

# Audit Report

Audit of the Adequacy of the Sydney  
Desalination Plant Infrastructure  
Operating Plan & Water Quality Plan

3604-09



Prepared for  
Independent Pricing and Regulatory Tribunal  
September 2013

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## Executive Summary

Sydney Desalination Plant Pty Ltd (SDP), which holds the long term lease of Sydney Desalination Plant, is jointly owned by the Ontario Teachers' Pension Plan Board (50%) and two funds managed by Hastings Funds Management Limited: Utilities Trust of Australia and The Infrastructure Fund (together 50%).

Following the sale of the Plant to its new owners, SDP were required to update the three Management Plans that it needs to have in place under the Network and Retail Licences.

The Infrastructure Operating Plan and Water Quality Plan were previously underpinned by some processes and systems in place in Sydney Water and meshed into the Veolia Water systems for maintenance and testing. These two plans have been updated in conjunction with Veolia to reflect the new ownership of the infrastructure. Also, as part of this process, the plan for shutting the plant down and for caring for the plant in shutdown mode are included, as well as work being done to prepare for a restart.

As a result of the updates of the Infrastructure Operating Plan and Water Quality Plan, the SDP have been required to be audited to report on how they now reflect the new ownership and to ensure the process of the shutdown of the plant, mothballing and the subsequent restarting of the plant are fully covered by the plans. The Retail Supply Plan has also been updated but as the Plant is currently shut down and not producing any water, there was no requirement for this Plan to be audited at this time.

This report documents the findings of the audit of SDP's Infrastructure Operating Plan and Water Quality Plan based on on-site audits that were completed on 19 and 20 August 2013.

Key findings of the audit of the IOP and WQP were:

- ▶ As was found at the previous audits of the IOP and WQP, the Plans are supported by well documented systems and processes within a plant-based Quality Management System that is third party accredited. Where required, the Plans and the supporting documents have been updated to take account of the change of ownership of the Plant.
- ▶ The key documents that set out the requirements and responsibilities for the Plant and the operating protocols between the three main stakeholders (SDP, VWA and SWC) are the Operate and Maintain Contract and the Sydney Desalination Plant Water Supply Agreement. The VWA systems for the plant have been developed in response to these contract requirements.
- ▶ The IBMS Manual, which includes the high level management plans, has been updated to take account of the change of ownership and the current mothballing of the site. The Manual also reflects the change of ownership and O&M arrangements for the DWPS and the delivery pipeline.

However, although VWA has the higher level Plans and Procedural documents, the more detailed documentation, including those that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed.

In addition, although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed. The CCP-referenced documents in the WQP provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.

VWA has listed the documentation that needs to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years.

We consider that for the present time the Plans are adequate to meet the current operational needs of the Kurnell Plant during the mothball period. However, as the Plan is required to meet all main operational eventualities, including the plant restart we have applied a **Non-Compliant Insignificant** grading for compliance of the Plans against a number of the individual clause requirements. This is a minor non-compliance issue at this stage given that the plant is unlikely to be required to re-start for another two years.

As the time to restart reduces, the absence of the more detailed Work Instructions and other documents could potentially become a Non-Compliant (Significant) matter. However, although this is possible, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.

The referencing of the previous Operating Protocol is a minor oversight in the updated version of the Plan but as it forms one of the main reference documents supporting the IOP the references should be replaced by the references to the new Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols. Our audit findings also include a number of small corrections that should be made to the plans to correct or update explanatory text included in Appendix 1 of each plans, other referenced documents and also include a number of the key new documents that VWA have developed.

Although we have observed minor Non-Compliant Insignificant matters regarding the IOP and WQP requirements, we consider that for the current time both Plans, with the Plant not producing any water and not expected to for at least another two years, are adequate to meet the current operational needs of the Kurnell Desalination Plant. However, SDP and VWA will need to address these non-compliance matters before the Plant enters the restart phase of operation.

In preparing this audit opinion the following should be noted:

- ▶ The auditor has seen sufficient evidence on which to base their conclusions
- ▶ The audit report findings accurately reflect the professional opinion of the auditor
- ▶ The lead auditor and team members have noted the requirements of the IPART Audit Guideline for Brownfield Schemes, July 2013 and the Audit Deed in conducting the audit, determining audit findings and preparing this report
- ▶ The audit findings have not been unduly influenced by the licensee and/or any of its associates.

