# Amendment Report

## 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** | Sandy Ridge Facility<br><br>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.<br><br>102.5km north of Great Eastern Highway, via Access Reserve 44102, BOORABBIN WA 6429.<br><br>As defined by the coordinates in Schedule 2 of the Revised Licence<br><br>As defined by the Premises maps attached to the Revised Licence |
| **Date of Report** | 19 March 2021 |
| **Decision** | Revised licence granted |

Ruth Dowd

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**Ruth Dowd**
**Senior 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 (Licence Holder) for the Sandy Ridge Facility (the Premises), an open-cut kaolin mine and proposed near surface geological repository, 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 29 October 2020, 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 Licence Holder is seeking addition of the following activities and infrastructure to the Licence:

- The use of the waste immobilisation plant (WIP);
- In ground disposal of Class IV and Class V chemical wastes;
- The use of subsidiary onsite infrastructure constructed under W6308/2019/1 and not yet approved for use by L9240/2020/1 – brine pond, workshop and waste storage east yard

No changes are proposed to the type of wastes to be accepted at the Premises but a quantity increase to 100,000 tonnes per annum has been requested for Categories 61 and 61A as detailed in Table 1. The application is not yet requesting the disposal of radiation wastes. A further licence amendment request is anticipated once RS Act approvals are obtained.

Table 1 below outlines the proposed changes to the existing Licence

**Table 1: Proposed throughput capacity changes**

| Category | Current throughput capacity | Proposed throughput capacity | Description of proposed amendment |
|---|---|---|---|
| 61 | 15,000 tonnes (combined) per annual period | 100,000 tonnes (combined) per annual period | Increase to no more than 100,000 tonnes to be accepted per year, with no more than 15,000 tonnes to be stored above ground at any one time. |
| 61A | | | |
| 65 | N/A | 280,000 tonnes (combined) per annual period | Seeking approval for the in-ground disposal of Class IV and Class V wastes (up to 100,000 tonnes per year of waste (total of 280,000 disposed with binding agents)) |
| 66 | N/A | | |

### 2.2.1 Constructed infrastructure and equipment

The following infrastructure is proposed to be utilised for the operations requested as part of this amendment application.

**Table 2: Constructed infrastructure and equipment**

| Ref | Infrastructure or Equipment | Site Layout Plan reference |
|---|---|---|
| Category 65 and 66 | | |
| 1 | Geological Repository – Waste Cells | ID 38 in Figure 1 |
| Category 61 and 61A | | |
| 2 | Waste Immobilisation Plant (WIP) | ID 22 in Figure 1 |
| Category 61A | | |
| 3 | East Yard | ID 11 in Figure 1 |
| Other infrastructure | | |
| 4 | Brine Pond[1] | ID 36 in Figure 1 |
| 5 | Workshop | ID 30 in Figure 1 |
| 6 | Workshop laydown yard | ID 23 in Figure 1 |

[1]The Brine Pond infrastructure has already been included as part of the 1 December 2020 amendment, as such, is not considered further in this assessment.

### 2.2.2 Operational aspects

#### Waste acceptance and management

The Licence Holder is proposing to accept up to 100,000 tonnes per annum of Class IV and Class V solid and liquid hazardous and intractable wastes for storage, treatment and disposal at the Premises.

Wastes to be accepted are consistent with those currently approved under the current Licence.

It is noted that the addition of binding materials to waste in the WIP will result in the immobilised waste being a higher volume and/or mass relative to the waste received. As such, Ministerial Statement 1078 authorises up to 280,000 tonnes per annum of waste to be disposed to waste cells. The application seeks approval to dispose waste in the waste cells consistent with the Ministerial Statement.

The Licence Holder has developed a number of waste acceptance procedures for the management of waste characterisation, receival, treatment and isolation of the waste types proposed for acceptance and disposal. These are detailed in the:

- Sandy Ridge Facility Waste Acceptance Procedure, Tellus Holdings Ltd, 2016
- Sandy Ridge Facility Waste Acceptance Criteria, Tellus Holdings Ltd, 2016
- Sandy Ridge Facility Remediation Management Plan for Temporary Storage of LLW, Tellus Holdings Ltd, 2019
- Sandy Ridge Emergency Response Plan, Tellus Holdings Ltd, 2019

## Category 61 activities - Liquid waste immobilisation

The Licence Holder is seeking to operate infrastructure associated with the storage and processing of contaminated and hazardous liquid wastes (including sludges).

The WIP consists of a planetary mixer, waste and binder agent, feed hoppers and covered conveyors, a storage silo for bulk cement and kaolin/kaolinized granite stockpiles. The mixed waste and binder slurry from the planetary mixer is discharged into half height shipping containers for transport as either a spadeable solid or concrete monolith to the waste cells.

The WIP will be used to prepare/stabilise liquid and sludge wastes prior to disposal in the waste cells. These liquid wastes can include oily sludges (potentially containing hydrocarbons, NORMS or heavy metals) and non-oily sludges.

Similar treatment methods are proposed for all liquid wastes – chemical fixation with kaolinised granite and, with the addition of cementitious material in varying proportions for persistent organic pollutants.

The expected outcome is that liquid wastes will be solidified through chemical fixation and no leachate will be generated. The immobilised waste will be tested in accordance with documented procedures to ensure it meets criteria for in-cell disposal.

Tellus conducted trial batching using the WIP at Sandy Ridge Facility in October 2020. The trials were completed using non-waste materials (kaolinized granite, cement, bentonite clay) with and without added water to confirm the plant operated correctly.

In addition, Tellus commissioned laboratory trials for two waste types (AFFF and PCB oil) to determine the suitability of waste-specific chemical formulations to immobilise liquid and sludge wastes to prevent the generation of free liquid and retain enough compressive strength under the conditions of storage in the cell.

The application notes that Tellus is committed to undertake further formulation development work as new waste streams are considered by Sandy Ridge Facility. Tellus will verify the suitability of those formulations by conducting QA/QC tests to verify the suitability for free liquid generation (to ensure that no liquid discharges from the treated and fixated solid under the conditions of permanent isolation within the waste cell) and compressive strength (to ensure that the formulated waste monolith does not collapse and cause waste cell subsidence).

Containers of immobilised waste will be transported to the current waste cell or stored within the Radioactive Yard awaiting disposal. The immobilised waste would either be transferred from the sea container into the waste cell or placed in the cell in disposal packages. The direct placement of slurry or solid mix would be allowed to set in-place in the cell and later covered with kaolin.

QA/QC testing will occur for all fixated and solidified wastes with the frequency of sampling matching the requirements in the Landfill Waste Classification and Waste Definitions (as amended 2019). The immobilised waste will not have waste placed on top of it until QA/QC testing has been completed and passed the unconfined compressive strength and free liquid tests. If the waste fails, the waste will be removed from the cell and reprocessed.

**Key Findings:**

The Delegated Officer notes:

- Limited information has been provided by the Licence Holder regarding the treatment methodology for different waste types.
- No trials with waste have been conducted to date using the WIP at Sandy Ridge.
- The PFAS NEMP 2.0 notes that there is limited information on the long-term effectiveness of immobilisation techniques for PFAS contaminated materials and that conditions in a landfill may reverse or diminish the immobilisation chemistry in

ways that are difficult to predict.

- The Licence Holder has committed to undertaking further development work of new waste streams and verifying the suitability of these formations ongoing.
- QA/QC testing is proposed ongoing for immobilised waste in accordance with the Landfill Waste Classification and Waste Definitions (as amended 2019).

### Category 61A activities

Contaminated and hazardous solid wastes will be accepted, handled, stored and processed at the Premises. Following acceptance, these wastes are to be placed within the near surface geological repository following waste segregation and isolation procedures established by the Licence Holder.

