

Victorian Desalination Project | Independent Reviewer & Environmental Auditor

IR&EA REPORT

COMPLIANCE WITH ENVIRONMENTAL PERFORMANCE
REQUIREMENTS QUARTER 4 2010

QUARTERLY REPORT TO THE MINISTER FOR ENVIRONMENT AND
CLIMATE CHANGE

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SUMMARY

The Victorian Desalination Project (VDP – the Project) is being constructed on the coast in South Gippsland near Wonthaggi by the AquaSure consortium in a public-private partnership with the Victorian Government. The Project includes a desalination plant, a pipeline to transfer water to the Melbourne water distribution network near Cardinia, and an underground power supply, which will be largely in the same alignment as the pipeline. AquaSure has contracted Thiess Degrémont Joint Venture (TDJV) to design and construct, and Degrémont Thiess Services (DTSJV) to operate and maintain the VDP.

The overall environmental management framework for the VDP was initially defined in the Environmental Effects Statement (EES) for the reference project. This framework was further refined and included in the Project Deed as a contractual requirement for both the Design and Construction (D&C) and Operations and Maintenance (O&M) Stages of the Project. The main components of the Environmental Management Framework are:

- The VDP must be designed and constructed in accordance with a set of documented Environmental Performance Requirements, included in Appendix S3 of the Project Deed. In addition, Commonwealth and Victorian environmental legal requirements must be met.
- An Environmental Management System and Environmental Management Plans to support delivery of compliance with the Environmental Performance Requirements; and
- Additional requirements in the Project Deed to support environmental management.

The Independent Reviewer and Environmental Auditor (IR&EA) provides independent oversight of design engineering, construction, and environmental performance of the VDP. The IR&EA is jointly appointed by the State Government and AquaSure; the consortium building the VDP, and which will subsequently operate it. In particular, the IR&EA audits the Project Activities to assess whether the environmental requirements of the Project are being met. The Department of Sustainability and Environment (DSE) Capital Projects Division administers the Contract with AquaSure on behalf of the State.

This report provides a summary of the IR&EA's monthly environmental audit outcomes from October - December 2010.

Works commenced at the desalination plant site on the coast near Wonthaggi on 30 September 2009. The Project Activities occurring during the reporting period were:

- **Plant site:** minor bulk earthworks, civil works, building works and mechanical installation. The intake tunnel was completed, and tunnelling continued for the outlet.
- **Utilities alignment:** clearing and grading and Right of Way construction, pipe stringing and trenching, pipe and conduit laying, power cable installation and trench back-filling.
- **Marine works:** The Jack-up Barge (JUB 115) was mobilised to the site of the intake in late October. Drilling and installation of the intake works was finished in late December.

During the reporting period a total of 15 formal audit findings were raised, including one Non-compliance, seven Areas for Improvement and seven Observations. A list of these, and corrective and preventive actions to the end of December 2010 taken by AquaSure and TDJV to close these findings is given in Appendix 1. The single Non-compliance raised was related to defined monitoring of macro-invertebrates (an indicator of river health) in the Powlett River not being undertaken.

One Area for Improvement is related to the monitoring of underwater noise. This monitoring was not conducted during drilling for the first intake structure, and accordingly the noise at the boundary of the Marine Exclusion Zone could not be confirmed as below the threshold level. The monitoring was conducted during the drilling for the second intake structure, and the noise levels were confirmed as below the defined threshold.

The remaining audit findings were associated with relatively minor matters of site house keeping, and document and records management.

The Minister for Environment and Climate Change approved a major revision of the D&C EMP on 6 October 2010. This allowed a large number of audit findings relating to environmental management documentation to be closed. Many of these findings had been open for some time.

The construction tempo continued to be high at the plant site and along the utilities alignment, and marine works commenced during the reporting period. The marine works were conducted in accordance with the requirements of the relevant sub plans, and environmental management on board the jack-up barge was observed to be good. Wet weather, including some periods of very heavy rain, continued to be a challenge for water and erosion management at both terrestrial sites. These issues

were generally managed well, with no significant breaches of EMP requirements noted.

The conclusions in relation to the objectives for the Environmental Audits in the Project Deed are given below.

Operation of the Environmental Management System

The AquaSure Environmental Management System (EMS) provides a good framework for the management of the relationship between AquaSure and TDJV for environmental management. The EMS was well implemented during the reporting period. The defined communications channels, and mechanisms for reviewing compliance with environmental management requirements were well managed.

The AquaSure Environmental Management Representative (EMR) conducts regular audits of the environmental management for the project. The EMR provides advice on environmental management to the AquaSure CEO and the Board, and has regular contact with key stakeholders, particularly environmental regulators.

Implementation of each component of the EMP

The Minister for Environment and Climate Change approved a major revision of the D&C EMP, including the Area EMPs, on 6 October 2010. The revised D&C EMP provides clarity on roles and responsibilities, mapping of the performance requirements (PRs) defined in the Project Deed to control measures in topic specific sub plans, and transparent tracking of compliance with the PRs and statutory environmental approvals.

On ground environmental management was in line with the requirements of the revised D&C EMP, with only minor exceptions identified related generally to site housekeeping issues and document and records management. Three audit findings, including the single Non-compliance, were associated with environmental monitoring. The project has an extensive environmental monitoring program in all three works areas, and monitoring results are important in demonstrating that the environmental management arrangements defined in the D&C EMP have maintained the required level of environmental protection.

Other Environmental requirements

Construction related Environmental Performance Requirements are integrated into the relevant sub plans of the Area EMPs. Accordingly, the audits of the EMPs provide assurance that the Performance Requirements are being met. In addition, construction requirements and methodologies are defined in Site Establishment

Packages and Temporary Works Packages, which refer to the D&C EMP and the Performance Requirements. These packages are certified by the IR&EA.

The design related Performance Requirements are integrated into the relevant Design Package. The IR&EA certification of the Design Packages includes assurance that the related performance requirements have been adequately addressed.

1 INTRODUCTION

The Victorian Desalination Project (VDP) is being constructed on the coast in South Gippsland near Wonthaggi by the AquaSure consortium in a public-private partnership with the Victorian Government. The project includes the desalination plant, a pipeline to transfer water to the Melbourne water distribution network near Cardinia, and an underground power supply, which will be largely in the same alignment as the pipeline.

Environmental management for both the design and construction, and operational stages of the VDP was a major part of planning for the Project. The Project was the subject of a comprehensive Environmental Effects Statement, including a Panel hearing, and requires compliance with a range of environmental requirements and approvals as outlined in the Project Deed between the State and AquaSure. Design and construction of the VDP is being carried out under a formal environmental management framework which includes an overarching Project Environmental Management System (EMS), and specific Environmental Management Plans (EMPs) for the overall Design and Construction phase and each area of construction (the plant site, the pipeline and power supply corridor, and the marine works). The operational and maintenance stage similarly will operate under specific Environmental Management Plans. In addition a range of environmental requirements has been defined relating to the design and operation of the desalination plant, and to the construction activities.

The Independent Reviewer and Environmental Auditor (IR&EA) provides independent oversight of design engineering, construction, and environmental performance of the VDP. The IR&EA is jointly appointed by the State Government and AquaSure; the consortium building the VDP, and which will subsequently operate it. In particular, the IR&EA audits the Project Activities to assess whether the environmental requirements of the Project are being met. The Department of Sustainability and Environment (DSE) Capital Projects Division administers the Contract with AquaSure on behalf of the State.

This report provides a summary of the IR&EA's monthly environmental audit outcomes from October - December 2010.

2 THE VDP ENVIRONMENTAL MANAGEMENT FRAMEWORK

The overall environmental management framework for the VDP was initially defined in the Environmental Effects Statement (EES) for the reference project. This framework was further refined and included in the Project Deed as contractual requirements for both the Design and Construction (D&C) and Operations and Maintenance (O&M) Stages of the Project. The main components of the Environmental Management Framework are:

- The VDP must be designed and constructed in accordance with a set of documented Environmental Performance Requirements, included in Appendix S3 of the Project Deed. In addition, Commonwealth and Victorian environmental legal requirements must be met.
- An Environmental Management System and Environmental Management Plans to support delivery of compliance with the Environmental Performance Requirements; and
- Additional requirements in the Project Deed to support environmental management.