## Abbreviations

<b>Abbreviation</b>	<b>Term</b>
ADWG	Australian Drinking Water Guidelines (2004), National Health and Medical Research Council and Agriculture and Resource Management Council
ASAE	Australian Standard on Assurance Engagements
CARMS	Contract Asset Renewal and Management System
CCP	Unit process Guidelines
CMMS	Computerised Maintenance Management System
DWPS	Drinking Water Pumping Station
FDS	Functional Design Specification
HACCP	Hazard Analysis and Critical Control Points
IBMS	Integrated Business Management System
IICATS	Integrated Instrumentation Control and Telemetry System
IOP	Infrastructure Operating Plan
IPART	Independent Pricing and Regulatory Tribunal (NSW)
KPI	Key Performance Indicator
NSW Health	NSW Department of Health
R&D	Research & Development
SDP	Sydney Desalination Plant Pty Ltd
SOP	Standing Operating Procedure
SWC	Sydney Water Corporation
UPG	Unit Process Guidelines
VWA	Veolia Water (Australia)
WICA	Water Industry Competition Act 2006
WQP	Water Quality Plan

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# 1 Introduction

## 1.1 Background and Objectives

Sydney Desalination Plant Pty Ltd (SDP), which holds the long term lease of Sydney Desalination Plant, is jointly owned by the Ontario Teachers' Pension Plan Board (50%) and two funds managed by Hastings Funds Management Limited: Utilities Trust of Australia and The Infrastructure Fund (together 50%).

Previously, the Plant was a wholly owned subsidiary of Sydney Water Corporation (SWC), and was granted a Network Operator's licence and a Retail Supplier's licence under the Water Industry Competition Act 2006 on 9 August 2010.

The Retail Supplier's Licence permits SDP to sell drinking water from the plant. Currently, its only customer is Sydney Water. Drinking water from the plant mixes with drinking water that originates in Sydney Water's other sources such as dams, in the distribution system. Sydney Water sells drinking water to homes and businesses in Sydney, the Illawarra and the Blue Mountains.

The Network Operator's Licence allows the SDP to construct, operate and maintain water industry infrastructure. The SDP has entered into three twenty-year contracts with Veolia Water Australia (VWA) for the operation and maintenance of the desalination plant, drinking water pump station and delivery pipeline.

These licences required the SDP to submit an Infrastructure Operating Plan and a Water Quality Plan to the New South Wales (NSW) Independent Pricing and Regulatory Tribunal (IPART). Draft plans were submitted to IPART and an audit and report on the adequacy of the Infrastructure Operating and Water Quality Plans was completed by Cardno in December 2011. A follow-up audit was completed by Cardno in April 2012.

Following the sale of the Plant to its new owners, SDP are required to update the three Management Plans that it needs to have in place under the Network and Retail Licences.

The Infrastructure Operating Plan and Water Quality Plan were previously underpinned by some processes and systems in place in Sydney Water and meshed into the Veolia Water systems for maintenance and testing. These two plans have been updated in conjunction with Veolia to reflect the new ownership of the infrastructure. Also, as part of this process, the plan for shutting the plant down and for caring for the plant in shutdown are included, as well as work being done to prepare for a restart.

The Retail Supply Plan has also been updated but given that SDP does not currently retail to anyone other than Sydney Water, it is fairly dormant.

As a result of the updates of the three management plans, the SDP are required to be audited to report on how they now reflect the new ownership.

