

Victorian Desalination Project | Independent Reviewer & Environmental Auditor

IR&EA REPORT

COMPLIANCE WITH ENVIRONMENTAL PERFORMANCE
REQUIREMENTS QUARTER 3 2010

QUARTERLY REPORT TO THE MINISTER FOR ENVIRONMENT AND
CLIMATE CHANGE

October 2010

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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 Degremont Joint Venture (TDJV) to design and construct, and Degremont 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 July - September 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, and building works. Tunnelling operations started in August, and the second Tunnel Boring Machine (TBM) commenced full operations in September.
- **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.

During the reporting period a total of 19 formal audit findings were raised. A list of these, and corrective and preventive actions to the end of September 2010 taken by AquaSure and TDJV to close these findings is given in Appendix 1.

Activity on the Project significantly increased during the reporting period, with more than 1700 people working on the Plant site, and over 630 working along the utilities corridor. Audit benchmarks were reviewed during the reporting period to reflect the maturing project and associated activities. Consequently, more Non-compliances and total audit findings were raised than in previous reporting periods. The higher number of audit findings reflects the increased activity, and these revised benchmarks and not a degradation in the effectiveness of environmental management.

The Non-compliances raised related to the implementation of the Resource Efficiency sub plans for both the plant site and the utilities alignment, and to the management of the authorisation process for key environmental management documentation.

Construction water management at the plant site was effectively managed during the reporting period. In mid-August water was observed to be piping through the levee being constructed at the plant site sediment pond. In order to empty the pond and discharge water from the site a revised Section 30A Emergency Discharge permit was issued by the EPA. The pond was emptied in accordance with the conditions of the permit, enabling the levee to be successfully reinstated

Other findings related to the timely installation and maintenance of sediment control structures, particularly along the utilities alignment. The wet period, coinciding with the increasing construction tempo and the length of the alignment which had been cleared, increased the importance of adequate sediment control.

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 Project Deed requires that AquaSure maintain a certified Environmental Management System (EMS). The AquaSure EMS was extensively revised during the reporting period. The IR&EA provided comments on the revised EMS, and continued to audit the implementation of AquaSure's management of the environmental management arrangements of the Project. These arrangements were satisfactory, and AquaSure has developed effective processes for management of the major contractor, TDJV.

The AquaSure EMS was audited by an independent, JAS-ANZ accredited, third-party certification body (SAI Global), and the EMS gained certification in September 2010. This is a notable achievement, and will provide additional assurance of the robustness of the top-level environmental management arrangements for the Project. SAI Global will continue to audit the EMS on a regular basis, initially every six months.

Implementation of each component of the EMP

The major revision of the D&C EMP, the Area EMPs, including the Attachments and the issue-specific sub plans was completed during the reporting period. The IR&EA provided comments on interim drafts of the revised documents. Key improvements in the revised documentation include clarity in AquaSure's and TDJV's roles and responsibilities, a demarcation between Area responsibilities and an Obligations Register which identifies where Performances Requirements are addressed in sub plans. In addition, the sub plans distinguish how Performance Requirements translate into specific controls, and provide consistency with State approvals and EPBC Management Strategies.

A complete revision was formally submitted to the Minister for Environment and Climate Change for consent under the Project Deed in September 2010. The approval of the EMP will close out a number of audit findings related to documentation.

The management of on-ground environmental issues, and the management of the supporting organisational processes (such as training, communication and reporting) was generally in line with the intent of the EMP. Exceptions are noted as audit findings, and discussed above. The key issues were the management of construction water both at the plant site and along the utilities alignment. Non-compliances were raised on the unsatisfactory implementation of the Resource Efficiency sub plans of both the Plant and General Area and Utilities EMPs.

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 July - September 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, to identify how it will comply with these requirements, and to track the 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 the Project 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 Degremont 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 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.

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 July - September 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.

