

# ENVIRONMENTAL MANAGEMENT FRAMEWORK

24

## 24.1 INTRODUCTION

Environmental issues are managed at Olympic Dam in accordance with the operation's AS/NZS ISO 14001:2004 certified environmental management system (EMS). The proposed expansion involves the continuation of existing activities (albeit on a larger scale) and the introduction of new activities, some of which are located outside the Olympic Dam Special Mining Lease (SML).

Given the complexity of the proposed expansion in terms of project delivery timeframes, the variety of environmental settings and the dynamic nature of environmental management/monitoring technologies, a single stand-alone Draft Environmental Management Plan would be inappropriate. The existing environmental management process at Olympic Dam is a robust and proven system, which is regularly reviewed and improved. The Environmental Management Framework (EM Framework) has been developed to integrate the management requirements for the proposed expansion into this system.

This chapter identifies those areas of the EMS that would be reviewed and amended to address the components of the proposed expansion. It outlines the process and environmental management documentation required for ensuring that the Draft EIS commitments, management measures and monitoring requirements are implemented at the appropriate time throughout the expansion project. A Draft Environmental Management Program (Draft EM Program) has been developed for the proposed expansion and is provided in Appendix U. The Draft EM Program consolidates the commitments, management measures, objectives, assessment criteria and monitoring requirements from the Draft EIS into a stand-alone document that can be regularly reviewed and updated.

The decommissioning of the expanded operation is addressed in Chapter 23, Rehabilitation and Closure, and a consolidated list of the key commitments for the Draft EIS is provided in Chapter 27, Commitments.

## 24.2 EXISTING ENVIRONMENTAL MANAGEMENT AND REGULATORY REGIME

### 24.2.1 ENVIRONMENTAL MANAGEMENT SYSTEM

BHP Billiton manages environmental issues at Olympic Dam in accordance with the operation's AS/NZS ISO 14001:2004 certified EMS, parts of which are currently regulated by the South Australian Government (see <[www.pir.sa.gov.au](http://www.pir.sa.gov.au)>).

The key components of the EMS are (see also Figure 24.1 for the EMS model used at Olympic Dam):

- the 'BHP Billiton Group Sustainable Development Policy' – details the company's aspirations to achieve leading industry practice through 'zero harm' to its people, the host communities in which it operates, and the environment
- the 'Key Obligations for the Environmental Management Program (EM Program) and Monitoring Programs (MP)' – outlines the requirements and licence conditions under South Australian Acts and Regulations applying to BHP Billiton and provides a reference to identify systems in place that ensure Olympic Dam complies with relevant legal and other obligations
- the 'Environmental Management Manual (EMM) FY08–FY10' – fulfils BHP Billiton's commitments to comply with specific requirements of the Schedule to the Ratification Act. It describes how the environmental requirements of the BHP Billiton Group Health, Safety, Environment and Community (HSEC) Management System are applied and incorporated into Olympic Dam's activities and defines a site standard which is Olympic Dam's minimum commitment to environmental management in accordance with AS/NZS ISO 14001 2004: Environmental Management Systems –Requirements with guidance for use (Standards Australia 2004)
- the 'Olympic Dam Environmental Management Program (EM Program) FY08–Y10' – details the site objectives (and targets), current controls and mitigation measures to protect environmental values and includes environmental action plans to address issues of high environmental risk