## 1.2 Licensee's Infrastructure, Systems and Procedures

### 1.2.1 Infrastructure

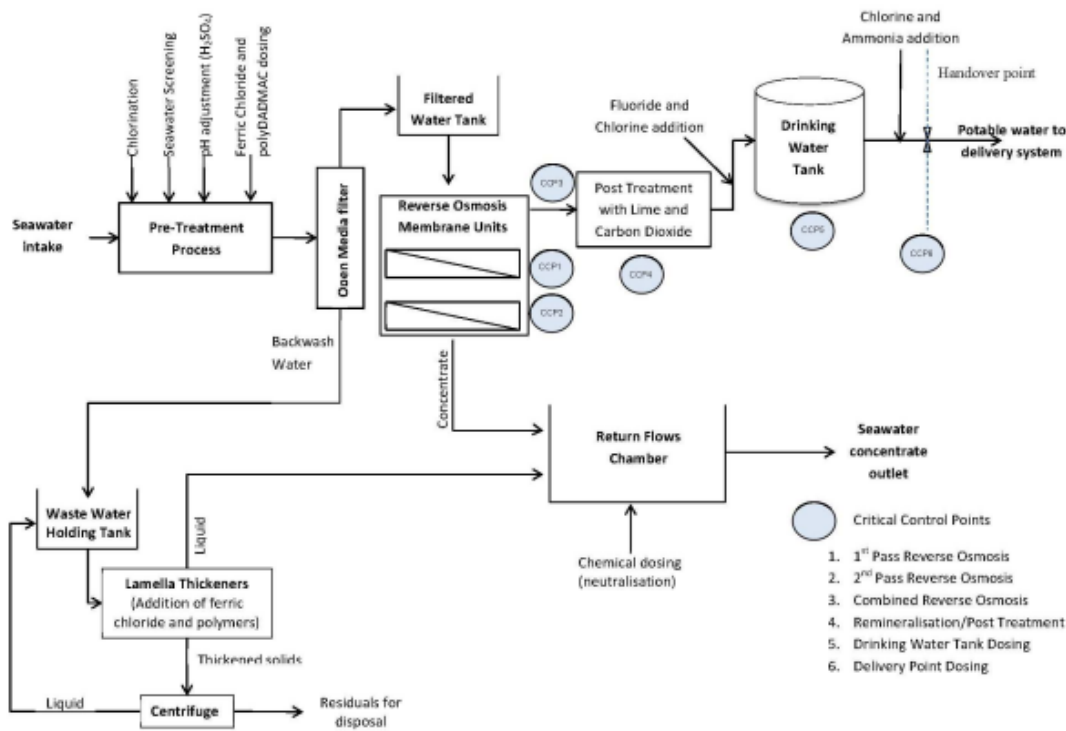
The Sydney Desalination Plant can supply up to 250ML/d or up to 15% of Greater Sydney's current water demand. The Plant's inlet, outlet and distribution infrastructure has been constructed to allow the Plant's capacity to be doubled to 500 ML/d, with the flexibility to operate at different production rates including shutdown. The desalination plant consists of the following processes:

- ▶ Intake screening to remove debris, seaweed and other large marine organisms
- ▶ Pre-treatment including
  - Dual media gravity filtration

- 5 micron cartridge filtration
- ▶ A two pass reverse osmosis process to remove dissolved salts
- ▶ Remineralisation to provide a non-corrosive water
- ▶ Chlorine disinfection followed by chloramination
- ▶ Fluoridation.

The Drinking Water Pumping Station (DWPS) at the outlet of the plant pumps the treated water via a delivery pipeline into the City Tunnel at Erskinville and then onto the wider Sydney water supply system. The DWPS and the delivery tunnel assets are also owned by the SDP. The operations and maintenance of the DWPS and delivery pipeline have also been contacted to VWA.

A schematic plant layout is illustrated in Figure 1-1. This excludes the Drinking Water Pump Station (DWPS) and the delivery main to the City Tunnel at Erskinville.



**Figure 1-1 Schematic Layout**

The first module of the desalination plant commenced operation on 28 January 2010 while the second module commenced operation on 15 April 2010. The plant was operated at full production until late 2011. However, as a result of the heavy rain in early February 2012 filling Warragamba Dam, supply from the Sydney Desalination Plant was reduced to around 40 – 50 ML/d. In April 2012 the Plant went through Providing Period Tests and was shut down for a predicted long-term mothballing period at the end of June 2012. The Plant is now running at an operating regime whereby the plant will run at full capacity when dam levels reach 70% and continue at this production capacity until the dam levels return to 80%. The current mothballing of the Plant is expected to last at least two years, with current levels in Warragamba Dam still in excess of 90% of capacity.



### 1.2.2 Overview of Infrastructure and Operations and Maintenance during Mothballing

A number of changes have been made to the infrastructure during shutdown of the Plant for the mothballing phase:

- ▶ The seawater intake to the Plant has been capped to prevent anything coming into the inlet tunnel.
- ▶ The membranes are currently being preserved in situ with a sodium bisulphite-based preservation fluid. A refresh takes place every week to move the fluid around and every six months a full replacement of the preservation fluid is carried out. At this time, any minor maintenance that needs to be completed on the membrane is completed before the new batch of fluid is put in. The Plant still discharges under licence but using its batch discharge licence obligations rather than the continuous licence conditions that are in place for the site.

A sample of membranes is taken out of operation each 12 months for testing to allow their performance to be benchmarked as they age. Autopsy testing after the first six months of preservation is currently taking place. A schedule of inspections and maintenance for the M&E assets has been set up for the mothballing phase to ensure that the assets don't deteriorate and will be ready for operation when the Plant needs to be restarted.