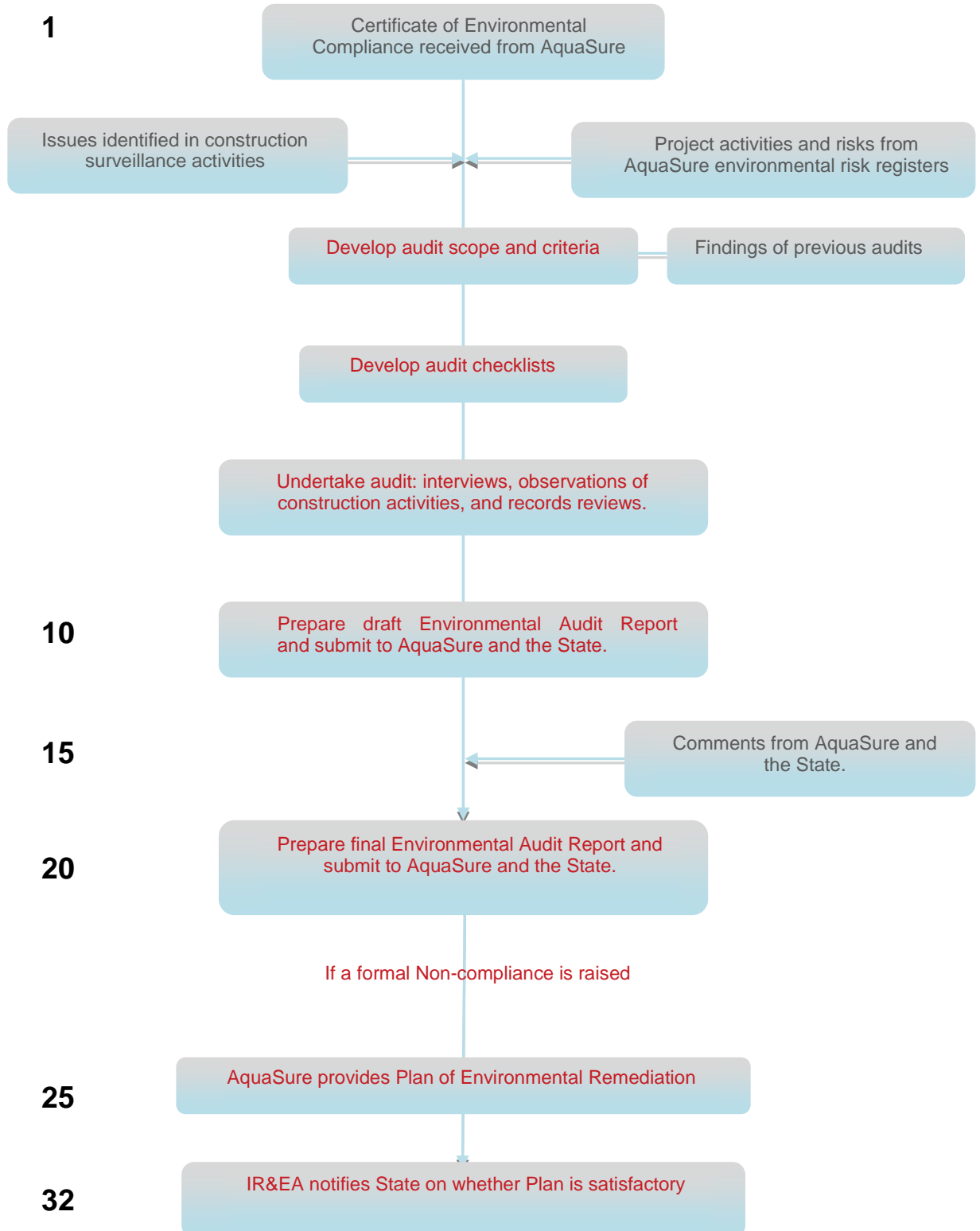
Note: A non-compliance may be an individual non-compliance or a number of minor but related audit non-conformances, which when considered in total are judged to constitute a non-compliance.

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

**Business days
from start of month**



4 PROJECT ACTIVITIES AND ENVIRONMENTAL AUDITS

4.1 Project activities

4.1.1 Desalination plant site

Works at the plant site during July - September 2010 included: minor bulk earthworks, civil works, and building works. Tunnelling operations started in August, and the second Tunnel Boring Machine (TBM) commenced full operations in September.

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

Figure 2. The first RO racks arrive on site, September 2010



Figure 3. Box cut showing the TBM being assembled. July 2010



Figure 4. Tunnelling commenced in August 2010



4.1.2 Utilities corridor

Along the utilities alignment the following activities were undertaken: clearing and grading and Right of Way construction, pipe stringing and trenching, pipe and conduit laying, power cable installation and trench back-filling.

Views of works in the utilities corridor are shown in Figures 5 and 6 below.

Figure 5. Utilities alignment near The Gurdies, August 2010.



Figure 6 Drainage and sediment controls, August 2010



4.2 Environmental audits

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

Audit No	Date	Scope
34	9/7/2010	Office audit of implementation of the Environmental Management Representative's (EMR's) responsibilities and relevant requirements of the Project Deed. This audit also included some of the requirements of the D&C EMP, as the TDJV Environment Manager position was vacant.
35	9/7/2010	Office audit of documentation and records related to requirements of the D&C EMP.
36	8/7/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
37	6/7/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
38	7/7/2010	Office audit of the pre-construction elements of the D&C Marine Area EMP
39	6/8/2010	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
40	6/8/2010	Office audit of documentation and records related to requirements of the D&C EMP
41	3/8/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP

Audit No	Date	Scope
42	4/8/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
43	9/8/2010	Office audit of the pre-construction elements of the D&C Marine Area EMP
44	13/9/2010	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
45	7/9/2010	Office audit of documentation and records related to requirements of the D&C EMP
46	8/9/2010	Field audit of implementation of key requirements and sub-plans of the D&C Plant and General Area EMP
47	9/9/2010	Field audit of implementation of key requirements and sub-plans of the D&C Utilities Area EMP
48	7/9/2010	Office audit of the pre-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 19 formal audit findings were raised. A list of these, and corrective and preventive actions to the end of September 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 Q3 2010

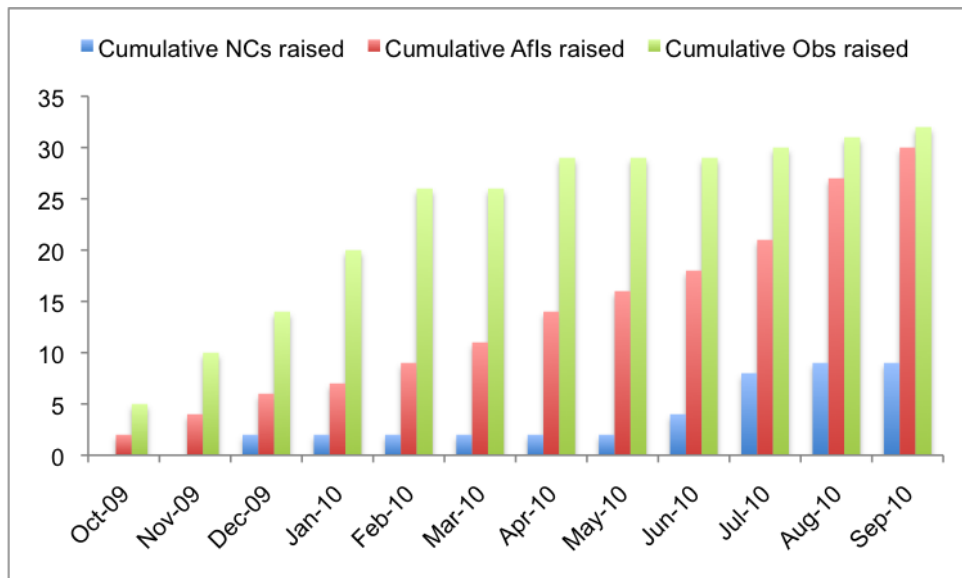
Audit finding type	No. open at July '10	No. Raised July – Sept. '10	No. Closed July – Sept. '10
Non-compliance	2	3	2
Area for Improvement	6	13	8
Observation	5	3	4
Totals	13	19	14

Activity on the Project significantly increased during the reporting period, with more than 1700 people working on the Plant site, and over 630 working along the utilities corridor. Audit benchmarks were reviewed during the reporting period to reflect the maturing project and associated activities. Consequently, more Non-compliances and total audit findings were raised than in previous reporting periods. The higher number of audit findings reflects the increased activity, and these revised benchmarks and not a degradation in the effectiveness of environmental management.

The Non-compliances raised related to the implementation of the Resource Efficiency sub plans for both the plant site and the utilities alignment, and to the management of the authorisation process for key environmental management documentation.

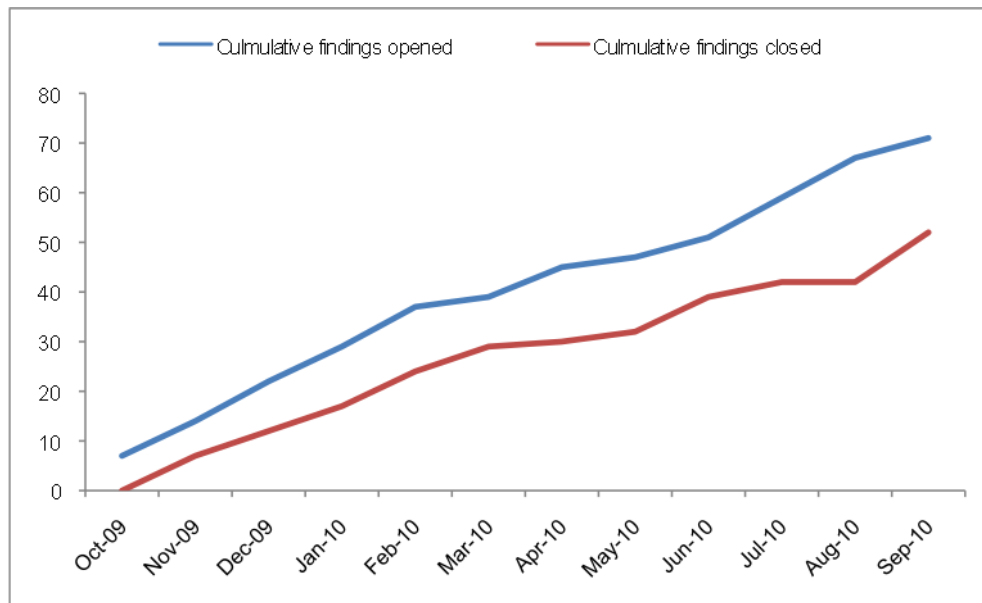
The cumulative number of each type of audit finding raised since project inception is given in Figure 7 below.

