



**Appeals Convenor**  
**Environmental Protection Act 1986**

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**REPORT TO THE  
MINISTER FOR ENVIRONMENT**

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**APPEALS IN OBJECTION TO THE AMENDMENT OF A LICENCE  
L8993/2016/1: GUILDFORD MATERIALS RECOVERY FACILITY  
72 HYNE ROAD, SOUTH GUILDFORD**

**PROPONENT: CLEANAWAY PTY LTD**

Appeal Numbers 043.001-002 of 2020

**January 2021**

## Appeals Summary

This report relates to appeals made by the Alliance for a Clean Environment/National Toxics Network and the Guildford Association Inc in objection to the amendment of licence L8993/2016/1 by the Department of Water and Environmental Regulation (DWER).

The licence is held by Cleanaway Pty Ltd (the licence holder) and is for the operation of the Guildford Materials Recovery Facility (MRF). The amendment was made on 14 August 2020 and is for the rebuilding of the MRF following a significant fire event in November 2019.

Appellants submitted that the November 2019 fire was an unacceptable event and constituted a failure by both the licence holder and the State Government to protect the community and the environment. It was submitted that DWER's assessment of the original licence was grossly inadequate and that both this and the fire event demonstrate the need to revoke the licence and prohibit such a facility at the location.

The appellants acknowledged that the licence controls had been improved by DWER through the amendment, however, it was submitted that they are insufficient to prevent future fires and future discharge of fire washwater. The appellants also submitted that contamination impacts from the fire were not fully investigated and remediated and that a decision to amend the licence should not have been made prior to this being completed.

The appeals investigation noted that revocation of the licence or relocation of the facility are not outcomes available to the Minister on appeal.

It was found that DWER utilised the information available from the November 2019 fire to update its risk assessment and to determine additional controls required. In relation to contamination, it was noted that additional investigations under the *Contaminated Sites Act 2003* are ongoing and should an issue be identified, DWER has options available under both that Act and the *Environmental Protection Act 1986* to ensure appropriate remediation/operation of the premises.

It was found that DWER's assessment of risk is supported by the available evidence and that the additional controls imposed are appropriate towards mitigating the likelihood and consequence of such a fire event occurring again. However, in relation to the management of fire washwater, it was found that the controls could be improved further by requiring automatic closure of gate valves when the warehouse fire system is activated.

## Recommendation

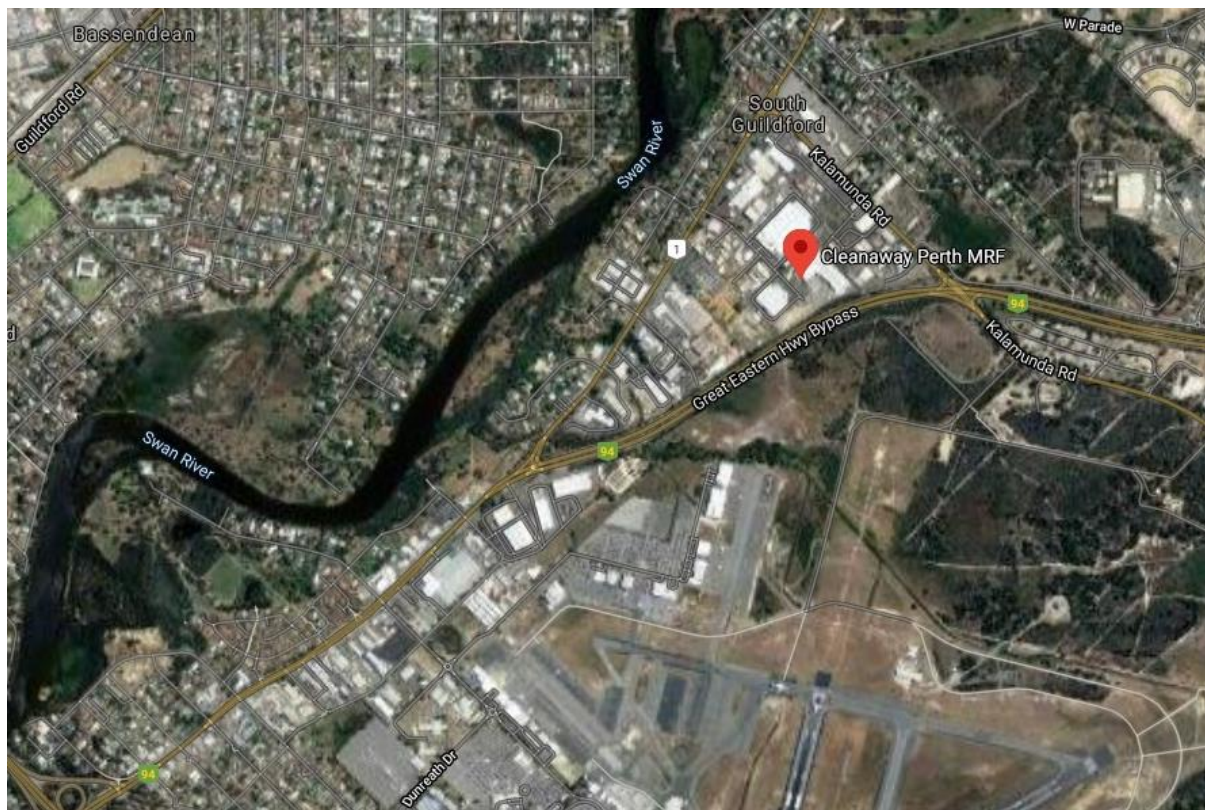
It is recommended that the licence conditions be improved by requiring automatic closure of gate valves when the warehouse fire system is activated. It is otherwise recommended that the appeals be dismissed.

## INTRODUCTION

This report relates to appeals made by the Alliance for a Clean Environment/National Toxics Network and the Guildford Association Inc in objection to the amendment of licence L8993/2016/1 by the Department of Water and Environmental Regulation (DWER).

The licence was first granted to Cleanaway Pty Ltd (the licence holder) on 11 May 2017 for the operation of the Guildford Materials Recovery Facility (MRF). The amendment was made on 14 August 2020 and is for the rebuilding of the MRF following a significant fire event in November 2019. The location of the premises is shown in Figure 1.

**Figure 1 – Location of premises**



(Source: Google Maps)

## BACKGROUND

The MRF comprises three key areas: a Tipping Area (where incoming waste is deposited for sorting), a Production Area (where the majority of sorting occurs) and a Finished Product Store (where sorted waste is stored in readiness for transport to markets). All three areas are located within a warehouse with arriving trucks accessing the Tipping Area via automatic roller doors.

