Procedure			Document No.	155246
Document Title	Environmental Management Program Targets, Actions and Major Changes 2017			
Area	HSE	Iss	sue Date	23 August 2017
Major Process	Environment	Su	b Process	Management Review
Authoriser	Jacqui McGill – Asset President Olympic Dam	Ve	rsion Number	3

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1 SCOPE

This document outlines the Environmental Management (EM) Program 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 targets and actions is reported in the annual EPMP Report.

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

<u>Targets</u> – 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. Failure to meet a target is not a breach of compliance.

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.

<u>Continuous Improvement Opportunities</u> – 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.

This document also 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 INTERPRETATION

This document should be read in conjunction with the EMM (Olympic Dam Document Number 2617), EM Program (Olympic Dam Document Number 49329) and MPs (Olympic Dam Document Numbers 2663, 2664, 2788, 2789, 2790, 2791, 2792, 49329, 110687 that form the Olympic Dam EPMP.

3 CONTINUOUS IMPROVEMENT OPPORTUNITIES, ACTIONS & TARGETS 2017

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES ACTIONS TARGETS ID1 USE OF NATURAL RESOURCES

ID 1.1 LAND DISTURBANCE AND REHABILITATION

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.

 Opportunity: Implement actions as identified in the Olympic Dam Rehabilitation Strategy.

The Olympic Dam Mine Closure and Rehabilitation Plan was reviewed and submitted to government in September 2013. Risk workshops have been conducted annually using BHP Billiton's Risk Management methodology to evaluate the closure risks for all operational areas, and the accounting provision for closure is recalculated each year.

 Opportunity: Clarify closure risks and assumptions identified in the Olympic Dam Mine Closure and Rehabilitation Plan.

Considerable work has been undertaken to formalise weed monitoring and management at Olympic Dam.

- Opportunity: Continue to undertake a regional approach to weed management through the coordination of biennial meetings with relevant land owners.
- Opportunity: Develop and or contribute to a regional database, in collaboration with the wider SAAL NRM, to record areas of known weed infestations and management actions.

- Continue to implement actions and identify progressive rehabilitation opportunities in the site Rehabilitation Strategy.
- Review closure risks and assumptions through annual workshop.
- Align pest plant and animal control with SAALNRM objectives
- Develop pest plant and animal management (monitoring and control) effort guidelines.

None Applicable

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES **ACTIONS TARGETS** Declared plant species under the NRM Act are present on ODC owned land within the Roxby Downs township (e.g., Buffel Grass). Opportunity: Continue to destroy and control all outbreaks of Innocent Weed on BHP Billiton land with a plan to eradicate. Opportunity: Implement highest standard of vehicle hygiene in collaboration with the SAAL NRM Board where development is planned in known weed infestation locations. Opportunity: Continue to progress control of Buffel Grass within the SML and Roxby Downs Municipality through ongoing control in the weeks following rain. Opportunity: Actively engage with SAAL NRM and implement actions from the State Buffel Grass Strategic Plan: 2012 to 2017 where appropriate. Ongoing education of BHP Billiton employees and residents of the local Roxby Downs community is important to improve understanding of pest plants and animals and their associated impacts in the region. Opportunity: Continue to improve community knowledge about the impacts of pest plants and animals in the Roxby Downs region. **ID 1.2 AQUIFER** Within the GAB, pastoral abstraction may influence the Continue improvement work on establishing Maintain an industrial water LEVEL DRAWDOWN reported drawdown. The elimination of pastoral flow at Practical Reference Heads (PRHs). efficiency of 1.16 kL/t at the Jackboot Bore has resulted in drastically reduced budgeted production rate. Continue implementation of water use drawdown, previously incorrectly attributed to Wellfield conservation and recycling initiatives. Maintain a domestic water use B operations. Some of the declining trends observed in target of 3.2 ML/day average. current reported drawdown at D2 and Tarkanina 2 may Continue substitution of saline water for also be influenced by antecedent pastoral flow and high quality water where possible. temperature effects. Opportunity: Eliminate or minimise the influence of

pastoral flow on reported drawdown.

Within the deeper GAB the combination of high temperatures (> 60°C) and the depth of the aguifer

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES ACTIONS

TARGETS

(north of Wellfield B > 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.

 Opportunity: Establish Practical Reference Heads (PRHs) for GAB monitoring bores where possible.

