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<b>Document Title</b>	<b>Environmental Management Program Annual Targets, Actions and Major Changes 2020</b>		
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<b>This document supports:</b> 37623 Environmental Management Manual ; 48052 Environmental Management Program			

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## 1 INTRODUCTION

This document provides a summary of any major changes to the Environmental Management Manual (EMM), EM Program and Monitoring Programs (MPs) that have resulted from the annual EPMP review process.

## 2 SCOPE

This document outlines the Environmental Management (EM) Program self-improvement targets, actions and continuous improvement opportunities which are updated annually (where required) as part of the Environmental Protection and Management Program (EPMP) review process and forms part of the EPMP. Progress in achieving these monitored, and reported within the annual EPMP Report, but is not a compliance issue. Targets, actions and continuous improvement opportunities outlined in this document may (but do not necessarily) result in changes to the EPMP management or monitoring requirements.

Targets, Actions and Continuous Improvement Opportunities as used in this EPMP are defined below:

- **Targets:** are to reflect either a level of environmental impact that is as low as reasonably achievable (ALARA), or to indicate a long-term aspirational goal, or an interim target leading to a long-term goal.  
*Note: Performance against targets is monitored. Failure to meet a target is not a compliance issue, but will result in further review.*
- **Actions:** are derived from the continuous improvement opportunities that have been identified for the relevant environmental aspect. Actions should be achievable within the EPMP review period (1-3 years) or may form part of addressing a more complex improvement opportunity. Where the environmental impact is ALARA, actions may not be applicable.  
*Note: Performance against actions is monitored. Failure to achieve an action is not a compliance issue, but will result in further review.*
- **Continuous Improvement Opportunities:** are activities that have been previously identified to either reduce operational impact on the environment or improve the way in which an environmental aspect is managed or monitored.  
*Note: Performance against continuous improvement opportunities is monitored. Failure to achieve a continuous improvement opportunity is not a compliance issue, but will result in further review.*

## 3 INTERPRETATION

This document should be read in conjunction with the following:

### **Procedures:**

37623 Environmental Management Manual  
48052 Environmental Management Program

### **Management Programs:**

36322 Monitoring Program - Airborne Emissions  
59910 Monitoring Program - Energy Use & Greenhouse Gas Emissions  
36332 Monitoring Program - Environmental Radiation  
36339 Monitoring Program - Fauna  
36331 Monitoring Program – Flora  
36081 Monitoring Program - Great Artesian Basin (GAB)  
36173 Monitoring Program - Groundwater  
91417 Monitoring Program - Social Effects

#### 49183 Monitoring Program - Waste

All of these documents support the implementation and development of the Olympic Dam EPMP.