The main elements of the Environmental Management Framework for the D&C stage are summarised below.

2.1 Environmental performance requirements

The Project Deed, in Appendix S3, sets out over 200 individual Environmental Performance Requirements in 38 environmental areas. They apply variously to the D&C and/or the O&M stages of the Project, and are required to be met as a condition of the Project Deed. Many of the Environmental Performance Requirements must be considered in the design of the desalination plant, to ensure that operational environmental performance requirements can be met.

Some of the Environmental Performance Requirements are relevant to construction activities. The D&C EMPs should effectively incorporate these requirements, and include mechanisms to ensure that they are met.

Specific project approvals, and general environmental requirements are necessary under both Commonwealth and Victorian legislation. Some of the key environmental legal requirements derive from the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), and Victorian legislation including the *Environment Effects Act 1978*, the *Environment Protection Act 1970*, the *Planning and Environment Act 1987*, the *Flora and Fauna Guarantee Act 1988* and the *Wildlife Act 1975*. A full list of applicable legislation is given in the EES (Technical Appendix 2).

AquaSure must have a process to manage the identification of the compliance requirements associated with all the Environmental Performance Requirements, including approvals. In addition, AquaSure must identify how they will comply with these requirements and track progress of compliance actions.

2.2 EMS and EMPs

The Project is being designed and constructed, and will be operated, under the guidance of a set of formal environmental management documents:

- AquaSure maintains an overarching project Environmental Management System (EMS), which is required to be independently certified to the Australian and International standard AS/NZS ISO 14001:2004¹. The EMS guides all aspects of environmental management for the project, including on-the-ground management of environmental issues and risks, as well as supporting mechanisms such as compliance management, delivery of relevant training, communication, auditing, inspections and monitoring.
- Specific documented Environmental Management Plans (EMPs) for the Plant Site, the Utilities corridor (covering the construction of the transfer pipeline and the underground power supply), and the marine intake and outlet structures. These Area EMPs are consistent with AquaSure's EMS, and include explicit requirements defined in Appendix S3 of the Project Deed. They are managed by AquaSure as part of their obligations under the Project Deed, and maintained by the D&C contractor, Thiess Degrémont Joint Venture (TDJV).

2.3 Other project environmental requirements

The Project Deed defines a number of other environmental conditions. The key ones are included in Appendix S3 and include:

- The appointment by AquaSure of a suitably qualified Environmental Management Representative (EMR), with appropriate resources to manage the implementation of the EMPs and to monitor compliance with the Environmental Requirements.
- Requirements for management of environmental incidents, provision of environmental training, control by AquaSure of subcontractors, and reporting and auditing.

The Project Deed also includes requirements for revision and approval of the EMS and EMPs, and for communication on environmental matters between AquaSure, the State and the IR&EA.

¹ AS/NZS ISO 14001:2004. Environmental management systems. Requirements with guidance for use.

2.4 IR&EA environmental audits

The IR&EA is required under the Project Deed to conduct monthly audits of the Project Activities to determine whether they have been undertaken in accordance with the Environmental Management System, the Environmental Management Plan and the Environmental Requirements.

The independent environmental audits are carried out on a rolling monthly basis. Audit and surveillance activities include field surveillance of construction activities, formal audits of the EMS and subordinate D&C and Area EMPs, and review of design documentation for compliance with design-based environmental performance requirements.

A risk-based approach is used to select the monthly activities and areas for surveillance and audit. AquaSure is required by the Project Deed to provide a Certificate of Environmental Compliance to the IR&EA and the State confirming that the Project Activities have been carried out in accordance with the EMP and the Environmental Requirements. These certificates are to be provided monthly on the first business day of each month.

The IR&EA has developed a Verification and Monitoring Plan under which all audit and surveillance activities are carried out.

Monthly Environmental Audit Reports are provided to AquaSure and the State, providing a summary of the audit activities, findings and conclusions.

As a condition of the EMP approval, quarterly reports are prepared for the State to provide to the Minister for Environment and Climate Change on performance against the environmental requirements of the Project Deed, based on the findings of the environmental audits. This report provides a summary of the environmental audit activities and outcomes conducted from October - December 2010. In addition the Design Review and Certification process provides evidence that the Project design is in accordance with the Environmental Performance Requirements defined in the Project Deed.

3 CONDUCT OF ENVIRONMENTAL AUDITS

The overall conduct of the environmental audits is consistent with the conduct of audit activities given in ISO 19011:2002². The required timing of audit activities, including conducting audits and reporting, is defined in the Project Deed. An overview of the audit process is provided below and is shown in Figure 1 at the end of this section.

The environmental audits assess whether environmental management arrangements, as defined by AquaSure and approved by the State, in the EMS and D&C and Area EMPs, are being implemented. The environmental audits also address whether environmental risks are being adequately managed, and whether the Project Environmental Requirements are being met.

3.1 Audit objective

The objective for the environmental audit is given in clause 13.9 of the Project Deed, which requires that *“the Independent Reviewer & Environmental Auditor ... form an opinion as to whether or not the Environmental Management Plan and Environmental Requirements are being complied with, ... [and] to assess performance in relation to:*

- *the operation of the Environmental Management System;*
- *the implementation of each component of the Environmental Management Plan; and*
- *each other Environmental Requirement.”*

Environmental requirements are set out in Appendix S3 (Environmental Requirements) of the Project Deed, Environmental Approvals, and Ministers' requirements.

The Environmental Audits focus on:

- Construction-related Environmental Performance Requirements (including conditions of environmental approvals), which are the subject of a monthly rolling audit program designed to determine conformance with the EMS and D&C EMPs;
- Specific requirements of the EMS, D&C EMP, D&C Area EMPs, and subordinate documents which relate to the implementation of the overall Environmental Management System and EMPs; and
- Design-related Environmental Performance Requirements, conformance with which is assessed through audits of AquaSure/TDJV's internal processes for

² ISO 19011:2003. Guidelines for quality and/or environmental management systems auditing

integrating Performance Requirements into design requirements, and during the Design Review and Certification process.

3.2 Pre-audit activities

The audit activities for each month period are determined through the following activities:

1. **Review of the Construction Program** to identify the Project Activities occurring during the audit period.
2. **Review of the AquaSure/TDJV Environmental Risk Registers** to identify environmental risks relevant to the identified Project Activities, and the related identified controls (EMP Sub-Plans or other requirements). The relevant elements of the controls form part of the audit criteria.
3. **Review of the IR&EA field surveillance checklist and results of previous audits** to identify any areas in which the planned environmental arrangements may not be met.
4. **Review of EMS and EMP requirements.** EMS and EMP requirements not directly related to control of identified environmental risks (e.g. training, communication, document and record management requirements) are reviewed to identify any key requirements which should form part of the audit.
5. **Review of the relevant environmental approvals.** The environmental approvals relevant to the identified Project Activities are reviewed to identify compliance requirements. The key compliance requirements are usually integrated into the Area EMPs, and are included as part of the audit criteria.
6. **Review of AquaSure and TDJV records** relating to: internal audits; environmental monitoring; non-conformance, corrective and preventive actions; and incidents.
7. **Confirmation of audit criteria and development of checklists.** Audit criteria are developed from the audit areas identified in the tasks above and included in checklists which were used to guide audit interviews, records reviews and inspections.

3.3 Audit scope

A scope for each audit is defined, and generally includes:

- AquaSure EMS implementation, including the responsibilities of the Environmental Management Representative (EMR) as required in the Project Scope and Project Requirements Appendix S3;
- Implementation of the requirements of the D&C EMP;

- Implementation of the D&C Area EMPs as related to high risk areas identified by the AquaSure/TDJV environmental risk identification and management processes.

3.4 Audit reference documents

Audit reference documents are defined, relevant to the project activities and audit scope. These are generally the relevant EMP, and particularly the relevant sub-plan. Specific audit issues are identified from the reference documents, and included in a checklist, which are completed with audit observations and evidence each month and maintained as audit records.

3.5 Audit activities

Audit and surveillance activities include:

- Field surveillance of construction activities;
- Formal audits of the EMS and subordinate D&C and Area EMPs, both in the field to check on-ground compliance with environmental management arrangements, and office-based audits to assess the implementation of necessary environmental management procedures and processes; and
- Review of design documentation for compliance with design-based environmental performance requirements.