### Category 65 and 66 activities - Geological repository – In-cell disposal

Cell 1 has been excavated under a pre-inflated air dome cover and is ready for waste backfilling.

Waste cells will be operated so only one cell is open for waste acceptance at a time. Cell excavation and waste backfilling operations will be undertaken under a pre-inflated air dome cover. The cell dome cover has an airlock door for entry and egress and spans the width and length of each cell. Prior to placing waste into the cell, the air dome would be in place covering the entire cell. The purpose of the air dome is to exclude water from the cell until it is capped, to avoid the generation of leachate within the cell and avoid any potential structural impacts that may affect the integrity of the cell walls.

The waste cells will be filled in layers with multiple sections in each layer containing wastes of similar characteristics to segregate the different waste types. Chemical waste types would be place ‘like-with-like’ for safety reasons and for potential future recovery (if identified as potentially valuable). Spaces between waste packages are to be backfilled with kaolinised granite and compacted to minimise air or void space. Each layer would be compacted, until approximately 7m below the ground surface, where a thick capping layer of low permeability clay (referred to as a ‘seal’ would be installed to prevent water ingress into the cell.

Subsequent pits will be excavated while placement of Class IV and Class V waste materials continue in the adjacent cell. Waste cells will be closed progressively, with one Cell being capped and closed while the next Cell is being developed. This process, along with the closure and decommissioning of the waste infrastructure, is detailed in the Waste Facility Decommissioning and Closure Plan required by MS 1978.

## 2.2.3 W6308/2019/1 – Environmental Compliance Report

Following completion of aspects of construction works under W6308/2019/1, the Licence Holder submitted to the CEO the following Environmental Compliance Reports (CCR):

- Waste Cell, Air Dome, Settlement Pond and Waste Storage – East Yard, received 29 October 2020
- The Brine Pond, the Workshop & Laydown Area and the Waste Immobilisation Plant, received 21 September 2020.

These reports, submitted in accordance with Condition 3 of the works approval confirmed that the following infrastructure has been constructed in accordance with the requirements of the works approval:

- Air domes
- Settlement Pond
- Waste Storage – East Yard

- Workshop and Laydown Yard
- Waste Immobilisation Plant (WIP).

## Waste Cells

Variations were noted in the waste cells where certain areas within the constructed waste cell were inferred to be 4.7m of the underlying unweathered granite rock and not the minimum 5m specified within Works Approval W6308/2019/1.

The CCR detailed, an area of approximately 213m$^2$ (5% of the total pit floor) is interpreted to have a thickness of between 4.7m and 5m above the unweathered granite. The Works Approval Holder (via Geotechnical consultants CMW Geosciences) determined the inferred cell floor height (above the unweathered granite) utilising a model that incorporated data from exploration boreholes and geotechnical boreholes from within the cell footprint area. The kriging method of interpretation was then applied to interpolate the unweathered granite surface below the cell floor. This interpolation indicated that the area of kaolinised granite less than 5m in thickness (marked by orange to red tones in Figure 1 below) is situated in the north eastern corner of the waste cell. It is this area that is outside the minimum 5m specification of the Works Approval (Table 2, Condition 1).

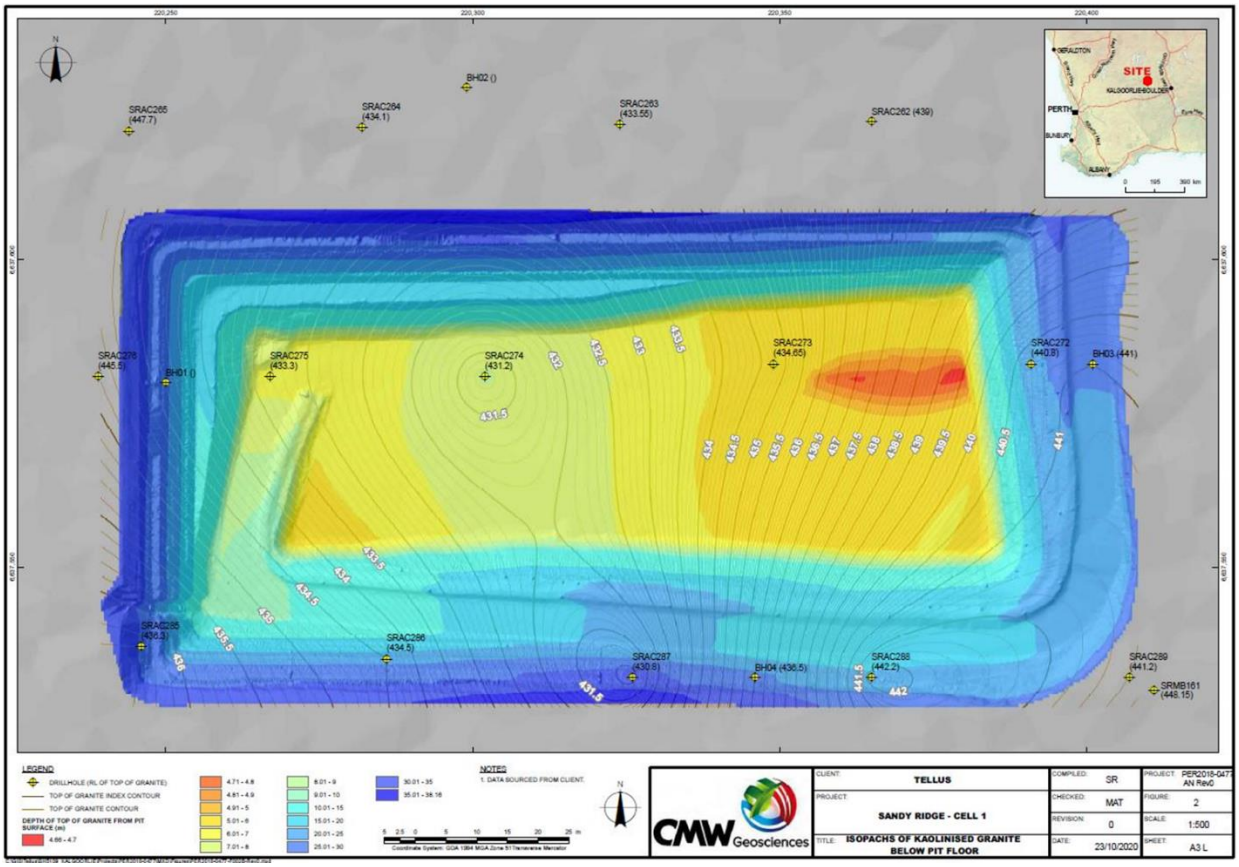



**Figure 1: Excavated waste cell and inferred depth to unweathered granite bedrock**

The Works Approval Holder (via the geotechnical consultant CWM Geosciences) detail that:

- the design intent of the 5m cover requirement was to create a separation between any perched potential groundwater that might accumulate in the future on the fresh granite surface and the floor of the cell.
- A trough in the fresh granite surface runs in a north-south direction beneath the centre of the cell. It is in this area where perched groundwater, if it were to occur, would most likely accumulate.

- In this area the depth of cover is more than the required 5m (7 to 8m). For this reason, the localised and minor departure in the depth to the unweathered granite bedrock noted above does not increase the risk to public health, public amenity or the environment and the original design intent is achieved.

Based on the above, the Works Approval Holder considered that the variation in waste cell floor separation to the unweathered granite is captured by Works Approval condition 2.

The specified 5m thickness of the kaolinized granite was specified by the Works Approval Holder in the application for Works Approval W6308/2019/1.The variation in depth to the unweathered granite was also part of the proposal assessed under MS1078. The variation in depth was referred to DWER Environmental Compliance, and advice received indicated that this variation was not a considered material issue.