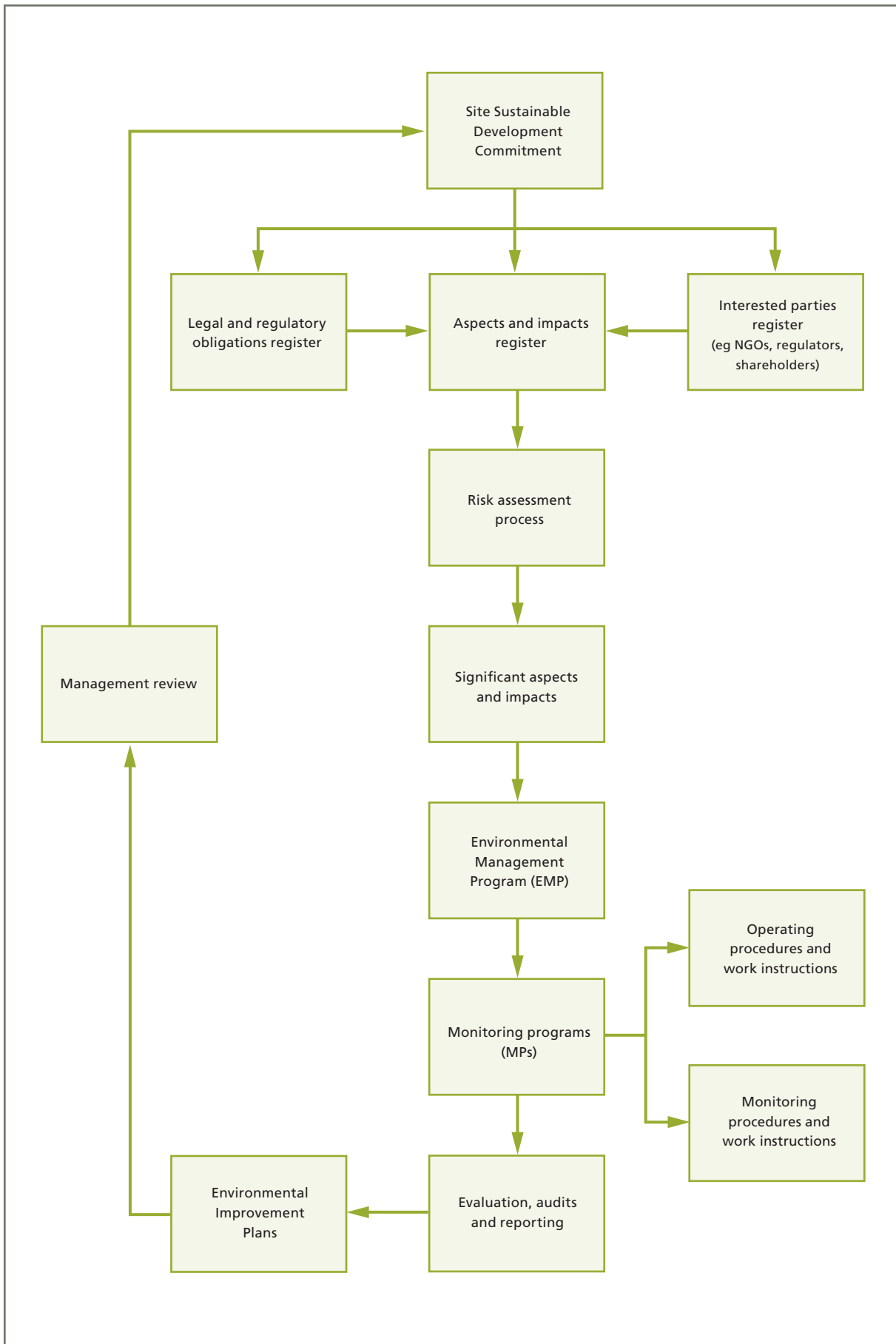


Figure 24.1 Olympic Dam Environmental Management System

- the 'Olympic Dam Monitoring Programs' (MP) – assesses and reports the operation's performance against the objectives (and targets) set out in the EM Program.

#### 24.2.2 SOUTH AUSTRALIAN REGULATORY PROCESS

Components of the Olympic Dam EMS are currently regulated by the South Australian Government under the Ratification Act and this is likely to continue for the proposed expansion.

The current South Australian regulatory regime includes:

- triennial ministerial approval of the EMM, EM Program and MPs
- a review of the site environmental objectives (and targets) with the above-mentioned triennial review
- an annual EM Program submitted to the minister detailing Action Plans and Improvement Targets which show how the triennial EM Program will be implemented in that particular year
- Action Plans and Improvement Targets approved annually by the Chief Inspector of Mines
- EM Program reviewed annually, and where significant changes have been made to the program, a submission is made to seek approval from the minister of those changes
- performance against the approved site environmental objectives and targets publicly reported in the Annual Environmental Management and Monitoring Report (EMMR)
- an annual GAB Wellfields Report is submitted to the minister and made available to the public.

In all cases referred to above, the South Australian Minister for Mineral Resources Development is the responsible minister.

The Mining, Regulation and Rehabilitation Branch of PIRSA is responsible for regulating the site and, where appropriate, PIRSA would seek assistance from other government departments and agencies.

### 24.3 ENVIRONMENTAL MANAGEMENT FRAMEWORK FOR THE PROPOSED EXPANSION

The Environmental Management Framework (EM Framework) is an overarching strategy that will be used to translate the commitments and management measures contained in the Draft EIS into the planning documents, engineering designs, contract documents and the day-to-day operation of the expanded Olympic Dam. The existing EMS and its regulatory regime would continue to be used as the mechanism through which environmental management, monitoring and reporting is implemented for the proposed expansion.

The EMS would be reviewed and modified to ensure that the environmental obligations associated with continuing the existing activities (such as the metallurgical plant) and establishing new activities (such as the desalination plant at Point Lowly) for the proposed expansion are adequately managed.

The following sections describe how the EM Framework would be implemented, including:

- the information from the Draft EIS that would identify the management requirements
- the process for integration with the existing EMS
- the processes to manage the environmental obligations
- the process for implementing the environmental objectives for the proposed expansion
- the documentation to be reviewed, modified or developed and its timing.

## 24.4 ENVIRONMENTAL MANAGEMENT FRAMEWORK IMPLEMENTATION

### 24.4.1 DRAFT EIS INPUTS

As described in Chapter 1, Introduction (Section 1.6.2) a conceptual framework was used for the Draft EIS to identify impacts, benefits and risks (see Figure 24.2). An iterative process has been used, where assessments were made on several occasions, with design modifications or management measures applied each time, to establish a cost-effective and environmentally, socially and culturally acceptable outcome.

Project impacts were considered to be the consequence of a known event or activity, and the likelihood of the event occurring was treated as certain. The impact assessment therefore focused on the consequence of the activity occurring and the management measures that would reduce the impact or, where relevant, maximise the benefit. As illustrated in Figure 24.2, depending on the level of potential impact, the activity or the design of the project component was modified (for a high potential impact), mitigation measures were applied (for moderate impact) or standard controls were applied (for low level impact). The activity incorporating the design modification or management measure was then assessed a second time to determine the residual impact.

BHP Billiton would implement the design modifications, mitigation measures and standard controls identified within the Draft EIS to manage activities that have a potential impact. For the purpose of the Draft EIS, commitments are those outcome-based safeguards that BHP Billiton can commit to at this time (see Chapter 27, Commitments). Management measures provide an indication of how the outcome-based commitments would be achieved. These measures may be further refined or amended as a result of improved practices or technological advances, and as such have been incorporated into the Draft EM Program (see Appendix U).