On 25 November 2019, a fire began within the Finished Product Store resulting in a dense black smoke plume predominantly attributable to burning plastics. Following response by emergency services, the fire also resulted in the emission of fire washwater to the local stormwater drain network and ultimately the Swan River.

The damage caused by the fire meant the MRF was no longer operable with both the Finished Product Store and Production Area requiring reconstruction. The licence holder

subsequently applied to amend the licence to allow the reconstruction of the facility incorporating additional fire management measures.

## OVERVIEW OF APPEAL PROCESS

In accordance with the *Environmental Protection Act 1986* (EP Act), two reports are required for the Minister for Environment to determine the outcome of the appeals:

- a report from the Appeals Convenor, as required by section 109(3) of the EP Act
- a report from the decision-making authority of the decision under appeal, as required by section 106(1).

This document is the Appeals Convenor's report to the Minister.

To advise the Minister, the Appeals Convenor conducted an investigation that included:

- review of the matters raised in the appeals submitted by the appellants
- review of the report from DWER provided under section 106 of the EP Act
- review of the response to the appeals provided by the licence holder
- meetings with both the appellants and the licence holder
- review of appellant comments on DWER's report provided under section 106 of the EP Act
- review of other information, policy and guidance as considered necessary.

The environmental appeals process is a merits-based process. Appeal rights in relation to an amendment to a licence relate only to the amendment, or matters directly consequential to that amendment. Questions of additional information not considered by DWER, technical errors and attainment of relevant policy objectives are normally central to appeals. Enforcement and compliance with the conditions of a licence is a matter for DWER as the regulator and issues of this nature are considered to be outside the scope of an appeal against an amendment to a licence.

## OUTCOME SOUGHT BY APPELLANTS

The appellants seek revocation of the licence and for such a facility to not be allowed at the location. Alternatively, if the licence is to continue, the appellants seek for more stringent conditions to be applied.

In accordance with the EP Act, the determinations available to the Minister for appeals against a licence amendment are:

- a) dismiss the appeals (i.e. the licence continues in its current form); or
- b) allow the appeals in full (i.e. the licence reverts to its previous version); or
- c) allow the appeals in part (i.e. by changing the conditions of the amended licence).

Revocation of the licence is not a determination available to the Minister nor relocation of the facility. Therefore, the investigation considered the outcomes available to the Minister when reviewing the matters raised by the appellants.

## GROUNDINGS OF APPEAL

Both appellants submitted that the November 2019 fire was an unacceptable event and constituted a failure by both the licence holder and the State Government to protect the community and the environment. The appellants submitted that DWER's assessment of the original licence was grossly inadequate and that both this and the fire event demonstrate the need to revoke the licence and prohibit such a facility at the location.

In respect to the licence amendment, the appellants acknowledged that the licence controls have been improved, however, the appellants submitted that they are insufficient to prevent future fires and future discharge of fire washwater. The appellants are of the view that no fire risk is acceptable, noting the potential toxic emissions that could result and the proximity of sensitive receptors.

The appellants also submitted that contamination impacts from the fire have not been fully investigated and remediated and that a decision to amend the licence should not have been made prior to this work being completed.

Therefore, the appeals are considered to relate to three primary appeal grounds: smoke and particulate emissions, fire washwater emissions and contamination.

Other matters raised by the appeals are discussed in the section 'Other Matters'.

## **GROUND 1: SMOKE AND PARTICULATE EMISSIONS**

The appeals submitted a range of concerns relating to smoke and particulate emissions including:

- DWER's risk assessment for the amended licence relied on the characterisation and toxicity of the smoke and particulate emissions from the November 2019 fire and this was informed by a report from DWER's Pollution Response Unit (PRU) which was inadequate. For example the appellants contended that the PRU report was based on limited air sampling and should have included soil sampling noting persistent organic pollutants such as dioxins are not readily picked up in air and water samples and swab sampling has no health or environmental protection standards with which to assess results against.
- DWER's PRU recorded smoke and particulate emissions that triggered health risk criteria documented by the United States Environmental Protection Agency (US EPA) and WA's Department of Health
- there are no safe levels of exposure to dioxins, furans and semi-volatile organic compounds (SVOCs)
- DWER has failed to consider findings from the February 2001 Bellevue fire, the Victorian Government's Inquiry into Recycling and Waste Management (2019), and the Commonwealth's report *Waste Fires in Australia: Cause for Concern?* (2016)
- DWER has failed to adequately consider the fire history of the premises in its assessment and DWER's updated risk assessment should have found the likelihood of smoke and particulate emissions as 'Probable' rather than 'Possible'
- despite the additional licence controls imposed minor fires will still occur at the premises and this will result in cumulative impacts to sensitive receptors.

## **Consideration**

In assessing the amendment application, DWER revisited its original risk assessment for smoke and particulate emissions which had identified a 'Low' risk rating based on a consequence of 'Minor' and a likelihood of 'Rare'. DWER's Decision Document for the original licence stated:

Conditions relating to fire and resulting smoke emissions will not be included in the licence as the risk rating is 'Low' and the Delegated Officer has determined that the

provisions of Section 49 of the *Environmental Protection Act 1986* are sufficient to regulate smoke emissions during operation of the MRF.<sup>1</sup>

For the amendment, DWER identified a 'High' risk rating for smoke and particulate emissions based on a consequence of 'Major' and a likelihood of 'Possible'. DWER advised that this assessment was informed as follows:

Unlike most risk assessments for smoke and particulate emissions from a waste fire, the Department in this instance has been able to characterise the emission from both existing information in the literature and the premises specific air quality information collected during the 25 November 2019 fire event. Generally, the information that is used for a risk assessment of this nature would only be sourced from literature, or previous experiences at other premises.

...

With the availability of air monitoring data conducted in response to the 25 November 2019 fire, the Department was able to draw upon site-specific emission data that provided the actual concentration of pollutants in smoke emissions from this event. For this particular fire event, the Department considered it to be representative of a worst-case scenario fire at the premises and the monitoring results were used to inform the risk assessment.<sup>2</sup>

In response to the appeals DWER advised that a guarantee that there will be no fires and no community or environmental exposure to emissions is not possible to provide on any premises. DWER advised that a decision to amend the licence is consistent with its Risk Assessments Guideline<sup>3</sup>, which outlines that high risk events may be acceptable/tolerated subject to multiple regulatory controls. DWER stated:

On review of the appeals, the Department remains of the view that the risk assessment conducted for smoke and particulate emissions employed comprehensive information, including emissions from both existing relevant information in the literature and the premises specific air quality information collected during the 25 November 2019 fire event, identified sensitive receptors and considered relevant risk events. The Department considers the controls on the licence to be proportionate to the level of risk (consequence and likelihood) that the facility poses to public health.<sup>4</sup>

To consider this ground further, the appeals investigation considered the PRU monitoring data, the identified literature, fire history and the controls applied by DWER.