**Key Findings:**

The Delegated Officer reviewed the CCR and advice from the Part IV and V Environmental Compliance teams and noted:

- The variation in depth to unweathered granite is acknowledged to only impact a small portion of the constructed waste cell.
- The variation has been identified via an inferred assessment method (based on available adjacent borehole details).
- A qualified geotechnical engineer has certified the variation as minor in nature and is not considered to increase the risk to public health or the environment.
- The variation in minimum cell depth for waste cell 1 is not considered a material variation.

## Existing stormwater pond variation

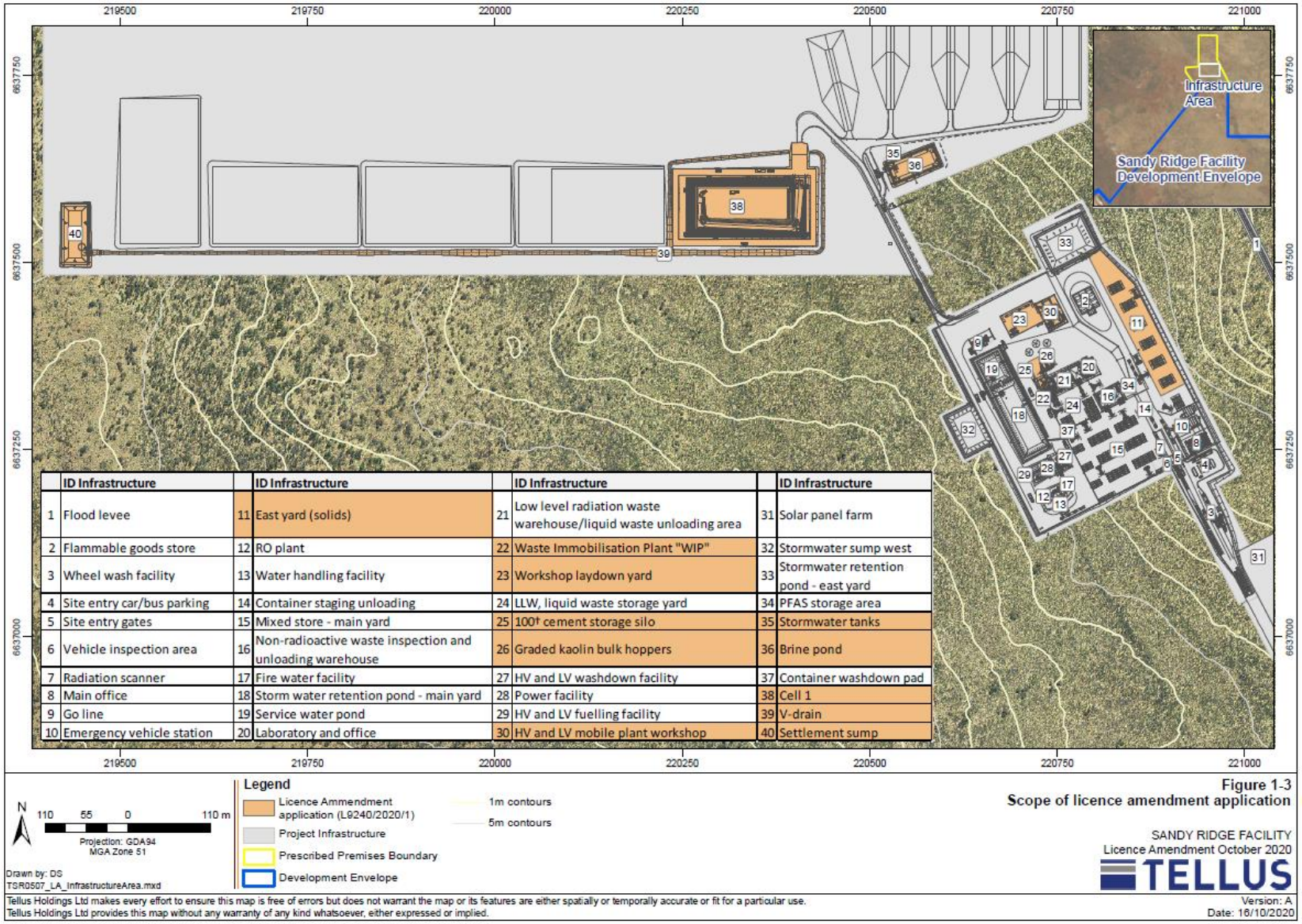
The CCR specified that the stormwater retention pond has now been lined with kaolin clay. The clay liner has altered the capacity of the pond from 3,926m$^3$ to 3,623m$^3$. This was considered an alteration to that constructed under W6305/2019/1. This new pond capacity is below the required size specified in L9240/2020/1 (3,923m$^3$), and below the original design size of 3,850m$^3$.

Clarification was requested from the Licence Holder as to the capacity of the pond and whether in can retain a 1:100 year, 72 hour rainfall event for the entire waste storage – east area.

The Licence Holder provided supplementary information detailing the calculated capacity requirements of the pond (based upon the catchment size for the east yard and the contributory runoff from the heavy vehicle turnaround bay). The calculation was based upon a catchment area of 20,750m$^2$ and runoff coefficients for compacted, in-situ material and pavement. It was determined that a 1:100, 72 hour rainfall event would generate 3,059m$^3$ of runoff. The constructed pond capacity of 3,623m$^3$ was therefore considered by the Works Approval holder to be sufficiently sized to contain a 1:100, 72 hour rainfall event.

**Key Finding:**

The Delegated Officer has reviewed the CCR and additional information provided by the Licence Holder and considers that this information has verified the as constructed capacity of the stormwater retention pond is capable of holding a modelled 1:100 year 72 hour rainfall event. As such, the previous risk assessment is still valid. Conditions relating to the capacity of the pond will be amended to reflect the revised volume/capacity.




| | ID Infrastructure | | ID Infrastructure | | ID Infrastructure | | ID Infrastructure |
|---|---|---|---|---|---|---|---|
| 1 | Flood levee | 11 | East yard (solids) | 21 | Low level radiation waste warehouse/liquid waste unloading area | 31 | Solar panel farm |
| 2 | Flammable goods store | 12 | RO plant | 22 | Waste Immobilisation Plant "WIP" | 32 | Stormwater sump west |
| 3 | Wheel wash facility | 13 | Water handling facility | 23 | Workshop laydown yard | 33 | Stormwater retention pond - east yard |
| 4 | Site entry car/bus parking | 14 | Container staging unloading | 24 | LLW, liquid waste storage yard | 34 | PFAS storage area |
| 5 | Site entry gates | 15 | Mixed store - main yard | 25 | 100† cement storage silo | 35 | Stormwater tanks |
| 6 | Vehicle inspection area | 16 | Non-radioactive waste inspection and unloading warehouse | 26 | Graded kaolin bulk hoppers | 36 | Brine pond |
| 7 | Radiation scanner | 17 | Fire water facility | 27 | HV and LV washdown facility | 37 | Container washdown pad |
| 8 | Main office | 18 | Storm water retention pond - main yard | 28 | Power facility | 38 | Cell 1 |
| 9 | Go line | 19 | Service water pond | 29 | HV and LV fuelling facility | 39 | V-drain |
| 10 | Emergency vehicle station | 20 | Laboratory and office | 30 | HV and LV mobile plant workshop | 40 | Settlement sump |

## Figure 2: Site Plan

Licence: L9240/2020/1

## 2.3 Part IV of the EP Act

The Licence Holder has received approval under Part IV of the EP Act in June 2018, through Ministerial Statement 1078, to implement a dual open cut kaolin clay 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:

- Mine pits/waste cells (including clearing up to 202.3 hectares of native vegetation within a 1,061 hectare development envelope);
- Class IV & V waste accepted at 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)
- Access roads, pipeline corridors, stormwater sumps and a flood levee.