The major components of the proposed expansion were also subject to a risk assessment of unplanned events (i.e. faults and failures that can occur irrespective of the effort taken in applying leading practice designs, protocols and management strategies). A level of risk (extreme, high, moderate, low or negligible) was assigned to each event based on the consequence and likelihood of the event occurring. The process was again iterative to ensure an acceptable outcome was achieved (see Figure 24.2).

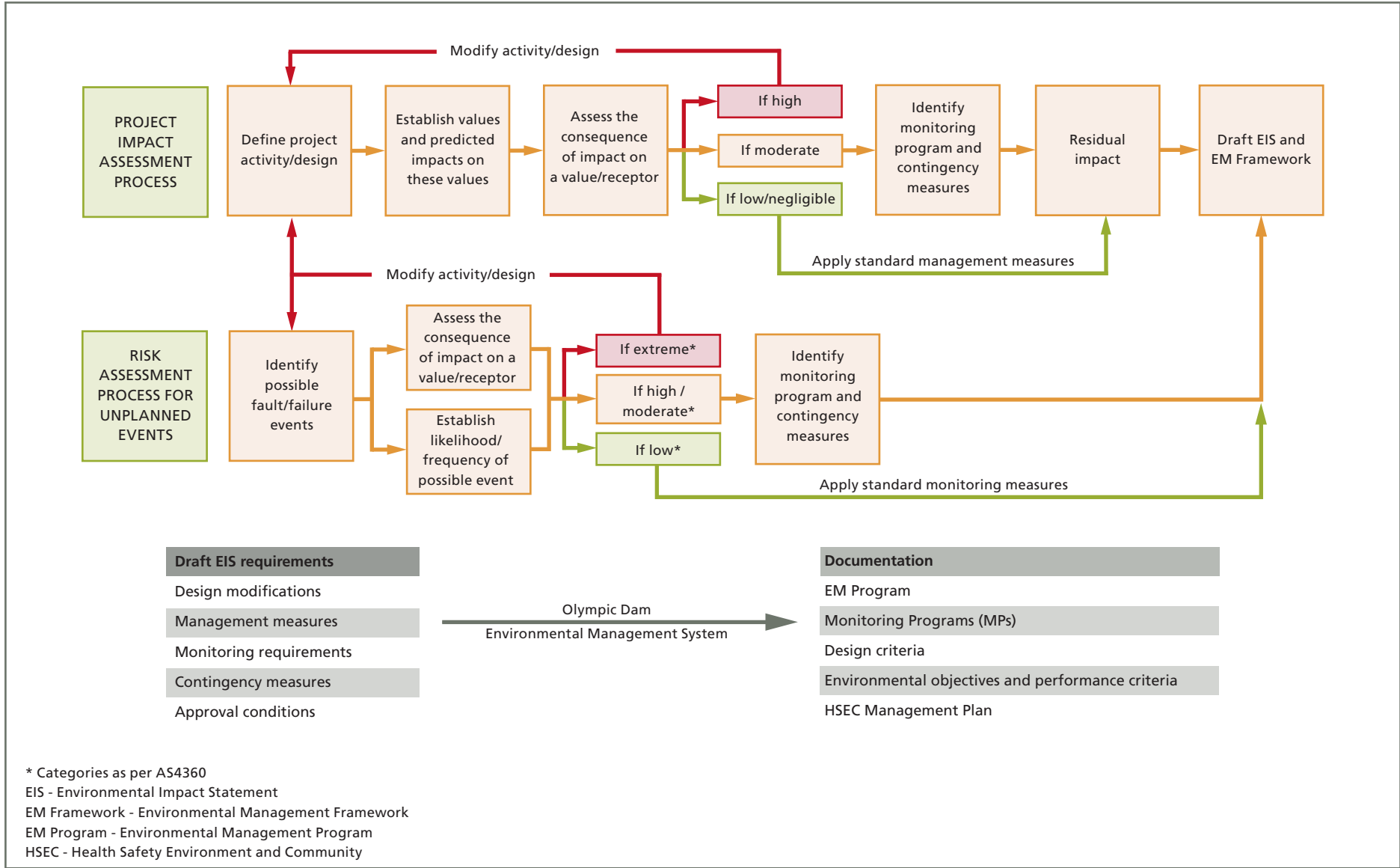


Figure 24.2 Framework for assessment and environmental management of the proposed expansion

Depending on the level of risk, the activity or design was modified (for an extreme risk), contingency measures identified (for a high or moderate risk) or the potential risk would be monitored through standard monitoring programs (for a low level risk). The outcomes of the risk assessment process and identified risk levels is summarised in Chapter 26, Hazard and Risk, and detailed in Appendix C. The key environmental and social risks have been incorporated into the Draft EM Program so that monitoring programs could be established to assess ongoing performance and to develop contingency measures as necessary (see Appendix U).

Other inputs would include standard due diligence environmental management measures, approval conditions set for the proposed expansion and legislative requirements associated with the granting of permits and/or licences for specific activities.

**24.4.2 PROPOSED EXPANSION ACTIVITIES**

Chapter 5, Description of the Proposed Expansion, describes in detail the proposed expansion of the existing operation. This includes establishing an open pit mine and expanding the existing metallurgical plant and the tailings storage facility (TSF), and establishing new water, power, transport and accommodation infrastructure.

While some of the activities required for the proposed expansion are already undertaken at Olympic Dam, new infrastructure (such as the desalination plant at Point Lowly) would be established. The location of much of the proposed new infrastructure is over a broad geographical area with some environmental values that are different from those of the Olympic Dam region. The combination of new activities and activities to be undertaken in locations outside of the Olympic Dam region will require new management procedures and/or modifications to existing procedures to ensure the proposed expansion is managed effectively by the EMS.