#### PRU monitoring data

Monitoring data for the November 2019 fire was recorded by DWER's PRU and included air monitoring from 64 locations (Figure 2), water sampling from stormwater drains and the Swan River Estuary<sup>5</sup>, and swab sampling (for ash fallout) from five houses in the path of the plume and one that was not (i.e. a background swab).<sup>6</sup>

In analysing the air monitoring data, DWER considered that short term exposure criteria are most relevant noting that emissions would be infrequent and non-continuous.

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<sup>1</sup> Decision Document for L8993/2016/1, May 2017, page 11.

<sup>2</sup> DWER Response to Appeals 043/20, 6 November 2020, page 5.

<sup>3</sup> Available from: [https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/GS\\_Risk\\_Assessments.pdf](https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/GS_Risk_Assessments.pdf)

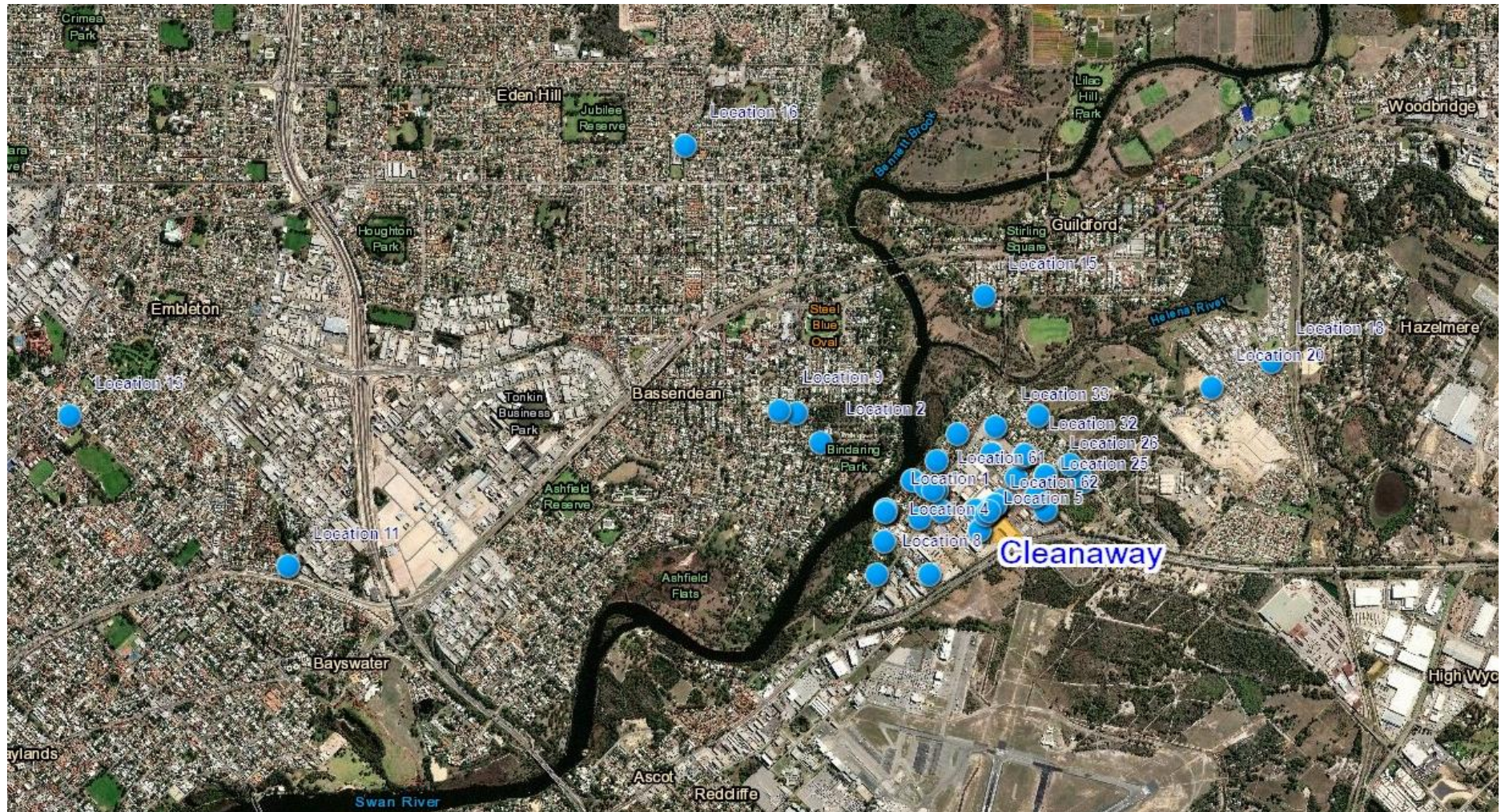
<sup>4</sup> DWER Response to Appeals 043/20, 6 November 2020, page 6.

<sup>5</sup> Discussed further under Ground 2.

<sup>6</sup> DWER (2020). Pollution Response Unit Action Report – Cleanaway Materials Recovery Facility Fire Hyne Road, South Guildford 25/11/19. Department of Water and Environmental Regulation. March 2020.



**Figure 2 – DWER's PRU Air Monitoring Locations**



(Source: DWER)



In relation to airborne chemicals, DWER compared the monitoring data against Acute Exposure Guideline Levels (AEGLs) documented by the US EPA. There are three assigned AEGLs defined by the US EPA as follows:

- Level 1 – Notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.
- Level 2 – Irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
- Level 3 – Life-threatening health effects or death.<sup>7</sup>

DWER's assessment identified that the only AEGL exceedances were at AEGL1 for sulfur dioxide and hydrogen cyanide and that these were recorded from the immediately adjacent industrial areas.