Activities and areas for surveillance and audit activities are chosen monthly on a risk basis.

3.6 Audit findings classification

Audit findings are classified according to the following definitions:

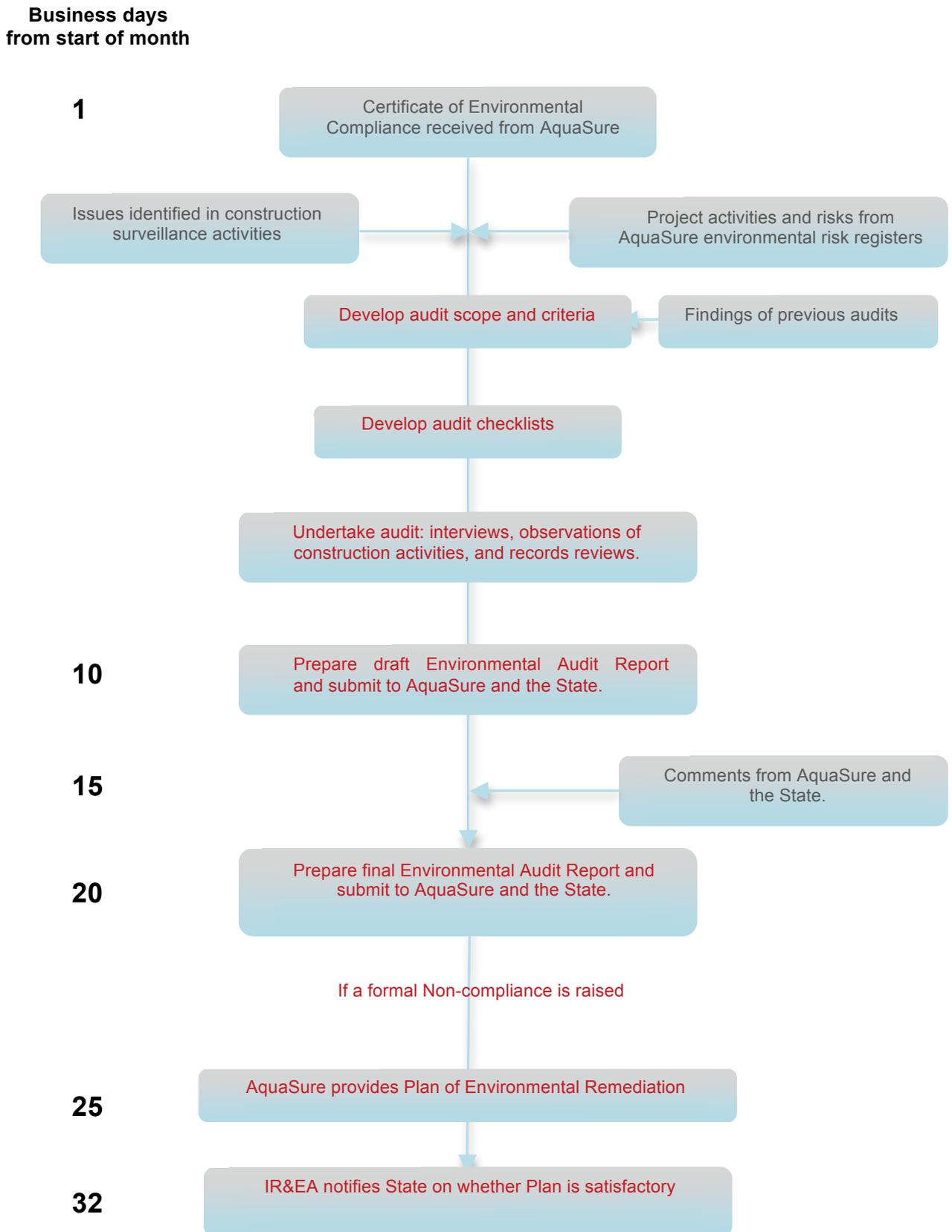
Non-compliance: The absence of, or the failure to implement and maintain, one or more requirements of the relevant EMP or subordinate documentation, or a situation, which would, on the basis of available objective evidence raise significant doubt as to the effectiveness of environmental management.

Note: A non-compliance may be an individual non-compliance or a number of minor but related audit non-conformances, which when considered in total are judged to constitute a non-compliance.

Area for improvement: A deficiency in the implementation of the relevant EMP or subordinate documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

Observation: An audit finding which may relate to an incidental or isolated system discrepancy, which does not compromise the effectiveness of environmental management, or constitute an actual or potential environmental risk.

Figure 1. Overview of the environmental audit process



4 PROJECT ACTIVITIES AND ENVIRONMENTAL AUDITS

4.1 Project activities

Project activities during the reporting period were:

- **Plant site:** minor bulk earthworks, civil works, building works and mechanical installation. The intake tunnel was completed, and tunnelling continued for the outlet (see Figure 2).
- **Utilities alignment:** clearing and grading and Right of Way construction, pipe stringing and trenching, pipe and conduit laying, power cable installation and trench back-filling (see Figure 3).
- **Marine works:** The Jack-up Barge (JUB 115) was mobilised to the site of the intake in late October. Drilling and installation of the intake works was finished in late December (see Figure 4).

Views of these construction activities are shown in Figures 2, 3 and 4 below.

Figure 2. The Sea Water Lift Pump Station takes shape, Dec 2010



Figure 3. Bass River pipejack, Utilities alignment, Dec 2010.



Photo courtesy of TDJV

Figure 4. The JUB in place, Nov 2010



Photo courtesy of TDJV

4.2 Environmental audits

The IR&EA conducted the following audits during the reporting period:

Audit No	Date	Scope
49	6/10/2010	Office audit of implementation of the Environmental Management Representative's (EMR's) responsibilities and relevant requirements of the Project Deed.
50	5/10/2010	Office audit of documentation and records related to requirements of the D&C EMP.
51	7/10/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
52	11/10/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
53	6/10/2010	Office audit of the pre-construction elements of the D&C Marine Area EMP
54	4/11/2010	Office audit of implementation of the Environmental management System (EMS), and the Environmental Management Representative's (EMR's) responsibilities and relevant requirements of the Project Deed
55	5/11/2010	Office audit of documentation and records related to requirements of the D&C EMP
56	8/11/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
57	10/11/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
58	28/10/2010	Field inspection of activities on board the Jack Up Barge and audit of relevant construction elements of the D&C Marine Area EMP.
	4/11/2010	Office audit of the construction elements of the D&C Marine Area EMP
59	6/12/2010	Office audit of implementation of the Environmental management System (EMS), and the Environmental Management Representative's (EMR's) responsibilities and relevant requirements of the Project Deed
60	3/12/2010	Office audit of documentation and records related to requirements of the D&C EMP
61	8/12/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
62	7/12/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
63	9/12/2010	Office audit of the construction elements of the D&C Marine Area EMP

5 AUDIT FINDINGS AND CONCLUSIONS

5.1 Audit findings

During the reporting period a total of 15 formal audit findings were raised. A list of these, and corrective and preventive actions to the end of December 2010 taken by AquaSure and TDJV to close these findings is given in Appendix 1. A summary of the numbers of audit findings is given in Table 1 below.