**4 CONTINUOUS IMPROVEMENT OPPORTUNITIES, ACTIONS & TARGETS 2020**

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 1 USE OF NATURAL RESOURCES</b>			
<p><b>ID 1.1 LAND DISTURBANCE AND REHABILITATION</b></p>	<p>Limited management of short-term surface rehabilitation has occurred on site due to the small areas involved, planned areas for expansion of the operations, and the low level of risk associated with these areas. Rehabilitation requirements of short-term surface disturbance, permitted under the Olympic Dam EDP System, including backfill areas, sand acquisition facilities, exploration areas, temporary storage facilities, temporary access routes and maintenance facilities. All other rehabilitation requirements are addressed through the Olympic Dam Rehabilitation Strategy.</p> <ul style="list-style-type: none"> <li>• Opportunity: Implement actions as identified in the Olympic Dam Rehabilitation Strategy.</li> </ul> <p>The Olympic Dam Closure Management and Rehabilitation Plan was reviewed (March 2020) and will be submitted for approval. Risk workshops have been conducted annually using BHP’s Risk Management methodology to evaluate the closure risks for all operational areas, and the accounting provision for closure is recalculated each year.</p> <ul style="list-style-type: none"> <li>• Opportunity: Clarify closure risks and assumptions identified in the Olympic Dam Closure Management and Rehabilitation Plan.</li> </ul> <p>Considerable work has been undertaken to formalise weed monitoring and management at Olympic Dam.</p> <ul style="list-style-type: none"> <li>• Opportunity: Continue to undertake a regional approach to weed management through the coordination of annual workshops with Arid Recovery, Roxby Downs Council, Kingoonya NRM District Group and relevant pastoralists and contractors.</li> <li>• Opportunity: Contribute to a regional database, in collaboration with the wider SAAL NRM, to record areas of known weed infestations and management actions.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to implement actions and identify progressive rehabilitation opportunities in the Mine Closure Plan.</li> <li>• Review closure risks and assumptions through annual workshop.</li> <li>• Align pest plant and animal control with SAALNRM objectives.</li> </ul>	<ul style="list-style-type: none"> <li>• None Applicable</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 1 USE OF NATURAL RESOURCES</b>			
	<p>Declared plant species under the NRM Act are present on ODC owned land within the Roxby Downs township (e.g., Buffel Grass).</p> <ul style="list-style-type: none"> <li>• Opportunity: Implement highest standard of vehicle hygiene in collaboration with the SAAL NRM Board where development is planned in known weed infestation locations.</li> <li>• Opportunity: Continue to progress control of Buffel Grass within the SML and Roxby Downs Municipality through ongoing control in the weeks following rain.</li> <li>• Opportunity: Actively engage with SAAL NRM and implement actions from the State Buffel Grass Strategic Plan: 2019 to 2024 where appropriate.</li> <li>• Opportunity: Continue to improve community and BHP employee knowledge about the impacts of pest plants and animals in the Roxby Downs region.</li> </ul>		
<p><b>ID 1.2 AQUIFER LEVEL DRAWDOWN</b></p>	<p>Within the GAB, pastoral abstraction may influence the reported drawdown. The elimination of pastoral flow at Jackboot Bore has resulted in drastically reduced drawdown, previously incorrectly attributed to Wellfield B operations. Some of the declining trends observed in current reported drawdown at D2 and Tarkanina 2 may also be influenced by antecedent pastoral flow and temperature effects.</p> <ul style="list-style-type: none"> <li>• Opportunity: Eliminate or minimise the influence of pastoral flow on reported drawdown.</li> </ul> <p>Within the deeper GAB the combination of high temperatures (&gt; 60°C) and the depth of the aquifer (north of Wellfield B &gt; 700 m) makes the monitoring of GAB groundwater heads challenging. Opportunities exist for improving the quality of data collected and the accuracy of interpreted drawdown by reviewing the methods used for measurements and the way drawdown is calculated.</p>	<ul style="list-style-type: none"> <li>• Continue implementation of water use conservation and recycling initiatives.</li> <li>• Continue substitution of saline water for high quality water where possible.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain an industrial water efficiency of 1.16 kL/t at the budgeted production rate.</li> <li>• Maintain a domestic water use target of 3.2 ML/day average.</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 2 STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS MATERIALS</b>			
<p><b>ID 2.1 CHEMICAL / HYDROCARBON SPILLS</b></p>	<p>An audit of all existing bunds was undertaken in FY13 to determine compliance against the EPA Guidelines. Based on the audit a risk based approach and review is being applied to bund management. Process controls are implemented when bund capacity is inadequate or there is a risk that bunds will be insufficient to contain a spill if it is found that a spill is likely to occur.</p> <ul style="list-style-type: none"> <li>Opportunity: Ensure bunds are continuously maintained and process controls are implemented such as safe fill levels and Citect alarms when a risk has been identified. The controls must be captured in the site aspect and impact register against the functional location of the bund.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain a register of recordable chemical and hydrocarbon spills and corrective actions.