- ▶ The delivery pipeline between the DWPS and the interface with Sydney Water's network was filled with a body of high alkaline water when the plant was shut down to prevent leaching of minerals from the pipe's concrete lining. The water was also dosed with a higher than normal chlorine content. This process was agreed with SWC. After the pipeline was filled, the pipeline was capped, with the body of water trapped in the pipe until the Plant's restart phase. There is no ongoing testing of the quality of the water in the pipe while the site is mothballed, but VWA have a strict regime of flushing and testing for when the Plant is restarted. This process will be similar to when the Plant and the pipeline were originally commissioned. The currently trapped body of water and future flushed water will be delivered back to the Plant for treatment before discharge. The pipeline water is returned back to the Plant via gravity and the flow rate can be controlled by the Plant.

### 1.2.3 Overview of Systems and Procedures

The SDP's requirements for the operation and maintenance of the plant are set out in the Operate and Maintain Contract for Sydney's Desalination Project. This is further supplemented by the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols which describes the operational interface requirements for the system and defines the responsibilities of the SDP, VWA and SWC (as the Plant's sole customer) in operating the system into which the Plant, DWPS and delivery pipeline are integrated. The O&M Contract has been updated to take account of the change of ownership. The Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols replaces the original Operating Protocols (document reference number TO0011).

VWA has developed a suite of documented procedures for the management of the desalination plant, DWPS and delivery pipeline.

These include:

- ▶ An Integrated Business Management System Manual which provides an overview of the main elements of the Integrated Business Management System (IBMS) including operations and maintenance management and asset management.
- ▶ Supporting guidelines, plans, procedures and work instructions.

In addition, VWA has third party accreditation for the following management systems:

- ▶ ISO 9001 – Quality Management System
- ▶ ISO 14001 – Environmental Management System;

- ▶ AS/ NZ 4801 – Occupational Health & Safety Management System; and
- ▶ ISO 22000 – Food Safety Management System.

Some of the systems used to manage the Desalination Plant, DWPS and delivery pipeline include:

- ▶ Maximo 7 which lists the asset register, maintenance schedules and procedures and is used to plan, prioritise, record and analyse maintenance activities
- ▶ CARMS – Contract Asset Renewal Management System which is a spreadsheet for forecasting renewals based on the level of risk (product of condition and criticality)
- ▶ Membrane Management System which is a tool for managing the 36,000 membranes at the plant.

The key systems and documentation being used by VWA to operate and maintain the Kurnell Desalination Plant are generally unchanged from the 2012 audit. New documentation has been developed regarding the shutdown of the Plant and the current mothball phase of operation. High level documentation has been developed regarding the restart of the Plant but the lower level operating procedures and step-by-step work instructions for this operational phase have yet to be developed in detail. The restart of the Plant is dependent on dam levels and based on the current levels, restart of the Plant is not expected to be required for at least another two years.

#### **1.2.4 Infrastructure Operating Plan and Water Quality Plan**

The IOP and WQP were both approved by the Chief Operating Officer of the SDP on 1 August 2011. The Plans were developed as overarching plans with more detailed information on the compliance with the WICA licence provided in Appendix 1 of each Plan. In response to a request from IPART, SDP provided a detailed listing of supporting documents/ references relevant to each WICA requirement in Appendix 1 of each Plan.

The original audit to assess the adequacy of the IOP and WQP in November 2011 rated both documents as having 'Adequate Compliance', subject to some changes, the majority of which were changes to references, in order for the Plans to fully meet the requirements of the Licences. The Plans were updated to align with the recommendations of the November 2011 audit, with revised documents approved by the then Chief Operating Officer on 15 February 2012 and re-submitted IPART. A follow-up audit to assess the adequacy of the updated IOP and WQP was conducted in April 2012 and rated both documents as being 'Fully Compliant'.

The most recent versions of the IOP and WQP are dated April 2013 and both were signed on behalf of the SDP on 6 May 2013. The sale of the Plant by SWC and the changes of ownership were addressed in the previous updates of the Plans, dated 5 November 2012.

### **1.3 Audit Method**

#### **1.3.1 Audit Scope**

The objectives of this audit are to determine whether Sydney Desalination Plant's Infrastructure Operating Plan and Water Quality Plan are adequate in meeting legislative requirements.

IPART has recently published its revised guideline, Audit Guideline for Brownfield Schemes, Water Industry Competition Act 2006 (NSW) (July 2013), which sets out the requirements for the audit of management plans. The audit was carried out in accordance with the requirements of the Audit Guideline.

##### **1.3.1.1 Infrastructure Operating Plan Audit Scope**

This category of audit requires an assessment of the adequacy of infrastructure to achieve safe, reliable and continuous performance and that it may also include an assessment of the adequacy of a licensee's infrastructure operating plan(s) and / or asset management plan(s), infrastructure performance, management and monitoring.

