Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Licence Number	L8920/2015/1
Licence Holder	Sims Group Australia Holdings Limited
ACN	008 634 526
File Number:	DER2015/0001987-3
Premises	Sims Metal Management Lot 100 on Deposited Plan 73740 KWINANA WA 6167
Date of Report	11 June 2020

1. Definitions and interpretation

Definitions

In this Amendment Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Report	refers to this document
ARI	average recurrence interval
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
CS Act	*Contaminated Sites Act 2003* (WA)
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder	Sims Group Australia Holdings Ltd

Term	Definition
m^3	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in *Guidance Statement: Risk Assessment*
RIWI	*Rights in Water and Irrigation Act 1914*
UDR	*Environmental Protection (Unauthorised Discharges) Regulations 2004* (WA)
µg/L	micrograms per litre
µS/cm	microsiemens per centimeter

2. Amendment Description

This amendment has been informed by DWER's Regulatory Framework which is available at https://www.der.wa.gov.au/our-work/regulatory-framework.

2.1 Purpose and scope of assessment

The Department of Water and Environmental Regulation (DWER) received a licence amendment application from Sims Group Australia Holdings Ltd (the Licence Holder) on 20 March 2020. The application requests an amendment to the licence to allow for the Premises' wastewater currently contained in Basin C on the premises, to be redirected to Basin B on the premises where it can be infiltrated on site. This amendment report reviews and assesses the risks associated with allowing this discharges to occur.

There are no other changes proposed to the overall Premises categories or throughput/design capacities as part of this amendment.

Table 2 lists the documents submitted during the assessment process.

Table 2: Application documents

Document/information description	Date received
Licence amendment application and supporting documentation (DWER Record: A1878097).	20 March 2020
Response to Request for further information (DWER Record #: A1893290).	12 May 2020
Response to Request to clarify location of pump and flow meter (DWER Record #: A1899270).	29 May 2020

2.2 Overview of Existing Premises

The Premises is a Category 47: Scrap metal recovery facility with an assessed throughput of 400,000 tonnes per year. The Premises was originally constructed in 2015 under Works Approval W5695/2014/1.

The Licence Holder buys, processes and sells ferrous and non-ferrous recycled metals, and previously operated a similar facility under licence L8030/2003/3 for a period of time (2013-2015) at another premises in Hope Valley, Western Australia.

Processes undertaken on the Premises include:

- Receipt of metal for recycling (ferrous and non-ferrous metals);
- Sorting of metal into type and grade;
- Shredding of light gauge metals and car bodies, with shredded ferrous materials shipped out in bulk; and
- Sorting and compressed baling of non-ferrous materials for shipment.

The premises operates metal recycling activities from 6.30am to 4.30pm Monday to Sunday.

2.3 Current stormwater infrastructure and management

As part of the initial works approval application, the Licence Holder commissioned a Stormwater Management Plan (BPA Engineering, 2014) which considered the potential sources of contamination on the premises and infrastructure required to manage and mitigate stormwater contamination. The stormwater network design considered a minor 1 in 10 year storm event, whilst the stormwater basins were designed on a major 1 in 100 year storm event.

The Stormwater Management Plan identified three catchment areas on the premises based on the risk of contamination:

- Catchment A: Low risk stormwater collected from within the administration area/carpark and diverted to an infiltration basin (Basin A);
- Catchment B: Low risk stormwater collected from the public drop off area and workshop storage areas and diverted to an infiltration basin (Basin B) via a pollutant interceptor trap;
- Catchment C: Medium and High risk stormwater collected from large metal stockpile area, minor operational areas and heavy industrial process/operational areas (Shredders) and stockpiles, diverted to the lined basin, Basin C, for storage and reuse.

Figure 1 shows the risk areas and stormwater management infrastructure assessed under the Works Approval for the premises.

Under the Premises' current operation, stormwater generated in the medium and high risk areas is captured via a subsurface drainage network and directed to a primary treatment process before discharge into the Basin C for storage and reuse on site. Basin C is a lined pond, capable of holding a volume of approximately 7.093 million litres (7093m^3). The pond is lined with a geosynthetic clay liner comprised of sodium bentonite powder between two layers of durable geotextile with a hydraulic permeability of 10^{-10} to 10^{-12} m/s (BPA Engineering, 2014). Prior to entering the pond, the stormwater is passed through a primary treatment process, being a Gross Pollutant Trap (GPT) and then an oil and water separator, to remove sediments and gross pollutants. Stormwater collected within Basin C is then stored in two 62.5kL storage tanks for reuse on site in dust suppression, irrigation or as cooling water for the shredder. At the time of the works approval assessment it was considered that some 6.0ML per year would be reused on site for the cooling of the shredder.