The use of alternative water sources and implementation of water conservation initiatives can help minimise aquifer pressure reduction caused by abstraction from the GAB.

 Opportunity: Investigate opportunities for end users to change to non-GAB water sources around site.

ID2 STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS MATERIALS

ID 2.1 CHEMICAL / HYDROCARBON SPILLS

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.

- 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.
- Maintain a register of recordable chemical and hydrocarbon spills and corrective actions.
 - 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.
- Continue to implement environment improvement plans for areas of concern, as identified through the annual Aspects and Impacts risk register review

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).

Note: Spills are reportable if they result in potential or actual material environmental harm in accordance with the EP Act 1994

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES **ACTIONS TARGETS ID 2.2 RADIOACTIVE** The majority of spill events occur in areas within Maintain a register of recordable spills of · No spill of Radioactive Process **PROCESS** secondary and tertiary containment systems and have radioactive process material resulting from Material into an undisturbed **MATERIAL SPILLS** minimal potential to cause significant **environmental** operations at Olympic Dam. environment impact. The data from these incidents are reviewed to Corrective actions resulting from a Note: Reportable and recordable spills of identify root causes and reduce the potential for further reportable spill of radioactive radioactive process material as defined by spill events. the Criteria and Procedures for Recording process material are executed in Opportunity: Review data to identify actions to be and Reporting Incidents at SA Uranium a timely manner to ensure no included in the area Environmental Improvement Mines (DSD), known as 'Bachmann Criteria' adverse impacts to human health Plans. Continue to implement environment An audit of all existing bunds has been undertaken to improvement plans for areas of concern as determine compliance against EPA Guideline -Bunding identified in the annual Aspects and and Spill Management (2007). Based on the audit a risk Impacts risk register review 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. 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. **ID 3 OPERATION OF INDUSTRIAL SYSTEMS** ID 3.1 PARTICULATE None Applicable Implement an Environmental Improvement None applicable **EMISSIONS** Plan should any significant increase of operationally contributed PM₁₀ 24-hour average of 50 µg/m³ occur over the year. Approximately 99 per cent of **ID 3.2 SULPHUR** Sampling has identified Acid Plant bypasses as being None Applicable all SO2 generated during the DIOXIDE EMISSIONS the emission most likely to result in environmental smelting process is captured. impact. Opportunity: Investigate threshold levels for effects of sulphur dioxide (SO₂) on flora in the region of Olympic Dam. **ID 3.3 SALINE** Continue a watching brief on saline emission reduction Install and maintain controls as per the Monitor the deposition of salt from **AEROSOL** technology. design standard around raise bores. saline aerosol emissions at the

EM Program ID	CONTINOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
EMISSIONS			edge of the SML against background levels of 20 mg/m2/day.
ID 3.4 RADIOACTIVE EMISSIONS	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.	None applicable	Maintain radiation doses as low as reasonably achievable, as assessed through the annual Radiation Management Plan Review
	 Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new or revised national Codes and implement as necessary. 		
	 Opportunity: Consider impacts of potential changes to ICRP recommended dose conversion factors for radon decay products and implement as required. 		
ID 3.5 GREENHOUSE GAS EMISSIONS	Continue to identify and implement energy efficiency projects for the existing operation, particularly those identified opportunities that do not require capital expenditure.	None applicable	 Targets were set in FY 12 for the period FY12 – FY17, being 3.7ktpa CO2 reduction. This target has been achieved. Further targets will be introduced in the period FY18 – FY22
ID 4 GENERATION OF	INDUSTRIAL WASTES		
ID 4.1 EMBANKMENT STABILITY OF TSF	Several contingency options exist to maintain slope stability and reduce the risk of potential piping failures. • Opportunity: Identify, design and install contingency options as required. Regular audits of the TRS operation are undertaken as described in the Waste MP. • Opportunity: Ensure improvement actions and recommendations from audits are documented and where appropriate implemented in a timely manner.	 Develop an action plan for appropriate recommendations arising from audits undertaken in FY17. Undertake periodic (2-3 year) CPTu testing of tailings to confirm strength parameters used in stability analysis. 	None applicable

