manner are normally considerations of the licensing process rather than a works approval. Consistency with previous Ministerial appeal determinations is also relevant, subject to new information or evidence being presented that was not previously considered.

A merits review cannot overturn the original decision to grant a works approval. But if the appeal is upheld, the works approval conditions might change.

We report to the Minister, as does the decision-making authority

To decide an appeal's outcome, the Minister for Environment must have a report from both:

- the Appeals Convenor [see section 109(3) of the EP Act], and
- the authority that originally made the decision under appeal [see section 106(1)].

This document is the Appeals Convenor's report to the Minister. The Appeals Convenor's investigation of the appeal included:

- a review of the appeal and supporting information, DWER's Decision Report, and the works approval holder's application information
- a review of the section 106 report from DWER
- telephone meetings with the appellant and works approval holder
- a review of supplementary advice from DWER in response to the appeal
- reviewing other information, policy and guidance as needed.

Table 3 Documents we reviewed in the appeal investigation

Document	Date
DWER, Decision Report, Application for Works Approval W6384/2020/1	16 November 2020
DWER, Draft Guideline: Air emissions, Activities regulated under the <i>Environmental Protection Act 1986</i> , <i>Environmental Protection Regulations 1987</i>	October 2019 Draft for external consultation
DWER, Guideline: Risk assessments, Part V, Division 3, <i>Environmental Protection Act 1986</i>	February 2017
DWER, Response to the appeal	2 February 2021
DWER, Supplementary advice in response to the appeal	22 March 2021
DWER, Technical Expert Report, Advice on air quality assessment for an asphalt plant at Lot 104 Rocky Crossing Road, Willyung	10 May 2017

Document	Date
DWER, Works approval W6384/2020/1 Rocky Crossing Asphalt Plant	16 November 2020
Ektimo, <i>Air Quality Assessment of Various Emissions to Air from a Hot Mix Asphalt Plant near Albany, Western Australia</i> , prepared for Great Southern Sands	27 February 2017
Ektimo, <i>Update to odour assessment for a proposed small asphalt plant at Albany, WA</i> , prepared for Great Southern Sands	9 July 2020
Harley Dykstra, <i>Development Application (Proposed Works Depo and Mobile Asphalt Plant) DWER Works Approval and Licence Application Lot 104 Rocky Crossing Road, Willyung</i>	8 February 2018