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.

The assessment conducted by the Environmental Protection Agency (EPA) (Report 1611) concluded that the relevant EP Act principles and environmental objectives for terrestrial environment quality, flora and vegetation, human health, terrestrial fauna and inland waters environmental quality can be met (subject to conditions) and that the application is environmentally acceptable.

The EPA identified the following key environmental factors during the course of its assessment:

1. Terrestrial environment quality – direct impacts to the quality of land and soils during the operation of the proposal and from the acceptance and storage of hazardous and intractable waste (including radioactive material).
2. Flora and vegetation – direct impacts associated with the clearing of native vegetation.
3. Human health – direct impacts from exposure to chemical/hazardous materials from waste handling, and leaks or spills from waste packages.
4. Terrestrial fauna – direct impacts on fauna habitat from clearing, and contaminants or radiation exposure to fauna.
5. Inland waters environmental quality – direct impacts from potential leaks or spills and generation of leachate from waste package storage.

The EPA concluded that the proposal may be implemented, provided the implementation of the proposal is carried out in accordance with the recommended conditions and procedures. Matters addressed in the conditions include the requirement:

a) To ensure only permitted wastes generated within Australia and the Australian Exclusive Economic Zone are accepted on site;

b) To keep detailed records of accepted wastes on site;

c) To conduct an annual independent audit of the accepted wastes on site;

d) For a Leachate Monitoring and Management Plan;

e) For a targeted flora survey and management plan for *Calytrix Creswellii, Leipidosperma lyonsii,* and the undescribed Lepidosperma sp; and

f) For a management plan for terrestrial fauna.

**Key Findings:**

The Delegated Officer has determined that the following environmental aspects are managed through Ministerial Statement 1078, under Part IV of the EP Act and are therefore not assessed further in this Decision Report:

- The Sandy Ridge Facility may accept waste from within Western Australia, other Australian States and Territories, and the Australian Exclusive Economic Zone.
- The assessment under Part IV of the EP Act indicated that the acceptance of waste types can be adequately regulated under Part V in combination with requirements of the Radiation Safety Act 1975.
- Specific and detailed waste records are required to be kept under the Waste Management System administered under Part IV of the EP Act.
- MS1078 requires the proponent to engage an independent waste expert approved by the CEO to undertake an annual audit of the waste disposal operations at the Sandy Ridge Facility.
- MS1078 requires the proponent submit a Leachate Monitoring and Management Plan to the CEO, to demonstrate that impacts to soil quality are minimised, of which will include six monthly monitoring.
- MS 1078 requires the proponent to submit a Flora and Vegetation Management Plan to the CEO, to mitigate, monitor and manage indirect impacts including those for fire, dust suppression, water quality and weeds.
- The assessment under Part IV of the EP Act has assessed the clearing of up to 202.3 hectares of native vegetation within a 1061 hectare development envelope for mine pits/waste cells and the clearing of up to 73.75 hectares of native vegetation within a 1061 hectare envelope for associated infrastructure.
- MS 1078 has limited Class IV & V waste accepted at gate to a maximum of 100,000 tonnes per annum and waste (including treated waste) disposed to waste cells to a maximum of 280,000 tonnes per annum.
- MS 1078 has limited the temporary waste storage on the surface to a maximum of 15,000 tonnes and a maximum storage time of 12 months. It is noted that the aspects managed under MS 1078 will be considered in the risk assessment outcomes for aspects that are within the scope of this assessment and in the determination of appropriate regulatory controls.

## 2.4 Other relevant approvals

### 2.4.1 Planning approvals

The Midwest/Wheatbelt Joint Development Assessment Panel accepted and approved DAP/17/01318 for the proposed Facility on 3 April 2019. The assessment panel accepted that the DAP Application reference DAP/17/01318 is appropriate for consideration as a “Waste Disposal Facility” land use and compatible with the objectives of the zoning table in accordance with Local Planning Scheme No 5 of the Shire of Coolgardie.

The assessment panel also approved the DAP Application reference DAP/17/01318 and accompanying plans in accordance with Clause 68 of the *Planning and Development (Local*

*Planning Schemes) Regulations 2015* and the provisions of the Shire of Coolgardie Local Planning Scheme No.5 subject to conditions.

Due to the dual nature of the proposed Facility to undertake mining operations and the acceptance and disposal of waste simultaneously on the same land, tenure granted under both the *Mining Act 1978* (WA) and *Land Administration Act 1997* (WA) (LAA) was required for the construction and operation of the proposal.

The Licence Holder was granted land tenure under the LAA (Crown Lease) on 26 November 2019.

### 2.4.2 Department of Mines, Industry Regulation and Safety

The Department of Mines, Industry Regulation and Safety (DMIRS) granted approval for a Mining Proposal and Mine Closure Plan associated with the Facility on 4 June 2019 (Mining Proposal Registration ID: 75521). This proposal relates to mining activities associated with the project, outside those specifically related to this application.

Further, the Licence Holder has received a Dangerous Goods Site Licence (DGS022452) for the Facility on 27 September 2018 under the *Dangerous Goods Safety Act 2004,* as regulated by DMIRS.

It is the responsibility of the Licence Holder to ensure that storage, separation distances and packaging criteria for hazardous waste or dangerous goods on the premises meets the requirements of *Dangerous Goods Safety Act 2004,* or other relevant legislation.

### 2.4.3 Radiation Safety Act 1975

The Licence Holder has been granted a registration under the *Radiation Safety Act 1975* (RS Act) for the temporary surface storage of low level radioactive wastes. This registration limits surface storage in accordance with the Licence Holder's Radiation Management Plan.

The Licence Holder is currently seeking further approval under the RS Act for the long-term disposal of radioactive wastes.

**Key Finding:** The Delegated Officer notes that this amendment does not seek to change the low-level radioactive waste acceptance conditions granted under the Existing Licence.

### 2.4.4 Federal Legislation

#### *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*

On 23 September 2015, the Department of Environment determined under section 75 of the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) determined the construction of the Sandy Ridge Facility to be a controlled action to be assessed under the Bilateral Agreement with Western Australia (Agreement between the Commonwealth of Australia and Western Australia under section 45 of the EPBC Act relating to Environmental Impact). The relevant matters of national environmental significance considered for the Sandy Ridge Facility included s21 and 22A – Nuclear action.

In January 2019, the Department of Environment and Energy granted approval for the Facility (EPBC Reference No.: 2015/7478) under section 133 of the EPBC Act.

Key conditions within EPBC/2015/7478, (not all of which relate to this application) include:

- Submission and implementation of a deep groundwater monitoring and management plan;
- Implementation of the PFAS National Environmental Management Plan (NEMP) as amended;

- Surface and floodwater management; and
- Waste placement within cells not to include disposal by the borehole method (also called BOSS method).

In May 2020, the National Chemicals Working Group of the Heads of EPAs Australia and New Zealand released the PFAS NEMP - Version 2.0 (PFAS NEMP 2.0). The PFAS NEMP 2.0 provides new and revised guidance on four of the areas that were identified as urgent priorities in the first version of the NEMP, including environmental guideline values, soil reuse, wastewater management and on-site containment. The PFAS NEMP 2.0 also includes updated guidance for the temporary and longer term onsite storage and containment of PFAS containing materials, including the designation and specification of controls for the temporary and short term storage of PFAS containing wastes.