</li> </ul> <p><i>Note: An internally recordable spill of chemicals and/or hydrocarbons is defined as a spill of 10 litres or greater, outside of a bund, in a single event.</i></p> <ul style="list-style-type: none"> <li>Continue to implement environment improvement plans in areas of concern, as identified through the annual Aspects and Impacts risk register review.</li> </ul>	<ul style="list-style-type: none"> <li>Finalise updated spills register to align with the Global Event Management System roll out.</li> <li>Corrective actions for all reportable spills of chemicals and hydrocarbons are implemented in a timely manner and do not result in material environmental harm (as defined in the EMM).</li> </ul> <p><i>Note: Spills are externally reportable if they result in potential or actual material environmental harm in accordance with the EP Act 1993.</i></p>
<p><b>ID 2.2 RADIOACTIVE PROCESS MATERIAL SPILLS</b></p>	<p>The majority of spill events occur in areas within secondary and tertiary containment systems and have minimal potential to cause significant <b>environmental impact</b>. The data from these incidents are reviewed to identify root causes and reduce the potential for further spill events.</p> <ul style="list-style-type: none"> <li>Opportunity: Review data to identify actions to be included in the area Environment Improvement Plans.</li> </ul> <p>An audit of all existing bunds has been undertaken to determine compliance against EPA Guideline –Bunding and Spill Management (2016).Based on the audit a risk based approach and review is being applied to bund management. Process controls are implemented when bund capacity is inadequate or there is a risk that bunds will be insufficient to contain a spill if it is found that a spill is likely to occur.</p> <ul style="list-style-type: none"> <li>Opportunity: Ensure bunds are continuously maintained and process controls are implemented such as safe fill levels and Citect alarms when a risk has been identified.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain a register of recordable spills of radioactive process material resulting from operations at Olympic Dam.</li> <li>Note: Reportable and recordable spills of radioactive process material as defined by the Criteria and Procedures for Recording and Reporting Incidents at SA Uranium Mines (DEM), known as 'Bachmann Criteria'.</li> <li>Continue to implement environment improvement plans for areas of concern as identified in the annual Aspects and Impacts risk register review.</li> </ul>	<ul style="list-style-type: none"> <li>Finalise updated spills register to align with the Global Event Management System roll out.</li> </ul> <p>No spill of Radioactive Process Material into an undisturbed environment. Corrective actions resulting from a reportable spill of radioactive process material are executed in a timely manner to ensure no adverse impacts to human health.</p>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 2 STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS MATERIALS</b>			
EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 3 OPERATION OF INDUSTRIAL SYSTEMS</b>			
<b>ID 3.1 PARTICULATE EMISSIONS</b>	None Applicable	<ul style="list-style-type: none"> <li>Implement an Environment Improvement Plan (EIP) should any significant increase of operationally contributed PM<sub>10</sub> 24-hour average of 50 µg/m<sup>3</sup> occur over the year.</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>None Applicable</li> </ul>
<b>ID 3.2 SULPHUR DIOXIDE EMISSIONS</b>	Continue a watching brief on sulphur dioxide emission reduction technology.	<ul style="list-style-type: none"> <li>None applicable</li> </ul>	Capture approximately 99 per cent of all SO <sub>2</sub> generated during the smelting process.
<b>ID 3.3 SALINE AEROSOL EMISSIONS</b>	Continue a watching brief on saline emission reduction technology.	<ul style="list-style-type: none"> <li>Install and maintain controls as per the design standard around raise bores.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor the deposition of salt from saline aerosol emissions at the edge of the SML against background levels of 20mg/m<sup>2</sup>/day.</li> </ul>
<b>ID 3.4 RADIOACTIVE EMISSIONS</b>	<p>International and national standards, guidance and codes are subject to change from time to time, to ensure effective protection of humans and the environment from the harmful effects of radiation. Any new recommendations or revisions should be reviewed and implemented as necessary.</p> <ul style="list-style-type: none"> <li>Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new or revised national Codes and implement as necessary.</li> <li>Opportunity: Consider impacts of potential changes to ICRP recommended dose conversion factors for radon decay products and implement as required.</li> </ul>	<ul style="list-style-type: none"> <li>None applicable</li> </ul>	<ul style="list-style-type: none"> <li>Maintain radiation doses as low as reasonably achievable, as assessed through the annual Radiation Management Plan Review.</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 2 STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS MATERIALS</b>			
<b>ID 3.5 GREENHOUSE GAS EMISSIONS</b>	<ul style="list-style-type: none"> <li>Continue to identify and implement energy efficiency projects for the existing operation, particularly those identified opportunities that do not require capital expenditure.</li> </ul>	<ul style="list-style-type: none"> <li>None applicable</li> </ul>	<ul style="list-style-type: none"> <li>None applicable</li> </ul>



EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 4 GENERATION OF INDUSTRIAL WASTES</b>			
<b>ID 4.1 EMBANKMENT STABILITY OF TSF</b>	<p>Several contingency options exist to maintain slope stability and reduce the risk of potential piping failures.</p> <ul style="list-style-type: none"> <li>• Opportunity: Identify, design and install contingency options as required.</li> </ul> <p>Regular audits of the TRS operation are undertaken as described in the Waste MP.</p> <ul style="list-style-type: none"> <li>• Opportunity: Ensure improvement actions and recommendations from audits are documented and where appropriate implemented in a timely manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake periodic (2-3 year) CPTu testing of tailings to confirm strength parameters used in stability analysis.</li> </ul>	<ul style="list-style-type: none"> <li>• None applicable</li> </ul>
<b>ID 4.2 TAILINGS SEEPAGE</b>	<p>Regular inspections around the perimeter of the TSF identify any new areas of lateral seepage. Existing perimeter features are also monitored to determine if there is any change in size, location and appearance.</p> <ul style="list-style-type: none"> <li>• Opportunity: Install a liquor interception system where seepage of liquor has potential to impact native vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and install additional liquor interception systems as required.</li> </ul>	<ul style="list-style-type: none"> <li>• None applicable</li> </ul>
<b>ID 4.3 FAUNA INTERACTION WITH TAILINGS RETENTION SYSTEM</b>	<p>The TRS fauna project was instigated after an increase in numbers of birds interacting with the TRS became apparent in 2004. This project manages research, on-ground work and monitoring relating to the interaction of fauna with the TRS.</p> <ul style="list-style-type: none"> <li>• Opportunity: Identify new opportunities to reduce fauna mortalities through ongoing research into management practices relating to fauna interaction with tailings storage systems.</li> </ul> <p>Opportunistic and standardised monitoring of fauna interactions at the TRS has occurred since the implementation of the TRS fauna project.</p> <ul style="list-style-type: none"> <li>• Opportunity: Continue to assess the impact to fauna and the efficacy of various management tools through monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue investigating and trial alternative deterrent technologies when they become available.</li> </ul>	<ul style="list-style-type: none"> <li>• None applicable</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 4 GENERATION OF INDUSTRIAL WASTES</b>			
<p><b>ID 4.4 SOLID WASTE DISPOSAL</b></p>	<p>The opportunity to reuse and recycle materials would be greater if more waste materials were segregated at their source. Segregation reduces contamination and double handling and enable more accurate tracking of waste streams. Waste segregation has been rolled out across site however still needs improvement and extension to the mine and underground mine.</p> <ul style="list-style-type: none"> <li>• Opportunity: Improve at source segregation waste segregation system.</li> </ul> <p>One of the largest volumes of waste generated on site is rubber tyres. Used tyres are already reused on site where possible, as road berms and for area demarcating. Reducing the quantity of waste tyres is key to reducing the volume of landfill. Investigations regarding initiatives to increase tyre life will be progressed during detailed design of the project (DEIS 5.6.3; SEIS 5.4.3).</p>	<ul style="list-style-type: none"> <li>• Implement a site wide paper/cardboard recycling programme with bailing and off site removal/recycling.</li> <li>• Release revised Waste Management video within LMS for all of site.</li> <li>• Continue to monitor and store used LV/HV tyres in line with accepted guidelines.</li> <li>• Improve paper and cardboard recycling awareness and on ground participation.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase at source waste segregation to reduce waste to landfill.</li> </ul>
<p><b>ID 4.5 RADIOACTIVE WASTE</b></p>	<p>International and national standards, guidelines and codes are subject to change from time to time, to ensure effective protection of humans and the environment from the harmful effects of radiation. Any new recommendations or revisions should be reviewed and implemented as necessary.</p> <ul style="list-style-type: none"> <li>• Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new national Codes of Practice and implement as necessary.</li> </ul> <p><b>ALARA</b> is built into the design of the operation. This means that all reasonable efforts are made to ensure that radiation and radioactive emissions are controlled and managed in the design of new plant. Radiation protection design criteria have been established and are mandatory for all facilities. An optimisation (<b>ALARA</b>)</p>	<ul style="list-style-type: none"> <li>• None applicable</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain radiation doses as low as reasonably achievable, as assessed through the annual Radiation Management Plan Review.</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 4 GENERATION OF INDUSTRIAL WASTES</b>			

