

Victorian Desalination Project | Independent Reviewer & Environmental Auditor

IR&EA REPORT

COMPLIANCE WITH ENVIRONMENTAL PERFORMANCE
REQUIREMENTS QUARTER 4 2009

QUARTERLY REPORT TO THE MINISTER FOR ENVIRONMENT AND
CLIMATE CHANGE

FEBRUARY 2010

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SUMMARY

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.

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 Project 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 first three months of the IR&EA's monthly environmental audits, from October – December 2009.

Works commenced at the desalination plant site on the coast near Wonthaggi on 30 September 2009. The initial works included site establishment activities, such as the construction of temporary construction roads and facilities (offices, storage areas etc), bulk earthworks to excavate the building footprints, and installation of initial environmental monitoring equipment and environmental controls. Vegetation clearing and construction of haul roads and Right of Ways (ROWS) at the northern end of the utilities corridor near Cardinia commenced in November 2009.

During the reporting period a total of 23 formal audit findings were raised. All except one of the findings relate to maturing environmental management systems. This is typical of the early stages of a major project, when processes and procedures are still being developed, refined and implemented. Collectively the findings demonstrate that on-ground environmental risks appear to be managed in accordance with the requirements of the EMS and EMPs. However AquaSure, and the major contractor for the design and construction phase, the Thiess Degremont Joint Venture (TDJV), are further developing their systems and record keeping in order to demonstrate full implementation of the EMS and EMPs.

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 EMS is still under development. The reporting, monitoring, auditing and communication mechanisms between AquaSure and TDJV, which will allow AquaSure to manage the implementation of the EMS and subordinate environmental documentation, are still being developed and implemented.

Implementation of each component of the EMP

The implementation of the Plant and General, and the Utilities Area EMPs is well advanced, and for those aspects of the Project Activities audited in the reporting period, environmental risks at the plant site and along the pipeline alignment were generally managed in accordance with the environmental requirements.

Other Environmental requirements

In order for AquaSure to demonstrate compliance with the Environmental Performance Requirements and Project Approvals, a formal system for the identification and tracking of compliance requirements is needed. AquaSure and TDJV are developing a compliance management tool; however, this was not complete during the reporting period. Once this tool is finalised to the satisfaction of the IR&EA, it will form a key element of the IR&EA Environmental Audit program to assess compliance with the Environmental Requirements.

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 for 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 have 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 first three months of the IR&EA's monthly environmental audits, from October – December 2009.

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 Project 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 Commonwealth Environment Protection and Biodiversity Conservation Act, and from Victorian legislation including the Environment Effects Act, the Environment Protection Act, the Planning and Environment Act, the Flora and Fauna Guarantee Act, and the Wildlife Act. 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 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 and the State and the IR&EA.

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

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

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 October - December 2009. In addition the Design Review and Certification process provides evidence that the Project design is in accordance with the requirements of 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:

1. 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;
2. 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
3. Design-related Environmental Performance Requirements, conformance with which is assessed through audits of AquaSure/TDJV's internal processes for integrating Performance Requirements into design requirements, and during the Design Review and Certification process.

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

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 as 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. The completed audit checklists, including a summary of the audit evidence obtained, are included in the monthly environmental audit reports.

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.

