



Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L9240/2020/1
Licence Holder	Tellus Holdings Ltd
ACN	138 119 829
File Number	DER2020/000039
Premises	<p>Sandy Ridge Facility</p> <p>Crown lease O289974 granted by the State of Western Australia to Tellus Holdings Ltd in respect of Lot 510 on Deposited Plan 413497, Whole Volume 3169 Folio 365, as depicted in Figure 1 and Figure 2; and as defined by the coordinates in Schedule 2.</p> <p>102.5km north of Great Eastern Highway, via Access Reserve 44102, BOORABBIN WA 6429.</p>
Date of Report	8 October 2024
Proposed Decision	Revised licence granted

Abbie Crawford

MANAGER, WASTE INDUSTRIES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L9240/2020/1 is held by Tellus Holdings Ltd (Tellus; licence holder) for the Sandy Ridge Facility (the premises), located approximately 75 kilometres (km) north-east of Koolyanobbing in the Shire of Coolgardie, within the Goldfields Region of Western Australia.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the premises. As a result of this assessment, revised licence L9240/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this amendment report, the department has considered and given due regard to its regulatory framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 5 September 2024, the licence holder submitted an application to the department to amend licence L9240/2020/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendment being sought is to allow for the acceptance, conditioning and permanent disposal of Air Pollution Control Residue (APCr) waste.

The amendment is limited only to changes to relating to the acceptance, conditioning and permanent disposal of APCr and does not alter the current approved production / design capacities as outlined in the existing licence and in Table 1 below.

During a Department of Water and Environmental Regulation (DWER) compliance inspection conducted at the facility on 10 July 2024, the proposed infrastructure for APCr waste handling and conditioning was noted to be in its final stages of installation. The licence holder did not applied for a works approval to construct the infrastructure but provided construction drawings, plans and photographic evidence of installation as part of this amendment.

Table 1: Approved production / design capacity

Category	Current production / capacity
Category 61: Liquid Waste Facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	100,000 tonnes (combined) per annual period
Category 61A: Solid Waste Facility: premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	
Category 65: Class IV secure landfill site: Class IV secure landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the <i>Landfill Waste Classification and Waste Definitions 1996</i> , is accepted for burial.	280,000 tonnes (combined) per annual period
Category 66: Class V intractable landfill site: Class V intractable	

Category	Current production / capacity
landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the <i>Landfill Waste Classification and Waste Definitions 1996</i> , is accepted for burial.	

2.3 Part IV of the EP Act

The licence holder received approval under Part IV of the EP Act in June 2018, through Ministerial Statement 1078 (MS 1078), to implement a dual open cut kaolin mine and a near-surface geological waste repository accepting Class IV and Class V waste, approximately 75 kilometres north-east of Koolyanobbing.

The elements specifically authorised by MS 1078 relevant to this application are:

- Implement the Leachate Management Plan approved by the CEO;
- Wastes only generated within Western Australia, other Australian States and Territories and the Australian Exclusive Economic Zone are accepted;
- Class IV and V waste accepted at the gate (up to 100,000 tonnes per annum);
- Temporary waste storage on surface (up to 15,000 tonnes);
- Maximum temporary storage time (up to 12 months);
- Waste (including treated waste) disposed to waste cells (up to 280,000 tonnes per annum); and
- Water abstraction (up to 0.18 gigalitres per annum).

The proposal is subject to a number of conditions including a requirement to implement and maintain a waste management system, undertake independent audits, ensure impacts to soil quality are minimised, avoid and manage impacts to flora and fauna, develop a decommissioning plan, and provide financial assurance.

MS 1078 was amended in February 2019 to reflect operational changes (MS 1152)

In July 2021, Tellus referred a proposal to increase in the acceptance of Class IV and V waste at the gate from up to 100,000 tpa to up to 280,000 tpa, to align with approved tonnage of waste permitted for disposal into its waste cells under Part IV of the EP Act. The proposal has undergone assessment by the Environmental Protection Authority (EPA) and is under consideration by the Minister for Environment.

Key findings:

- The delegated officer notes that the licence holder requested to amend the licence to allow for Contaminated Solid Waste (excluding Contaminated Solid Wastes – Bulky Items, and Special Waste Type 3), Special Waste Type 1 and Intractable Wastes to be stored for no more than 18 months from the date of receipt. The delegated officer notes that this contradicts the requirements of MS 1078 and has therefore excluded this request from the assessment.

3. Operational aspects

3.1 Waste acceptance

The licence holder is proposing to accept and process approximately 100 m³ per day of APCr waste generated at the Kwinana Waste to Energy (WtE) plant (DWER works approval W5911/2015/1). APCr will be accepted at the premises as a Contaminated Solid Waste (controlled waste code D220 or N205) and will be incorporated into the existing approved throughput (combined total of 100,000 tonnes per annual period of all waste types accepted onto the premises).