Current licence conditions require the pond to be able to contain a 1 in 100 year ARI 24 hr rainfall event, with a minimum freeboard of 300mm. Infiltration of stormwater collected within Basin C is not permitted for discharge under the current licence conditions. Although Basin C has been developed based on a 1 in 100 year 24 hr rainfall event, it has been at risk of overflowing where rainfall and basin retention exceeds water required for onsite reuse and evaporation is low. The Licence Holder has previously submitted notification of an unauthorized discharge of stormwater from Basin C to infiltrate in Basin B where there has been the risk of overtopping.

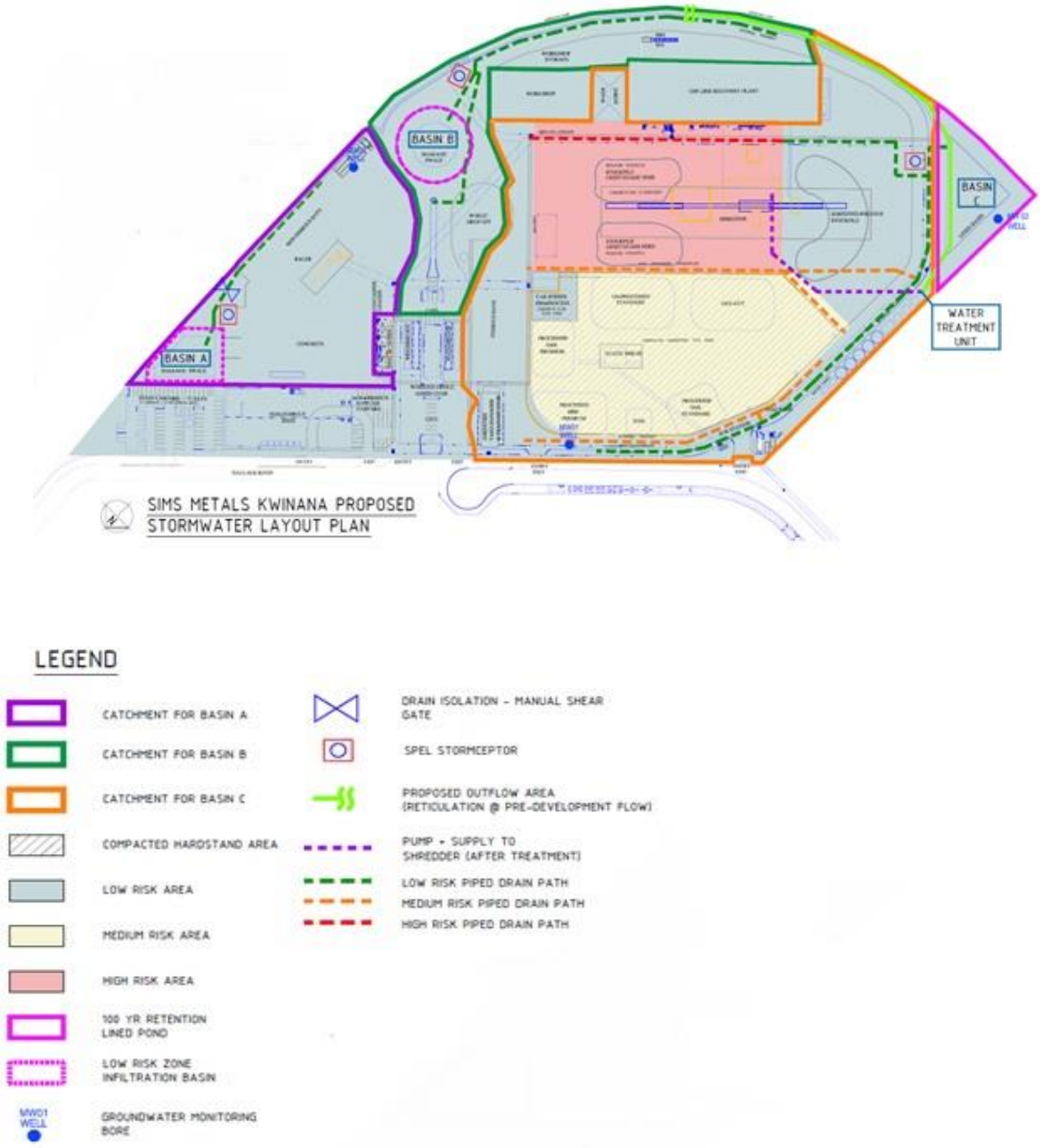

Figure 1: Stormwater layout considered under W5695/2014/1 (BPA Engineering, 2014).