Figure 7. Cumulative audit findings by category.



The overall number of audit findings raised (and closed) since the project started is given in Figure 8 below.

Figure 8. Cumulative number of audit findings, Project inception to date.



Construction water management at the plant site was effectively managed (see the photos below) during the reporting period. In mid-August water was observed to be piping through the levee being constructed at the plant site sediment pond. In order to empty the pond and discharge water from the site a revised Section 30A Emergency Discharge permit was issued by the EPA. The pond was emptied in accordance with the conditions of the permit, enabling the levee to be successfully reinstated.

Figures 9 and 10 below show the sediment pond being dosed with flocculent to reduce turbidity, and the automatic water quality monitoring station on the Powlett River.

Figure 9. Dosing the plant site construction water sediment pond, August 2010



Figure 10. Automatic water quality monitoring, Powlett River.



Other findings related to the timely installation and maintenance of sediment control structures, particularly along the utilities alignment. The wet period, coinciding with the increasing construction tempo and the length of the alignment which had been cleared, increased the importance of adequate sediment control.

Figures 10 and 11 below show an example of sediment controls installed along the utilities corridor, and protective fencing around sensitive vegetation.

Figure 11. Sediment control structure, Utilities alignment, September 2010.



Figure 12. Protecting sensitive vegetation, Utilities alignment, September 2010



Demonstration of compliance with the EMS, EMPs and Project Environmental Performance Requirements is a key element of AquaSure's environmental management arrangements. This requires a documented compliance management system to:

- identify the requirements for compliance (i.e. what actions are required), and
- monitor and report on the progress of the identified requirements.

AquaSure and TDJV have been developing a compliance management tool for some time. Completion of the compliance management system has not yet been finalised.

The certification by the IR&EA of the Site Establishment and Temporary Works Packages, which include details of construction requirements and methodologies, is contingent on evidence of compliance with the D&C EMP and the Environmental Performance Requirements. The pertinent parts of the relevant D&C Area EMP, and Site Environmental Plan are referenced in the Site Establishment Packages.

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 Project Deed requires that AquaSure maintain a certified Environmental Management System (EMS). The AquaSure EMS was extensively revised during the reporting period. The IR&EA provided comments on the revised EMS, and continued to

audit the implementation of AquaSure's management of the environmental management arrangements of the Project. These arrangements were satisfactory, and AquaSure has developed effective processes for management of the major contractor, TDJV.

The AquaSure EMS was audited by an independent, JAS-ANZ accredited, third-party certification body (SAI Global), and the EMS gained certification in September 2010. This is a notable achievement, and will provide additional assurance of the robustness of the top-level environmental management arrangements for the Project. SAI Global will continue to audit the EMS on a regular basis, initially every six months.

5.2.2 Implementation of each component of the EMP

The major revision of the D&C EMP, the Area EMPs including the Attachments and the issue-specific sub plans was completed during the reporting period. The IR&EA provided comments on interim drafts of the revised documents. Key improvements in the revised documentation include clarity in AquaSure's and TDJV's roles and responsibilities, a demarcation between Area responsibilities and an Obligations Register which identifies where Performances Requirements are addressed in sub plans. In addition, the sub plans distinguish how Performance Requirements translate into specific controls, and provide consistency with State approvals and EPBC Management Strategies.

A complete revision was formally submitted to the Minister for Environment and Climate Change for consent under the Project Deed in September 2010. The approval of the EMP will close out a number of audit findings related to documentation.

The management of on-ground environmental issues, and the management of the supporting organisational processes (such as training, communication and reporting) was generally in line with the intent of the EMP. Exceptions are noted as audit findings, and discussed above. The key issues were the management of construction water both at the plant site and along the utilities alignment. Non-compliances were raised on the unsatisfactory implementation of the Resource Efficiency sub plans of both the Plant and General Area and Utilities EMPs.