EM Program ID	CONTINOUS IMPROVEMENT OPPORTUNITIES	ACTIONS	TARGETS
ID 4.2 TAILINGS SEEPAGE	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.	 Identify and install additional liquor interception systems as required. 	None applicable
	 Opportunity: Install a liquor interception system where seepage of liquor has potential to impact native vegetation. 		
ID 4.3 FAUNA INTERACTION WITH TAILINGS RETENTION SYSTEM	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, onground work and monitoring relating to the interaction of fauna with the TRS.	 Continue investigating and trial alternative deterrent technologies when they become available. 	None applicable
	 Opportunity: Identify new opportunities to reduce fauna mortalities through ongoing research into management practices relating to fauna interaction with tailings storage systems. 		
	Opportunistic and standardised monitoring of fauna interactions at the TRS has occurred since the implementation of the TRS fauna project.		
	 Opportunity: Continue to assess the impact to fauna and the efficacy of various management tools through monitoring. 		
ID 4.4 SOLID WASTE DISPOSAL	The opportunity to reuse and recycle materials would be greater if more waste materials were segregated at their source. Segregation reduces contamination and double	 Implement a site wide paper/cardboard recycling programme with bailing and off site removal/recycling. 	 Increase at source waste segregation to reduce waste to landfill.
	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.	 Implement plan for reducing stockpiles of recyclable material. 	 Reduce recycling stockpiles by 20%
	 Opportunity: Improve at source segregation and improve mine end waste segregation system. 		
	No site-standard recycling program exists for office-based waste.		
	 Opportunity: Develop an office-based recycling program to enhance recycling of paper/cardboard and refundable drink containers. 		

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES **ACTIONS TARGETS** 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). Opportunity: Investigate ways to increase tyre life for haul trucks. Spent catalyst (acid plant catalyst containing vanadium pentoxide) is a hazardous waste produced on site and is currently disposed of into the TSF. Investigations into the radiological components of the waste product have been undertaken in the past to aid in determining if alternative disposal or treatment methods are available. Historically, recycling has not proved to be viable in Australia. Opportunity: Investigate alternative treatment methods for spent catalyst (DEIS 5.6.6). **ID 4.5 RADIOACTIVE** International and national standards, guidelines and None applicable Maintain radiation doses as low WASTE codes are subject to change from time to time, to as reasonably achievable, as ensure effective protection of humans and the assessed through the annual environment from the harmful effects of radiation. Any Radiation Management Plan new recommendations or revisions should be reviewed Review. and implemented as necessary. Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new national Codes of Practice and implement as necessary. ALARA 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 (ALARA) study will be conducted for all phases of any future expansion with findings incorporated into designs. Opportunity: Develop and implement optimisation

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES ACTIONS

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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).

ID 5 EMPLOYMENT AND ACCOMMODATION OF PEOPLE

ID 5.1 COMMUNITY INTERACTION

- 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.
- Opportunity: Maximise opportunities for South Australian and Aboriginal employment and business participation at Olympic Dam:
 - 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; and
 - Continue to explore opportunities to build the capacity of Aboriginal people and businesses to participate in Olympic Dam.
- ODC is committed to maintaining and enhancing the amenity and lifestyle of Roxby Downs. This

- Undertake the triennial Community Perception Survey to monitor local community perceptions of ODC, and of local services and facilities.
- A long-term desirable trend towards a minimum housing rental vacancy rate in Roxby Downs of 5%.

EM Program ID CONTINOUS IMPROVEMENT OPPORTUNITIES ACTIONS

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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.

- Opportunity: Maintain and enhance the amenity and lifestyle of Roxby Downs as a desirable place to live and work.
 - undertake a regular (five-yearly) social assessment of Roxby Downs, Andamooka and Woomera;
 - 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; and
 - work collaboratively with the South Australian Government and key stakeholders to investigate and deliver appropriate social services and infrastructure.