Table 1. Summary of environmental audit findings Q4 2010

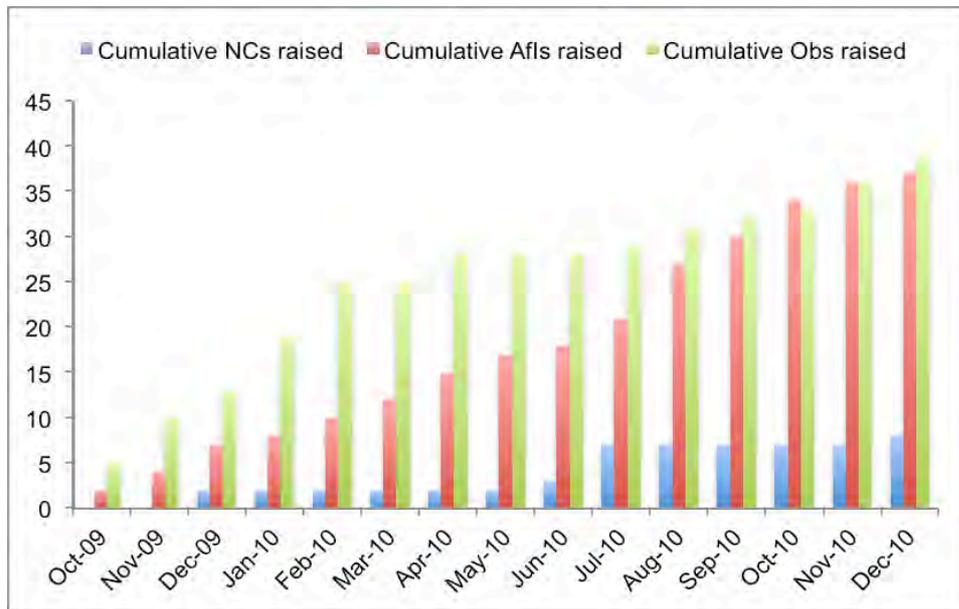
Audit finding type	No. Open at Oct '10	No. Raised Oct - Dec '10	No. Closed Oct - Dec '10
Non-compliance	3	1	1
Area for Improvement	10	7	15
Observation	4	7	4
Totals	17	15	20

The Minister for Environment and Climate Change approved a major revision of the D&C EMP on 6 October 2010. This allowed a large number of audit findings relating to environmental management documentation to be closed. Many of these findings had been open for some time.

The construction tempo continued to be high at the plant site and along the utilities alignment, and marine works commenced during the reporting period. The marine works were conducted in accordance with the requirements of the relevant sub plans, and environmental management on board the jack-up barge was observed to be good. Wet weather, including some periods of very heavy rain, continued to be a challenge for water and erosion management at both terrestrial sites. These issues were generally managed well, with no significant breaches of EMP requirements noted.

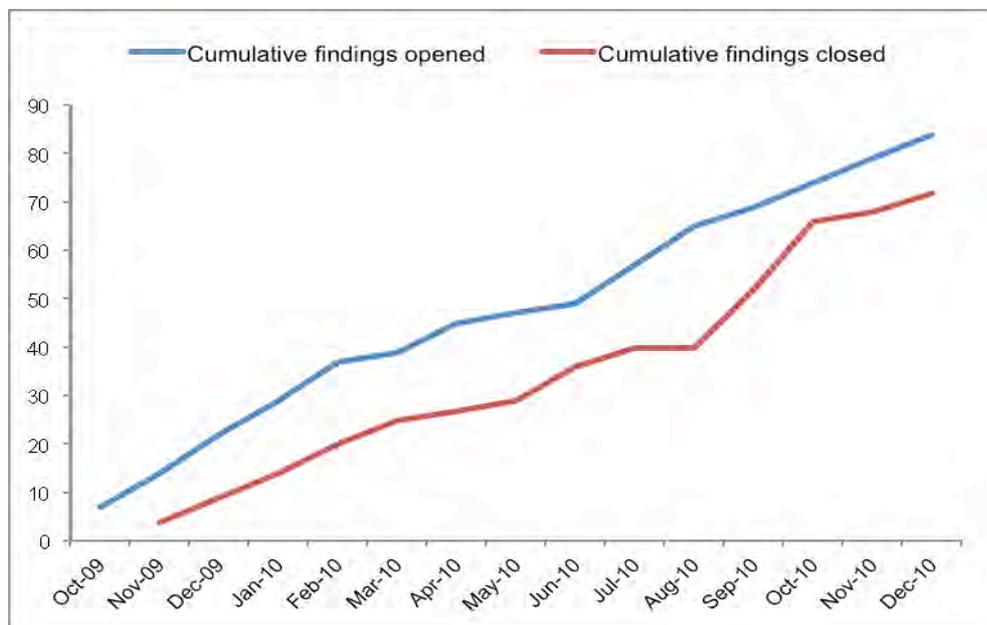
The cumulative number of each type of audit finding raised since project inception is given in Figure 5 below.

Figure 5. Cumulative audit findings by category.



The overall number of audit findings raised (and closed) since the project started is given in Figure 6 below.

Figure 6. Cumulative number of audit findings, Project inception to date.



At the plant site water and sediment management was important due to a number of heavy rain events, and was generally well implemented. Routine construction environmental management requirements such as waste management and biosecurity controls were well managed (see Figure 7 and Figure 8).

The single Non-compliance for the reporting period was raised at the plant site, for the absence of defined monitoring of macro-invertebrates in the Powlett River. This monitoring provides information on river health, and is defined in the Waterways and Wetlands sub plan.

Figure 7. Truck wash directions, plant site Nov 2010



Figure 8. Concrete truck wash facility, plant site, Dec 2010.



Along the utilities alignment two tunnel-bored waterway crossings failed with water entering the tunnels under the waterways at the Bass River and at Yallock Cut and

Levee. These events were handled in collaboration with Melbourne Water and the EPA resulting in little environmental impact.

Figure 9 and Figure 10 below show aspects of waterway crossings.

Figure 9. Waterway crossing reinstatement, Utilities alignment, Nov 2010.



Figure 10. Bass River rectification works, Utilities alignment, Dec 2010



Marine works commenced in October 2010. Environmental management for the marine works followed the requirements of the Marine Area EMP. Extensive monitoring is being conducted in the marine environment before, during and after the construction of the marine facilities. See Figure 11 and Figure 12.

One audit finding related to the conduct of underwater noise monitoring during the drilling of the intake structures. This monitoring was required to confirm that noise at the boundary of the Marine Exclusion Zone was within the defined threshold. The noise monitoring was undertaken during the drilling for the second structure, rather than the first structure, confirming that noise levels were under the defined threshold.

Figure 11. Discharge of drill cuttings, JUB, Nov 2010

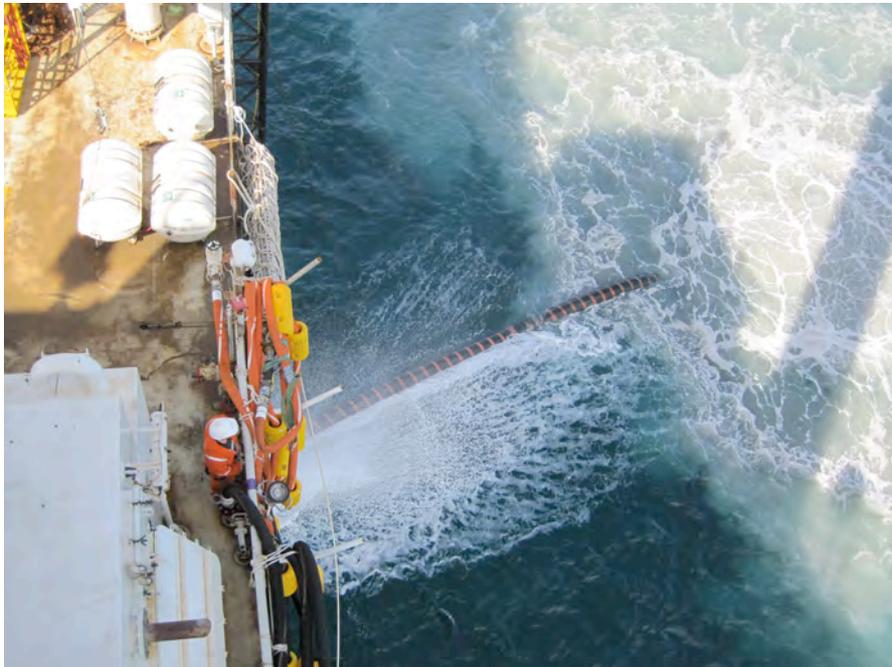


Figure 12. The Marine Mammal Observer on station, JUB, Nov 2010



5.2 Audit conclusions

The conclusions in relation to the objectives for the Environmental Audits in the Project Deed are given below.

5.2.1 Operation of the Environmental Management System

The AquaSure Environmental Management System (EMS) provides a good framework for the management of the relationship between AquaSure and TDJV for environmental management. The EMS was well implemented during the reporting period. The defined communications channels, and mechanisms for reviewing compliance with environmental management requirements were well managed.

The AquaSure Environmental Management Representative (EMR) conducts regular audits of the environmental management for the project. The EMR provides advice on environmental management to the AquaSure CEO and the Board, and has regular contact with key stakeholders, particularly environmental regulators.