Table 24.1 provides a summary of the new and/or expanded activities associated with the proposed expansion, and identifies the related management requirement, whether it be an extension of existing procedures or the development of new management and monitoring programs.

**24.4.3 INTEGRATION WITH THE EXISTING ENVIRONMENTAL MANAGEMENT SYSTEM**

The EMS would continue to function as the robust tool for environmental management at Olympic Dam and for the proposed expansion. The EMS would undergo major review and update, as part of its continual improvement (see Figure 24.3) to incorporate the new environmental management and monitoring requirements, commitments and approval conditions resulting from the Draft EIS.

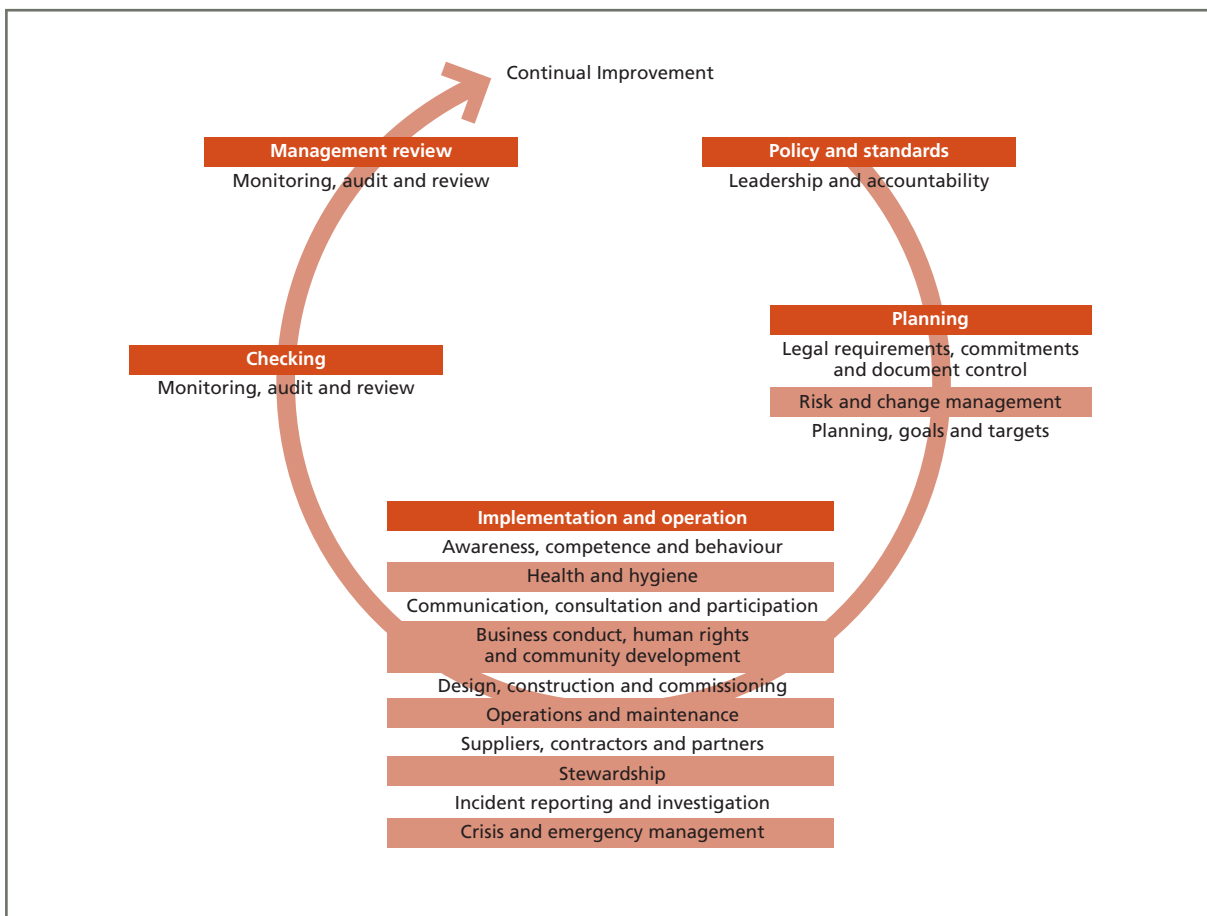


Figure 24.3 BHP Billiton Health, Safety, Environment and Community Management Standards