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 Q3 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	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
2	Nov-09	2/01	Afl; elevated to NC Audit No 34, 9 July 2010	<p>The Project Deed, Appendix S3, clause 7 (a) requires that AquaSure is responsible for “[a]n organisational process defining the mechanism/structure of reporting must be developed to the satisfaction of the State to ensure that the Independent Reviewer & Environmental Auditor and the State receive all relevant environmental and monitoring and auditing reports and non-compliance, preventative and control actions.”</p> <p>Evidence was available to demonstrate that the relevant information is, or will be, generated by AquaSure, however, there is no mechanism to ensure that the IR&EA and the State receive this information.</p>	<p>AquaSure response:</p> <p>The EMS should be updated in Section 6.1 to state that all environmental and monitoring and auditing reports and records of noncompliance will be forwarded to the State and the IR&EA through AquaSure within 5 working days of receipt from TDJV Environment Manager.</p> <p>The D&C EMP and Area EMPs should be updated in the appropriate sections to reflect that the TDJV Env Manager will forward all environmental and monitoring and auditing reports and records of noncompliance to the EMR within 5 days of receipt of final reports.</p> <p>Verification:</p> <p>January 2010: Action still to be finalised.</p> <p>February 2010: Action still to be finalised. The EMR advised that the EMS and EMPs were to be comprehensively revised, and this amendment will be included in this revision.</p> <p>March 2010: The mechanism needs to be resolved and incorporated into the revised EMS and EMPs.</p> <p>April 2010: the issue has been raised in the Environmental Working Group, but there is no resolution of an appropriate mechanism.</p> <p>May 2010: This action has yet to be finalised.</p> <p>June 2010: The action is still to be finalised.</p> <p>July 2010: AQS EMR has raised this with TDJV for a response. Finding elevated to a Non Compliance</p> <p>August 2010: Plan for Environmental Remediation has been submitted and included the following action from TDJV: It is proposed that the State and IR&EA will be provided access to the TDJV G:Drive where TDJV working documentation is retained. TDJV requests that access is gained from a dedicated terminal on Level 1, 541 St Kilda Road.</p> <p>The program for access is to be provided is by 20 August 2010.</p> <p>September 2010: Access has been provided according to the Plan for Environmental remediation. Finding to be closed when a Notice of Rectification of Environmental Non-compliance (Part D Notice) is received. Part D Notice received 20/9.</p>	<p>Elevated to NC Audit No 34, 9 July 2010</p> <p>Remains open</p> <p>August 2010: remains open</p> <p>September 2010: Closed Audit No 45 September 2010</p>

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		2/03	Obs	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. 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 State approval.</p>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		2/04	Obs	<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 DSE for formal approval as a revised Project Plan. This finding to remain open until the revised CIP is formally approved</p>	Remains open
8	Jan-10	8/02	Obs	<p>D&C Utilities EMP, Flora and Fauna sub-plan. The depot at Livestock Way was observed to have blackberries and other weeds growing on the boundary of the property. A plan for dealing with weeds at depots needs to be considered.-</p>	<p>Verification:</p> <p>February 2010: Contractor is to be appointed to carry out weed management. To be followed up at the next audit.</p> <p>March 2010: No further action has been taken.</p> <p>April: A contractor is being engaged for weed management along the alignment, and will include the depot.</p> <p>May 2010: Spraying has not yet been conducted. It is planned to be done during May.</p> <p>June 2010: new contractor being engaged</p> <p>July 2010: advised contractor had been engaged, and weed spraying has commenced. Immediate landowner concerns are being</p>	Finding closed Audit No 37, July 2010.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
					addressed (map of areas to be sprayed sighted), with weed spraying along the whole alignment to be done. Close finding.	
10	Jan-10	10/01	Obs	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>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>	Remains open
14	9-Feb-2010	14/01	Afl	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>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>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
15	1-Feb-2010	15/01	Afl	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>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 documentationJ</p> <p>uly 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 approval.</p>	Remains open
17	10-Mar-2010	17/01	Afl	<p>D&C Utilities EMP, 5.1 Monitoring & Measurement. 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 are 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.</p> <p>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>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>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</p> <p>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>This part closed Audit No 21 April 2010.</p> <p>Remains open</p>