study will be conducted for all phases of any future expansion with findings incorporated into designs.

- Opportunity: Develop and implement optimisation in design process.

Olympic Dam produces waste of various streams as a result of normal operations. A permanent facility specifically designed for disposing contaminated waste has been established. Maximising the capacity whilst minimising the volume of waste deposited at the facility, is a key factor in reducing the environmental impact through land disturbance and improved resource recovery.

- Opportunity: Continue to develop, update and implement a strategy towards managing radioactive waste produced at the site (including waste minimisation strategy).

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 5 EMPLOYMENT AND ACCOMMODATION OF PEOPLE</b>			
<b>ID 5.1 COMMUNITY INTERACTION</b>	<ul style="list-style-type: none"> <li>• Olympic Dam provides opportunities for employment and businesses locally, regionally and state-wide and for specific target groups such as Aboriginal people. These opportunities would increase with any future expansion at Olympic Dam. ODC is also committed to increasing Aboriginal employment in the Olympic Dam workforce and to enabling Aboriginal enterprises from the Northern Region of South Australia to secure contracts at site.</li> <li>• Opportunity: Maximise opportunities for South Australian and Aboriginal employment and business participation at Olympic Dam: <ul style="list-style-type: none"> <li>○ Develop and implement a local procurement plan with targets to maximise the participation of local, regional and State businesses and employment in supplying goods and services to Olympic Dam;</li> <li>○ Continue to explore opportunities to build the capacity of Aboriginal people and businesses to participate in Olympic Dam.</li> </ul> </li> <li>• ODC is committed to maintaining and enhancing the amenity and lifestyle of Roxby Downs. This requires a good understanding of the social and economic environment and the factors that influence amenity, such as the social cohesion, living costs, housing and social services. It is also recognised that responsibility for some social matters lies outside of the authority of ODC, and as such, will need to be managed collaboratively with the State Government and other key stakeholders.</li> <li>• Opportunity: Maintain and enhance the amenity and lifestyle of Roxby Downs as a desirable place to live and work: <ul style="list-style-type: none"> <li>○ Undertake a regular (five-yearly) assessment (social baseline study) of Roxby Downs, Andamooka and Woomera;</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Complete and implement Olympic Dam Social Value Plan for the FY21-25 period.</li> <li>• Undertake the triennial Community Perception Survey (2020) to monitor local community perceptions of ODC, and of local services and facilities.</li> <li>• Continue to undertake the CSIRO Local Voices monthly 'pulse' survey's to compare against anchor survey (from mid-2019) to monitor local community perceptions of ODC.</li> <li>• Review and update local procurement plans with targets to maximise the participation of local, regional and State businesses and employment in supplying goods and services to Olympic Dam.</li> <li>• Continue to explore opportunities to build the capacity of Aboriginal people and businesses to participate in Olympic Dam.</li> </ul>	<ul style="list-style-type: none"> <li>• None applicable.</li> </ul>

EM Program ID	CONTINUOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
<b>ID 5 EMPLOYMENT AND ACCOMMODATION OF PEOPLE</b>			

- Continue to build on best practice and learnings from other remote Australian mine sites to enhance liveability and build sustainable relationships between the residential community and non-resident workforce;
- In collaboration with the South Australian Government and key stakeholders, identify indicators to assist in planning, delivering and monitoring social infrastructure provision;
- Work collaboratively with the South Australian Government and key stakeholders to investigate and deliver appropriate social services and infrastructure.