**Table 24.1 Summary of new/expanded activities and management requirements**

<b>Environmental element</b>	<b>New/expanded activities</b>	<b>Management requirement</b>
Land Use	All expansion activities	Extend existing procedures and community consultation to expanded SML and areas of new infrastructure
Topography and Soils	Infrastructure components in new geographical locations	Extend existing procedures to areas of new infrastructure Develop an Erosion and Sediment Control Plan for identified high erosion risk areas Develop an Acid Sulfate Soil Management Plan for identified high risk areas
Surface Water	RSF Open pit mine Infrastructure components in new geographical locations	Develop and implement a Stormwater Management Plan for the RSF and open pit Extend existing procedures to areas of new infrastructure
Groundwater	Open pit mine RSF Expansion of TSF Establishment of new saline wellfields Infrastructure components in new geographical locations	Extend existing 'Monitoring Program – Groundwater FY08' Develop and implement Yarra Wurta Spring monitoring program
Air Quality	Open pit mine RSF Expansion of metallurgical plant Infrastructure components in new geographical locations	Develop and implement a Dust Management Plan and Monitoring Program Extend existing 'Monitoring Program – Airborne Emissions FY08' to expanded metallurgical plant Expand existing 'Monitoring Program - Radiation Dose to Public FY08' Extend existing community consultation to areas of new infrastructure Develop and implement a Greenhouse Gas and Energy Management Plan
Noise and Vibration	Open pit mine Infrastructure components in new geographical locations	Develop and implement a Noise Management Plan and Monitoring Program Extend existing community consultation to areas of new infrastructure
Terrestrial Ecology	All expansion activities	Extend existing 'Environment and Indigenous Heritage Clearance Permit (EIHCP)' procedure to areas of new infrastructure Extend the existing 'Weed Management Plan' to include areas of new infrastructure Develop and implement a Native Vegetation Management Plan
Marine Environment	Desalination plant at Point Lowly Landing facility New port facilities at Outer Harbor and Port of Darwin	Develop and implement a Marine Flora and Fauna Monitoring Program in Upper Spencer Gulf Develop and implement a Marine Water Quality Monitoring Program in Upper Spencer Gulf Develop and implement a Stormwater Management Plan Develop and implement a Ballast Water Management Plan in Upper Spencer Gulf Extend existing community consultation to areas of new infrastructure
Aboriginal Cultural Heritage	All expansion activities	Implement the Olympic Dam Agreement and Heritage Management Protocol Extend existing 'EIHCP' procedure to areas of new infrastructure
Non-Aboriginal Cultural Heritage	All expansion activities	Extend existing procedures and community consultation to areas of new infrastructure
Social Environment	Roxby Downs town expansion Hiltaba Village Increased construction and operation workforce Infrastructure components in new geographical locations	Develop and implement a Social Management Plan Actively participate in the development of a plan for human services provision by the South Australian Government Develop and implement an Aboriginal Engagement Plan Extend existing community consultation to areas of new infrastructure
Visual Amenity	All expansion activities	Extend existing procedures and community consultation to areas of new infrastructure

The key EMS documents that would be reviewed and modified include:

- The 'Key Obligations for the EM Program and Monitoring Programs (MP)' – updated to include the new requirements applying to BHP Billiton as a result of the proposed expansion. Key obligations would include EIS commitments, conditions of approval and permit/licence conditions
- the 'Environmental Management Manual (EMM) FY08–FY10' – reviewed and modified to ensure it provides adequate direction for managing new environmental aspects for the proposed expansion
- the 'EM Program FY08–Y10' – reviewed and modified to ensure it provides necessary detail on required controls and mitigation measures to protect environmental values for the activities to be undertaken
- the 'Olympic Dam Monitoring Programs' (MP) – reviewed and modified in response to approval conditions and requirements identified during the EIS process. This would involve a review and update of existing MPs for the activities that would continue as part of the proposed expansion and the development of additional MPs for new activities.

Further detail on the review, modification and development of documentation is provided in Section 24.4.6.

#### 24.4.4 UTILISING THE EXISTING REGULATORY REGIME

It is anticipated that the commitments, approval conditions and environmental management and monitoring requirements for the proposed expansion project would be implemented through the existing EMS, and in particular via the EM Program and MPs, within the existing regulatory regime (described in Section 24.2.2).

The proposed expansion project components would be constructed and commissioned over a period of some 11 years, and the proposed expansion would operate for an additional 30 years. The EM Program would be reviewed and updated, and the associated environmental management and monitoring documentation would be developed, after the proposed expansion had been approved and in response to the project schedule. Figure 24.4 indicates the anticipated schedule for developing the environmental management documentation for each of the project components.

It is anticipated that the South Australian Minister for Mineral Resources Development would review and approve the EM Program and MPs in accordance with the schedule. It is likely that the Minister may consult or seek advice from key government departments for specific aspects contained within the EM Program and the MPs. These agencies are identified within the Draft EM Program (see Appendix U).

Where permits and licences were required for specific activities, applications would be discussed with, and submitted to, the relevant government agencies at the appropriate stage of the proposed expansion. In most instances BHP Billiton would be

able to apply for approvals through the process under Clause 7 of the Indenture.

#### 24.4.5 MEETING ENVIRONMENTAL OBLIGATIONS

The EMS is used to meet environmental obligations (management, monitoring and reporting) at Olympic Dam, and the EM Program describes the objectives, targets and criteria to be met. The EM Program would continue to be the mechanism by which environmental obligations would be described for the design, construction, operation and decommissioning of the proposed expansion.

Given the scale, geographic extent, timeframe for construction and commissioning, and the wide range of disciplinary expertise and skills required during all phases of the proposed expansion, the project is likely to use contracting arrangements for some components.

The existing EMS would adequately manage those activities that would continue to operate under direct BHP Billiton control. To ensure the EMS could adequately manage the potential contracting arrangements however, a parallel environmental management process would be implemented, as illustrated in Figure 24.5.

Those activities directly undertaken by BHP Billiton are termed 'controlled' and would follow the well established and regulated process currently used at Olympic Dam, as described in Section 24.2.

Those activities undertaken by contractors on behalf of BHP Billiton are termed 'monitored'. As shown in Figure 24.5, the EM Program would continue to be the mechanism used to communicate and regulate environmental obligations. However, more detailed documents (Design Criteria and Environmental Objectives and Performance Criteria), would be prepared as part of the tender and contract documentation to ensure that contractors were aware of their environmental obligations, and to provide BHP Billiton with a mechanism to monitor their performance and compliance. The proposed documents are discussed further in Section 24.4.6.

#### 24.4.6 REVIEW, MODIFICATION AND DEVELOPMENT OF DOCUMENTATION

Taking into account the existing EMS and the proposed environmental management process for the proposed expansion (described in Section 24.4.5), the EM Framework identifies six key environmental management documents that would be developed for the design, construction, operation and decommissioning of the project components. Each document is described below.