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
20	15-Apr-2010	20/02	Afl	<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. 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. 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. Furthermore, there is no agreement with the EPA for management groundwater intercepted at the box cut excavation. It is noted that the EPA has issued a Minor Works Pollution Abatement Notice in relation to site water management.</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. 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 EMP has been submitted for approval. The MWPAN has been revoked by the EPA.</p>	Remains open
22	14-Apr-2010	22/01	Obs	<p>D&C Marine Area EMP, 4.3 Competence, awareness and training. The monitoring consultants have not been inducted into the project requirements, and the training as identified on the Training Matrix has not been conducted.</p>	<p>May 2010: The training matrix has been updated. A sub-contractor induction sheet that outlines obligations and performance requirements is to be assembled.</p> <p>July 2010: preconstruction environmental induction prepared (sighted). It includes all relevant preconstruction issues. Area environmental staff have inducted key consultants, including marine ecologists and support divers. Training programs delivered 30 May</p>	Finding closed Audit No 38, July 2010.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
					and mid June. Attendance records sighted. An induction program is being developed for construction personnel. Close finding.	
30	9-Jun-2010	30/01	Afl	D&C Plant and General Area EMP, 4.4.1 Internal communication. The last tool box talk was given to site personnel on 29 March 2010. While additional tool box talks have been planned, none have yet been conducted. The construction workforce is expanding to an expected 1500 personnel over the next few months, and regular and effective communication on environmental issues is required. It is noted that the daily site bulletin, Desal Daily, regularly includes environmental information, and is formally included in the daily pre-start meeting of all construction personnel	July 2010: toolbox tools are scheduled during wet weather days when site personnel are free. Attendance record and content for ASS talk to GRP area of 15/6 and Zone 1 staff on 21/6 sighted. Aim to deliver toolbox talks to all site personnel, but this is not always possible. Forward topics sighted: Environmental due diligence, Desal Daily is a more useful communication tool. Usually one key environmental message a week. Close finding.	Finding closed Audit No 36, July 2010
33	10-Jun-2010	33/01	NC	D&C EMP, Legal and other requirements A 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:- 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. 7060 & 7065 (waterways and wetlands: no significant impact on Western Port Ramsar site,	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. August 2010: Discussions between the IR&EA and TDJV are continuing on appropriate actions to close this finding. September 2010: The final compliance criteria to be agreed. A Communication process has been included in the revised D&C EMP.	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
				<p>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 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	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
36	8-Jul-2010	36/01	Afl	<p>D&C Plant and General Area EMP, Att L MIRA Schedule. Monitoring of water quality was generally being conducted in accordance with Attachment L – Monitoring, Inspection, Reporting and Audit Schedule, Table 1 – Monitoring; Att I9 – Water Quality and Erosion Management (from the revised EMP). The following points were noted as presenting areas for improvement in the water quality monitoring process.</p> <ul style="list-style-type: none"> • Water quality monitoring is to be conducted prior to discharge or disposal of collected water from dewatering activities. This monitoring is conducted as required, however, the monitoring point is not located adjacent to the take off point for the discharge pump, introducing a potential for the water being tested not being representative of the water to be discharged. • Laboratory water quality monitoring of the Wonthaggi Drain and the Powlett River is to be conducted monthly during works by the Environmental Officer or Thiess Services. The sampling has been conducted by Thiess Services at irregular intervals, with overall sampling frequency generally meeting the required monthly frequency, however, two of the intervals have been approximately five weeks. • The timing of the laboratory water sampling is independent of water being discharged from the site; hence the impact of the discharge on receiving waters may not be measured each month. • The times of pumping of water from the site is not being systematically recorded. A general record of the pumps being used on a particular day is made in the comments column of the TDJV Sediment Pond Readings log. Maintenance of a record of pumping times would facilitate investigation of any issues arise regarding discharge of water from the site. Monitoring is being conducted without a formal monitoring procedure in place. A water monitoring procedure was being prepared at the time of the audit. 	<p>August 2010: Thiess Services now to sample in the last week of the month. Pumping times are now in accordance with S 30A permit requirements. Sighted plant water quality monitoring data. Samples taken as safe as possible close to pump housing. Sighted data from Powlett R. Suggest discharge limits be built into data spreadsheet if possible.</p>	<p>Finding closed Audit No 41, August 2010</p>