APCr is the particulate matter captured during the exhaust cleaning process generated from the combustion of municipal solid waste. It is a fine, granular, dust like particulate matter with particle size ranging from submicron to millimeters in diameter. The material is highly alkaline (pH >12) and consists of varying quantities of soluble salts, heavy metals and metalloids, combustion related organic compounds and elemental carbon from added activated carbon and unburnt organic matter (Ramboll 2022).

3.1.1 Waste receipt, conditioning and disposal

Waste is only accepted at the premises in accordance with the site's Waste Acceptance Criteria and Waste Acceptance Procedures (as conditioned in the existing licence). The licence holder proposes the following process for the receipt, handling, conditioning and disposal of APCr at Sandy Ridge:

- 1) APCr will be transported from the Kwinana WtE Plant in bulk pneumatic tankers, in two 50 m³ controlled waste tanker combinations.
- 2) At Sandy Ridge, tanker combinations will pneumatically transfer the APCr from the tankers into four 51.1 m³ APCr storage silos.
- 3) Retention samples will be taken and waste verification completed.
- 4) APCr will be transferred from the storage silos via an auger screw to a Dustfix® unit at 30-40 t/hr located on the gantry, where process water and site-generated wastewater including brine water from the Reverse Osmosis Plant, stormwater runoff and/or water collected from sumps will be added from a 50,000L poly tank (located in the main storage bunded yard) to condition/process the APCr, mitigating the nuisance dust characteristic.
- 5) Conditioned APCr will be collected in an open top half-height container or Moxi tip tray stationed beneath the Dustfix® discharge chute.
- 6) The half-height container or Moxi contents will then be transferred to the waste cell for permanent isolation.
- 7) Conditioned APCr samples collected will be tested for free liquid and sent to an offsite third party laboratory for analysis.
- 8) Clegg testing will be conducted once placed in the waste cell.
- 9) Solid wastes will be paddock dumped at designated areas of the waste cell and rolled using compactors to consolidate the material before the next layer is introduced.
- 10) All waste placement activities are undertaken beneath the constructed roof canopy which prevents the ingress of rainfall until the waste cell is closed and capped.

As a contingency measure in the event of the closure of Mt Walton Road or other unforeseeable events, additional storage capacity for APCr will be obtained through the use of 20 x 28,000 L dedicated isotainers. APCr will be transferred from the isotainers to the APCr Facility via a blower.

4. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a risk event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

4.1 Source-pathways and receptors

4.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this amendment report are detailed in Table 2 below.

Table 2 also details the proposed control measures the licence holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Noise	Acceptance, handling and conditioning of APCr	Air/windborne pathway	<ul style="list-style-type: none"> Noise to be generated in daytime hours only; and Noise levels associated with the amendment are not anticipated to contribute to significant changes to the overall noise profile for the premises.
Dust		Air/windborne pathway	<ul style="list-style-type: none"> APCr to be conditioned to reduce its potential to generate dust during storage, handling and transport to the waste cell.
Spills of contaminated liquid wastes and spadable wastes		Direct discharge to land	<ul style="list-style-type: none"> Installed surface water management measures around the processing area through the use of perimeter bunding; Potentially contaminated runoff and stormwater will be directed to sumps / sediment traps; Potentially contaminated runoff and stormwater will be separated from clean runoff and stormwater; Personnel will be provided training in the handling of APCr wastes, fuels, oils and chemicals including emergency response; An appropriate number of spill kits will be retained on-site; and Regular housekeeping will be conducted to minimise the build-up of materials that would increase the level
Contaminated wash water		Direct discharge to land	
Potentially contaminated stormwater		Direct discharge to land	

Emission	Sources	Potential pathways	Proposed controls
			of surface water contamination in runoff and stormwater.
Leaching of hazardous contaminants resulting from landfill instability leading to ingress of stormwater	Disposal of conditioned APCr in landfill cells	Direct discharge to land Subsurface seepage	<ul style="list-style-type: none"> Implementation of Leachate Monitoring and Management Plan (required under MS 1078) and Deep Groundwater Monitoring and Management Plan (required under EPBC 2015/7478).

4.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the delegated officer has excluded employees, visitors and contractors of the licence holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Temporary works of Mount Walton Intractable Waste Disposal Facility (IWDF)	Approximately 5 km east of the premises.
Environmental receptors	Distance from prescribed activity
Underlying groundwater (non-potable purposes)	<p>No developed groundwater aquifer was found within the premises during hydrogeological investigations.</p> <p>Groundwater at the site is saline and has a total dissolved solids content of ~6,000 - 6,500 mg/L.</p> <p>There are no registered groundwater users (or bores) in the local area, with the exception of bores constructed for environmental purposes, at the Intractable Waste Disposal Facility at Mount Walton East 5.5 km east of the development envelop. The closest water supply bores are located at the Mount Dimer gold mine, 23 km from the Facility.</p>
Threatened and Priority Flora	<p>Two priority flora have been recorded within the premises boundary.</p> <p>Six threatened and/or priority flora are located within a 10 km radius of the premises.</p> <p>Potential impacts to Threatened and Priority fauna and flora were considered and assessed under Ministerial Statement 1078. MS 1078 includes conditions relevant for potential impacts to flora and</p>

	fauna associated with the Facility.
Threatened and Priority Fauna	<p><i>Leipoa ocellate</i> is mapped within the premises boundary.</p> <p>Potential impacts to Threatened and Priority fauna and flora were considered and assessed under Ministerial Statement 1078. MS 1078 includes conditions relevant for potential impacts to flora and fauna associated with the Facility.</p>