In relation to airborne particulates, DWER compared the monitoring data against Alert Levels documented by the WA Department of Health in the document *Bushfires and Other Vegetative Fires, Protecting Community Health and Well Being from Smoke Exposure*. There are five alert levels and potential health effects are defined for each level as follows:

- Alert Level 1 – Any smoke event may trigger symptoms in the most sensitive groups, particularly those with existing lung disease.
- Alert Level 2 – Increasing likelihood of heart or lung disease in sensitive individuals. Premature mortality in person with cardiopulmonary disease and the elderly.
- Alert Level 3 – Increasing aggravation of heart or lung disease and premature mortality in person with cardiopulmonary disease and the elderly; increased respiratory effects in the general population.
- Alert Level 4 – Significant aggravation of heart or lung disease, premature mortality in person with cardiopulmonary disease and the elderly; significant increase in respiratory effects in the general population; will start to cause inflammatory changes in airways and blood of healthy subjects.
- Alert Level 5 – Risk of serious aggravation of heart or lung disease, premature mortality in person with cardiopulmonary disease and the elderly; increase in respiratory effects in the general population.<sup>8</sup>

DWER's PRU recorded the following Alert Levels:

- Alert Level 5 – 10 locations
- Alert Level 4 – 9 locations
- Alert Level 3 – 6 locations
- Alert Level 2 – 4 locations
- Alert Level 1 – 3 locations

In analysing the data from swab samples, DWER noted that all swabs returned results below detection limits for dioxins, furans and SVOCs. Heavy metals were found above detection

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<sup>7</sup> US EPA (2020). Acute Exposure Guideline Levels for Airborne Chemicals. Available from: <https://www.epa.gov/aegl> (Accessed 4 December 2020).

<sup>8</sup> Department of Health (2012). Bushfires and Other Vegetative Fires – Protecting Community Health and Well Being from Smoke Exposure. Department of Health Public Health and Clinical Services. Government of Western Australia.



limits for Barium, Cobalt, Copper, Lead, Manganese and Zinc, however, all were below health-based investigation levels for soil contaminants.<sup>9</sup>

### Literature

In response to the appeals, DWER outlined that it had considered the Commonwealth's report *Waste Fires in Australia: Cause for Concern?* (2016) (Waste Fires Report) as follows:

The Waste Fires Report describes the potential health and environmental impacts from waste fires with a particular emphasis on fires at landfill facilities. The report provides an overview of the characteristics of potential fire related emissions and how they may impact on health and the environment. The Department considers that the potential emission characteristics and the health and environmental risks described in Section 4.3 of the Amendment Report align with the descriptions provided in the Waste Fires Report, as these descriptions were developed in part, with reference to the report.

The Waste Fires Report also makes a number of recommendations in regard to the prevention and mitigation of waste fires...Table 1 below contains the recommendations which the Department considers are relevant to a Materials Recovery Facility (MRF) premises and how they were addressed in determination of the Amended Licence.

Table 1: Relevant recommendations and consideration by the Department<sup>10</sup>

<b>Waste Fires Report -recommendations relevant to a MRF premises</b>	<b>How it was addressed</b>
The prohibition of all forms of deliberate burning	This is not addressed in the amended licence as this is already prohibited through the <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i> .
Thoroughly inspecting and controlling incoming refuse	This is addressed through Conditions 8, 9 and 10 of the amended licence.
Prohibit smoking onsite	This is not addressed in the amended licence.
Maintain good site security	This is addressed through Condition 19 of the amended licence.
Designated staff responsible for the prevention of waste fires	This is addressed through Conditions 5 and 6 of the amended licence.
Regular fire drills	This is addressed through Conditions 5 and 6(f) of the amended licence.
Effective fire-fighting equipment and trained personnel	This is addressed through Conditions 1, 5, 6 and 20 of the amended licence. The proposed fire-fighting equipment is listed in Section 4.1.1 of the Amendment Report.
Clearly marked areas for the disposal of hazardous waste	This is addressed through Conditions 8 and 11 of the amended licence.

In relation to the Victorian Government's Inquiry into Recycling and Waste Management (2019), DWER advised that the scope, key findings and recommendations of the report relate to whole of government policy and market factors within the Victorian waste industry and that it considers it inappropriate to apply the findings and recommendations in isolation for an individual premises.<sup>11</sup>

<sup>9</sup> Amendment Report for L8993/2016/1, 14 August 2020, page 19.

<sup>10</sup> DWER Response to Appeals 043/20, 6 November 2020, pages 11-12.

<sup>11</sup> Ibid. page 12.

In relation to the findings from the February 2001 Bellevue fire, DWER advised:

The *WA Parliamentary Economics and Industry Standing Committee into the Waste Control Fire Bellevue* was reviewed during the assessment for the Amended Licence... Chapter 5 (Volume 1) of the report was reviewed as background information to inform, in part, the potential health consequences of a fire event, along with air monitoring conducted during the 25 November 2019 fire, and then compared with the consequence categories in *Guidance Statement – Risk Assessments*.<sup>12</sup>

### Fire history

In relation to fire history, one of the appellants submitted that three fires had occurred at the premises prior to the November 2019 fire, not two as referenced by DWER in its Amendment Report. The appellant submitted that another fire also occurred at the premises in January 2020 and that numerous other fires have occurred at other premises operated by the licence holder including interstate.

In response to this matter, DWER acknowledged that not all fires at the premises have been recorded through its Incidents and Complaints Management System. DWER advised:

The Department's risk assessment does not consider the likelihood of a fire occurring, rather it considers the likelihood of smoke and particulate emissions from a major fire event impacting a receptor. This takes into account the context of the historical fire events, distance to sensitive receptors, prevailing wind direction and results of air monitoring conducted during the 25 November 2019 fire event. In considering these factors, the [third fire event prior to 25 November 2019] is not considered to change the assessed risk of fire and smoke emissions.<sup>14</sup>

### Controls

In assessing the application, DWER noted that a Fire Risk Assessment Review (FRAR) was commissioned by the licence holder and provided to the Department of Fire and Emergency Services (DFES) for endorsement. The FRAR contains proposed fire control systems and infrastructure designed to address shortcomings identified following the November 2019 fire. To identify these systems and infrastructure, the FRAR considered both potential ignition sources and fuel sources, and then the control measures available to reduce the risk of fire/emissions. The FRAR also identified emergency response procedures but these were still to be finalised.<sup>15</sup>

In determining to amend the licence, DWER noted that DFES were satisfied with the controls proposed in the FRAR and that DFES considered finalisation of the emergency response procedures after installation of fire related controls appropriate.<sup>16</sup>

Noting the position of DFES, DWER imposed conditions that require installation and verification of the identified systems/infrastructure.<sup>17</sup> Condition 1 of the amended licence lists the installation requirements, and conditions 3 and 4 require an Environmental Compliance Report to be submitted to DWER detailing verification.