Temporary storage is considered to include storage from 48 hours to 6 months, short term storage is considered to include storage from 6 months to 2 years, and both are relevant for the proposed surface storage timeframes as proposed by the Licence Holder (of up to 12 months above ground storage). Guidance within the PFAS NEMP 2.0 specifies the storage infrastructure for PFAS containing liquid wastes to be within self-bunded containment vessels covered, with lockable access, on an impervious, bunded hardstand, with effective stormwater controls.

**Key Finding:**

The Delegated Officer notes that:

- Approvals for the Facility under the *Environmental Protection and Biodiversity Conservation Act 1999* require the Licence Holder to implement the PFAS NEMP 2.0 (and subsequent amendments)
- The PFAS NEMP 2.0 includes additional requirements for the temporary and short term storage of PFAS wastes.
- It is the responsibility of the Licence Holder to ensure the acceptance and storage of PFAS wastes is conducted in accordance with the relevant Commonwealth approval for the Facility,
- It is the responsibility of the Licence Holder to ensure that the disposal of PFAS wastes is conducted in accordance with the relevant Commonwealth approval for this facility, as well as approvals under Part IV of the EP Act.

# 3. 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 *Guidance Statement: Risk Assessments* (DER 2017).

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.

## 3.1 Source-pathways and receptors

### 3.1.1 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 3 below.

Table 3 also details the proposed control measures the Licence Holder has proposed to assist

in controlling these emissions, where necessary.

**Table 3: Licence Holder controls**

| Source | Emission | Potential pathways | Proposed controls |
|---|---|---|---|
| Operation of WIP | Noise | Air / windborne pathway | Location of the premises remote from sensitive receptors.<br>Plant and equipment to meet Australian Standards for noise. |
| | Odour | Air / windborne pathway | Location of the premises remote from sensitive receptors. |
| | Waste and leachate | Direct discharge to land | WIP constructed within a bunded concrete hardstand, sufficient to retain a 1:100 year 72 hour rainfall event.<br>An emergency overflow is available to the HDPE-lined Stormwater retention pond via the valved sump on the LLW Yard.<br>Planetary mixer enclosed and installed within the bunded concrete hardstand.<br>Above-ground pipework located within concrete bund.<br>Blind sumps within concrete hardstand to contain spills.<br>WIP is fitted with multiple emergency stop buttons in case of malfunction.<br>Dispensing pumps fitted with emergency stop function.<br>Blind sumps within concrete hardstand to contain spills. |
| | Chemical spills | Direct discharge to land | |
| | Potentially contaminated stormwater | Direct discharge to land / overland runoff | |
| Permanent isolation / disposal of wastes | Waste and leachate | Direct discharge to land | Site selected for low rainfall and high evaporation rates.<br>Presence of a natural silcrete layer in the geological profile which prevents rainfall transmission through the profile to the underlying kaolinised granite (clay) layer.<br>Presence of a thick (up to 40m) clay formation with very low permeability.<br>All waste placed to be spadeable (no free liquids to be placed in the cell)<br>Cell closure includes compacted clay domed cap to shed water which will be monitored for subsidence and managed in accordance with the WFDP.<br>Use of air dome cover over the active landfill cell to prevent rainfall ingress<br>Surface water diversion channels directing surface water to stormwater settlement pond via a v-drain<br>Leachate Monitoring and Management Plan (approved under MS 1078) |
| | Wastewater (contaminated stormwater) | Direct discharge to land / overland runoff | |

### 3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), 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 4 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 *(Guidance Statement: Environmental Siting* (DER 2016)).

**Table 4: Sensitive human and environmental receptors and distance from prescribed activity**

| **Human receptors** | **Distance from prescribed activity** |
|---|---|
| Mount Walton Intractable Waste Disposal Facility (IWDF) [1] | Approximately 5 km east of the Premises boundary |
| **Environmental receptors** | **Distance from prescribed activity** |
| Non-Perennial Surface Water Bodies | DWER GIS data indicate two minor non-perennial waterbodies associated with Lake Raeside, one approximately 50 m south of the premises boundary and one approximately 450 m west of the premises boundary (based on available GIS dataset – Hydrography WA 250K – Surface Waterbodies). These waterbodies are located approximately 2.5 km and 1.4 km respectively from the infrastructure and waste storage areas. |
| Parks and Wildlife Managed Lands and Waters | The Mount Manning Range Nature Reserve is located approximately 9.8 km north-west of the Premises.<br>The Mount Manning-Helena and Aurora Ranges Conservation Park is located approximately 19.8 km west of the Premises.<br>The Boorabbin National Park is located approximately 100 km south of the Premises. |
| Threatened Ecological Communities and Priority Ecological Communities | The Finnerty Range/Mt Dimer/Yendilberin Hills Vegetation Complexes (Banded Ironstone Formation) are located approximately 12.5 km to the south west of the Premises. |
| Threatened/Priority Flora [2] | 6 threatened/priority flora are located within a 10 km radius of the Premises, two priority flora have been recorded within the Premises boundary. |
| Threatened/Priority Flora – as identified from Public Environment Review [2] | *Calytrix creswellii* – listed as Priority 3 by the DBCA – recorded within the mine infrastructure area.<br>*Banksia arborea* – listed as Priority 4 by the DBCA – recorded within the groundwater abstraction area. |
| Threatened/Priority Fauna [2] | *Leipoa ocellate* is mapped within the premises boundary |
| Groundwater | No developed groundwater aquifer was found within the Premises during hydrogeological investigations.<br>Groundwater at the site is saline and has a total dissolved solids content of ~6,000 - 6,500 mg/L<br>There are no registered groundwater users (or bores) in the local |

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| | 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. |

[1]This receptor included for reference, and not likely to be significantly impacted by the operations associated with this amendment application. Not carried into risk table.
[2]Potential impacts to Threatened/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.