## 5 SUMMARY OF AMENDMENTS TO THE EPMP 2019

Document	Section	Description of Change	Change Explanation
Airborne Emissions MP	Appendix A	Provide updated current examples of emission events which are captured for investigation and reporting.	Transparency of process.
Airborne Emissions MP	2.1.1 2.1.4 2.4.1 2.4.4 Appendix. C	Update background section to align with amendments to Licence 1301, simplify smelter emission and process information and add in direct licence requirements. Licence references updated.	Updated to reflect the wording of the amended EPA 1301 Licence.
All	All	Document numbers and titles updated throughout	To align with the updated document management system implemented at Olympic Dam.
All	All	Reference to the Mine Closure and Rehabilitation Plan has been changed to Closure Management and Rehabilitation Plan.	To reflect current approved document name.
All	All	Minor changes throughout.	Amended to remove reference to ODX and approvals related to it, as it did not proceed.
Annual Targets, Actions and Major Changes	Table 3 ID 3.2	Removed Continuous Improvement "Sampling has identified Acid Plant bypasses as being the emission most likely to result in <b>environmental impact</b> .  Opportunity: Investigate threshold levels for effects of sulphur dioxide (SO <sub>2</sub> ) on flora in the region of Olympic Dam.	This was completed through a Masters Research Program and reported to the EPA through the annual EPMP Report. Now completed.
Annual Targets, Actions and Major Changes	Table 3 ID 3.2	Included "Continue a watching brief on sulphur dioxide emission reduction technology."	Previous continuous improvement was completed.
Closure management and rehabilitation plan	All	Minor changes throughout.	Alignment with Guideline - Preparation and implementation of closure and post-closure plans, EPA 1088/16, Environment Protection Authority SA, December 2016 as required.
Closure management and rehabilitation plan	9.1	All the domain closure design requirements and activities tables that referenced disposal of structural waste into the TSF have been updated.	Disposal to the CWDF is now required as structural waste is no longer disposed of in the TSF.

Document	Section	Description of Change	Change Explanation
Closure management and rehabilitation plan	9.2	Table 9-12 (5 year LOA potential progressive rehabilitation opportunities deleted. Table 9-13 (renumbered to 9-12) dates for pilot plant domain changed to under review. Text amended as per change explanation.	Opportunities for progressive rehabilitation in the next five years and the associated schedule are currently under review. Approximately \$10M has been committed by BHP to complete the required studies for the Surface Closure Project, which includes the following three areas; <ul style="list-style-type: none"> <li>• Old Pilot Plant and 3 Mega Litre Bulk Fuel Tank</li> <li>• Old Solvent Extraction Plant</li> <li>• Smelter 1</li> </ul> Upon completion of the Surface Closure Project studies an informed decision can be made regarding the closure of the three areas including timing.
EMM	All	Updates have been made throughout to align with ISO 14001 2016	ISO 14001 2004 has been replaced by ISO 14001 2016.
EMM	Appendix D	Appendix D 'EMS (AS/NZS ISO 14001) Implementation at Olympic Dam' has been deleted as it has been replaced by the Integrated Management System (IMS)	The IMS includes all required information for the implementation of ISO14001.
EMM	Appendix E	Appendix E 'EMS Responsibility Matrix' has been deleted and a reference to the relevant section of the IMS provided.	Responsibilities and authorities for the EMS are captured within the IMS Element 1 'Leadership Planning Roles and Responsibilities Standard'.
EM Program	1.1.12	The remainder of SEB credit at Gosse Springs have been converted to points. The Native Vegetation Council (NVC) have agreed that for native vegetation clearance on the SML an average of 58.3 SEB Points are required per hectare.	Using the points system instead of the hectare system is to align with the updated guidelines 'Guide for a Significant Environmental Benefit for the clearance of native vegetation associated with the Minerals and Petroleum Industry August 2017'.
EM Program	1.1.12	The Native Vegetation Assessment Panel endorsed the Emerald Springs SEB credit area and associated management plan on 2 April 2019 subject to conditions. BHP are working with the Native Vegetation Council to fulfil the attached conditions stated in the Native Vegetation Council approval letter dated 9 April 2019, including the execution of a Heritage Agreement over the "SEB Credit area".	To ensure sufficient offset is available for future clearances on and off the SML. The SEB points at Emerald Springs will be utilised once the Gosse Springs SEB points have been exhausted.
EM Program	2.1.1 2.2.1 3.1.1	Update amended responsibilities: Manager Safety Environment Radiation & Hygiene Manager Environment Analysis and Improvement.	Update in line with organisation structure.