##### Environmental Management Program

The EM Program is the overarching document for environmental management and monitoring the environmental aspects and performance of the Olympic Dam operation. It details the controls and mitigation measures in place to prevent or reduce





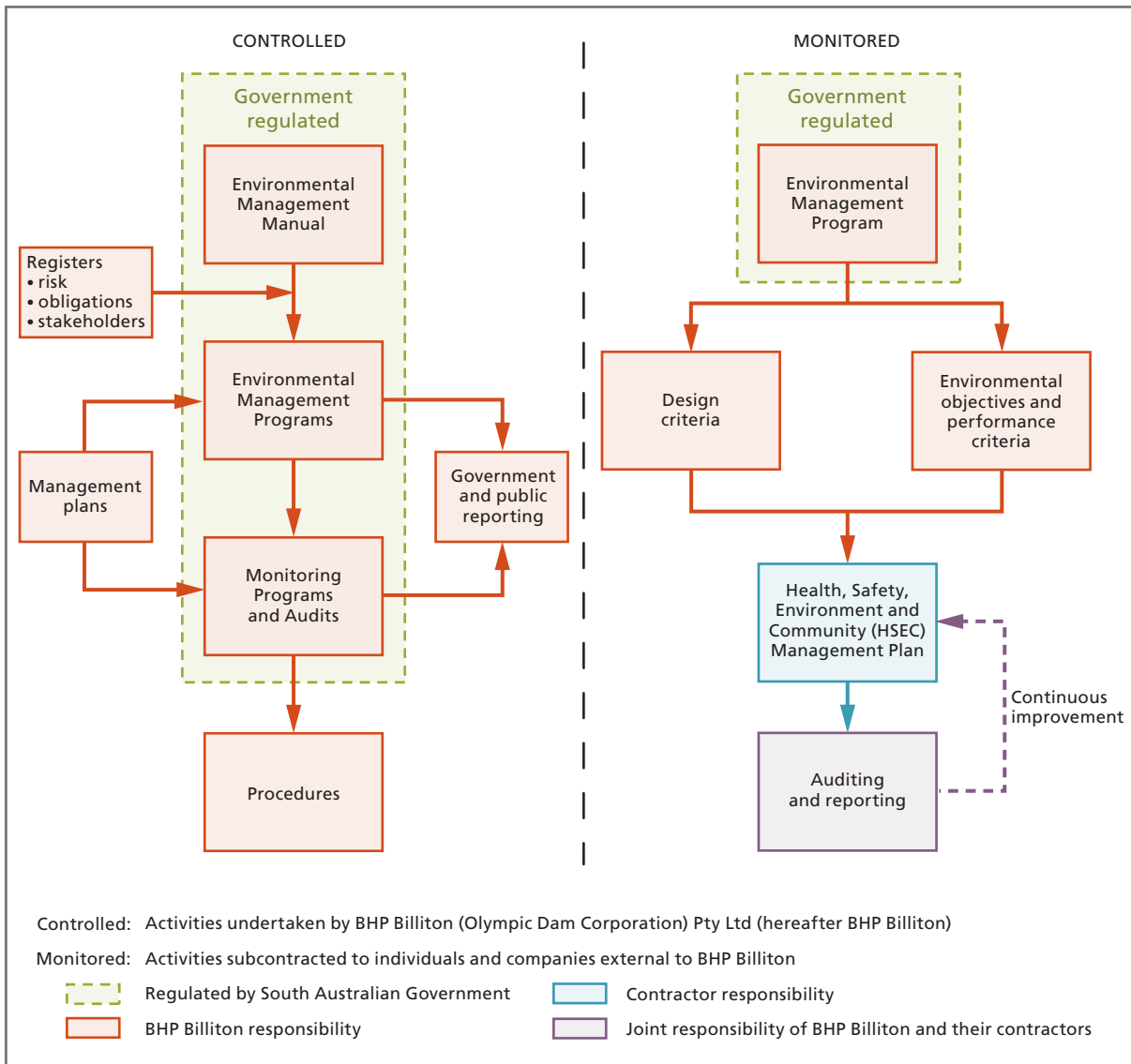


Figure 24.5 Proposed expansion environmental management process

environmental impacts and potential environmental risks. The EM Program also details legal (and other) requirements and the government agency or body responsible for regulating each of the environmental aspects.

The EM Program refers to the specific management and monitoring plans (and any other specific action plans that may be in place) to meet the environmental objectives, targets and/or performance criteria that have been set. The current EM Program (FY08–FY10) has been used as the model for developing a Draft EM Program for the proposed expansion. It incorporates the commitments, mitigation measures, standard controls, monitoring requirements and contingency measures (if necessary) identified during the EIS process (as described in Section 24.4.1). The Draft EM Program is included as Appendix U.

Should the proposed expansion be approved, it is anticipated that the current EM Program (FY08–FY10) and the proposed expansion Draft EM Program would be combined to produce a single EM Program for the combined operations, to streamline environmental management and regulation.