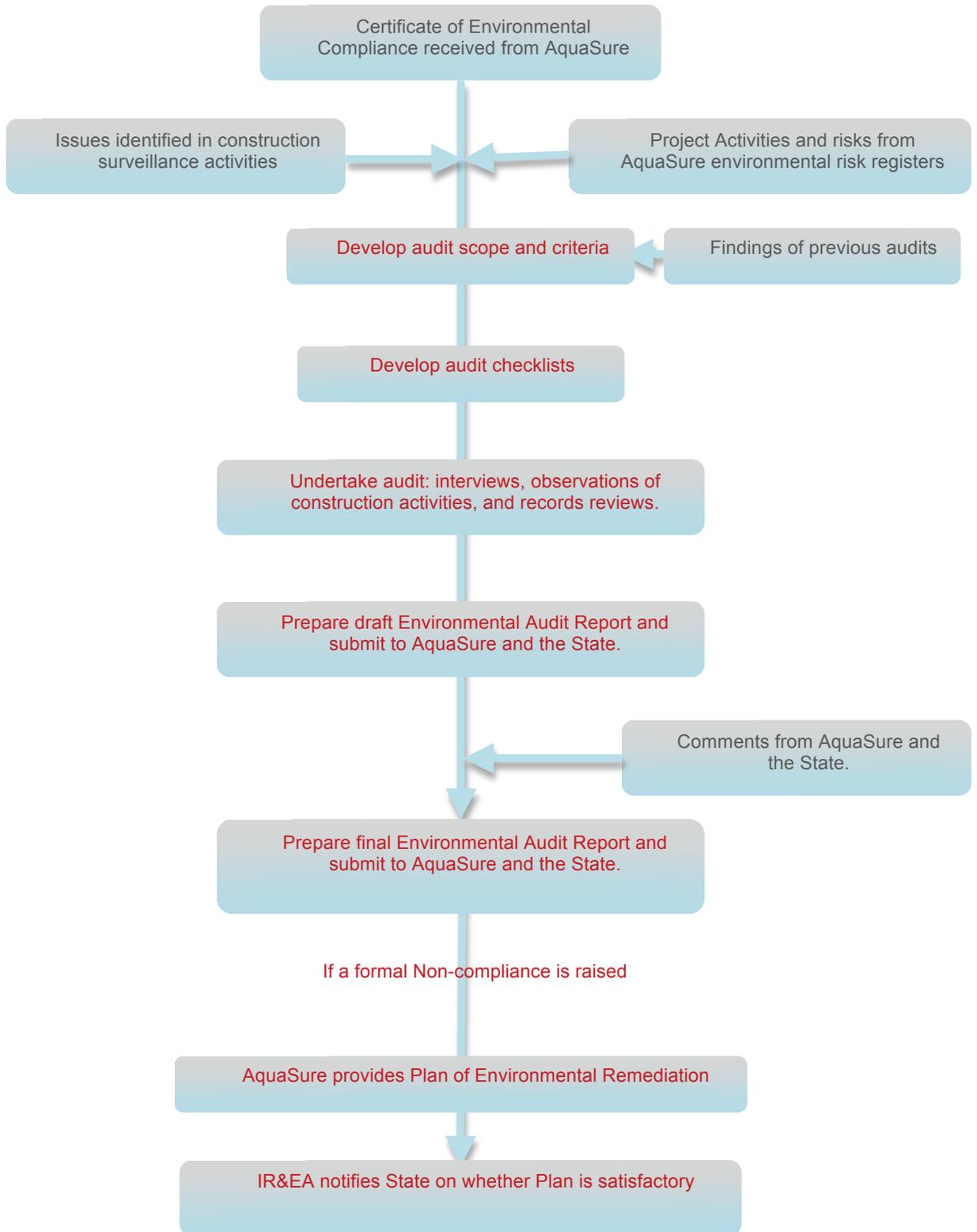
Area for improvement: A deficiency in the implementation of the relevant EMP or subordinate documentation judged to be a risk to the environment, or to environmental management, without constituting an overall failure in the area concerned.

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**

1



4 PROJECT ACTIVITIES AND ENVIRONMENTAL AUDITS

4.1 Project activities

4.1.1 Desalination plant site

Works commenced at the desalination plant site on the coast near Wonthaggi on 30 September 2009. The initial works included site establishment activities, such as the construction of temporary construction roads and facilities (offices, storage areas etc), bulk earthworks to excavate the building footprints, and installation of initial environmental monitoring equipment and environmental controls.

Figure 2. Fencing and signage, November 2009.



Figure 3. Construction of temporary offices, October 2009



Figure 4. Bulk earthworks, November 2009.



4.1.2 Utilities corridor

Vegetation clearing and construction of haul roads and Right of Ways (ROWs) at the northern end of the alignment near Cardinia commenced in November 2009.

Figure 5. Dust suppression, utilities corridor, December 2009.



Figure 6. Vegetation clearance, utilities corridor, December 2009.



4.2 Environmental audits

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

Audit No	Date	Scope and location
1	16 October 2009	Field audit of the implementation of pre-construction requirements of the D&C EMP and the D&C Plant and General Area EMP, at the plant site.
	19 October 2009	Office audit of the documentation and records related to the pre-construction requirements of the D&C EMP and the D&C Plant and General Area EMP, at TDJV office.
	19 October 2009	Office audit of the implementation of the EMR's responsibilities, at the TDJV office
2	13 November 2009	Field audit of the implementation of key requirements and sub-plans of the D&C Plant and General Area EMP at the plant site.
	11 November 2009	Office audit of the documentation and records related to the pre-construction requirements of the D&C EMP and the D&C Plant and General Area EMP, at TDJV office
	12 November 2009	Office audit of the implementation of the EMR's responsibilities, at the TDJV office and at AquaSure's office.