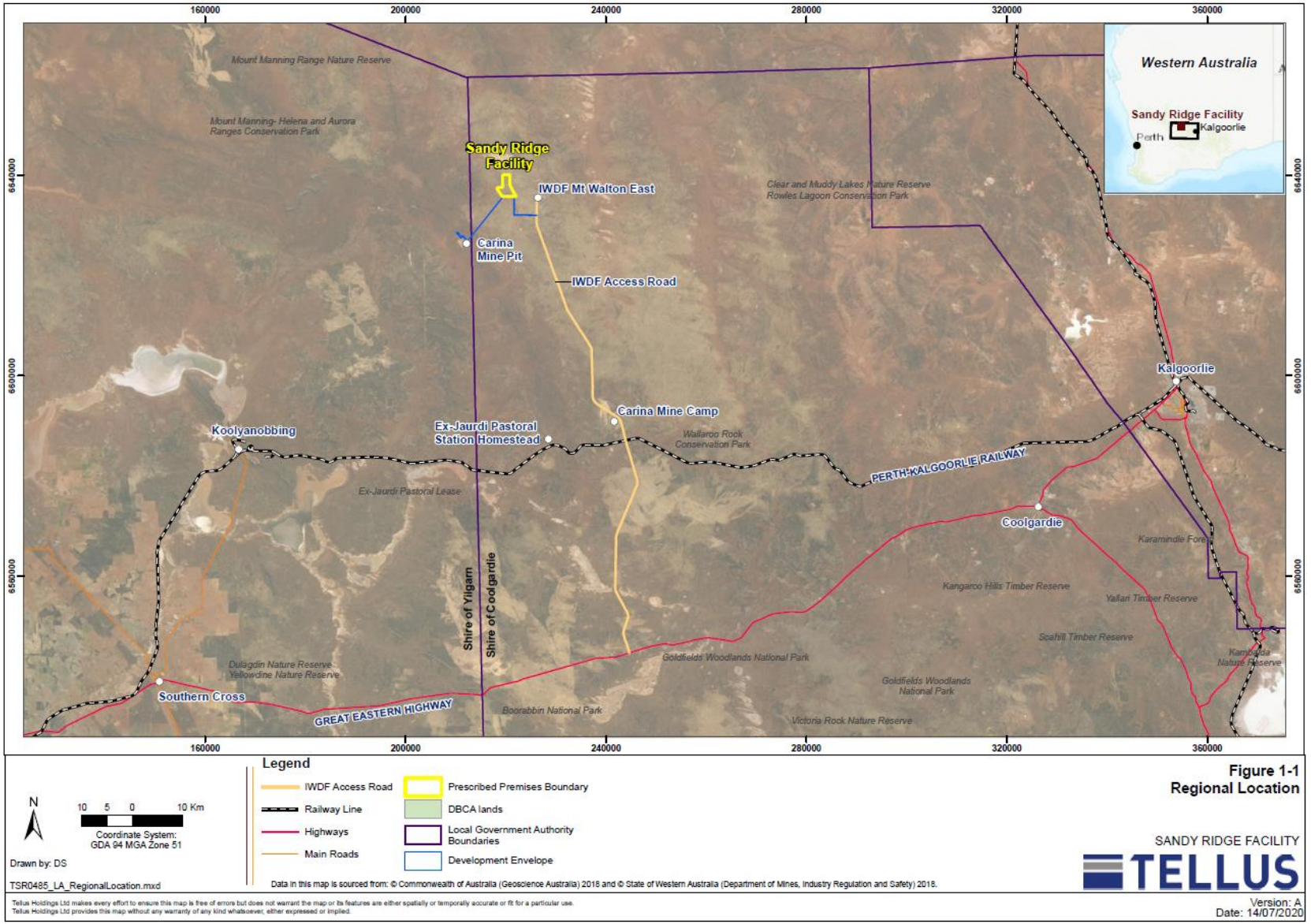


**Figure 3: Distance to sensitive receptors**

Licence: L9240/2020/1

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), 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 5.

The Revised Licence L9240/2020/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Prescribed Premises Category 61, 61A, 65 and 66 as well as associated activities.

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

**Table 5. Risk assessment of potential emissions and discharges from the Premises operation**

| 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** | | | | |
| Treatment, solidification and encapsulation of wastes within the WIP | Breach of waste or chemical containment (within WIP) causing discharge to land of hazardous wastes | Direct discharge to land - soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna. | Refer to Section 5.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Waste acceptance and storage conditions 2 – 8<br>Waste management conditions 11 – 14 | The Licence Holder's controls including the acceptance, storage and processing of liquid wastes within an engineered concrete hardstand area with bunding will likely reduce the likelihood of breaches of containment discharging to the environment.<br>In the event of a breach, the engineered concrete hardstand as well as the underlying soil and geological profile will provide a sufficient barrier to limit vertical seepage until clean-up measures are implemented.<br>Conditions included in the Licence generally replicate controls proposed by the Licence Holder. |
| | Spills of hazardous liquid and sludge wastes (within WIP) causing discharge to land | Direct discharge to land - soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna. | Refer to Section 5.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Waste acceptance and storage conditions 2 – 8<br>Waste management conditions 11 – 14 | The Licence Holder's controls including waste acceptance, storage and spill response practices will likely reduce the likelihood of spills discharging to the environment.<br>In the event of a spill, the engineered concrete hardstand and bunding as well as the underlying soil and geological profile will provide a sufficient barrier to limit vertical seepage until clean-up measures are implemented.<br>Conditions included in the Licence generally replicate controls proposed by the Licence Holder. |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>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 hazardous immobilised wastes (during transport to waste cells) causing discharge to land | Direct discharge to land - soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna. | Refer to Section 5.1 | C = Minor<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Waste acceptance and storage conditions 2 – 8<br>Waste management conditions 11 – 14 | Appropriately immobilised waste is not expected to generate leachate. The Licence Holder's controls including waste acceptance, storage and spill response practices will likely reduce the likelihood of spills discharging to the environment.<br>Conditions included in the Licence generally replicate controls proposed by the Licence Holder. |
| | Wastewater (contaminated stormwater) associated with the WIP | Direct discharge to land and waters - soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna. | Refer to Section 5.1 | C = Minor<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Stormwater management condition 20 | The Licence Holder has proposed infrastructure and management controls that include the diversion of uncontaminated stormwater and the containment of potentially contaminated stormwater.<br>Proposed waste acceptance, storage and spill response practices are considered appropriate to minimise the potential for hazardous wastes and materials to contaminate stormwater.<br>Conditions included in the Licence generally replicate controls proposed by the Licence Holder. |
| | | Direct discharge to land and waters - Contamination of waters or deterioration of local/regional surface water ecosystems | Non-perennial surface water bodies within and adjacent to premises | Refer to Section 5.1 | C = Minor<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Stormwater management conditions 20 | As above, the Licence Holder has proposed infrastructure and management controls that include the diversion of uncontaminated stormwater and the containment of potentially contaminated stormwater.<br>Proposed waste acceptance, storage and spill response practices are considered appropriate to minimise the potential for hazardous wastes and materials to |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>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** | | | | |
| | | | | | | | | contaminate stormwater.<br>Conditions included in the Licence generally replicate controls proposed by the Licence Holder. |
| | Leachate from immobilised waste (inadequate treatment processes resulting in waste being unsuitable for landfilling) | Direct discharge to land – soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna | Refer to Section 5.1 | C = Moderate<br>L = Possible<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Liquid waste Processing conditions 15 – 18<br>Records and reporting conditions 27 - 31 | Immobilised wastes are not expected to generate leachate emissions. There may however be potential for leachate to be generated where the immobilisation treatment process was inadequate.<br>The Licence Holder has provided limited information on the treatment process for different waste streams. No proof has been provided that the criteria would be met in all circumstances. As such, the Delegated Officer considers it possible that the treatment process may be inadequate.<br>Additional controls have been included in the Licence requiring the Licence Holder to:<br>• Develop immobilisation and immobilisation verification procedures for future liquid wastes to be immobilised;<br>• Undertake verification testing of immobilised waste to ensure wastes are appropriately immobilised;<br>• Undertake CQA verification testing of each new waste type proposed to be accepted at the premises prior to landfilling;<br>• Maintain records relating to the above testing<br>Additional controls have been included requiring the Licence Holder to undertake CQA verification testing of each new waste type proposed to be accepted at the |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>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** | | | | |
| | | | | | | | | premises.<br>The Licence Holder has indicated immobilised wastes that have previously been verified through the WIP will be placed in the cell awaiting QA/QC testing results. In the event that the immobilised waste does not meet required specifications, it will be removed and reprocessed. Given the WIP processing method has previously been verified for the waste type and the short-term nature of storage in the cell, the Delegated Officer considers the likelihood of leachate impacts from these wastes to be unlikely.<br>Conditions will be included in the Licence requiring the waste to be reprocessed or removed offsite to an authorised facility as soon as practicable. |
| Placement of encapsulated/ immobilised Class IV and Class V liquid and sludge wastes within geological repository waste cells | Leachate from encapsulated/ solidified liquid and sludge wastes | Direct discharge to land and waters - soil contamination causing impacts to vegetation growth and fauna health | Surrounding ecosystems, native vegetation communities and fauna | Refer to Section 5.1 | C = Moderate<br>L = Possible<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Waste acceptance conditions 2 - 6<br>Liquid waste Processing conditions 15 - 18<br>Waste disposal condition 19<br>Records and reporting conditions 27 - 31 | The Licence Holder's proposed management and infrastructure controls including the use of an air dome over the active cell to prevent rainfall infiltration will reduce the likelihood of leachate emissions from the landfill impacting the surrounding environment.<br>Conditions will be included in the licence to generally replicate controls proposed by the Licence Holder. The Licence Holder is also required to implement the Leachate Monitoring and Management Plan under MS 1078.<br>As detailed above, immobilised wastes are not expected to generate leachate, however leachate emissions may occur if the treatment process is inadequate. As evidence has not been provided to demonstrate the immobilisation process for all waste types, the Delegated Officer considers it is possible that the treatment |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>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** | | | | |
| | | | | | | | | process may be inadequate. As such additional controls have been included in the licence relating to:<br>• The development and verification of immobilisation procedures for future liquid wastes to be immobilised;<br>• Verification testing of immobilised wastes;<br>• CQA verification testing of each new waste type proposed to be accepted at the premises prior to landfilling; and<br>• Maintenance of records relating to the above testing.<br>As described above, conditions will be included in the Licence requiring waste that does not meet specified QA/QC requirements to be removed from the cell and reprocessed and removed to an authorised facility as soon as practicable. |
| | Wastewater (contaminated stormwater) | Direct discharge to land and waters - Contamination of waters or deterioration of local/regional surface water ecosystems | Non-perennial surface water bodies within and adjacent to premises | Refer to Section 5.1 | C = Minor<br>L = Unlikely<br>**Medium Risk** | Y | Infrastructure requirements condition 1<br>Stormwater management conditions 20 and 25 | The Licence Holder has proposed infrastructure and management controls that include the diversion of uncontaminated stormwater away from the landfill cells and use of an air dome over the active cell to prevent rainfall infiltration.<br>Conditions will be included in the Licence to generally replicate controls proposed by the Licence Holder. |