3. Other approvals

Table 3. provides a list of other approvals relevant to the premises.

Legislation	Number	Approval
Planning and Development Act 2005	DAP/14/00505	Initial approval for construction of a proposed general industry/metal recycling facility on Lot 14 Donaldson Road, Kwinana Beach (note that this is now Lot 100)
Transfer of Land Act 1893	Lease agreement	Lease agreement from Western Australian Land Authority (WALA) for 25 years Lease commences 1 October 2013, ends 30 September 2038.

4. Licensing history

Table 4. shows the instruments issued by DWER relevant to this Premises.

Instrument Number	Issued Date	Instrument type
W5695/2014/1	27/11/2014	Works Approval issued for the construction of the premises
L8920/2015/1	30/06/2016	New Licence
L8920/2015/1	12/06/2020	Licence Amendment

5. Emissions

5.1 Potentially contaminated stormwater

Direction of up to 7.5ML of stormwater to the unlined infiltration Basin B is considered a discharge to the environment. Possible contaminants which may be present in the stormwater include hydrocarbons, solvents, drum residues, lead acid batteries and heavy metals.

Surface water and ambient groundwater quality have been assessed against the quality criteria in the *Department of Environmental Regulation's Assessment and management of contaminated sites (December 2014)*. The Premises is located within an industrial area with the surrounding land being used for industrial purposes. Groundwater at the Premises is considered fresh to brackish and it is noted that a restriction exists for groundwater abstraction on the premises under the *Contaminated Sites Act 2003 (CS Act)* due to historic land use of the site. The main uses for groundwater abstraction downgradient are domestic non-potable purposes (e.g. irrigation). For these reasons, the Non-Potable Groundwater use (NPUG) criteria are considered to be most appropriate.

Basin C water quality

The current licence requires water quality testing be undertaken on Basin C on a quarterly basis via a spot sample. Basin C is currently monitored for pH, electrical conductivity, Total Recoverable Hydrocarbons (TRH), aluminium, arsenic, cadium, chromium (III), chromium (IV), copper, manganese, nickel, lead, zinc, BTEX, naphthalene and Polycyclic Aromatic Hydrocarbons (PAH).

Monitoring results from a number of years show that no contaminants exceed the NPUG criteria. Additionally, the drinking water criteria were also met, which are considered to be more stringent for some contaminants.

As part of the application, the Licence Holder has proposed contaminant limits for discharged water generally in accordance with the NPUG values.

Ambient groundwater monitoring

There are currently five ambient groundwater monitoring bores on the premises, with only four of these requiring monitoring under the conditions of the licence – GWS1, GWS2, GWS3a (replacing dry bore GWS3 in July 2019) and GWS5 as shown on Figure 2. Current groundwater monitoring is undertaken via six-monthly spot sampling. Groundwater monitoring is currently undertaken for: pH, electrical conductivity, Total Recoverable Hydrocarbons (TRH), aluminium, arsenic, cadmium, chromium (III), chromium (IV), copper, manganese, nickel, lead, zinc, BTEX, naphthalene and Polycyclic Aromatic Hydrocarbons (PAH), total nitrogen, nitrate and nitrite.

Figure 2: Groundwater monitoring locations

None of the monitored contaminants have exceeded the NPUG criteria or the more stringent drinking water criteria within the groundwater bores.

It is noted that current groundwater monitoring does not include key contaminants polychlorinated biphenyls (PCBs) and solvents, associated with scrap metal recycling. As part of this amendment, addition of these contaminants to the groundwater monitoring program has been undertaken.

Key Findings:

The Delegated Officer considers that;

1. The quality of stormwater in Basin C has not exceed the NPUG criteria.
2. The current ambient groundwater quality has not exceed the NPUG criteria.
3. The infiltration of stormwater is unlikely to alter the quality of ambient groundwater.
4. Monitoring of stormwater prior to discharge is necessary to prevent excessive contaminants entering the groundwater. Ambient monitoring of groundwater provides data to review the effectiveness of control measures.

6. Environmental siting

The Premises is located on a 10 ha lot, within the Kwinana Industrial Area and is surrounded to the north, south and west by industrial premises. Rockingham Road lies to the east and separates the premises from the nearest residential area, Medina. The closest residential premises is approx. 1.6km south east of the premises boundary.

Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 5: Distance to receptors

Human receptors	**Distance from activity or prescribed premises**
Residential Premises	Closest residents located approximately 1.6km south-east of Premises boundary in the suburb of Medina.
Rockingham Road (major road)	Approximately 200m east of Premises boundary.
Kwinana Motorplex	Approximately 500m north east of Premises boundary.
Thomas Oval (recreation/sport)	Approximately 1.1km south east of Premises boundary.
Environmental receptors	**Distance from activity / prescribed premises**
Cockburn Sound	Cockburn Sound is located approx. 1.9km west of the Premises boundary. The Premises is located within the State Environmental (Cockburn Sound) Policy 2015 area.
Threatened Ecological Community (TEC): Tuart woodlands and forests of the Swan Coastal Plain	There are several Threatened Ecological Communities (TEC) approx. 1.3km east of the Premises boundary. The Premises is located outside of the buffer zone for these TECs.

Groundwater contours	Depth to groundwater across the site is in the vicinity of 5 mBGL with the thickness of the immediate underlying aquifer (the Superficial Swan) in the order of 26m. The inferred groundwater contours indicate groundwater in the vicinity of the site is generally moving in a north-easterly direction. DWER mapping indicates that the closest registered down hydraulic gradient groundwater bore user is approximately 640m north-east of the premises.
Bush Forever Site 349: Leda and Adjacent Bushland, Leda	Approximately 410m south-east of the Premises boundary
Environmental aspects	**Distance from activity / prescribed premises**
Acid Sulfate Soils (ASS) risk	DWER's Geocortex mapping Acid Sulfate Soils Risk Map – Swan Coastal Plain indicates the area is of no known ASS risk
Soil type	300-600mm deep top layer of black sand with a high level of organic material underlain with calcerous medium grained sand to at least 3m (BPA Engineering, 2014)
Contaminated – Restricted Use	The site is part of the historic larger Lot 14 (Wesfarmers LPG plant site) which is classified as 'Contaminated – restricted use' under the *CS Act.* A restriction on groundwater abstraction is currently in place on the premises.
Public Drinking Water Source Areas	The site is not located within a Public Drinking Water Source Area
RIWI Act	Located in the Cockburn Groundwater Area proclaimed under the RIWI Act 1914

7. Pathways

7.1 Groundwater

The premises is located within the Cockburn Groundwater area, with the Cockburn Sound approximately 1.9km west of the premises boundary. The premises' Storm Water Discharge Risk Assessment (Coffey Environmental Services, 2020) determined that groundwater flow on the premises is in a north-easterly direction. DWER has reviewed this assessment and agrees that while regional groundwater flow is in an easterly towards Cockburn Sound, local groundwater flow at the Premises is north-easterly, most likely to do local groundwater mounding.

Key Findings:

5. Due to the localised groundwater flow direction, Cockburn Sound will not be considered a receptor for discharged stormwater.
6. As groundwater is both a receptor and a pathway, groundwater will be considered the most affected receptor for the purposes of the risk assessment in this document.

7.2 Soil

The Premises is underlain by calcareous Safety Bay Sand on top of Tamala limestone. This geology is generally considered to have a moderate to high permeability of 15-25m/day. Therefore, the soils at the Premises would provide a pathway for stormwater and contaminants to reach the underlying groundwater. Additionally, the proposed infiltration volume of 7.5 ML/year is unlikely to have any significant impacts to local hydrology.

8. Risk assessment

Tables 6 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 6: Risk assessment for proposed amendments during operation

Risk Event				Consequence rating[1]	Likelihood rating[1]	Risk[1]	Reasoning	Regulatory controls (refer to conditions of the granted instrument)
Source/Activities*	**Potential emissions**	**Potential receptors, pathway and impact**	**Applicant controls**					
Contaminated stormwater from medium to high risk operation areas (Basin C) being discharged to the infiltration basin (Basin B)	Stormwater which may be contaminated from premises activities.	Direct infiltration through permeable soil to groundwater, causing contamination of groundwater and subsequent transport to downstream receptors.	Primary treatment of stormwater prior to discharge Existing monitoring programs for groundwater and Basin C stormwater	Moderate	Possible	Medium	There is the potential for offsite impacts to groundwater quality in the event that contaminant levels exceed current levels and relevant water quality criteria. Current water quality is within the Domestic Non-Potable Uses criteria, and therefore monitoring of discharge events and discharge limits have been applied to the licence to ensure compliance with this water quality criteria. Discharge to land conditions have also been included on the licence to identify the discharge area. Additional groundwater contaminants have also been added to the licence to more accurately capture potential contaminants from the prescribed activity undertaken on the premises.	Conditions 7, 8, 9, 16, 17, 18, 19, 20, 21, 22 and 30.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