Audit No	Date	Scope and location
3	8 December 2009	Field audit of the implementation of key requirements and sub-plans of the D&C Utilities Area EMP, at the TDJV office and the construction areas of the pipeline alignment.
4	10 December 2009	Office audit of the implementation of the EMR's responsibilities and the relevant requirements of the Project Deed, at AquaSure's office.
5	10 December 2009	Office audit of the documentation and records related to the requirements of the D&C EMP at TDJV office.
6	14 December 2009	Field audit of the implementation of key requirements and sub-plans of the D&C Plant and General Area EMP at the plant site.

5 AUDIT FINDINGS AND CONCLUSIONS

5.1 Audit findings

During the reporting period a total of 23 formal audit findings were raised. A list of these, and corrective and preventive actions to the end of February 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 2009

Audit No.	Audit Date	No. NCs	No. Afls	No. Obs
1	Oct 09	-	2	5
2	Nov 09	-	2	5
3	Dec 09	-	-	2
4	Dec 09	1	2	-
5	Dec 09	1	-	2
6	Dec 09	-	-	1
Totals		2	6	15

NC: Non-compliance Afl: Area for Improvement Obs: Observation

All except one of the 23 findings relate to maturing environmental management systems. This is typical of the early stages of a major project, when processes and procedures are still being developed, refined and implemented.

Figure 7. Dust monitor near plant site perimeter



Collectively the findings demonstrate that for those aspects of the Project Activities audited in the reporting period on-ground environmental risks are managed in accordance with the overall requirements of the EMS and EMPs; however AquaSure, and the major contractor TDJV, cannot yet demonstrate full implementation of the EMS and EMPs.

They have yet to fully implement the roles and responsibilities for environmental management as required in the Project Deed, or to fully implement the Project EMS and EMPs. The majority of the findings also relate to system functions such as processes for managing and monitoring compliance with legal and other requirements, document control, and maintenance of records.

Figure 8. Sensitive vegetation at the plant site identified with para-webbing.



Demonstration of compliance with the EMS, EMPs and Project Environmental Requirements is a key element of AquaSure's environmental management arrangements. This requires a documented compliance management system for identifying the requirements for compliance (i.e. what actions are required), and to monitor and report on the progress of the identified requirements. AquaSure and TDJV are developing a compliance management process, which, once completed, will be used by the IR&EA to audit compliance.

Figure 10. Sediment control fences, utilities corridor, December 2009.



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

Figure 9. Biosecurity wash down point at a property boundary.



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 EMS is still under development. The reporting, monitoring, auditing and communication mechanisms between AquaSure and TDJV, which will allow AquaSure to manage the implementation of the EMS and subordinate environmental documentation, are still being developed and implemented.

5.2.2 *Implementation of each component of the EMP*

The implementation of the Plant and General, and the Utilities Area EMPs is well advanced, and for those aspects of the Project Activities audited in the reporting environmental risks at the plant site and along the pipeline alignment were generally managed in accordance with the environmental requirements.

5.2.3 *Other Environmental requirements*

In order for AquaSure to demonstrate compliance with the Environmental Performance Requirements and Project Approvals, a formal system for the identification and tracking of compliance requirements is needed. AquaSure and TDJV are developing a compliance management tool; however, this was not complete during the reporting period. Once this tool is finalised to the satisfaction of the IREA, it will form a key element of the IREA Environmental Audit program to assess compliance with the Environmental Requirements.