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
36	8-Jul-2010	36/02	Afl	<p>D&C Plant and General Area hazardous materials sub-plan. Storage of dangerous and hazardous substances is generally appropriate, however, there have been instances observed by the environment team where storage has not been appropriate. The environment team is not automatically informed of any deliveries of such materials to the site. This has led to the team being obliged to 'discover' such deliveries during their site inspections.</p> <p>Small quantities of chemicals were observed during the audit to be inappropriately stored at tunnelling compound Area 3.</p>	<p>TDJV response:</p> <p>Hazardous Materials coming to site are coordinated by the TDJV Safety team and the HAZMAT Coordinator. TDJV Environmental Team is now notified by Safety team of any new hazardous materials coming to site via the electronic MSDS register which is available to the Environmental Team via the shared computer drives and also via email if required. Storage of chemicals in Zone 3 (tunnelling compound and car park) has been rectified. Soda Ash Solution has been transported to bunded area away from vehicle traffic. Water in temporary storage bund has been pumped out; chemicals that were sitting too close to the edge of the bund have been moved into the middle. IBC's stored 2 high have been moved to bunded containers and empty oil drums have been recycled. Ongoing monitoring of this area for compliance with EPA bunding guidelines continues via weekly inspection checklist.</p> <p>Verification:</p> <p>August 2010: The Environment Manager has access to the OHS&R MSDS folder. The process for clearing chemicals to come on site is managed by Safety, and is currently being documented. The Weekly Environmental checklist requires a review of the MSDS register.</p>	Finding closed Audit No 41, August 2010
36	8-Jul-2010	36/03	NC	<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:</p> <p>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.</p> <p>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</p>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
					October 2010. The data will then be reviewed quarterly and reported annually based on the financial year to align with NGER reporting requirements.'	
37	6-Jul-2010	37/01	NC	D&C Utilities Area EMP Document Control. It was noted that during the audit period that two Sub-plans were formally issued to the PLJV construction team for use. The sub-plans are Acid Sulfate Management, and Vegetation management. These had not been authorised by the AquaSure EMR as required by the D&C EMP, nor consented to by the State as required under the Project Deed.	PLJV response: August 2010: A Plan for Environmental Remediation was received from TDJV on 3 August 2010 and included the following actions: The Utilities Acid Sulfate Soil management plan has been removed from Incite and will be re-issued once it has been authorised as part of the EMP review. It is anticipated that this plan will be authorised and in place by 20 September 2010. The Utilities F36 Revegetation Management Plan has been issued as an attachment to DP3-0069 for state review. Based on the comments from the stage 2A review, the plan will be amended and rev'd up at which time the EMR will authorise. The program for the finalisation of this plan is that it be authorised and in place by 20 September 2010. Verification: August 2010: Sighted a formal request to invalidate a record in Incite for ASS MP. Dated 19 July, approved 22 July. Action acceptable. Finding to be closed when formal Notice received from TDJV/AquaSure September 2010: A Part D Notice of Rectification of an Environmental Non-Compliance received 20/9/2010.	Finding closed Audit No 47 September 2010
37	6-Jul-2010	37/02	Afl	D&C Utilities Area EMP, Water Quality and Erosion Management. The PLJV EOs have identified inadequate sediment fencing, and sediment fences requiring maintenance on several occasions June. Required actions have been included on the Action Database, . The issue was also noted in the IR&EA surveillance reports. An NCR (under the PLJV QMS) is being raised on the subcontractor (Armstrong) by PLJV relating to working outside alignment at Grices Road and failure to rectify inadequate sediment control structures.	PLJV response: Following increased IR&EA inspections noting the erosion and sediment control measures, the environmental site inspections and reporting has been modified to provide improved communication to works crews of works required to maintain erosion and sediment controls and prevent pooling of water on the site or adjoining lands. A services NCR was issued to Armstrong Contractors (NCR:TDV#3-0135 under) to address the poor environmental management at Grices Road. Verification: August 2010: the procedures and forms for environmental inspections and contractor management have been revised.	Finding closed Audit No 42, August 2010.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
37	6-Jul-2010	37/03	Afl	<p>D&C Utilities Area EMP Incident reporting. A number of incidents during the audit period have not been reported to the environment team or included in the incident reporting database (the HSE database). These incidents include:-</p> <ul style="list-style-type: none"> • A Class 3 (minor) hydraulic oil spill at a pipe jacking site. • A minor oil spill at the Western Port Road crossing works. • Loss of sediment control at the Western Port Road crossing works. It is noted that incident response appeared to be adequate. 	<p>PLJV response:</p> <p>Following on from last month's IR&EA audit findings that there was a lack of incident reporting culture, a toolbox topic was distributed and presented to the crews outlining what environmental incidents are and why they should be reported. This has led to an increased awareness and subsequent increase in incident reporting. In addition, HSE Environmental Observation Form has been prepared to facilitate site supervisors and foreman to undertake environmental inspections of the work sites. These forms will count towards an individual's monthly quota of SystemEyes observations. The inspection forms included waste management, spill kits and controls to prevent land contamination, water and erosion controls, and flora and fauna. Based on the success of the HSE Environmental Observation Form, HSE Communications Inspection Checklists will be prepared each month to deal with more specific environmental topics.</p> <p>Verification:</p> <p>August 2010: Toolbox talks have been delivered on incident definition, response, and reporting. Materials were sighted. Copy of talk has been provided to all forty supervisors for use in pre-start meetings. The Environmental Officers use same material for toolboxes. Toolbox talk register sighted. Seven environmental incidents were reported in the HSE database for July. All Class 3 incidents. Entries in database sighted. All hydrocarbon minor spills.</p>	Finding closed Audit No 42, August 2010.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