Document	Section	Description of Change	Change Explanation
	3.2.1		
	3.3.1		
	3.4.1		
	4.4.1		
	4.5.1		
EM Program	2.1.12	Update Licence 1301 condition numbering, replace SAP reporting with Global Event Management System update Hazardous Materials Management Standard reference, appropriate spill kits replaced with emergency spill kits as per Licence 1301.	Update to reflect new management systems, licence wording and internal document naming conventions.
EM Program	2.1.2	Scope updated to reflect updated waste management training and Landfill Environment Management Plan (LEMP).	Updated to reflect improved waste management programs.
EM Program	2.2.12	External reporting procedure ID updated, reference to EP Act 1993 section 83 & 83A and inclusion of Global Event Management System for tracking spills and asset performance (bund maintenance).	Update to reflect new management systems and internal document naming conventions.
EM Program	2.1.3	Amend bundled management strategy to include Licence requirement for emergency spill kits.	Align to Licence 1301.
EM Program	2.1.4	Update to legislative references.	Ensure quality of quoting as per current legislative documents and licenses.
	2.2.4		
	3.2.3		
	3.2.4		
	3.2.12		
	4.4.4		
	4.4.12		
EM Program	3.1.12	Update terminology from NEPM to EP(AQ)P 2016-GLC (Dot point 14). Update EPA Licence condition numbers as appropriate.	Alignment to amended Licence 1301 terminology and numbering.
EM Program	3.1.12	Remove control and management action: "A 500 m separation between the RSF and Arid Recovery to minimise direct impacts from particulate matter (DEIS 13.3.4)".	This is not relevant to current operations.



Document	Section	Description of Change	Change Explanation
EM Program	3.1.2	Update Licence 1301 condition references following licence amendment. The full functionality of this system (including monitoring of TSP and PM <sub>2.5</sub> ) will be commissioned after the variation date was amended to: "Both types of monitoring systems (point source and fugitive) include data collection of particulate loading to ensure that dust concentrations at sensitive receivers remain within acceptable levels."	Update to reflect new management systems and internal document naming conventions. Cover holistic particulate emissions from both monitoring programs implemented under this section of the report.
EM Program	3.2.13	Amended "Emissions from the Acid Plant Tail Gas Stack may exceed 3,000 mg/Nm <sup>3</sup> of total acid gases for a period of less than five hours during cold plant start-up" to: "Emissions from the Acid Plant Tail Gas Stack may exceed 3,000 mg/Nm <sup>3</sup> of total acid gases during cold plant start-up and abnormal or emergency situations".	This has been updated to reflect the updated EPA 1301 licence.
EM Program	3.1.3	Amend "management of fugitive" paragraph to include preventative maintenance and an introduction into the operational controls listed (4) below the paragraph.	Updated to current terminology.
EM Program	3.5.3	Wording additions to management strategy.	Better describe BHP climate change strategy.
EM Program	3.1.8	Insert: <i>Note: ODC utilises the Environment Protection (Air Quality) Policy 2016 Ground Level Concentration (GLC) thresholds for assessing compliance at sensitive receiver locations.</i>	Alignment to amended Licence 1301 terminology.
EM Program	3.3.8	Updated compliance criteria with the inclusion of "due to habitat loss: No loss of an important population of Plains Rat ( <i>Pseudomys australis</i> ) due to habitat loss".	Saline emissions from raise bores without engineering controls could impact vegetation causing habitat loss which could impact Plains Rat.
EM Program	3.5.8	Compliance criteria	Minor modification to better reflect BHP group-wide approach.
EM Program	4.4.12	Updated that any leachate from sludge and bio solids must be directed to the waste water management system.	Updated to reflect the wording of the updated EPA 1301 Licence.
EM Program	4.3.3	Remove Management Strategy: 'Committing to not constructing further evaporation ponds.'	This is misleading as further evaporation ponds will be required for the operation of the TRS.