Appendix 1. Environmental audit findings Q4 2009

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
1	Oct-09	1/01	Afl	Attachment H of the D&C EMP does not require the TDJV Environmental manager to audit the implementation of the D&C Area EMPs (D&C Plant Area EMP 5.5.1 Internal Auditing). No internal audit schedule has been developed for the D&C EMP or the D&C Plant and General Area EMP.	<p>November 2009: The D&C EMP is being revised, and will include a revised Attachment H.</p> <p>December 2009: The D&C EMP has been revised to include a requirement for internal audits.</p>	Closed Audit No 5 Dec 2009
		1/02	Afl	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:		
				* no audit program has been established (subclause (i));	A documented approach to, and outline audit program for, the EMR's audits was sighted	Closed Audit No. 2, Nov 09
				* there was no evidence that each of the EMPs had been reviewed by the EMR (subclause (iii));	Comments from the EMR to TDJV on the D&C EMP and the D&C Area EMPs were sighted.	Closed Audit No. 2, Nov 09
				* no process has been implemented for the reviewing of Environmental Incidents, and implementing corrective actions (subclause (iv));	A draft revised Environmental Incident procedure was sighted	Closed Audit No. 2, Nov 09
				* no system has been implemented for EMR's corrective actions and continuous improvements (subclause (vi)); and	The response to the finding on environmental incidents does not address the broader issue of corrective actions and continual improvement arising from the EMR's audits and other activities not related to environmental incidents.	Raised to an Area for Improvement See finding 2/02
				the role of the EMR in environmental communication channels is not clearly defined (subclause (vii)).	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 of the EMR.	Closed Audit No. 2, Nov 09 Finding 2/04 (Observation) raised
		1/03	Obs	Several forms used to record the implementation of environmental controls (e.g. Biosecurity Personnel Cleaning Record, the Ecologist sign-off form, the TDJV Weekly Site Inspection Form and the Daily pre-start form) were not formally issued for use, and displayed no document control information. They are not included in Attachment D as required by the D&C	Forms required on site for environmental management, including the Daily Pre-Start form, the Biosecurity Personnel Cleaning record and the TDJV Weekly Site Inspection Form are controlled documents and include relevant document control information. Some forms (such as the ecologists clearance forms) are not yet controlled	Closed Audit No. 2, Nov 09

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
				Plant & General Area EMP clause 4.5.	documents but it was advised that this was planned.	
		1/04	Obs	The authorised Bulk Earthworks Work Package included revision 5 of the SEP, however, it was observed that the authorised Revision 7 of the SEP was being used on site.	November 2009: A process is being defined to ensure that the Work Packages includes the current version of the SEP. This had not been finalised at the time of audit. December 2009: a procedure has been implemented to authorise changes to elements of Work packages.	Closed Audit No 3 Dec 2009
		1/05	Obs	Attachment D of the D&C EMP (the Environmental Legal Register) does not include specific compliance requirements (the relevance to the Project) as required by clause 3.6.1 of the D&C EMP.	January 2010: Not finalised at the time of the audit. See also the Compliance Management audit and findings number 11/01 and 11/02. February 2010: Closed and replaced with finding 11/02:	Closed Audit No 15 February 2010
		1/06	Obs	The database used to identify and track required licences, permits and approvals is a separate document from Attachment E to the D&C EMP, and is not referenced in or linked to the D&C EMP.	Links have been established between the TDJV database and Attachment E of the D&C EMP.	Closed Audit No. 2, Nov 09
		1/07	Obs	It was noted that an environmental incident occurred on site relating to the release of a small volume of hydraulic oil. This was not formally recorded as an environmental incident.	Reported incidents conformed to the definition of environmental incident.	Closed Audit No. 2, Nov 09
2	Nov-09	2/01	Afl	The Project Deed, Appendix S3, clause 7 (a) requires that AquaSure is responsible for <i>"[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."</i> 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.	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. 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.	Closed Audit No 5 Dec 2009.

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		2/02	Afl	<p>The roles and responsibilities of the Environmental Management Representative as defined in Appendix S3, Clause 2 of the PS&PR have not been implemented in the following areas:</p> <ul style="list-style-type: none"> · no system has been implemented for EMR's corrective actions and continuous improvements (subclause (vi)); 	<p>AquaSure EMR is to use the Thiess HSE database as the tracking tool for the EMR's corrective actions and continuous improvements.</p> <p>January 2010: the identified actions are still being implemented.</p> <p>February 2010: AquaSure is developing and implementing a Quality Management System, including a non-conformance management procedure and register. The EMR intends to use this system when it is implemented.</p>	Remains open
		2/03	Obs	<p>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>	<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: The TDJV environment Manager advises that the raining elements are being revised as part of an overall revision of the EMP.</p>	Closed audit No 15 Feb 2010
		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> <ul style="list-style-type: none"> · the role of the EMR in environmental communication channels is not clearly defined (subclause (vii)). <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>	Remains open