Condition 1 includes the following relevant system/infrastructure controls for smoke and particulate emissions:

- all conveyor belts are to be adequately separated from drive motors (item 2c)

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<sup>12</sup> Ibid. page 12.

<sup>14</sup> Ibid. page 13.

<sup>15</sup> Stantec Australia Pty Ltd (2020). *Cleanaway South Guildford Facility – Fire Risk Assessment Review*. Unpublished report prepared for Cleanaway Pty Ltd. Ref 46309. 5 June 2020.

<sup>16</sup> Amendment Report for L8993/2016/1, 14 August 2020, page 19.

<sup>17</sup> Ibid. page 19.

- the Finished Product Store is to be separated from the Production Area by a full height wall with fast action doors and the wall must have a fire-resistance level of 120 minutes (item 3a)
- four waste storage bunkers are to be provided in the Finished Product Store separated by full height concrete walls with a fire-resistance level of 120 minutes (item 3b)
- sprinkler, smoke detection, hydrant, and gas suppression systems are to be installed along with fixed position water monitors and two fire suppression water storage tanks with a total capacity of at least 700kL (item 5)

Condition 7 stipulates that no waste may be accepted onto the premises until DWER has notified the licence holder that the Environmental Compliance Report meets the verification requirements. The verification requirements include, but are not limited to, the preparation of as constructed plans, hydrostatic testing, and certifications by civil and fire engineers that the premises construction is compliant.

In relation to emergency response procedures, conditions 5 and 6 require the preparation and submission to DWER of a Site Emergency Response Procedure and no waste may be accepted onto the premises until the procedure meets the requirements of these conditions.

In addition to the above requirements, DWER imposed a range of additional management/operational conditions including:

- requirements relating to the type of waste that can be accepted (condition 8) and procedures for rejecting and removing waste that does not meet acceptance criteria (conditions 9 & 10)
- a requirement for different bale types (e.g. plastic versus paper) to be stored within different bunkers (condition 11)
- a requirement to ensure waste storage bales and their wrapping are kept clear of the ground when they are being moved (condition 12)
- restrictions on waste stockpile volumes, heights, separation distances and face angles as well as waste bale storage heights (condition 13)
- requirements to appropriately operate and maintain infrastructure and equipment (condition 14)
- requirements to prevent unauthorised access to the premises (condition 19)
- requirements to ensure that at all times fire-fighting equipment is in good working order and capable of controlling a loose material or bale storage fire and that any fires are extinguished as soon as possible (condition 20)

In summary, DWER imposed a range of additional conditions that seek to reduce the chance of a fire, to facilitate timely and appropriate response measures, and to ultimately reduce the magnitude of any fire if one does occur.

In relation to appellant concerns surrounding minor fires, DWER advised:

The Department did not specifically include smoke and particulate emissions from a minor fire event in its assessment of the Amended Licence as it considered that these minor fire events were not considered 'worst case scenario' fires and would therefore, not influence the outcome of the final assessment. The Department considered that emissions from these minor fire events would receive a lower overall risk rating, and the controls for larger and higher risk fire events would more likely determine the acceptability of the rebuild and waste operations and capture the required controls for a minor fire event... The lower fuel load involved in a minor fire would result in a less



intense emission over a shorter duration, and it is considered that this emission would probably not impact receptors in most circumstances.<sup>18</sup>

It is agreed that controls applied to mitigate against a major fire are relevant towards mitigating a minor fire.

## Conclusion

From the above, a range of relevant information was available to DWER to inform its assessment of the licence amendment application. DWER utilised the available information to update its risk assessment and to determine additional controls required to mitigate the risk of smoke and particulate emissions. The additional controls include system and infrastructure requirements identified by a fire risk assessment review that was considered by DFES, as well as several management/operational controls.

Based on the available evidence, DWER's updated risk assessment is supported. It is considered the controls applied by DWER are relevant towards ensuring the chances of fire are reduced as well as the magnitude of any such fire. That is, they are considered relevant towards reducing the likelihood and consequence of smoke and particulate emissions from the premises.

## GROUND 2: FIRE WASHWATER

By this ground of appeal, it was submitted that the on-premises fire washwater containment approved by the amendment is insufficient. It was submitted that approximately 10 million litres of water are estimated to have been used over 10 hours to fight the November 2019 fire, well in excess of the 1 million litres of storage allowed for by the licence amendment. It was also submitted that:

- manual switching of valves on site is inadequate for ensuring fire washwater containment (e.g. human error/distraction or a lack of access may occur)
- no river sediment testing appears to have occurred following the November 2019 fire – such information is required to inform the risk assessment noting the insufficient storage at the premises.

## Consideration

To consider this appeal ground, the appeals investigation considered the fire washwater aspects of the November 2019 fire event, including what this meant for the level of risk assessed by DWER, and the additional controls ultimately applied.

### November 2019 fire

In response to the appeals, the licence holder advised the following in relation to fire washwater emissions from the November 2019 fire:

...the main receiving drain was physically blocked by hay bales within 24 hours of the event by the City of Swan before any significant water release had occurred and excess water has been progressively pumped by Cleanaway from the WesTrac Drain to prevent overflow. Subsequent investigations of onsite and offsite soil, groundwater and drain sediments in accordance with the *Contaminated Sites Act 2003* (CS Act) and in consultation with DWER and [Department of Biodiversity, Conservation and Attractions (DBCA)] specialist officers, [occurred] between 25 November [2019] and March 2020. Following a review of the outcomes of the water quality and sediment investigation,

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<sup>18</sup> DWER Response to Appeals 043/20, 6 November 2020, page 6.

DBCA considered that there was no resultant significant impact from the discharge of fire water into the drain and that the physical barriers could be removed on 2 April 2020.<sup>19</sup>

DWER advised that at the time of the incident, on-site officers estimated that approximately 200,000 litres of firefighting contaminated run-off had been discharged to the Swan River. DWER advised:

*During the incident itself, the Department notified DBCA of potential impacts to the Swan River and requested that DBCA monitor the river. DBCA advised that 'The containment of the majority of the fire affected water within the isolated drainage network was a significant achievement and has likely avoided significant environmental impact to the Swan Estuary..... Co-incidentally a phytoplankton bloom was observed at the location during routine monitoring on the Monday 25<sup>th</sup> November but was likely unrelated to the fire run off. There were local reports of a green discolouration in the estuary at this location during the week suggesting an intensification of the bloom. It is difficult to say if the nutrient run off may have contributed to this bloom. No anoxia was observed close to the site on the day of the fire and or a week later'.<sup>20</sup>*