4 SUMMARY OF AMENDMENTS TO THE EPMP 2016

EM Program 1.1.8 Removal of compliance criteria 'No significant increase (relative to control locations remote to and / or prior to operations) in abundance or infestation area of declared pest plants and plant pathogens that can be attributed to ODC's activities within the SML and GAB welffleds area. EM Program 1.2.9 Removal of leading indicator for GAB pastoral bores. EM Program 1.1.10 Reference to the Olympic Dam weed Management Strategy has been removed from section 1.1.10 Management plan(s). EM Program 3.3.8 Change of compliance criteria from 'No loss of an important population of Category to species to 'No loss of an important population devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surroundated by soild barmaciding.' EM Program 3.3.12 Peleted 'Fencing barricades around 'we'r raise bores located	Document	Section	Description of Change	Change Explanation
The program 1.2.9 Removal of leading indicator for GAB pastoral bores. The 20 year period of predictions has elapsed and the indicator does not only management concerns regardly has been removed from section 1.1.10 Management plan(s). The 20 year period of predictions has elapsed and the indicator does not to any environmental outcome or compliance. Pastoraci concerns regardly has been removed from section 1.1.10 Management plan(s). Reference to the Olympic Dam weed Management plan(s). The 20 year period of predictions has elapsed and the indicator does not to any environmental outcome or compliance. Pastoraci concerns regardly with or to any environmental outcome or compliance. Pastoraci concerns regardly and agreed with DEWNR and GAB pastoral stakeholders. Reference to the Olympic Dam weed Management Strategy has been removed from section 1.1.10 as this document is no longer a procedurer individual propulation of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category 1b species to 'No loss of an important population of Category	EM Program	1.1.8	from the compliance criteria. The categories have been	To simplify the EM Program, 'At-risk' species categories have been removed and therefore the compliance criteria for several sections in the EM Program have been changed accordingly.
to any environmental outcome or compliance. Pastoral concerns regarding well drawdown are dealt with via the BHPB OD complaint process introd and agreed with DEWNR and GAB pastoral stakeholders. EM Program 1.1.10 Reference to the Olympic Dam weed Management Strategy has been removed from section 1.1.10 Management plan(s). EM Program 3.3.8 Change of compliance criteria from 'No loss of an important population of Category 1b species. to 'No loss of an important population of Category 1b species. to 'No loss of an important population of Plains Rat (<i>Pseudomys australis</i>). EM Program 3.3.12 Reworded "Inverting the exhaust outlet over a dam and erecting solid fencing around the outlet to intercept aerosols after emission." To: "All new exhaust raise bores and historical 'wet' raise bores have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surrounded by solid barricading." EM Program 3.3.12 Deleted "Fencing barricades around "wet" raise bores located close to Category 1b 'At risk' species to intercept saline enterpretation devices in the form of enterpretation particulated in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices and this has been included in the separation devices in the form of enterpretation devices in the form of enterpretation devices in the form of enterpretation devices and this has been included in the separation devices.	EM Program	1.1.8	(relative to control locations remote to and / or prior to operations) in abundance or infestation area of declared pest plants and plant pathogens that can be attributed to ODC's	infestations. To overcome this ODC will investigate methods to measure management effort as opposed to the size of infestation. Furthermore, this management change will provide environmental personnel with clear direction
has been removed from section 1.1.10 Management plan(s). EM Program 3.3.8 Change of compliance criteria from 'No loss of an important population of Category 1b species. to 'No loss of an important population of Plains Rat (<i>Pseudomys australis</i>). EM Program 3.3.12 Reworded "Inverting the exhaust outlet voer a dam and erecting solid fencing around the outlet to intercept aerosols after emission." To: "All new exhaust raise bores and historical 'wet' raise bores have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surrounded by solid barricading." EM Program 3.3.12 Deleted "Fencing barricades around "wet" raise bores located close to Category 1b 'At risk' species to intercept saline All exhaust 'wet' raise bores have salt interception devices in the form of called by portion beging barricades and this has been included in the called by portion planticades and this has been included in the called by portion planticades and this has been included in the called by portion planticades and this has been included in the called by portion planticades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades and this has been included in the called by solid barricades.	EM Program	1.2.9	Removal of leading indicator for GAB pastoral bores.	The 20 year period of predictions has elapsed and the indicator does not link to any environmental outcome or compliance. Pastoral concerns regarding well drawdown are dealt with via the BHPB OD complaint process introduced and agreed with DEWNR and GAB pastoral stakeholders.
population of Category 1b species.to 'No loss of an important population of Plains Rat (<i>Pseudomys australis</i>).' EM Program 3.3.12 Reworded "Inverting the exhaust outlet over a dam and erecting solid fencing around the outlet to intercept aerosols after emission." To: "All new exhaust raise bores and historical 'wet' raise bores have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surrounded by solid barricading." EM Program 3.3.12 Deleted "Fencing barricades around "wet" raise bores located close to Category 1b 'At risk' species to intercept saline All exhaust 'wet' raise bores have salt interception devices in the form of splash ponds and fencing barricades and this has been included in the application of the ponds and fencing barricades and this has been included in the application of the ponds and fencing barricades and this has been included in the application."	EM Program	1.1.10		removed from section 1.1.10 as this document is no longer a 'procedure', but rather a 'work instruction', therefore, it no longer sits at a 'management plan'
erecting solid fencing around the outlet to intercept aerosols after emission." To: "All new exhaust raise bores and historical 'wet' raise bores have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surrounded by solid barricading." EM Program 3.3.12 Deleted "Fencing barricades around "wet" raise bores located close to Category 1b 'At risk' species to intercept saline All exhaust 'wet' raise bores have salt interception devices in the form of splace points and fencing barricades and this has been included in the analysis.	EM Program	3.3.8	population of Category 1b species.to 'No loss of an	To further simplify the EPMP, ODC proposes removing the 'At-risk' species categories 1a, 1b and 2. This change will allow for greater transparency of the effects of ODC's high-risk impacts. Compliance criteria is therefore formed around listed species (State, Commonwealth) that are at the greatest risk from the operation determined by an evaluation process new to the Flora and Fauna MPs.
have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is surrounded by solid barricading." EM Program 3.3.12 Deleted "Fencing barricades around "wet" raise bores located close to Category 1b 'At risk' species to intercept saline All exhaust 'wet' raise bores have salt interception devices in the form of splash ponds and fencing harricades and this has been included in the analysis.	EM Program	3.3.12	erecting solid fencing around the outlet to intercept aerosols	This better describes the salt interception devices which are built on raise bores.
close to Category 1b 'At risk' species to intercept saline			have salt interception devices installed which consist of an inverted exhaust outlet, a ~ 20m splash pond which is	
	EM Program	3.3.12	close to Category 1b 'At risk' species to intercept saline	All exhaust 'wet' raise bores have salt interception devices in the form of 20m splash ponds and fencing barricades and this has been included in the above