5.2.2 Implementation of each component of the EMP

The Minister for Environment and Climate Change approved a major revision of the D&C EMP, including the Area EMPs, on 6 October 2010. The revised D&C EMP provides clarity on roles and responsibilities, mapping of the performance requirements (PRs)

defined in the Project Deed to control measures in topic specific sub plans, and transparent tracking of compliance with the PRs and statutory environmental approvals.

On ground environmental management was in line with the requirements of the revised D&C EMP, with only minor exceptions identified relating to site housekeeping issues and document and records management. Three audit findings, including the single Non-compliance, were associated with environmental monitoring. The project has an extensive environmental monitoring program in all three works areas, and monitoring results are important in demonstrating that the environmental management arrangements defined in the D&C EMP have maintained the required level of environmental protection.

5.2.3 Other Environmental requirements

Construction related Environmental Performance Requirements are integrated into the relevant sub plans of the Area EMPs. Accordingly, the audits of the EMPs provide assurance that the Performance Requirements are being met. In addition, construction requirements and methodologies are defined in Site Establishment Packages and Temporary Works Packages, which refer to the D&C EMP and the Performance Requirements. These packages are certified by the IR&EA.

The design related Performance Requirements are integrated into the relevant Design Package. The IR&EA certification of the Design Packages includes assurance that the related performance requirements have been adequately addressed.

Appendix 1. Environmental audit findings Q4 2010

The following table summarises the audit findings which were open at the beginning of the reporting period, and those raised during the reporting period.

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
2	Nov 09	Obs	2/03	The D&C EMP, at section 4.3.1 and Attachment J, defines broad training requirements; however there are no competency criteria defined in the supporting systems for essential environmental training, and no records are maintained of required competencies.	<p>December 2009: Area Environmental Managers have been requested to identify required competencies (email from TDJV Environmental Manager to Area Environmental Managers sighted). Action is due 12 December.</p> <p>January 2010: a response from the Plant and General Area Environmental Manager, dated 6 January was sighted. Actions not complete at the time of the audit.</p> <p>February 2010: Actions not completed at the time of the audit.</p> <p>March 2010: Actions not completed at the time of the audit.</p> <p>April 2010: Actions not completed at the time of the audit. To be included in the revised EMP.</p> <p>May 2010: Review of the EMP is underway. Actions not completed at the time of the audit.</p> <p>June 2010: Review of the EMP is underway. Actions not completed at the time of the audit.</p> <p>July 2010: The revised D&C EMP includes revised training requirements and some specific environmental competencies. Finding to remain open until the revised D&C EMP receives State consent.</p> <p>August 2010: the revised D&C EMP has been provided to the State for approval</p> <p>September 2010: The revised D&C EMP is awaiting formal approval.</p> <p>October 2010: The revised EMP received formal approval from the Minister for Environment and Climate Change</p>	Finding closed Audit No 50, October 2010

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
2	Nov 09	Obs	2/04	<p>The roles and responsibilities of the Environmental Management Representative as defined in Appendix S3, Clause 2 of the PS&PR have been only partially implemented in the following areas:</p> <p>the role of the EMR in environmental communication channels is not clearly defined (subclause (vii)).</p> <p>While the EMR provided evidence of involvement in internal and external environmental communications, these responsibilities are not formally defined in the EMS. The EMS Manual (at section 4.4.2) references the Community Involvement Plan, which does not include defined communications responsibilities for the EMR.</p>	<p>December 2009: Update EMS s4.4.2 & s4.4.3, and the AquaSure CIP, to reflect what external communication input the EMR is involved with.</p> <p>January 2010: the identified action is still being implemented</p> <p>February 2010: the identified action is still being implemented</p> <p>March 2010: the identified action is still being implemented</p> <p>April 2010: the following draft documents are under preparation:</p> <ul style="list-style-type: none"> • Draft protocol for communication with external agencies • Draft protocol for communication with stakeholders on environment issues and complaints • Draft revised CIP; including definition of EMR roles and responsibilities <p>May 2010: The role of the EMR in environmental communication channels is to be defined in the revised EMS Manual and in the Community Involvement Plan. The mechanism has been prepared and approved internally and will be presented to the Environmental Agency Group.</p> <p>June 2010: The mechanism was presented to the EAG, which provided no comments. Finding to remain open until the EMS and revised CIP are formally approved by DSE</p> <p>July 2010: EMR is involved in communication channels through the Community Involvement Manager. The CIP has not yet been formally amended to include a formal process. Finding to remain open until the EMS and revised CIP are formally approved by DSE.</p> <p>August 2010: CIP revision not yet completed.</p> <p>September 2010: A revised CIP had been submitted to</p>	Remains open