In assessing the amendment application, DWER noted that the turn-around time for tanker vehicles was considered a key contributory factor that resulted in the discharge of fire washwater to the Swan River. Vacuum tankers were removing accumulating fire washwater from the blocked drainage network, but the disposal location was in Henderson resulting in a turnaround time of approximately 2 hours. DWER found that this eventually resulted in overflow of the drainage network. DWER also found that access to the premises by the tankers was limited due to space requirements for emergency responders and safety concerns, also contributing to the overflow.<sup>21</sup>

DWER advised that the licence holder estimated the total volume of water pumped from the drains before stormwater was allowed to drain back to the Swan River was determined to be between 8 and 8.5 million litres.<sup>22</sup>

In relation to monitoring, DWER's Amendment Report sets out that during the fire event, sampling was undertaken on the stormwater network at its discharge point to the Swan River, and on fire washwater pooling upstream of the dammed section of the network. DWER described the results as follows:

Nutrient concentrations within the discharge water were found to be above average concentrations within the river and two nearby stormwater drains. Hydrocarbons present within the fire washwater were found to be predominately non-harmful combustion by-products, with the exception of anthracene, benzo(a)pyrene and phenanthrene exceeding 95% species protection criteria. Copper, cadmium, lead and zinc were found in concentrations exceeding the 95% species protection criteria for both marine and freshwater ecosystems. Nickel was found to exceed the 95% species protection criteria for freshwater ecosystems. Speciation of chromium was not undertaken and it is uncertain if any screening criteria were exceeded.<sup>23</sup>

Considering the monitoring results, DWER found the overall risk rating for the licence amendment for fire washwater emissions to be 'High'. This was based on a consequence of 'Major' noting Specific Consequence Criteria at the drainage network discharge point were exceeded, and a likelihood of 'Possible' noting emissions could occur in the event of a fire.

DWER noted that:

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<sup>19</sup> 360 Environmental Response to Appeals 043/20, prepared on behalf of Cleanaway Pty Ltd, 6 October 2020, page 3.

<sup>20</sup> DWER Response to Appeals 043/20, 6 November 2020, page 8.

<sup>21</sup> Amendment Report for L8993/2016/1, 14 August 2020, page 25.

<sup>22</sup> DWER Response to Appeals 043/20, 6 November 2020, page 8.

<sup>23</sup> Amendment Report for L8993/2016/1, 14 August 2020, page 26.

although the risk event has a high rating, the event is not representative of a continuous emission from everyday operations at the premises. The event is considered to have a possible occurrence during a fire at the premises and is not something that could occur through day to day operations.

High risk events may be acceptable provided they are subject to multiple regulatory controls.<sup>24</sup>

## Controls

In response to the appeals DWER advised that the capacity of the containment system is based on Australian Standard AS 2118.1 *Automatic fire sprinkler systems* and that the provision of containment infrastructure sufficient to withhold the entire volume of washwater from the November 2019 fire is not considered practical.<sup>25</sup>

Instead, DWER imposed an outcomes-based condition (condition 20(c)) which requires the licence holder to ensure that water and other waste generated from firefighting activities on the premises are captured and contained within the premises.

In relation to infrastructure controls, several were proposed by the licence holder and ultimately imposed by DWER under condition 1 of the amended licence. These include:

- bunding around the warehouse (item 1d) and the sunken loading dock (item 7e) and sufficient retention capacity within these areas for 90 minutes operation of the sprinkler system, fire hose reels and fire monitors and 4 hours concurrent operation of four fire hydrants (items 1f & 6f)
- sealing of the sunken loading dock (item 6a) and soak wells (items 7a & b) as a barrier to infiltration
- installation of gate valves between premises catchment areas and between the offsite stormwater drainage network (items 6c and 7b-d)
- installation of a pump at the sunken loading dock (item 6b) and a pipeline connecting the dock to four standpipes located at the premises boundary (item 6d) to enable fire washwater to be pumped into tankers for offsite disposal

Furthermore, DWER advised the following in response to the appeals:

The Amended Licence also includes additional infrastructure controls for the management of fires within the warehouse. These controls include provision of fire rated walls at the waste bale storage area, improved fire suppression systems within the warehouse and improved management procedures to address a fire. Taken as a whole, the Department considers that the improved controls at the premises will reduce the intensity and scale of a fire, which will as a result, require a lower quantity of fire suppression water to extinguish any future fires.<sup>28</sup>

In relation to procedural controls, DWER imposed conditions 6, 7(b) and (d) requiring the licence holder to document emergency response procedures in a formal plan prior to waste being accepted on the premises.<sup>29</sup> DWER also imposed a requirement to close gate valves in the event of an emergency (condition 20b) and to ensure appropriate operation/maintenance of infrastructure (condition 14).

Notwithstanding the above additional controls, after reviewing the appeals DWER acknowledged that a further improvement to the conditions could be made. DWER recommended that the licence be amended to require automatic closure of valves for the

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<sup>24</sup> Ibid. page 27.

<sup>25</sup> DWER Response to Appeals 043/20, 6 November 2020, page 9.

<sup>28</sup> Ibid. page 9.

<sup>29</sup> Ibid. page 9.



stormwater system to be activated by the building fire alarm system rather than manual operation.<sup>30</sup> This recommendation was provided to the licence holder who agreed that this would represent an improvement to the response controls.

## Conclusion

In summary, in assessing the licence amendment application, DWER considered the available information from the November 2019 fire event in performing its risk assessment, including learnings from that event. DWER imposed a range of additional conditions to mitigate the identified risk, including an outcomes-based condition that water and other waste generated from firefighting activities on the premises must be captured and contained within the premises. After reviewing the appeals DWER also recommended a further improvement to the conditions being automatic closure of gate valves when the warehouse fire system is activated.

It is considered that the controls imposed by DWER, including an additional requirement for automatic closure of gate valves, are appropriate towards mitigating the identified risk of fire washwater emissions.

## GROUND 3: CONTAMINATION

The appellants noted that the premises is classified under the *Contaminated Sites Act 2003* (CS Act) and perfluoroalkyl and polyfluoroalkyl substances (PFAS) were found in groundwater beneath the facility.