Document	Section	Description of Change	Change Explanation
			standard for all exhaust raise bores. It is unknown which wet raise bores are located near important populations of Plains Rat as no refuge habitat of Plains Rat exists in the vicinity of wet raise bores. Rather a set standard is in place for all raise bores.
EM Program	3.3.12	Reworded "Set standards for raise bore design, and ensure that controls are applied consistently to all new exhaust raise sites." To: "Ensure approved salt interception device standards are applied consistently to all new exhaust raise bore sites."	Standards are already set and applied to new all new exhaust raise bores.
EM Program	3.3.13	Deleted "Remediate contaminated area as much as reasonably achievable".	The 'contaminated area' or impacted area has been demonstrated to fall within a 250m impact radius zone. This area is within the backfill and utilised for stopes and roads. The area is also wetted down with saline water for dust suppression. If the area requires remediation this will be done as part of the site rehabilitation strategy at end of life of mine.
EM Program	3.3.12	Included "Maintain a watching brief on improvements or changes to saline emission interception devices."	To identify continuous improvement opportunities
EM Program	3.5.12	Deleted "Implementation of a Smelter 1 operating strategy that optimises the operation of the furnace and reduces LPG consumption"	Strategy no longer relevant due to very limited use of Smelter 1.
EM Program	4.3.8	Change of compliance criteria from 'No significant adverse impact on the size of an important population of Category 1a and 1b fauna species as a result of interactions with the Olympic Dam TRS.' to 'No significant adverse impact on the size of an important population of Banded Stilt (<i>Cladorhynchus leucocephalus</i>) as a result of interactions with the Olympic Dam TRS.'	To further simplify the EPMP, ODC has removed the 'At-risk' species categories 1a, 1b and 2. This change will allow for greater transparency of the effects of ODC's high-risk impacts. Compliance criteria is therefore formed around listed species (State, Commonwealth) that are at the greatest risk from the operation determined by an evaluation process new to the Flora and Fauna MPs.
EM Program	4.5.12	Removed reference to PPE from the statement "Off – site laboratory waste and PPE is stored at the pilot plant and disposed to TSF"	PPE is tested and if deemed general waste is disposed to general waste streams.
EM Program	4.5.12	Changed the following statement "Plant and equipment that is contaminated with process material is stored in the temporary Contaminated Waste Disposal Facility until the permanent contaminated waste disposal facility is commissioned in the existing quarry. " to	The permanent contaminated waste facility will be constructed and no temporary facilities will exist.