The current EM Program (FY08–FY10) has been considered during the development of the Draft EM Program for the proposed expansion. Objectives and assessment criteria have been developed for each aspect of the Draft EM Program and are provided in Appendix U. The aspects and impacts considered within the Draft EM Program are:

- Use of natural resources
  - Land disturbance – revision of an existing EM Program (hereafter ‘existing’)
  - Marine disturbance – a new EM Program required to address the expanded operation (hereafter ‘new’)
  - Spread of pest plants and animals – existing
  - Aquifer level drawdown – existing
- Storage, Transport and Handling of Hazardous Material
  - Chemical/hydrocarbon spillage – existing
  - Radioactive process material spillage – existing
  - Transport of radioactive material – new
- Operation of Industrial Systems

- Fugitive particulate emissions – existing
- Noise emissions – new
- Point-source emissions – existing
- Saline aerosol emissions – existing (not relevant to the proposed expansion)
- Radioactive emissions – new
- Greenhouse gas emissions – existing
- Generation of Industrial Waste
  - Marine discharge – new
  - Containment of tailings and mine rock – existing
  - Major storage seepage – existing
  - Stormwater discharge – new
  - Fauna interactions with operations – existing
  - Waste disposal – existing
  - Radioactive waste – existing
- Employment and Accommodation of People
  - Community interactions – existing (but not formally within the EM Program FY08–FY10)
  - Workplace interactions – existing (but not formally within the EM Program FY08–FY10).

Community and workplace interactions are currently managed by BHP Billiton but are not formally documented within the EM Program FY08–FY10. The proposed expansion provides an opportunity to integrate these aspects into the Draft EM Program.

The Draft EM Program provided in Appendix U identifies the assessment criteria proposed to measure performance against the objectives. As the project progressed through the definition phase, and further data was collected from ongoing assessment and monitoring, assessment criteria would be refined and any design improvements or additional management measures would be captured. The objectives and assessment criteria would be continually reviewed, in consultation with government, over the life of the project, as the various project components were constructed and commissioned.

### Monitoring Programs

Monitoring programs (MPs) are developed and implemented with the aim of measuring and assessing performance against the objectives, assessment criteria, control measures and legal requirements described in the Draft EM Program.

All existing MPs would be reviewed and modified to meet the new requirements resulting from proposed expansion activities, including:

- airborne emissions – the expansion of the metallurgical plant
- fauna – additional fauna species and habitat associated with project components
- flora – additional flora species and habitat associated with project components
- GAB – ongoing with no changes required

- groundwater – additional monitoring sites required for potential seepage and groundwater drawdown
- radiation dose to public – potential new sources of radiation and new receptor locations
- waste – the waste management facilities (existing and new) associated with the proposed expansion.

New MPs would also be developed, including:

- marine flora and fauna – activities including the desalination plant and landing facility. A species specific monitoring program for the Australian Giant Cuttlefish would also be developed and incorporated into this MP
- marine water quality – activities at the desalination plant and landing facility
- dust – at the sensitive receptors of Arid Recovery and Hiltaba Village and for constructing the infrastructure components, particularly those in built up areas and/or environmentally sensitive areas
- noise – due to the increased activity at Olympic Dam and construction activities in built-up areas.

Figure 24.4 provides an indicative timeframe for the baseline monitoring and developing the MPs.

### Management Plans

In the context of the EMS, management plans are developed as information documents to the EM Program and MPs (see Figure 24.5). They provide direction and background information on how a specific issue/aspect is managed and monitored to achieve the objectives.

The Draft EIS has identified the need for management plans to ensure an informed approach is undertaken to managing and monitoring specific issues. These plans include:

- Aboriginal Engagement Plan
- Acid Sulfate Soil Management Plan
- Ballast Water Management Plan
- Blasting Management Plan
- Dust Management Plan
- Erosion and Sediment Control Plan
- Greenhouse Gas and Energy Management Plan
- Heritage Management Protocol
- Native Vegetation Management Plan
- Noise Management Plan
- Radioactive Waste Management Plan
- Rehabilitation and Closure Plan
- Social Management Plan
- Stormwater Management Plan
- Traffic Management Plan
- Weed Management Plan.

### Design criteria

The planning and design of the proposed expansion has taken several years, and studies that may refine the project configuration for the proposed expansion are continuing. Some project components are further advanced and some preliminary design drawings are available (see Appendix F2). The design of the project has been influenced by the assessments conducted as part of the Draft EIS to promote preferred environmental, social and cultural outcomes. The environmental impacts of the project would be further minimised and benefits maximised during the project definition phase.

As the design documentation (e.g. design drawings and specifications) is refined and completed, a compliance check would be conducted against the commitments in the Draft EIS to ensure that all relevant requirements for the design phase have been met. The design documentation would then be incorporated into the relevant contract documents to ensure the commitments in the Draft EIS become a part of the contractual arrangements as part of the 'Monitored' activity process at Olympic Dam (see Figure 24.5).

### Environmental Objectives and Performance Criteria

Environmental Objectives and Performance Criteria is a document developed to communicate the environmental obligations relevant to the contract works, including the commitments in the Draft EIS, approval conditions, legal and regulatory requirements, and BHP Billiton standards. Information on the relevant industry, government and BHP Billiton guidelines, standards and codes of practice that could assist the contractor in achieving the environmental obligations would also be provided within the Environmental Objectives and Performance Criteria document.

The Environmental Objectives and Performance Criteria would be prepared because contractors would be undertaking some of the works associated with the proposed expansion throughout the design, construction, operation or decommissioning phases.

The Draft EM Program provides the basis for developing the Environmental Objectives and Performance Criteria document, which would form part of BHP Billiton's tender and contract documentation prepared for monitored activities.

### Health, Safety, Environment and Community management plans

Contractors appointed to build and/or operate project components would be required to develop a Health, Safety, Environment and Community (HSEC) Management Plan, specific to their contract works, and responding to the requirements stipulated in the Design Criteria and/or Environmental Objectives and Performance Criteria. The HSEC Management Plan developed by the contractor would define environmental management strategies and controls in response to the environmental obligations specified in these documents.