37	6-Jul-2010	37/04	NC	<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:</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> - water usage - NGER [National Greenhouse and Energy Reporting] reporting, and - Waste reporting. <p>Based on the findings of the reporting, opportunities will be identified for improvements in resource efficiency</p> <p>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 Resource Efficiency Plan is to be prepared.</p>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
39	6-Aug-2010	39/01	Afl	EMS Manual: The EMS Manual could not provide definition and clarity in the following areas: Not all Environmental Policy commitments can be clearly and transparently linked to implementation mechanisms in the EMS Manual, such as environmental objectives. There is some confusion in the EMS Manual between environmental objectives and the Performance Requirements defined in the Project Deed. The PRs are identified both as environmental objectives, and as obligations. The overarching AquaSure environmental objectives are not transparently linked to an environmental management programme. No clear requirements are defined for communication or notification between AQS and TDJV on statutory and other key issues (e.g. receipt of a statutory notice or permit/approval by either party). EMS Manual identifies the D&C EMP as a key operational control, however other AquaSure controls are not identified in the risk register or elsewhere in the EMS Manual, e.g. the Community Involvement Plan. The Non-conformity procedure lacks a requirement to identify, implement and verify preventative actions. The AquaSure procedure includes most of the requirements for audit, but does not include: A requirement for audits against the requirement of ISO 14001; Distribution of the audit report to the IR&EA.	September 2010: the EMS Manual has been revised to address the findings. SAI Global recommended the EMS for certification on 10 September 2010.	Finding closed Audit No 44, September 2010
41	3-Aug-2010	41/01	Afl	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.	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
42	4-Aug-2010	42/01	Afl	<p>Utilities area: The Booster Pump Station site is in a 1/100 year flood plain and designated floodway. PLJV has Melbourne Water approvals for the final design (letter of 18 Feb sighted). The deposition of the spoil at the site appears to be within the designated floodway, and not in accordance with the design package requirements and the agreement with Melbourne Water. Melbourne Water has expressed concerns to PLJV about the location of the spoil pile and the associated drainage controls.</p> <p>It appears that adequate liaison was not undertaken with Melbourne water before works commenced at the site. It is noted that PLJV advise that actions are being taken to address Melbourne Water's concerns</p>	September 2010: it was advised the spoil pile has been moved. Site drainage is to be constructed to manage water flows around the site. A SEP being developed for the area.	Finding closed Audit No 47, September 2010
42	4-Aug-2010	42/02	Afl	<p>Utilities alignment: At approximately KP 28 – 30 in The Gurdies inadequate sediment controls were evident.</p>	September 2010: The site environmental inspections have been revised to be more detailed, and a formal process established to escalate issues with subcontractors. There is a current focus on erosion and sediment controls.	Finding closed Audit No 47, September 2010
42	4-Aug-2010	42/03	Obs	<p>Utilities Area EMP, Water Quality and Erosion management sub plan: The Dewatering / Discharge Procedure, in particular sections 4.3 and 4.4, do not reflect recent changes to landowner consent and authority notification requirements.</p>	September 2010: the requests of landowners relating to notification requirements are to be documented.	Finding closed Audit No 47, September 2010
42	4-Aug-2010	42/04	Afl	<p>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.</p>	September 2010: a process to track loads of water from source to discharge point is being established. Remaining actions are still to be addressed.	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
42	4-Aug-2010	42/05	Obs	Utilities Area EMP, Acid Sulfate Soils sub plan: ASS disposal is tracked through waste transport certificates. Only PASS from Yallock Creek excavations has been disposed of to date. A spreadsheet showing ASS transport reconciliation was sighted. At the time of the audit, adequate record were not available to the Area Environment Manager to link the records of the site of excavation of ASS to the loads disposed. Records showing locations of loads removed were provided after the audit. This issue is to be audited again to ensure that adequate records are maintained.	September 2010; the tracking spreadsheet has been amended to track loads from locations to disposal site. Includes date and a cross reference to the associated delivery docket. Sighted.	Finding closed Audit No 47, September 2010
43	9-Aug-2010	43/01	Afl	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 meet obligations in approvals. The current version of the Compliance Tracker does not include identification of the Means to Comply and requires updating.	September 2010: Compliance Tracker is being updated to include the means to comply. Not yet finalized.	Remains open
45	7-Sep-2010	45/01	Afl	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.		

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
46	8-Sep-2010	46/01	Afl	<p>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.</p> <p>The analytical laboratory should be contacted to seek advice regarding the consistency of the sample containers used for the volatile and semi-volatile organic compounds with IWRG701.</p>		
46	8-Sep-2010	46/02	Obs	<p>Plant and General Area EMP. Hazardous materials sub-plan. A number of drums of chemicals were stored around the site unbanded 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 banded pallets are now being used for small containers of diesel. Large quantities of diesel are stored in self-banded tanks.</p>		

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47	9-Sep-2010	47/01	Afl	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.		