Document	Section	Description of Change	Change Explanation
		"Plant and equipment that is contaminated with process material is disposed in the permanent contaminated waste disposal facility (CWDF) and managed according to the Contaminated Waste Management Plan QD.156800."	
Annual Actions and Targets	Table 3 ID 3.3	Remove continuous improvement "Saline aerosols emitted from raise bores impact on surrounding flora and fauna. As such, standards have been produced for implementing controls on new and existing raise bores to minimise the emissions of saline aerosols to the surrounding environment.	This has been undertaken and demonstrated in the annual changes document.
		Opportunity: Understand the reduction foot print of saline aerosol emissions achieved through implementing controls and the actual saline aerosol emission impact zone based on emission levels."	
Annual Actions and Targets	Table 3 ID 3.3	Removed the target "Reduce the deposition of salt from saline aerosol emissions at RB21 salt jars to <800 mg/m2/day." And changed the target to Monitor the deposition of salt from saline aerosols emissions at the edge of the SML to background levels of 20 mg/m²/day.	Deposition data indicates that the pollution control devices on all the exhaust raise bores have contained and managed salt deposition to a 250m radius area. Data also indicates a background deposition value of 20mg/m²/day. New data will be monitored at the edge of the SML against background levels in order to demonstrate that OD is not having an impact off the SML.
Annual Actions and targets	Table 3 ID 3.2	Changed the target of ensure 99 per cent of all SO2 generated during the smelting process is captured" to "ensure approximately 99 percent of all SO ₂ generated during the smelting process is captured".	The acid plant was designed to capture 95-99% of all SO ₂ generated during the smelting process.
Annual Actions and targets	Table 3 ID 3.4	Removed action "Finalise the establishment of the contaminated waste disposal facility for contaminated waste that is unable to be disposed of to the TSF."	The CWDF will be finalised at the end of FY17.
Annual Actions and targets	Table 3 ID 4.5	Removed action "Finalise the establishment of the contaminated waste disposal facility for contaminated waste that is unable to be disposed of to the TSF."	The CWDF will be finalised at the end of FY17.
Annual Actions and targets	Table 3 ID 4.5	Removed Target "Implement cleaning and recycling strategies in order to minimise radioactive waste generated"	The Contaminated Waste Disposal facility Management Plan sets standards for waste cleaning and preparation to ensure minimal waste is disposed and majority is removed for recycling.
Annual Actions	Table 3	Changes made from temporary facility to permanent facility in the following continuous improvement statement "Olympic	The temporary facility is scheduled to be decommissioned and a permanent

Document	Section	Description of Change	Change Explanation
and targets	ID 4.5	Dam produces waste of various streams as a result of normal operations. A temporary facility specifically designed for storing 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.	facility will be established by the end of FY17.
		 Opportunity: Continue to develop, update and implement a strategy towards managing radioactive waste produced at the site (including waste minimisation strategy)." 	
Annual Actions and Targets	Table 3 ID 4.3	Remove the > 250mm evaporation pond depth target.	Analysis of monitoring data has determined that the >250mm evaporation pond depth environmental target is ineffective at reducing bird mortalities on the TRS.
			Ongoing research will continue into new technology that may be more effective at reducing bird numbers at the TRS.
Airborne Emissions MP	2.1.3	Updated Environmental Protection (Air Quality) Policy 1994 to 2016	Policy has been updated.
Airborne Emissions MP	2.1.3	Data to confirm that greater than 99 % of all SO ₂ generated during the smelting process is captured has been amended to approximately 99 %.	The acid plant was designed to capture 95-99% of all SO_2 generated during the smelting process.
Airborne Emissions MP	2.1.4	Updated Table 2.1 to reflect changes to the Environmental Protection (Air quality) policy 2016.	Policy has been updated
Airborne Emissions MP	2.5.3	Updated a deliverable of "records from salt deposition monitoring jars which characterise the dispersion and deposition of saline aerosol emissions around the raise bores" to "records from background salt deposition monitoring jars at the edge of the SML against the background limit of 20mg/m²/day.	All raise bores have salt interception devices installed to capture and reduce saline emissions.
Airborne Emissions MP	2.5.4	The method of salt deposition monitoring was updated to reflect 4 deposition jars to be located on the north, east, west and south of the SML and that deposition results would be compared to background levels of 20mg/m²/day.	All raise bores have salt interception devices installed to capture and reduce saline emissions. The monitoring programme has been changed to reflect the controls and monitor against background levels.
Airborne Emissions MP	3.2	Updated table 3.1 to reflect monitoring of background saline aerosol emissions.	All raise bores have salt interception devices installed to capture and reduce saline emissions. The monitoring programme has been changed to reflect the controls and monitor against background levels