A BHP Billiton representative would approve the HSEC Management Plan before the works and/or services

commenced. The contractor would also be required to communicate the plan to all of its employees and sub-contractors' employees before performing works and/or services as part of the contract.

The contractor would be expected to review its performance against the HSEC Management Plan through internal checks and third party audits with continuous improvement processes in place, and use formal processes to report the results to BHP Billiton. BHP Billiton would also review the contractor's HSEC Management Plan and undertake an audit against the plan.

## 24.5 ENVIRONMENTAL MANAGEMENT AUDITING AND REPORTING

### 24.5.1 CONTINUAL IMPROVEMENT

The process of continual improvement, through checking, reviewing and auditing, is incorporated within the BHP Billiton Group HSEC Management System. The EMS is audited and reviewed internally (i.e. within BHP Billiton) and externally through:

- scheduled internal (i.e. within Olympic Dam site) and self-assessment audits
- scheduled corporate-level audits (BHP Billiton Group HSEC Management Standards)
- quarterly management reviews where Olympic Dam's leadership team reviews the EMS to ensure it remains suitable, adequate and effective
- verification audits, which are external audits required by BHP Billiton for the implementation of internal HSEC Management Standards or sustainability reporting
- environmental compliance audits (i.e. internal and external audits focusing on legal/regulatory matters)
- assessments and approvals for particular components of the system by regulators
- annual external surveillance and three-yearly external certification auditing of the systems by the company that issues the ISO 14001 certificates.

The commitments and environmental requirements resulting from the EIS assessment process for the proposed expansion would be audited as part of the existing process of scheduled internal and external audits described above to ensure compliance with the requirements of the EMS.

The proposed audit schedule (see Table 24.2) is intended to be indicative only: modifications would be expected with the roll-out of proposed expansion activities, the regular review and update of the EMS documentation, and changes to legislation and regulations. The audit schedule demonstrates the rigour of existing systems in place at Olympic Dam to manage activities and the effectiveness of the continual improvement process.

### 24.5.2 NON-CONFORMANCE AND CORRECTIVE ACTION

In accordance with the BHP Billiton Group HSEC Management Standards, incidents (including near misses and community

complaints) are reported, investigated, analysed and documented. Information gathered from the incident investigations is analysed to identify and monitor trends, and to develop prevention programs which include corrective and preventative actions taken to eliminate the causes of incidents. All employees, contractors and sub-contractors are required to adhere to both the HSEC Management Standards and the non-conformance and corrective action systems in place at Olympic Dam.

The principal environmental adviser at Olympic Dam provides a quarterly presentation to the Olympic Dam site leadership team at management review meetings, detailing audits completed for the quarter, instances of non-conformance, and recommendations arising from audits. Progress to rectify non-conformance and implement recommendations from previous audits are also assessed.

### 24.5.3 REPORTING

Reporting progress in a manner that satisfies the EMS, the BHP Billiton Group, site management and regulatory requirements would be undertaken for the planning and design, construction/commission, operation and decommissioning phases of the project.

Reporting against Environmental Objectives and Performance Criteria would be undertaken as part of contractual arrangements, performance reviews and/or contract reviews for monitored activities.

At Olympic Dam, environmental performance is reported:

- within BHP Billiton (with continuous tracking of environmental performance)
- as part of interim reporting of progress against the objectives of the EM Program, which is submitted annually to the South Australian Government (as required by the Ratification Act)
- externally to the South Australian Government as results and assessments of MPs associated with the EM Program are compiled and submitted to the relevant agencies and/or the Minister for Mineral Resources Development in the Quarterly Environment Report and the Annual Environmental Management and Monitoring Report (EMMR) and GAB Wellfields Report
- to the community through public environmental reporting.

Reporting results would also be considered in the following regular stakeholder meetings:

- Quarterly Environmental and Occupational Radiation Reviews
- Six-monthly Olympic Dam Environmental Consultative Committee (ODECC).

**Table 24.2 Proposed environmental management audit schedule**

Audit item	Audit criteria and general comments	Responsibility	Frequency
EMS – Environmental Management Manual	EIS commitments EIS approval conditions (if any)	BHP Billiton	Upon major review and update following approval of proposed expansion  Annual ISO14001 internal audits Annual ISO14001 external surveillance audits Three-yearly ISO14001 external certification audits
EMS – Key Obligations for the Environmental Management Program and Monitoring Programs	EIS commitments EIS approval conditions (if any)	BHP Billiton	Upon major review and update following approval of proposed expansion and in response to the schedule of proposed expansion activities Annual ISO14001 internal audits Annual ISO14001 external surveillance audits Three-yearly ISO14001 external certification audits
EMS – Environmental Management Program and Monitoring Programs	Audit of EM Program would occur when proposed expansion operations commence and be updated as appropriate	BHP Billiton	Upon major review and update following approval of proposed expansion and in response to the schedule of proposed expansion activities  As per the existing regulatory regime thereafter: • annual for EM Program • triennial for EMM.  Annual ISO14001 internal audits Annual ISO14001 external surveillance audits Three-yearly ISO14001 external certification audits
Contractual documents Design Criteria Environmental Objectives and Performance Criteria	Review of contractual clauses to ensure appropriate and sufficient clauses in place for identifying responsibilities and penalties for unsatisfactory performance in terms of environmental management against the EM Program  Review of performance against Design Criteria and Environmental Objectives and Performance Criteria	BHP Billiton or delegated representative	Prior to: • finalising design specifications/tender documentation • issuing tender documents and contract documents • finalising contractual arrangements