Document	Section	Description of Change	Change Explanation
EM Program	4.4.2	Update scope section to align with updated Landfill Management Plan (LEMP), improved site practices and updated online training package.	Updated processes and management plan implementation.
Energy Use and Greenhouse Gas Emissions MP	2.1.3	Addition of deliverable to calculate total scope 1 and 2 GHG emissions in addition to GHG intensity.	Additional information provides better context in reporting.
Flora MP	2.4	The Native Vegetation Assessment Panel endorsed the Emerald Springs SEB credit area and associated management plan on 2 April 2019 subject to conditions. BHP are working with the Native Vegetation Council to fulfil the attached conditions stated in the Native Vegetation Council approval letter dated 9 April 2019, including the execution of a Heritage Agreement over the "SEB Credit area".	To ensure sufficient offset is available for future clearances on and off the SML. The SEB points at Emerald Springs will be utilised once the Gosse Springs SEB points have been exhausted.
Groundwater MP	Table 5-1	Removal of groundwater bores	Removal of LT50. This well has become blocked and cannot be monitored. Sufficient other wells exist to allow assessment of groundwater levels under TSF1-3 and perimeter compliance criteria. These dams are no longer operational. Removal of RD125, RD222, RD305, RD315A, RD2709 and RD2719. All wells are non-cased exploration holes which have become blocked or collapsed and cannot be monitored. The wells are in the SMA area and sufficient other wells exist to monitor water levels in the area.
Social Effects MP	2.1.4 3.2	The method has been updated to include the CSIRO 'Local Voices' program (largely consisting of Roxby Downs residents and introduced in late 2019), which includes an anchor survey from mid-2019 as a baseline, and monthly 'pulse' surveying thereafter.  Updated to include monitoring results for Local Voices in the Annual EPMP Report to the Indenture Minister.	To improve community perception surveying method and reporting.
Waste MP	Table 1-1	Update site sewage ponds (EP2) and add in TSF 6. Remove industrial waste from landfill.	Align to current approvals under EP Act 1993 and EPBC 1999 Align to EPA guideline landfill facilities.
Waste MP	Figures 2-1 to 2-3	Insert updated piezometers for tailing storage facilities.	Transparency and currency of process.
Waste MP	2.4.1	Specify HDPE lined ponds	Align to EPA guideline waste water lagoon construction.

Document	Section	Description of Change	Change Explanation
Waste MP	2.5.1	Update to align with amendments to Licence 1301.	Updated condition numbering of amended EPA 1301 Licence.
Waste MP	2.5.4	Update to align section to amended Landfill Environmental Management Plan (LEMP).	Align to EPA guideline; environmental management landfill facilities, Guideline for stockpile management and EP (W2R) Policy.
Waste MP	2.6.4 2.7.4	Update method section to reflect updated LEMP and contractor management process (waste tracking certificates and data management).	Transparency of process. EPA 415/10Waste transport Certificate Guideline and EPMP reporting.