Document	Section	Description of Change	Change Explanation
Airborne Emissions MP	5	Updated Appendixes A and B with new figures depicting bypass events and raise bore monitoring sites.	Online reporting system has been updated and issues new reports. The same information is displayed however in a different format.
Waste MP	2.5.4	Changes were made to the frequency of the landfill audit to be conducted biennially to "if any improvement opportunities have been implemented that will affect the waste handling and disposal on site."	Sufficient data exists on waste composition being dispose do the landfill due to numerous audits. If the process changes or major improvement opportunities in waste handling or disposal are implemented an audit will be initiated.
Waste MP	2.7	Removed the phrase that contaminated plant and equipment is currently stored in an approved contaminated storage facility located near to the RRC.	The temporary contaminated storage facility is being decommissioned in FY17. Contaminated waste will be disposed to the contaminated waste disposal facility.
Waste MP	2.7	The following phrase was removed "A permanent Contaminated Waste Disposal Facility (CWDF) will be commissioned during FY16, and all material in temporary storage areas will be progressively moved to this permanent facility."	The temporary facilities will be decommissioned during FY17 and the contaminated waste disposal facility will be constructed and operational by the end of FY17.
Waste MP	3.2 Table 3.1	Changed conduct landfill audit detailing composition of waste from Biennially to 'as required'.	Sufficient data exists on waste composition being disposed to the landfill due to numerous audits. If the process changes or major improvement opportunities in waste handling or disposal are implemented an audit will be initiated.
Fauna MP	2.3 (2016)	Renaming of 'At-risk' fauna – Category 1a to GAB springs endemic invertebrates.	The monitoring program At-risk' fauna – Category 1a has been renamed to GAB springs endemic invertebrates. This change allows for greater transparency by removing the 1a, 1b and 2 categories.
Fauna MP	2.4 (2016)	Removal of 'At-risk' fauna – Categories 1b and 2 monitoring program.	Qualitative data collection on 'At-risk' species has been replaced with an annual review of an 'At-risk' species risk register.
Fauna MP	3.2	Addition of the annual review of the 'At-risk' Species Risk Register.	An annual risk review of listed and locally recognised species will allow for ODC to manage the risk associated with all 'At-risk' species.
Flora MP	3.2	Addition of the annual review of the 'At-risk' Species Risk Register.	An annual risk review of listed and locally recognised species will allow for ODC to manage the risk associated with all 'At-risk' species.
GAB MP	Appendix E	Update of GAB spring flow decline predictions based on new modelling to 2036	GAB spring flow decline predictions have been updated to 2036 as previous modelling expired at the end of 2016.
GAB MP	Appendix E	Update of GAB Spring flow decline table to group springs in Hydro zones as per 2016 Annual Wellfield Report and GAB Contingency plan	The GAB spring flow decline predictions table has been updated to present springs in the hydro zone groups reported against in the 2016 AWR. This also brings the EPMP in line wide the nomenclature of the GAB Contingency Plan.

Document	Section	Description of Change	Change Explanation
GAB MP	Appendix F	Update of GAB pastoral bore drawdown predictions based on new modelling to 2036	Pastoral bore drawdown predictions have been updated to 2036 as previous modelling expired at the end of 2016.
Groundwater MP	1.1	Removal of text associated with Yarra Wurta Springs	As approved in 2016 BHPB OD no longer monitors Yarra Wurta springs for flow or groundwater level. The removal of text references to the springs in the 2017 EPMP is the correction of an oversight in the 2016 Groundwater MP.
Groundwater MP	3.2	Removal of modelling section	Section 3.2 – Modelling referred to regional Stuart Shelf modelling required as part of the open pit project and 2011 EIS. As the approval for this project has expired and BHPB OD would be required to seek Ministerial approval to recommence the section has been removed as redundant.
Energy Use and Greenhouse Gas Emissions MP	1.2	Change to details of review and modification	Reflect current practice.