4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the licence holder has proposed mitigation measures/controls (as detailed in Section 4.1), these have been considered when determining the final risk rating. Where the delegated officer considers the licence holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the licence holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The revised licence L9240/2020/1 that accompanies this amendment report authorises emissions associated with the operation of the premises.

The conditions in the revised licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the premises during operation

Risk Event					Risk rating ¹	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls	C = consequence L = likelihood			
Operation								
Acceptance, handling and conditioning of APCr	Noise	Air/windborne pathway causing impacts to amenity	Temporary workers of Mount Walton IWDF 5 km away	Refer to Section 4.1	C = Minor L = Rare Low Risk	Y	N/A	The nearest sensitive receptor is a significant distance (5km) away. The delegated officer considers it unlikely a risk event from noise emissions will occur given that distance. As such, the delegated officer considers that noise can be effectively managed by the provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> .
	Dust	Air/windborne pathway causing impacts to human health	Temporary workers of Mount Walton IWDF 5 km away	Refer to Section 4.1	C = Minor L = Rare Low Risk	Y	N/A	The nearest sensitive receptor is a significant distance (5km) away. The delegated officer considers it unlikely a risk event from noise emissions will occur given that distance. As such, the delegated officer considers that the applicant's controls are acceptable for the mitigation of dust issues.
		Air/windborne pathway causing impacts to environmental health	Surrounding ecosystems, native vegetation communities and fauna	Refer to Section 4.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1 <u>Condition 15</u>	The delegated officer has mostly adopted the licence holders proposed controls for the conditioning and disposal of APCr, however, has included the requirement that conditioned APCr being transported from the APCr Facility to Cell 1 for disposal in open containers must not be allowed to dry, preventing the generation of dust during the transport of APCr to Cell 1.

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence holder's controls				
	Spills of contaminated liquid wastes and spadeable wastes	Direct discharge to land / overland runoff impacting ecosystem health	Surrounding ecosystems, native vegetation communities and fauna	Refer to Section 4.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 7 & 15	The licence holder requested to utilise process water and site generated wastewater including brine from the RO plant, stormwater runoff and/or water collected from sumps for conditioning of APCr. The delegated officer has conditioned for the use of bore water, uncontaminated stormwater and RO brine only. The delegated officer does not consider it appropriate to utilise contaminated or potentially contaminated site generated waste water, or other liquid waste streams, for the conditioning of APCr due to the potential for mixing of incompatible waste types and increased potential for spills.
	Contaminated wash water	Direct discharge to land / overland runoff impacting ecosystem health	Surrounding ecosystems, native vegetation communities and fauna	Refer to Section 4.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 7 & 15	
	Potentially contaminated stormwater	Direct discharge to land / overland runoff impacting ecosystem health	Surrounding ecosystems, native vegetation communities and fauna	Refer to Section 4.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 7 & 15	
Disposal of conditioned APCr in landfill cells	Leaching of hazardous contaminants resulting from landfill instability leading to ingress of stormwater	Direct discharge to land / subsurface seepage impacting ecosystem health	Surrounding ecosystems, native vegetation communities and fauna	Refer to Section 4.1	C = Major L = Unlikely Medium Risk	Y	Condition 15	As water is being used to condition APCr prior to disposal, the delegated officer has adopted the licence holder's minimum specifications for solidified solid waste including compaction density, Clegg Impact Value and free liquid limit.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed licence holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

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IR-T15 Amendment report template v3.0 (May 2021)

5. Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Licence holder was provided with draft amendment on 2 October 2024	The licence holder provided an email response on 3 October 2024 with no comments and stating they wish to waive the consultation period.	N/A

6. Conclusion

Based on the assessment in this amendment report, the delegated officer has determined that a revised licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

6.1 Summary of amendments

Table 6 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 6: Summary of licence amendments

Condition no.	Proposed amendments
1	Inclusion of APCr Facility and operational requirements into infrastructure table
7	Inclusion of APCr storage requirements
15	Inclusion of APCr conditioning and disposal requirements
Definitions	Inclusion of definition for APCr and portable mixing equipment

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Ramboll 2022, *Avertas Energy: Air Pollution Control residue (APCr) Task 2: Dangerous Goods classification of APCr and Task 3: Development of Safety Data Sheets (SDS) for APCr*, North Sydney, New South Wales.