It was submitted that DWER should have included contamination as an emission source in its risk assessment for the reconstruction works, and that by its omission the controls in the amended licence are inadequate towards mitigating the risks posed by contamination. Specifically, it was submitted that:

- reconstruction of the warehouse, a truck washdown and amenities facility, and the relaying of pipework will involve earthworks and the disturbance of the existing concrete pad and underlying soil, potentially spreading PFAS contamination
- claims that the premises has not been contaminated by the fire are not credible – this is not supported by evidence provided at similar fires involving similar materials – uncontrolled burning of mixed plastic wastes generates persistent organic pollutants, heavy metals and toxic substances that are released to air, soil and water
- further determination of the source of groundwater contamination at the premises is required as well as a comprehensive investigation of the nature, extent and impact of the fire on soil, sediment and water prior to reconstruction works
- informed by the outcome of the comprehensive investigation, further licence conditions should be imposed to protect workers, public health and the environment from exposure to any identified contamination during reconstruction works

## Consideration

The premises was reported to DWER under the CS Act on 11 May 2020 after a detailed site investigation commissioned by the licence holder found nutrients, hydrocarbons (such as from petrol, diesel or oil) and PFAS in groundwater beneath the site. The site was classified as *possibly contaminated – investigation required* on 27 May 2020.<sup>31</sup>

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<sup>30</sup> Ibid. page 10.

<sup>31</sup> Amendment Report for L8993/2016/1, 14 August 2020, page 6.

DWER considered nutrient and PFAS concentrations in groundwater were possibly representative of background levels in the area, however, groundwater flow direction was inferred to be radial at the site and therefore background concentrations were not able to be determined. DWER considered that further groundwater investigations were required to determine groundwater flow direction and assess the nature and extent of possible contamination. DWER expected the investigations to consider seasonal variations in groundwater conditions, and requested the licence holder's report on these works be submitted by December 2021.<sup>32</sup>

In determining to amend the licence, DWER noted that:

- further determination of the source of groundwater contamination is required
- ongoing contamination assessment and remediation is managed under the CS Act
- as the reconstruction works do not involve dewatering, the proposed works are unlikely to impact ongoing contamination investigations
- it is understood soil and sediments at the premises were not contaminated as a result of the November 2019 fire.<sup>33</sup>

In response to the appeals, DWER advised that its statement regarding soil contamination does not imply that persistent organic pollutants, heavy metals and toxic substances were not generated by the fire, only that they are not present in concentrations posing a risk for continued industrial land-use at the site.<sup>34</sup>

DWER advised that the *Notice of a classification of a known or suspected contaminated site* for the premises states the following:

- Metals, nutrients and pesticides (such as dieldrin) were found to be present in soil at concentrations below relevant human health and ecological assessment levels as published in the 'National Environment Protection (Assessment of Site Contamination) Measure 1999' (the NEPM).
- Metals and nutrients were found to be present in sediment within the site stormwater drainage system at concentrations below the Interim Sediment Quality Guidelines - low and high specified in the guideline 'Assessment and management of contaminated sites' (Department of Environment Regulation [DER], 2014).
- Nutrients and hydrocarbons were found to be present in groundwater at concentrations exceeding assessment levels for fresh waters and/or non-potable use of groundwater as published in the guideline 'Assessment and management of contaminated sites' (DER, 2014). PFAS was found to be present in groundwater at concentrations exceeding guideline values for freshwater ecosystems / interim guideline values for marine ecosystems, as published in the 'PFAS National Environmental Management Plan' (Heads of EPAs Australia and New Zealand, January 2020).
- Based on the information provided, the site appears to be suitable for continued commercial/industrial use, but may not be suitable for more sensitive land uses (e.g. residential housing or childcare centres).<sup>35</sup>

In relation to PFAS, DWER further advised:

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<sup>32</sup> Ibid. pages 6-7.

<sup>33</sup> Ibid. page 7.

<sup>34</sup> DWER Response to Appeals 043/20, 6 November 2020, page 14.

<sup>35</sup> Ibid. pages 14-15.

As PFAS contamination at the site was identified in groundwater and not soil, the Department does not support the claim that PFAS contamination will be spread by the works...

...the Amended licence does not authorise the emission or discharge of PFAS contaminated groundwater. Disposal of contaminated groundwater, in this case already known to contain PFAS, would be subject to the *Environmental Protection (Controlled Waste) Regulations 2004*.<sup>36</sup>

In response to the appeals, the licence holder advised that PFAS compounds were not used in the fire-fighting foams utilised on site making the fire an improbable source of PFAS contamination. The licence holder also advised that hydrocarbon impacts may be associated with the previous land use.<sup>37</sup>

Notwithstanding the uncertainties surrounding the contamination source, DWER advised that should future investigations determine an ongoing contamination concern, it has options under both the CS Act and the EP Act to address the management or remediation of these impacts. DWER advised:

Part 3 Division 1 of the CS Act sets out the requirements for remediation of a contaminated site, including the hierarchy of responsible persons which generally follows the polluter pays principle. Additionally, where it is not possible or desirable to remediate the site, the Department can require an Ongoing Site Management Plan or place certain restrictions on the use of the land, based on source-pathway-receptor exposure risks. Where ongoing premises activities are contributing to identified contamination, the Amended Licence can be reviewed, and where necessary or relevant, be amended further to control or mitigate contamination on the premises.<sup>38</sup>

## Conclusion

DWER considered the findings of a detailed site investigation in characterising the existing contamination at the site. Based on this information, and noting that reconstruction works require minor earthworks and no dewatering, DWER concluded that the risk of contamination related emissions associated with the licence amendment was insufficient to require further consideration.

Notwithstanding, the amended licence does not authorise the licence holder to emit/discharge contaminated groundwater. Furthermore, DWER has required further investigations into the source of the contamination and has a range of options available to it to address any future issues should they be identified.

Therefore, based on the available evidence, DWER's view that contamination impacts can be dealt with separate to the licence amendment is supported.

## OTHER MATTERS

The appeals submitted a range of other matters in addition to the above appeal grounds. Appellant concerns in respect to these matters are noted below together with relevant advice received from DWER and the licence holder, however, as these matters are considered beyond the scope of appeal they are not considered further in the context of this report. As outlined earlier in this report, appeals against a licence amendment only relate to the amendment and do not extend to compliance and enforcement actions, actions taken by other Government Departments, or the merits of prior licensing decisions by DWER.

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<sup>36</sup> Ibid. page 14.

<sup>37</sup> 360 Environmental Response to Appeals 043/20, prepared on behalf of Cleanaway Pty Ltd, 6 October 2020, page 9.

<sup>38</sup> DWER Response to Appeals 043/20, 6 November 2020, page 15.