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
					<p>DSE for formal approval as a revised Project Plan. This finding to remain open until the revised CIP is formally approved.</p> <p>November 2010: the CIP has been revised in response to comments from DSE, and is awaiting a revised TDJV CIP before being finalised and resubmitted to DSE for approval.</p> <p>December 2010: Action is on-going</p>	
10	Jan-10	Obs	10/01	<p>D&C EMP Environmental monitoring. The D&C EMP MIRA schedule has not been reviewed or updated since the EMP was approved. The EMP change register documents changes to the D&C Utilities EMP MIRA schedule in late November 2009 and to the D&C Plant and General Area EMP on 11 December 2009. These have not been consolidated into a project wide D&C EMP revised MIRA schedule, nor has the D&C EMP MIRA schedule been reviewed monthly as given in the D&C EMP. Accordingly, TDJV cannot demonstrate overall management of project environmental monitoring requirements.</p>	<p>February 2010: No progress. Revision of MIRA schedule is part of overall D&C EMP revision.</p> <p>March 2010: the TDJV Environment Manager advised that the MIRA Schedule is to be removed from the next revision of the D&C EMP. A discussion was held on the appropriate level of authority and responsibility for approving and conducting monitoring.</p> <p>April 2010: to be considered as part of the EMP revision.</p> <p>May 2010: Review of the EMP is underway. Actions not completed at the time of the audit.</p> <p>June 2010: as above</p> <p>July 2010: The revised D&C EMP and Area EMPs includes revised MIRA schedules. Finding to remain open until revised documentation receives State consent.</p> <p>August 2010: the revised D&C EMP has been submitted to the State for approval.</p> <p>September 2010: The revised D&C EMP is awaiting State approval.</p> <p>October 2010: The revised EMP received formal approval from the Minister for Environment and Climate Change.</p>	<p>Finding closed Audit No 50, October 2010</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
14	9-Feb-2010	Afl	14/01	<p>EMS Manual. Operational control. While on-ground environmental management generally adequately address the environmental risks, documentation of environmental management requirements does not reflect current practice in some areas. See, for example, finding numbers 4/03 (erosion management), 11/01 (compliance management), 12/02 (air quality management), 13/01 (air quality monitoring) and 13/04 (weed management). It is noted that the EMR is conducting a review of environmental management documentation that should bring into line the on-ground practices and associated documentation.</p>	<p>Verification</p> <p>March 2010: The EMS and EMPs are under still review.</p> <p>April 2010: the EMS and EMPs are still under review.</p> <p>May 2010: The EMS and EMPs are still under review.</p> <p>June 2010: The EMPs are still under review.</p> <p>July 2010: revised documentation has been provided to DSE and IREA for preliminary comments.</p> <p>August 2010: The revised D&C EMP and Plant site and Utilities EMPs have been formally submitted to the State for approval. Finding to remain open until the revised documentation receives State approval.</p> <p>September 2010: Formal State approval has not yet been received.</p> <p>October 2010: The revised EMP received formal approval from the Minister for Environment and Climate Change.</p>	<p>Finding closed</p> <p>Audit No 49, October 2010</p>
15	1-Feb-2010	Afl	15/01	<p>D&C EMP 4.5 Control of EMS Manual documentation. The process for the authorisation, issue and control of D&C EMP documentation (and subordinate D&C Area EMP documentation) is not defined or documented.</p>	<p>March 2010: definition of document control requirements is part of the overall revision of the EMPs.</p> <p>April 2010: No further action.</p> <p>May 2010: The EMS is being redrafted and will specify requirements for document control.</p> <p>June 2010: documentation still being revised, and an authorization process included is in the draft documentation</p> <p>July 2010; Finding to remain open until revised documentation receives State consent.</p> <p>August 2010: The revised D&C EMP and Plant site and Utilities EMPs have been formally submitted to the State for approval.</p> <p>September 2010: The revised D&C EMP is awaiting State</p>	<p>Finding closed</p> <p>Audit No 50, October 2010</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
					approval. October 2010: The revised EMP received formal approval from the Minister for Environment and Climate Change.	
17	10-Mar-2010	Afl	17/01	<p>D&C Utilities EMP, 5.1 Monitoring & Measurement.</p> <p>The D&C Utilities EMP requires water quality monitoring for pipe-jacked waterways for one month prior to works. The EPBC Management Plan has a similar requirement. Water quality monitoring commenced on 2/2/2010, however no data was available from the subcontractors. It was advised that continuous turbidity monitoring had not been conducted as required in the D&C Utilities Water Quality and Erosion Control Sub-plan. It was noted that the D&C Utilities Water Quality and Erosion Control Sub-plan, the MIRA schedule (Att L1 to the D&C Utilities EMP) and the EPBC Management plan are not consistent. It was further noted that the terms 'works' or 'construction' used in the motoring plans are not adequately defined</p>	<p>Continuous Turbidity Monitoring</p> <p>April 2010: Continuous turbidity monitoring is now available as required in the monitoring plan. Real time alerts will be available for creek crossing works. This part closed.</p> <p>Water Quality Monitoring</p> <p>April 2010: A draft report has been received from the consultant on water quality monitoring. The current EMP revision will include a reconciliation of conflicting monitoring requirements.</p> <p>May 2010: To be included in the revised EMP.</p> <p>June 2010: to be included in the revised EMP.</p> <p>July 2010: revised sub-plan does not include monitoring; this is in the revised MIRA Schedule. Discussion are to be held with DEWHA in late July to discuss progress, reporting requirements and any required revisions to the approved EPBC strategy. Finding to remain open until EMP approved and DEWHA requirements confirmed.</p> <p>August 2010: The revised D&C EMP and Plant site and Utilities EMPs have been formally submitted to the State for approval.</p> <p>September 2010: the finding to be closed when formal State approval of the revised Utilities Area EMP is received.</p> <p>October 2010: The revised EMP received formal approval</p>	<p>This part closed Audit No 21 April 2010.</p> <p>Finding closed Audit No 52, October 2010.</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
					from the Minister for Environment and Climate Change	
20	15-Apr-2010	Afl	20/02	<p>D&C Plant and General Area EMP, water quality and erosion management sub-plan (Table 5) and Waterways and wetland sub-plan (Section 6.1). Plant site water management. The plant site generates water from surface drainage, and from groundwater intercepted at the box cut excavation. Surface drainage is directed to central sediment ponds. Water in these ponds has low pH arising from the proximity of ASS. Hydrated lime is added for pH adjustment, and water is pumped from the pond to the swale leading under Access Road 3. Additional pH adjustment is carried out if required, and the swale is treated with hydrated lime. The water is then pumped to a grassed area and infiltrates the subsurface before (presumably) discharging to the on-site wetland. pH monitoring is conducted, with results showing varying pH due to variable mixing.</p> <p>While this water management arrangement is consistent with the sub-plans, it is resource intensive, and may not be sustainable, particularly during periods of high rainfall. In addition, there is no agreement with EPA for discharge off-site, if this is required.</p> <p>Bonacci Water has provided a design for management and treatment of surface drainage from construction areas, including the low pH water from ASS affected areas. It was advised that this has been approved as temporary works by TDJV. At the time of the audit the design had not been certified by the IR&EA.</p> <p>Furthermore, there is no agreement with the EPA for</p>	<p>May 2010: The finalised report "Groundwater and Surface Water Management Report" has been received from Bonacci Water. The sedimentation ponds have been constructed as described in the report. A copy of the report is to be appended to Area EMP Sub Plan I9 and submitted as part of the revised EMP. A copy of the report is also to be sent to EPA in response to the Minor Works Pollution Abatement Notice. Ongoing.</p> <p>June 2010: Letter and supporting documents as required in the MWPAN submitted to EPA on 31 May. Letter and reports sighted. Finding to remain open until MWPAN withdrawn.</p> <p>July 2010: additional material has been submitted to the EPA on appropriate discharge standards. The ASS Management Plan has been completed and is to be audited by an EPA Appointed Auditor as required in the PAN. Finding to remain open until MWPAN withdrawn.</p> <p>August 2010: The EPA appointed auditor's report on ASS management has been submitted to the EPA. TDJV are waiting for response from the EPA. Meanwhile TDJV are implementing the auditor's recommendations and managing ASS according to the Golders Management Plan which has been included as a sub plan to the Plant and General Area EMP. The Auditor supports this management plan.</p> <p>The finding is to remain open until the revised Plant and General Area EMP, including the ASS sub plan has received State approval.</p> <p>September 2010: The revised Plant and General Area</p>	<p>Finding closed</p> <p>Audit No 51, October 2010</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				<p>management groundwater intercepted at the box cut excavation.</p> <p>It is noted that the EPA has issued a Minor Works Pollution Abatement Notice in relation to site water management.</p>	<p>EMP has been submitted for approval. The MW PAN has been revoked by the EPA.</p> <p>October 2010: The revised EMP received formal approval from the Minister for Environment and Climate Change</p>	

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
33	10-Jun-2010	NC	33/01	<p>D&C EMP, Legal and other requirements A</p> <p>compliance tracker, with compliance criteria for each PR, has been under development since late 2009. There has been an Area For Improvement open on this topic since January 2010 (see previous finding no 1/02) reflecting a lack of adequate progress on defining compliance criteria and ensuring these are used to guide design and construction environmental management decisions. A number of the PRs still do not have adequately defined compliance criteria, and there does not appear to be a defined and documented process for identifying compliance, including a process for communicating compliance criteria and verifying compliance in design approval. The D&C EMP and the D&C Area EMPs cannot be finalised until this process is developed. The following PRs do not have adequate definition of compliance criteria:</p> <p>1002 (minimise nocturnal light spill beyond the site boundary). A statement has been included to provide a reference to using minimum light levels as defined in AS/NZS 4282, however these values are not provided in the referenced Design Package at its current status.</p> <p>7060 & 7065 (waterways and wetlands: no significant impact on Western Port Ramsar site, maintain the environmental values of waterways and wetlands.) No water quality or control criteria are provided as a basis for the approval to discharge to the environment, which may impact on the design of pipeline structures such as scour valves. Construction water discharge trigger values, or methods for calculating these, are included in</p>	<p>July 2010: No formal Plan for Environmental Remediation has been provided by AquaSure at the time of the audit, and within the time stipulated in the Project Deed (within five business days of the issue of the final Environmental Audit Report). The Plan was provided on the 15 July. Some progress has been made with the identification of adequate compliance criteria. This was not completed, and discussions with TDJV are continuing. The Plan for Environmental remediation provided by TDJV through AquaSure did not address the organisational process issues identified in the Non-compliance, and a Notice of Unsatisfactory Environmental Remediation Plan was issued.</p> <p>August 2010: Discussions between the IR&EA and TDJV are continuing on appropriate actions to close this finding.</p> <p>September 2010: The final compliance criteria to be agreed. A Communication process has been included in the revised D&C EMP.F13.</p> <p>October 2010: Acceptable compliance criteria have been defined. Part D Notice has been received.</p>	<p>Finding closed</p> <p>Audit No 50, October 2010</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				<p>the referenced Area EMP sub-plans.</p> <p>12089 and 12090 (minimise adverse effects of chemicals on the receiving environment; minimise chemical use). No chemical use or discharge objectives have been provided as a basis for construction management and design of the treatment plant.</p> <p>14098 (minimise impacts on groundwater). No criteria or action triggers for groundwater level or quality are provided in the compliance tracker or included in the referenced draft AEMP sub-plans.</p> <p>14098 (minimise impacts on groundwater). No criteria or action triggers for groundwater level or quality are provided in the compliance tracker or included in the referenced draft AEMP sub-plans.</p> <p>14100 (Groundwater: ... minimise any reduction of existing groundwater recharge to wetlands resulting from ... operation of the DWSS). No design criteria are provided or referenced.</p> <p>15103 (minimise impacts on surface water quality.) No stormwater design criteria are provided or referenced.</p> <p>20130 and 20132 (Minimise waste). No quantitative construction or operation waste management targets are provided or referenced. It was noted that the Plant Site induction and awareness materials include an 85% construction waste recycling target which is not included in the Resource Efficiency sub-plan or the compliance tracker. No waste management design criteria are provided or referenced.</p>		