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
		2/05	Obs	Weekly toolbox meetings are not being carried out as specified in the D&C Plant & General Area EMP clause 4.4.1 but instead they are held on as need basis. The last toolbox meeting was held on 29 October 2009.	The Area EMP is being revised to require tool box meetings, but with no frequency specified. The revised draft was sighted. Site communication on environmental issues currently appears effective, however as the site population grows, the need for more formal site environmental communication will also increase.	Closed Audit No 3 Dec 2009
		2/06	Obs	The wheel wash for vehicles and plant is under construction but not yet in operation. Generally plant involved in site earthworks remain on site and fuel tankers to service these plant travel on made roads only, accordingly the environmental risk of spreading soil pathogens and weed seeds is considered to be low.	The light vehicle wash is in operation. A revised site biosecurity protocol is under development by Ecology Partners.	Closed Audit No 3 Dec 2009
		2/07	Obs	The Site Environmental Plan (SEP) for the Plant and General Area is regularly revised to account for construction activities on site. Revisions to the SEP are not formally authorised.	The Area EMP is being revised to include defined document control procedures for SEPs. The Area Environmental Manager is responsible for formally authorising SEPs and revisions. The Project GIS Coordinator maintains a SEP Change Register.	Closed Audit No 3 Dec 2009
3	Dec-09	3/01	Obs	D&C Plant & General EMP Hazardous materials sub-plan: A chemicals register and MSDS register are available. Three chemicals in use at the truck servicing area were randomly selected and a check was made for the availability of MSDS. MSDSs were not available for two of these chemicals (SynTrans Max and Easy Shift 75w-90, manufactured by Caltex).	January 2010: A review of MSDS has been carried out by RTL. The two missing MSDSs as well as MSDS for Dust Bind has been included in the MSDS Register.	Closed audit No 7, Jan 2010
3	Dec-09	3/02	Obs	D&C Plant & General EMP Hazardous materials sub-plan: During the site inspection a truck was observed being serviced in an uncovered area paved with crushed rock. No drip trays were in use, and minor oil staining was evident. The mechanic advised that oil was vacuumed out. The area is being used temporarily until the permanent site servicing area is completed. However current practices are not best environmental management practice, and represent a risk of minor soil contamination.	January 2010: Drip trays for trucks were available in the service area, although no trucks were being serviced at the time of the site inspection	Closed Audit No 7 Jan 2010

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
4	Dec-09	4/01	Afl	D&C Utilities EMP Licence, permits and approvals requirements. A revised (but not yet complete or authorised) Att. G1 Obligations Register was sighted which now includes specific compliance requirements for each approval. It was noted that the means to comply described were monitoring and inspection mechanisms, rather than compliance measures. Some required approvals were available (FFG permits for protected flora and fish, a Wildlife Act permit, and a MW permit for works on a Class C Waterway); however not all required approvals were available to the Area Environmental Manager.	Area for improvement noted. Collation of electronic and hard copy approvals, permits and licenses for the project, and updating AEMP Attachments E, F and G being underway. January 2010: The Obligations Register is being updated and a hard copy and scanned copy are maintained. Most required approvals were sighted	Closed Audit No 8, Jan 2010
4	Dec-09	4/02	Afl	D&C Utilities EMP Evaluation of compliance: While the required pre-construction and construction monitoring appeared to have been conducted as required, no monitoring records were available. Evidence was sighted that weed assessments had been conducted (an email from the sub-consultant, Ecology Partners dated 4/11/2009). It was advised that flora and fauna surveys had commenced, but records were not available. It was advised that reports had not been received from sub-consultants.	Area for improvement noted. Collation of data from subconsultant has commenced. January 2010: Ecology Partners have provided raw flora and fauna datasheets but the report is yet to be submitted. The auditors were informed that PLJV are preparing a pro forma for Ecology Partners to sign off on the project consequences.	Closed Audit No 8, Jan '10
4	Dec-09	4/03	NC	D&C Utilities EMP Water quality and erosion management: No soil analysis has been undertaken or planned to understand potential erosion risks as required in the sub-plan (Table 5 Controls, management and mitigation measures).	January 2010: Technical Appendices 60 and 61 of the Environmental Effects Statement provide an assessment of the soil types along the Transfer Pipeline corridor (after DPI 2008, Sargeant and Imhof 2003, Grant and Ferguson 1978, Grant 1972) including geomorphical process with management implications including areas along the utilities corridor that are likely have dispersive soils, be susceptible to soil creep, slope wash, slope failure, scouring etc. Section 2.9 (Erodible soils) of Technical Appendices 61 concluded Most areas of the Pipeline corridor are of low to moderate slope and areas of steep slope are restricted to small parts of the Kilcunda ridge south of Woolamai. These areas, along with areas with potential for other soil related management issues identified in the EES Technical Appendices 60 and 61 will be used to update the SEPs and determine the appropriate sediment and erosion controls to be implemented onsite. Soil types are already incorporated	Closed Audit No 8, Jan 2010