The appellants raised concerns relating to:

- the investigation and taking of enforcement action in relation to the November 2019 fire
- public accessibility to information documenting the response measures to, and investigation of, the November 2019 fire
- the adequacy of response measures to the November 2019 fire including the clean-up activities undertaken, the coordination between State Government departments, and the communication of health risks/warnings to the public
- errors in DWER's assessment of the original licence (e.g. sensitive receptors were reported as being further away than they are) and insidious growth of the facility through prior amendments allowing, for example, the acceptance of batteries, hydrocarbons and bread waste
- the payment of compensation or relocation costs to affected residents and businesses if the premises is not relocated
- the adequate consideration of planning and land use objectives, enactment of the draft 2015 Buffer Zone Policy, and the use of new emergency powers due to COVID-19 (i.e. the powers should not be used to avoid appropriate assessment and regulation)
- the need for environmental impact assessment by the Environmental Protection Authority (EPA)

In relation to enforcement action, DWER advised the following in response to the appeals:

The investigation into potential breaches of the EP Act associated with the 25 November 2019 fire event is ongoing. A decision on whether to take enforcement action will be determined based on the outcome of the investigation and it would be inappropriate to take enforcement action before the investigation has been completed.<sup>39</sup>

On the matter of public access to information, DWER advised:

The Department acknowledges that the duration for obtaining documents through the FOI process may have resulted in some reports on the 25 November 2019 fire from other Departments not being available during the application's public consultation process. The Department was not able to make these documents freely available as they were created by other Government departments and the responsibility for release of those documents to the public rests with those Departments.

The key report on the 25 November 2019 fire event that was considered in the assessment of the Amended Licence was the PRU Action Report. It is understood that this report was made available to the public through local Members of Parliament and Local Government Authorities. The report is also available by request from the Department. The Department notes that this report was utilised by the public as part of the consultation phase of the assessment for the Amended Licence.<sup>40</sup>

In relation to the adequacy of response measures, DWER advised:

The determination and clean-up of specific impacts of this particular fire event, while used to contextualise potential consequences and future risks from the premises, are outside the scope of assessment for the Amended Licence... Residual impacts from a specific pollution event are also assessed and managed (as required) under the CS Act, where there are specific powers to compel investigations, undertake remediation and restrict certain land-uses.

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<sup>39</sup> DWER Response to Appeals 043/20, 6 November 2020, page 19.

<sup>40</sup> Ibid. page 18.

Managing a fire, including the need to evacuate nearby properties is the responsibility of DFES and not within the remit of an individual assessment under Part V of the EP Act.

...

Strategic response planning between different Government departments is not a matter that is within the remit of an individual assessment under Part V of the EP Act.<sup>41</sup>

In relation to errors in the original licence and growth of the facility through amendments, DWER advised:

The decisions and conditions concerning previous applications or assessments under Part V of the EP Act for the Premises are no longer open to appeal. The risk assessment conducted in the granting of the Amended Licence has reviewed the potential emissions arising from premises operations and the potential impacts to surrounding receptors. The Department notes that the issues raised by the Appellant [have] been addressed in the Amendment Report.<sup>42</sup>

Hazardous wastes are accepted onto the premises in low volumes and only incidental to the primary co-mingled recyclable waste stream that the facility accepts.<sup>43</sup>

In relation to compensation, DWER advised:

These matters are outside the remit of the EP Act Part V licensing regime and cannot be considered in the Department's assessment of an application.<sup>44</sup>

In relation to planning matters, DWER advised:

The Department notes that land use planning and environmental approvals are different statutory processes, although the Department's statutory roles and functions under the EP Act may intersect with the land use planning functions of State and local government. The Department takes into account the objectives of Planning and Land Use Policies in so far as those policies relate to the protection of public health and the environment. This generally means that the Department may choose not to grant an instrument or amendment for a prescribed premise where there is a clear conflicting land-use.

In this instance, the Licence Holder had previously received development approval for the premises and the Department was aware, through consultation with the Local Government Authority, that the Licence Holder was not seeking a change of land use associated with the reconstruction. This indicated that the premises was unlikely to be considered a conflicting land-use under planning legislation. This position was confirmed when the Licence Holder received development approval on 11 August 2020. The Department did not determine to grant the Amended Licence until after development approval had been granted.

The Department notes that the 2015 Draft Buffer Zone Policy is intended to guide planning decisions and is not relevant to decisions made under Part V of the EP Act.

The Department also notes that State Emergency powers implemented in response to the COVID-19 pandemic do not provide any exemptions or reduction in process in relation to assessments made under Part V of the EP Act.<sup>45</sup>

In relation to assessment by the EPA, DWER advised:

The Department considered that the application for the Amended Licence was not a significant proposal that requires referral to the Environmental Protection Authority (EPA) under Part IV of the EP Act.<sup>46</sup>

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<sup>41</sup> Ibid. page 17.

<sup>42</sup> Ibid. page 19.

<sup>43</sup> Ibid. page 16.

<sup>44</sup> Ibid. page 20.

<sup>45</sup> Ibid. page 20.

<sup>46</sup> Ibid. page 19.

On the matters of planning, public availability of information and compensation the licence holder advised:

The premises is located appropriately within an industrial area and maintains the minimum 200 m separation distance outlined in Guidance Statement 3 (GS3, EPA 2005). The facility progressed through a formal planning process in both 2016 and most recently via the JDAP process, where it was found that the facility was appropriate for this industrial area.

This is not the appropriate avenue to question the public availability of regulatory reports nor the requirement for community compensation, so we have no further comments on these items.

...

Also, it is worth noting that the approvals (environmental, planning, and building) were not fast-tracked and the proposal has progressed through all relevant formal assessment procedures.

The 2015 Buffer Zone Policy is not a legislated document and hence the GS3 (2005) is the most appropriate reference document relating to separation distances, to which this site complies.<sup>47</sup>

## CONCLUSION AND RECOMMENDATION

The investigation of the appeals found that DWER's assessment of the amendment application was informed by the November 2019 fire event including the findings of associated monitoring and investigations. The amendment has resulted in a range of additional controls being imposed by DWER to mitigate the likelihood and consequence of such a fire event occurring again in future.

Based on the available evidence, both DWER's assessment of risk and the additional controls it imposed are supported, however, it was found that the controls could be further improved by requiring automatic closure of gate valves when the warehouse fire system is activated. It is otherwise recommended that the appeals be dismissed.

The final wording of conditions, should the Minister choose to adopt this recommendation, is a matter for DWER under section 110 of the EP Act.

Emma Gaunt  
APPEALS CONVENOR

**Investigating Officer:**  
Simon Weighell, A/Senior Appeals Officer

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<sup>47</sup> 360 Environmental Response to Appeals 043/20, prepared on behalf of Cleanaway Pty Ltd, 6 October 2020, pages 6-7.