9. Consultation

Table 7: Summary of consultation

Method	Comments received	DWER response
City of Kwinana advised of proposal (17/04/2020)	No comments received	
Applicant referred draft documents (5/6/2020)	The Licence Holder provided six comments to the draft documentation, with five of these addressing errors in the draft licence. The licence holder noted that discharge to land monitoring testing requirement to be more than 72hours prior to a discharge could be prohibitive to discharge events where faster analysis and results could be obtained.	The licence has been amended to address the errors noted. The Licence Holder was consulted further regarding the timing of monitoring for discharges to land and a new condition has been added to the licence (condition 8), and changes to the timing of testing undertaken in Schedule 4, to provide greater flexibility for the licence holder whilst ensuring discharges occur within the licence limits.

10. Decision

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a licence amendment will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

10.1 Summary of amendments

Table 8 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 8: Licence amendments

Condition No.	Proposed amendments
6	Inclusion of discharge infrastructure into the new Infrastructure and equipment table
7-9	Inclusion of discharge to land conditions
19-21	Inclusion of discharge to land monitoring conditions

As the licence was in an old format the licence amendment has also been adjusted and reformatted to the new licence template. Table 9 provides a summary of the conversions undertaken to present the licence amendment in the new format.

Table 9: Licence conversion map for new licence format

Existing licence condition	Condition Summary	Revised licence condition	Conversion notes
1.1.1	Interpretation		Revised Interpretation section of licence
1.1.2	Definitions		Moved to the revised Definitions table at the end of the licence
1.1.3	Australian Standards reference		Moved to Interpretations section of the licence
1.1.4	Guideline and Code of Practice reference		Moved to the Interpretations section of the licence
1.2.1	General condition for Catchment A and B	10	Moved to Stormwater Management condition set
1.2.2	Gross Pollutant Trap/Basin C	6	Moved to Infrastructure and equipment requirements table (Table 3)
1.2.3	GPT maintenance	6	Moved to Infrastructure and equipment requirements table (Table 3)
1.3.1	Waste acceptance criteria	3	Reformatted
1.3.2	Non-conforming waste	4	Reformatted
1.3.3	Waste processing	5	Reformatted
1.3.4	Containment infrastructure	6	Moved to Infrastructure and equipment requirements table (Table 3)
1.3.5	Stormwater reuse	11	Moved to Stormwater Management condition set
1.3.6	Security measures	1	No change
1.3.7	Signage	2	No change
1.3.8	Fire management equipment	6	Moved to Infrastructure and equipment requirements table (Table 3). Amended to include accessibility requirements.
2.1.1	Shredder	6	Moved into the Infrastructure and equipment requirements table (Table 3)
2.1.2	Waste stream conveyors	6	Moved into the Infrastructure and equipment requirements table (Table 3)
2.1.3	Fugitive dust emissions	6	Moved into the Infrastructure and equipment requirements table (Table 3)
2.2.1	Noise emissions	6	Moved into the Infrastructure and equipment requirements table (Table 3). Additional requirement added for compliance with EP (Noise) Regulations.

3.1.1	Sample collection and analysis	17, 20, 23	Moved to relevant monitoring condition set
3.1.2	Monitoring	12	Reformatted to new standard condition set
3.2.1	Monitoring of inputs and outputs	13 and 14	Reformatted to new standard condition set
3.3.1	Monitoring of Basin C stormwater	16, 17, 18	Moved into Schedule 3 for the relevant monitoring program.
3.4.1	Ambient groundwater monitoring	22, 23, 24	Moved into Schedule 5 for the relevant monitoring program.
3.5.1	Noise monitoring	15	Moved into Schedule 2 for the relevant monitoring program.
3.5.2	Air blast monitoring	15	Moved into Schedule 2 for the relevant monitoring program.
4.1.1	Record information	25, 26	Revised to the new standard condition set
4.1.2	Annual Audit Compliance Report (AACR)	31	Revised to the new standard condition set
4.1.3	Complaints records	27	Revised to the new standard condition set
4.2.1 4.2.2	Annual Environmental Report (AER)	32, 33	
4.2.3	Air blast report	29	Moved to Reporting section. Moved out of table and reworded.
4.3.1	Notification requirements - Licence limit breaches	30, 32	Revised to Non-compliance Reporting condition set
4.3.1	Notification requirements - Fire notification	28	New Fire and Emergency Reporting condition set

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A/MANAGER – WASTE INDUSTRIES

An officer delegated by the CEO under section 20 of the EP Act