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
36	8-Jul-2010	NC	36/03	<p>D&C Plant and General Area EMP, Resource Efficiency sub-plan. The Resource Efficiency sub-plan is not being adequately implemented. In particular:</p> <ul style="list-style-type: none"> While waste, water and energy data are now being collected in some form, these data are not being analysed. There is no systematic identification of waste and resource efficiency opportunities. Procurement procedures and practises including environmental purchasing criteria and evaluation could not be demonstrated. 	<p>August 2010: a formal Plan for Environmental Remediation was submitted on 3 August by TDJV and included the following actions:Ongoing - 'Resource efficiency is under review across the project. Waste, water and energy usage is being collected and reviewed by the environmental team to look for improvement opportunities. Procurement safety and environmental checklist (which is provided to all subcontractors and suppliers as part of the tender process) will be reviewed by a member of the environmental team to ensure environmental evaluation in procurement is completed and best practice applied. Procedure is being developed to document this process.September 2010: actions are still in progress. Resource Efficiency data are being collected, and a project wide Resource Efficiency Plan is to be prepared.Procurement practices are handled in Melbourne.A Project Wide Resource Efficiency report will be prepared for period from the commencement of works to the end of the 09/10 financial year. This report will include reporting of:- water usage - NGER [National Greenhouse and Energy Reporting] reporting, and - Waste reporting.Based on the findings of the reporting, opportunities will be identified for improvements in resource efficiency.The report will require a request for NGER reporting data from major subcontractors, as such the report will be for the end of September 2010, with the report to be provided by 18 October 2010. The data will then be reviewed quarterly and reported annually based on the financial year to align with NGER reporting requirements.'</p> <p>October 2010: Actions are on-going.</p>	Remains open

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
					<p>November 2010: Actions are on-going</p> <p>December 2010: The Resource Efficiency Plan is being managed through TDJV for the whole of the Project.</p>	
37	6-Jul-2010	NC	37/04	<p>D&C Utilities Area EMP Resource Efficiency sub-plan. The Resource Efficiency sub-plan is not being adequately implemented. In particular:-</p> <ul style="list-style-type: none"> • While waste, water and energy data are now being collected in some form, these data are not being collated or analysed. • There is no systematic identification of waste and resource efficiency opportunities, and no documented Waste and resource Management Strategy as identified in the sub-plan. • Procurement procedures and practises including environmental purchasing criteria and evaluation could not be demonstrated. 	<p>August 2010: a formal Plan for Environmental Remediation was submitted on 3 August by TDJV and included the following actions:Ongoing - 'Resource efficiency is under review across the project. Waste, water and energy usage is being collected and reviewed by the environmental team to look for improvement opportunities. Procurement safety and environmental checklist (which is provided to all subcontractors and suppliers as part of the tender process) will be reviewed by a member of the environmental team to ensure environmental evaluation in procurement is completed and best practice applied. Procedure is being developed to document this process.A Project Wide Resource Efficiency report will be prepared for period from the commencement of works to the end of the 09/10 financial year. This report will include reporting of:- water usage - NGER [National Greenhouse and Energy Reporting] reporting, and - Waste reporting.Based on the findings of the reporting, opportunities will be identified for improvements in resource efficiency.The report will require a request for NGER reporting data from major subcontractors, as such the report will be for the end of September 2010, with the report to be provided by 18 October 2010. The data will then be reviewed quarterly and reported annually based on the financial year to align with NGER reporting requirements.'</p> <p>September 2010: actions are still in progress. Resource Efficiency data are being collected, and a project wide</p>	Remains open

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
					Resource Efficiency Plan is to be prepared. October 2010: Actions are on-going November 2010: Actions are on-going December 2010: The Resource Efficiency Plan is being managed through TDJV for the whole of the Project.	
41	3-Aug-2010	Afl	41/01	Plant and General Area: Erosion management along the dunes at Access Road 3 needs attention. The sediment fences required sediment removal and maintenance. They appear to have successfully removed sediment during heavy rain several days before the audit, however, more rain was expected the day after the audit.	September 2010: a second line of sediment fences has been installed, however these have not been adequately maintained and are failing. October 2010: Rock has been installed in drains. Vegetation is being established on the dune.	Finding closed Audit No 51, October 2010
42	4-Aug-2010	Afl	42/04	Utilities Area EMP, Water Quality and Erosion management sub plan. The management of water disposal activities could be improved by maintenance of a register in which the disposal site along with the source of the water, volume discharged and date of disposal were recorded. The general condition of the land or dam before and after discharge could also be recorded. This would assist with subsequent review of water disposal practices and facilitate investigation of any issues that might be attributed to water disposal practices.	September 2010: a process to track loads of water from source to discharge point is being established. Remaining actions are still to be addressed. October 2010: A comprehensive register is now available.	Finding closed Audit No 52, October 2010
43	9-Aug-2010	Afl	43/01	Marine Area EMP, 3.6 Legal and other Requirements: Approvals are identified and tracked in the Approvals Tracker. Scientific and research permits and the Monitoring Approval from Minister for Environment and Climate Change are identified in the Approvals Tracker. The Compliance Tracker identifies the actions taken to	September 2010: Compliance Tracker is being updated to include the means to comply. Not yet finalized. October 2010: all means to comply are now identified in the Compliance Tracker	Finding closed Audit No 53, October 2010

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				meet obligations in approvals. The current version of the Compliance Tracker does not include identification of the Means to Comply and requires updating.		
45	7-Sep-2010	Afl	45/01	D&C EMP, Design management. TDJV Design Plan The integration of the requirements of the PRs into design is part of normal design review process, and is required under the contract between TDJV and the principal design subcontractor, PPB. TDJV does not formally audit PPB to verify that the PRs are being adequately addressed.	October 2010: Internal audits of Design packages have been conducted. Records of audits were sighted for: Green roof DP 2-0171. General landscape works DP 2 - 0156.; site wide drainage DP 2-0113. A checklist has been developed to track the design review and approval process.	Finding closed Audit No 50, October 2010
46	8-Sep-2010	Afl	46/01	Plant and General Area, TBM spoil analysis. TDJV takes the samples (two for each sampling occasion) using jars provided by ALS, the contract analytical laboratory. A common jar is used to transport the samples, which are tested for halogenated volatile compounds, chlorinated hydrocarbons, MAHs, PAHs, organochlorine pesticides, PCBs, halogenated and non-halogenated phenols, fluoride, metals, cyanide, hexavalent chromium and TPHs. This does not meet the requirements of <i>Sampling and Analysis of Waters, Wastewaters, Soils and Wastes</i> (EPA publication IWRG701), which specifies that soil samples to be analysed for volatile organic compounds and semi-volatile organic compounds (which include PAHs, pesticides, phenolics and PCBs), which should be transported in a glass container with a PTFE lined lid or septum. It is noted that the laboratory results certificates were provided over a NATA signature. The analytical laboratory should be contacted to seek advice regarding the consistency of the sample	October 2010: the explanation is accepted.	Finding closed Audit No 51, October 2010

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				containers used for the volatile and semi-volatile organic compounds with IWRG701.		
46	8-Sep-2010	Obs	46/02	Plant and General Area EMP. Hazardous materials sub-plan. A number of drums of chemicals were stored around the site unbundled on pallets. IR&EA surveillance has noted similar instances of inappropriate storage of small quantities of chemicals. While this storage practice does not present a significant environmental risk, and the drums are away from stormwater drains, it does not represent good practice. It is noted that since the audit, it has been advised that bunded pallets are now being used for small containers of diesel. Large quantities of diesel are stored in self-bunded tanks.	October 2010: Chemicals storage is part of weekly site inspections. Additional bunded pallets have been obtained and a tool box talk delivered to all site personnel	Finding closed Audit No 51, October 2010
47	9-Sep-2010	Afl	47/01	D&C Utilities Area EMP. 6.1 Reporting environmental performance. The overview monthly compliance record, ATT J is being completed. However, there is currently no mechanism to report on exceedences of trigger values defined in EMP sub plans (e.g. air or water quality triggers) and associated mitigation actions.	October 2010: Exceedences of trigger values are now recorded in the Compliance Tracker and reported in the TDJV Monthly Report.	Finding closed Audit No 52, October 2010
49	6-Oct-2010	Obs	49/01	AquaSure EMS Manual, 9.5.1 AquaSure Audits. The AquaSure EMR is the internal auditor, but he is not registered in accordance with Att E.4	November 2010: No action December 2010: No further action. Revision to EMS being considered.	Remains open
50	5-Oct-2010	Afl	50/01	D&C EMP, 8.2.3 Training. The Training matrix (Attachment H) identifies Senior management environmental due diligence training and Green Star familiarisation for senior Project and environmental staff, which is not considered by TDJV to be relevant, and accordingly is not conducted.	TDJV response: Section 8.2.3 will be revised to reflect the current senior Project and environmental staff training requirements. November 2010: Action is on going. Revision to D&C EMP requires formal approval December 2010: sighted changes register.	Remains open