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

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

# 4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

**Table 6: Consultation**

| Consultation method | Comments received | Department response |
|---|---|---|
| Application advertised on the department's website (15/01/2021) | No comments received | N/A |
| Application advertised in the West Australian (18/01/2021) | No comments received | N/A |
| Shire of Yilgarn advised of proposal (15/01/2021) | On 19 February 2021, the Shire of Yilgarn advised they have no objections to the proposal. | Noted. |
| Shire of Coolgardie advised of proposal (15/01/2021) | No comments received | N/A |
| Department of Mines, Industry Regulation and Safety (DMIRS) – Environmental Compliance Branch advised of proposal (15/01/2021) | DMIRS advised on 9 February 2021 that they have no comments in respect of the amendment application. | Noted. |
| DMIRS – Dangerous Goods and Critical Risk Directorate advised of proposal (15/01/2021) | DMIRS Dangerous Goods Directorate advised on 9 February 2021 that:<br>• There are no identified issues with the application.<br>• There is an existing Dangerous Goods Storage Licence attributed to the site which is addressed in their application and compliance with relevant Australian standards in relation to storage and handling the range of licensed Dangerous Goods on site. | Noted. |
| Department of Planning, Lands and Heritage (DPLH) advised of proposal (15/01/2021) | DPLH advised on 15 February 2021 that:<br>• Ministerial Statement 1078 allows for up to 100,000 tonnes of Class IV and V waste accepted at the gate of the Sandy Ridge Facility, and up to 280,000 tonnes of waste disposed to waste cells per Table 2 in Schedule 1 of the Ministerial Statement. The Crown lease contemplates authorisation of the operation of the Waste Immobilisation Plant and the Waste Cells subject to compliance with clause 21.2(d) of the lease (Clause). DPLH is satisfied that Tellus has met the requirements of the Clause based | Noted. |

| | | |
|---|---|---|
| | on a report by CMW Geosciences dated 11th January 2021 that addresses compliance with the Clause, being the preconditions to waste emplacement.<br>• The DPLH has no objection to the proposed application. The Financial Assurances Deed and associated suite of documents required for the Sandy Ridge Facility have now been fully executed and payments pursuant to that arrangement have commenced. | |
| Environmental Protection Authority (EPA Services) advised of the proposal (11/02/2021) | EPA Services advised on 17 February 2021 that, following a review of the application to amend the licence and the Ministerial Statement 1078 and associated reports, that the proposed licence amendment does not appear to be inconsistent with the requirements of Ministerial Statement 1078. | Noted. |
| Licence Holder was provided with draft amendment on (12/03/2021) | See Appendix 1 | See Appendix 1 |

# 5. 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.

## 5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 7: Summary of licence amendments**

| Condition no. | Proposed amendments |
|---|---|
| 1, Table 1: Infrastructure and equipment requirements | Revised to include the following additional infrastructure:<br>• WIP<br>• Waste Cells, Air Domes and Settlement Pond<br>• Workshop and Laydown Yard<br>**Grounds:** Inclusion of infrastructure considered as part of this assessment.<br>Requirements for the East Yard have also been amended to allow for the full extent of the area approved under W6308/2019/1. The requirement to maintain a 1.8m high fence and clearly visible Dangerous Goods signage on the fence has been removed to allow access by waste handling machines as construction is now completed.<br>**Grounds:** 1.8m fencing remains in place at the front of the Sandy Ridge facility and stock fencing is in place on the remaining boundaries around the Mining/Cells are and infrastructure area. Existing Licence condition 9 still applies requiring security measures to be implemented at the site.<br>Stormwater Retention Pond (East Yard) capacity has been revised from 3,926 $m^3$ to 3,623$m^3$. |

| Condition no. | Proposed amendments |
|---|---|
| | **Grounds:** As assessed in Section 2.2.3 of this Decision Report. |
| 2(a) | Condition amended to clarify the information required to be obtained.<br>**Grounds:** The extent of information required was previously unclear. |
| 3, Table 2: Waste acceptance | Revised to allow for treatment of liquid wastes utilising the WIP and to authorise the disposal/long term storage of waste in the waste cells.<br>**Grounds:** As requested in the application and assessed in this Amendment Report. |
| 8 | A new condition has been inserted ensuring that no more than 15,000 tonnes of waste is stored above ground at any one time.<br>**Grounds:** This is consistent with the proposal approved under MS 1078 under Part IV of the EP Act. |
| 9 – 14 (Existing conditions 8 – 13) | Condition numbering revised with the addition of condition 8 above. |
| 10 (Existing condition 9) | A frequency of 'weekly' inspections of security measures has been specified.<br>**Grounds**: This removes uncertainty around the frequency of 'regular' inspections. |
| 15 | Conditions have been inserted setting out the acceptable wastes for treatment in the WIP and for disposal.<br>**Grounds:** As requested in the application and assessed in this Amendment Report.<br>A limit on the maximum concentration of PFAS waste has been included consistent with the PFAS NEMP and federal approvals for the premises. |
| 16 | Condition requiring validation testing prior to landfilling for each new waste type accepted onto the premises for treatment in the WIP.<br>**Grounds:** Requirements for validation testing have been included to ensure wastes are treated to an appropriate standard. |
| 17 | Condition inserted requiring post-immobilisation waste verification sampling and analysis for each batch processed through the WIP in accordance with the sampling frequency outlined in the Landfill Definitions to verify the immobilised waste meets process specifications.<br>**Grounds:** Condition necessary to ensure wastes are treated to an appropriate standard. |
| 18 | Condition inserted to ensure waste which does not meet the required immobilisation specifications, is reprocessed or otherwise removed from the Premises.<br>**Grounds**: Condition required given the uncertainty that all waste types will be successfully immobilised. |
| 19 | Condition inserted setting requirements for managing in ground disposal of wastes.<br>**Grounds:** These conditions are generally consistent with those proposed in the application. |
| 20 – 24 (Existing conditions 14 – 18) | Condition numbering revised with the addition of conditions 15 – 19 above. |
| 25 | New condition requiring stormwater to be diverted away from the waste cells.<br>**Grounds:** This is consistent with the Licence Holder's proposed stormwater management controls. |
| 26, Table 5 (Existing condition | Condition revised to include requirements to record wastes processed in the WIP and waste disposed to the waste cell. |