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
					on the march chart	
5	Dec-09	5/01	Obs	<p>EMS Manual Legal and other requirements: The EMR has not yet established a mechanism to identify any new legal or other compliance requirements and ensure these are included in relevant registers, communicated to the AquaSure team and taken into account in environmental management arrangements. The EMR was not aware of the requirement from EPA to manage construction wastes in the marine environment (letter from EPA to AquaSure dated 13 September 2009).</p>	<p>AquaSure response: Section entitled “Legal and other requirements” (page 30) of the current version of the EMS states that the TDJV Environment Manager and TDJV Environment and Community Manager will be responsible for ensuring that any “new obligations are recognised and captured...”. Currently, TDJV Environment Manager receives a monthly update through EnviroLaw and forwards this information to Area Environmental Managers, to update documentation/ approaches as appropriate. This was checked with these Area Managers, and the EMR is satisfied that this system is working (although no changes/new obligations have been noted for the first three months of the project). This system was checked as part of the EMR December audit.</p> <p>Verification:</p> <p>January 2010: The response addresses the requirements for legislative requirements, but not for the full scope of project environmental requirements. The process outlined by the EMR is not controlled through the EMS, but relies on the D&C EMP and Area EMPs. Accordingly AquaSure cannot demonstrate independent management of legal and other requirements.</p> <p>February 2010: The EMR will develop a process to ensure that AquaSure manages the identification and management of compliance requirements. A correspondence register is being implemented to track correspondence and actions arising from this between AquaSure and TDJV.</p>	Remains open
5	Dec-09	5/02	NC	<p>EMS Manual Control of EMS Manual documentation. The EMR advised that the revised project EMS and subordinate EMPs had been submitted to the State by TDJV and that the EMR was not formally included in the transmittal, and had not formally authorised the documentation (although comments had been provided).</p>	<p>AquaSure response:</p> <p>Action: AquaSure/ TDJV is to formally submit the amended versions of the EMS and EMPs as they appear on the website (entire documents, not just those on the website) to DSE for consent by the State – this has been actioned with formal request for review and consent to the amendments</p>	Closed Audit No 14, February 2010

AUDIT NO.	DATE	FINDING NO.	TYPE	FINDING	ACTION	CLOSED
				<p>Project Deed 60.1 (e): No evidence was available to demonstrate that the State had approved the EMS documentation published on the AquaSure web site. The revised EMS documentation had not been provided to the IR&EA for review. The revised EMS documentation has not been formally provided to the IR&EA.</p>	<p>(as required under Project Deed 60.1(e)).</p> <p>Action: EMR will formally approve revised version of EMS</p> <p>Action: When/if consent has been provided by the State, AquaSure will formally provide copies of each revised document (EMS and EMPs) to the State and the IR&EA (as required under Project Deed 60.1(e)).</p> <p>Action: EMR will work with TDJV Environmental Team to develop an action plan to further refine the EMPs and associated procedural communication/ document exchange processes/ systems between AquaSure and TDJV .</p> <p>Verification:</p> <p>January 2010: The identified actions are appropriate. These had not been completed at the time of the audit.</p> <p>February 2010: Formal AquaSure authorisation and transmittal to the State for approval of the revised EMP was sighted. State approval was sighted</p>	
6	Dec-09	6/01	Obs	<p>D&C EMP Internal communication: The Area Environmental Managers provide comment on relevant Design Packages. Emails from design teams to the Area Environmental Managers requesting sign off of the Design Package were sighted. The revised D&C EMP includes this overall requirement for interaction, and this appears to be a well understood work practice, however, there is no documented procedure defining the required accountabilities, responsibilities and authorities for environmental input to Design Packages.</p>	<p>January 2010: No progress has been made on the findings since the last audit.</p> <p>February 2010: The TDJV Design Review flow chart was sighted. This requires environmental input to and sign-off of design packages. Environmental sign off of DP2-001 Stage 2 was sighted</p>	Closed audit No 15, Feb 2010