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
51	7-Oct-2010	Afl	51/01	D&C Plant & General Area EMP; Hazardous Materials sub plan. A chemicals and MSDS Register is available on a shared drive on the TDJV network, with hyperlinks to MSDS. The register appears not to be maintained, with some inactive hyperlinks to MSDS, and incomplete work-area specific sheets .	TDJV response: An MSDS register is maintained by Project Safety Department. The Project Safety Manager has organised for site safety reps to update their relevant areas, this work has been completed and Register is now up to date. Site Environmental Officers will monitor the register online to ensure it remains current and available. November 2010: chemicals register sighted and maintained. Register to be maintained by Environmental Team.	Finding closed Audit No 56, November 2010
52	11-Oct-2010	Afl	52/01	D&C EMP, 8.3.2 Internal communication; Utilities Area. The D&C EMP requires weekly tool box talks. There was no evidence that environmental toolbox talks had been delivered during September.	November 2010: The pre start topics register shows environmental topics are delivered at least weekly.	Finding closed Audit No 57, November 2010
52	11-Oct-2010	Afl	52/02	D&C Utilities Area EMP, Water Quality & Erosion management sub plan. An exceedence of water quality discharge triggers was noted by PLJV environmental personnel during a discharge at Monomeith Drain. The discharge was promptly ceased. Notification to EPA and MW was sighted, but AquaSure, the State and the IR&EA were not notified as required in the D&C EMP 9.1.1 Environmental Monitoring. This incident was reported in narrative form in the PLJV monthly report, but was reported in the Compliance Tracker as Compliant against the related PRs. It was not noted as an incident in the HSE Database. A distinction should be made between reporting actual exceedences of environmental trigger values, and reporting the adequacy of responses to these exceedences.	November 2010: discussions being held project wide on approach to reporting exceedences. December 2010 TDJV response: AquaSure, the State and the IR&EA were not notified as required in the D&C EMP 9.1.1 Environmental Monitoring noted. Futures incidents of this nature are to be reported correctly. The compliance tracker has been amended to remove the report of compliant against related PRs. Compliance of with the PR will be determined at end of D&C phase. Verification: December 2010: Action accepted.	Finding closed Audit No 62, December 2010.

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
54	4-Nov-2010	Obs	54/01	AquaSure EMS Manual. 7.5 Legal and other requirements. Standards Australia publications are not regularly checked or reviewed unless included on the notification by LawLex. It is noted this may not be relevant for environmental standards.	December 2010: Requirement to review Standards Australia publications to be removed from EMS. Still to be completed	Remains open
54	4-Nov-2010	Obs	54/02	AquaSure EMS Manual. 9.2 Non-conformity, corrective and preventative actions. Non-conformities are not managed in accordance with the AquaSure procedure "Non Compliance, Corrective and Preventive Action" AQS-SYS-PR003. The EMR has developed a separate audit findings register.	December 2010: AQS NC procedure may be revised to accommodate EMRs process. In progress	Remains open
54	4-Nov-2010	Afl	54/03	AquaSure EMS Manual. 9.5.1 AquaSure Audits. There was no evidence that AquaSure environmental audit reports had been provided to DSE as required by the Project Deed.	December 2010: Audit reports provided to DSE on 7/12.	Finding closed, Audit No 59, December 2010
55	5-Nov-2010	Obs	55/01	D&C EMP. 9.5.2 (TDJV) Internal audits. Records of internal auditor competency are not maintained.	TDJV response: TDJV has developed and will maintain a TDJV Internal Auditor Competency Register (G:\VIC\VDP\14 Environment\14.2 Audits\Internal\TDJV Environmental Internal Audits\Internal Auditor Competency). December 2010: Register sighted.	Finding closed Audit No 60, December 2010

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
58	28-Oct-2010	Afl	58/01	<p>Marine Area EMP MIRA Schedule (Att L). Underwater noise monitoring, required to verify the noise levels at the boundary of the Marine Exclusion Zone, was not conducted during the drilling for the first intake riser. Accordingly Project Activities were being conducted without verification of key environmental quality parameters. This monitoring was conducted during the drilling for the second riser, and the data will be used to verify that underwater noise was below the threshold level.</p>	<p>TDJV response: Due to operational reasons drilling was delayed resulting in monitoring not being possible for the first riser. The consultants had been on call for 4 days and were on the water for the first day of drilling. However, drilling did not commence until late that evening (approx 23hrs) and they were unable to be available for a further day. This was deemed acceptable under the AEMP which recognises that monitoring events will be influenced by construction and other factors. A desktop assessment completed prior to works commencing modeled expected noise levels from TBM and drilling and concluded that exceedance of 145dB at the MEZ was highly unlikely. As the noise requirement relates to protection of recreational divers (PR234), checks were made on the day of drilling for other vessels that might indicate recreational divers in the vicinity. None were observed. Underwater noise monitoring was completed for riser two (11/11/2010) which confirmed no exceedance of the 145 dB limit at the exclusion zone (levels measured were 116 – 118 dB re 1x10⁻⁶ Pa at 1kHz at a distance of 565 – 760 m from the drill). Verification: December 2010: draft report sighted.</p>	<p>Finding closed, Audit No 63, December 2010</p>
62	7/12/10	Afl	62/01	<p>D&C EMP, Utilities Area, Acid Sulfate Soils Sub Plan. Works in the GM Proving Ground area are largely complete, and were undertaken within the requirements of Attachments B3 and B4 of the ASS Sub Plan. These Attachments were provided to the EPA before works commenced, and they had no comments on the Attachments. The Attachments were not provided to the</p>	<p>TDJV response to be evaluated in the January audit.</p>	<p>Remains open</p>

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				State or to the IR&EA as required under the D&C EMP. The approval and authorisation of the Attachment within TDJV and AquaSure is not clear.		
62	7/12/10	OBS	62/02	D&C EMP, Utilities Area, Air Quality Sub Plan. The air quality monitors were calibrated in preparation for the summer. Three of the meters were required to be repaired in addition to being calibrated, and were not available at the time of the audit. As a consequence, the six meters defined in the Dust Monitoring Protocol of the Sub Plan are not available, and it was not clear if these monitors would be available when required. Accordingly adequate dust monitoring could not be guaranteed. It is noted that hand held air quality meters are available.	TDJV response to be evaluated in the January audit	Remains open
62	7/12/10	Obs	62/03	D&C EMP Utilities Area, Flora and Fauna Sub Plan. At the Bass River pipe jack site the biosecurity sign and chemicals were available, but not well located with respect to the access gate to the river. A biosecurity register was not available for the area. IR&EA surveillance personnel advised that biosecurity boot washes were not always conducted when the riparian zone was visited.	TDJV response to be evaluated in the January audit	Remains open
61	8/12/10	Obs	61/01	Plant & General Area EMP, Hazardous Material Sub Plan. Two spill kits at the TBM compound were empty. A small stain, presumably diesel, was observed on the ground near a refuelling trailer, parked next to the bulk fuel store. It appeared the refuelling trailer had been refilled outside the bunded area.	TDJV response to be evaluated in the January audit	Remains open
61	8/12/10	NC	61/02	D&C EMP, Plant and General Area, Waterways and Wetlands Sub Plan. The defined macroinvertebrate	TDJV response to be evaluated in the January audit	Remains open

AUDIT NO.	DATE	TYPE	FINDING NO.	FINDING	ACTION	STATUS
				monitoring of the Powlett River has not been conducted.		