| Condition no. | Proposed amendments |
|---|---|
| 19) | **Grounds:** Condition is necessary for administration and reporting requirements to ensure compliance. |
| 27 (Existing condition 20) | Condition revised to require maintaining and retaining records on liquid waste immobilisation verification testing results.<br>**Grounds:** Condition is necessary for administration and reporting requirements to ensure compliance. |
| 28 – 30 (Existing conditions 21 – 23) | Condition numbering has been revised to reflect the inclusion of the above conditions. |
| 31 (Existing condition 24, Table 6) | Annual Environmental Report requirements revised to reflect changes outlined above.<br>**Grounds:** Condition is necessary for administration and reporting requirements to ensure compliance. |
| Table 6: Definitions | Definition included for a Qualified Chemist.<br>**Grounds:** Administrative amendment to include a definition for Condition 2(b). |
| Schedule 1, Figure 3: Infrastructure Area | Infrastructure area map updated to reflect map provided in the application. |
| Schedule 1, Figure 4: Landfill area | Additional map included to depict the landfill cell area. |

# References


1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

# Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

| Condition | Summary of Licence Holder's comment | Department's response |
|---|---|---|
| 15, Table 4 – PFAS liquid waste maximum concentration of 50 mg/kg PFAS in solidified immobilised waste. | The Licence Holder provided that they object to this limitation on the following three grounds:<br>1. Sandy Ridge lithology lacks a credible pathway for offsite contamination<br>2. Conflicts with the DWER Landfill Waste Classification and Waste Definitions 1996 (as amended 2019) (Landfill Classifications) for a Class V facility<br>3. Wastes resources in an inefficient immobilisation process for PFAS concentrate, for no environmental benefit. | Noted, the 50 mg/kg limit had been included from the PFAS National Environmental Management Plan (January 2020) as the maximum concentration of PFAS in waste for landfilling. This is consistent with Federal Approvals from the Department of Environment and Energy which requires implementation of the PFAS NEMP.<br><br>It is noted that the dilution of PFAS waste to meet a maximum concentration of 50 mg/kg would create a higher volume of contaminated waste. Such dilution is not considered to be in accordance with the waste minimisation principal of the EP Act. A condition has therefore been included in the Licence to ensure that solidified PFAS waste is not diluted to achieve the maximum concentration limit prior to disposal.<br><br>The department notes that Tellus may seek to amend the granted licence to remove the 50/mg/kg limit for landfilling. As advised, such an application would require widespread consultation across jurisdictions, including relevant federal departments. |

# Appendix 2: Application validation summary

| SECTION 1: APPLICATION SUMMARY (as updated from validation checklist) | | | | | |
|---|---|---|---|---|---|
| **Application type** | | | | | |
| Amendment to licence | ☒ | Current licence number: | L9240/2020/1 | | |
| | | Relevant works approval number: | W6308/2019/1 | N/A | ☐ |
| Date application received | | 29 October 2020 | | | |
| **Applicant and Premises details** | | | | | |
| Applicant name/s (full legal name/s) | | Tellus Holdings Ltd | | | |
| Premises name | | Sandy Ridge Facility | | | |
| Premises location | | 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 | | | |
| Local Government Authority | | Shire of Coolgardie | | | |
| **Application documents** | | | | | |
| HPCM file reference number: | | DWERDT358572 | | | |
| Key application documents (additional to application form): | | Application supporting document and appendices | | | |
| **Scope of application/assessment** | | | | | |
| Summary of proposed activities or changes to existing operations. | | Amendment to increase the allowable above-ground storage of waste from 10,000 tonnes to 15,000 tonnes in infrastructure that was approved under W6308/2019/1. Specifically, this application seeks approval for the following activities relating to Class IV and Class V wastes (as defined in the Landfill Waste Classification and Waste Definitions):<br><br>Above-ground storage of waste in the Mixed Store and in the Low Level Radiation Waste, Liquid Waste and Sludge Storage Yard in accordance with Dangerous Goods Licence DGS022452, as per Table 2 of W6308/2019/1. | | | |

Category number/s (activities that cause the premises to become prescribed premises)

**Table 1: Prescribed premises categories**

| Prescribed premises category and description | Assessed production or design capacity | Proposed changes to the production or design capacity |
|---|---|---|
| Category 61: Liquid waste facility | 10,000 tonnes (combined) per annual period (assessed under September amendment application)<br>15,000 tonnes (Combined) per annual period (currently under assessment – previous amendment application) | 100,000 tonnes (combined) to be accepted per year with no more than 15,000 tonnes to be stored above ground at any one time |
| Category 61A: Solid waste facility | | |
| Category 65: Secure Landfill Facility | Not currently authorised on licence | Up to 280,000 tonnes (combined) per annual period |
| Category 66: Intractable Landfill Facility | | |

**Legislative context and other approvals**

| | | |
|---|---|---|
| Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal? | Yes ☒ No ☐ | Referral decision No:<br>Managed under Part V ☐<br>Assessed under Part IV ☒ |
| Does the applicant hold any existing Part IV Ministerial Statements relevant to the application? | Yes ☒ No ☐ | Ministerial statement No: 1078<br>EPA Report No: 1611 |
| Has the proposal been referred and/or assessed under the EPBC Act? | Yes ☒ No ☐ | Reference No: EPBC2015/7478 |
| Has the applicant demonstrated occupancy (proof of occupier status)? | Yes ☒ No ☐ | Certificate of title ☐<br>General lease ☐ Expiry:<br>Mining lease / tenement ☒ Expiry:<br>Other evidence (Crown Lease) ☒ Expiry: 27/11/2118 (99 years) |
| Has the applicant obtained all relevant planning approvals? | Yes ☒ No ☐ N/A ☐ | Approval: DAP/17/01318<br>Expiry date: Approval requires works to be substantially commenced within 5 years of approval (i.e. 2 April 2024)<br>Lease agreement has conditions related to waste acceptance. |
| Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal? | Yes ☐ No ☒ | CPS No: N/A<br>Clearing managed under MS 1078 |

| | | |
|---|---|---|
| Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal? | Yes ☐ No ☒ | Application reference No: N/A<br>Licence/permit No: N/A |
| Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal? | Yes ☒ No ☐ | Application reference No: N/A<br>Licence/permit No: GWL202536(1) |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)? | Yes ☒ No ☐ | Name: N/A<br>Type: Goldfields Groundwater Area<br>Has Regulatory Services (Water) been consulted?<br>Yes ☐ No ☐ N/A ☒<br>Regional office: Goldfields |
| Is the Premises situated in a Public Drinking Water Source Area (PDWSA)? | Yes ☐ No ☒ | Name: N/A<br>Priority: N/A<br>Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)?<br>Yes ☐ No ☐ N/A ☒ |
| Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*) | Yes ☒ No ☐ | *Mining Act 1978* – Mining Proposal/ Mine Closure Plan Registration ID 85106<br>*Dangerous Goods Safety Act 2004* - Licence DGS022452.<br>*Radiation Safety Act 1975* – RS 210/2018 30289 |
| Is the Premises within an Environmental Protection Policy (EPP) Area? | Yes ☐ No ☒ | N/A |
| Is the Premises subject to any EPP requirements? | Yes ☐ No ☒ | N/A |
| Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*? | Yes ☐ No ☒ | Classification: N/A<br>Date of classification: N/A |