For this audit of the Sydney Desalination Plant, the scope of the audit was to assess the adequacy of the Infrastructure Operating Plan for the plant and to ensure that the Plan has been appropriately updated to take account of the change of ownership of the Plant. In addition, IPART requested that the audit should also look to ensure the process of the shutdown of the plant, mothballing and the subsequent restarting of the plant are fully covered by the plans.

The scope of the Infrastructure Operating Plan audit addressed the legislative requirements for an Infrastructure Operating Plan outlined in clause 6(1) of Schedule 1 of the Water Industry Competition (General) Regulation 2008, General Requirements.

### **1.3.1.2 Water Quality Plan Audit Scope**

The audit requires an assessment of the adequacy of a licensee's water quality plan and specifically the application of the elements of the Australian Drinking Water Guidelines, including an assessment of the adequacy and comprehensiveness of any risk assessment, the measures adopted to control risk events and that the water quality supplied is fit for purpose.

The scope of the Water Quality Plan audit addressed the legislative requirements for a Water Quality Plan outlined in clauses 7(1) and 7(2) of Schedule 1 of the Water Industry Competition (General) Regulation 2008, General Requirements and looked to ensure that the Plan had been appropriately updated to take account of the change of ownership of the Plant. In addition, IPART requested that the audit should also look to ensure the process of the shutdown of the plant, mothballing and the subsequent restarting of the plant are fully covered by the plans.

### **1.3.2 Audit Standard**

To ensure that the audit was conducted in accordance with an established and recognised audit protocol, a systematic approach was taken to defining the requirements of the audit, planning, collecting audit evidence, objectively assessing the evidence, and reporting in a clear and accurate manner. This methodology was consistent with IPART's Audit Guideline, Water Licence Audits, Sept 2009 and ASAE 3000 Assurance Engagements Other than Audits or Reviews of Historical Financial Information.

### **1.3.3 Audit Steps**

A draft Audit Proposal was prepared and updated following review by IPART. The final Audit Plan was issued to the SDP on 6 August 2013.

On-site audits were undertaken on 19 and 20 August 2013. The Infrastructure Operating Plan was audited on 19 August with the Water Quality Plan audit being undertaken on the following day. The audits involved:

- ▶ On site audit work comprising
  - Face to face interviews with business staff responsible for the audit area
  - Demonstration of key systems
  - Review of any other supporting documentation that needed to be evidenced to allow the adequacy of the Plans to be assessed
  - Tour of major plant units
- ▶ Preliminary audit feedback at the audit close-out meeting.

### **1.3.4 Audit Team**

The audit team for the 2013 audit of SDP's Infrastructure Operating Plan and Water Quality Plan was Aneurin Hughes (Project Director and Reviewer) and Justin Edwards (Lead Auditor). Aneurin and Justin were previously approved as both Lead Auditors on IPART's panel of approved auditors and technical professionals and undertook the previous audit of the Sydney Desalination Plant.

### 1.3.5 Audit Grades

SDP's IOP and WQP have been assessed regarding their compliance with the relevant legal and formal requirements, and in accordance with the IPART guidance included in the *Audit Guideline for Brownfield Schemes, July 2013* and audit grades have been awarded. When assessing the SDP's assets, compliance has been assessed from catchment to consumer.

The audit grades that have been used in the assessment and their definitions are as follows:

#### ▶ **Compliant**

An audit grade of **Compliant** is assigned if:

- There is a requirement to comply with the licence condition within the audit period or for the licence to meet this condition
- Sufficient evidence has been provided in the audit on which to make a judgement on all requirements and all requirements are fully met.

#### ▶ **Non-compliant Significant**

An audit grade of **Non-compliant Significant** is assigned if:

- There is a requirement to comply with the licence condition within the audit period or for the licence to meet this condition
- Sufficient evidence has not been provided in the audit on which to make a judgement on all requirements, all requirements are not fully met, and where the deficiency in the information adversely impact on the licensee to achieve defined objectives or assure controlled processes, products or outcomes.

#### ▶ **Non-compliant Insignificant**

An audit grade of **Non-compliant Significant** is assigned if:

- There is a requirement to comply with the licence condition within the audit period or for the licence to meet this condition
- Sufficient evidence has not been provided in the audit on which to make a judgement on all requirements, all requirements are not fully met, but where the deficiency in the information does not adversely impact on the licensee to achieve defined objectives or assure controlled processes, products or outcomes.

#### ▶ **No Requirement**

An audit grade of **No Requirement** is assigned if:

- There is not a requirement to comply with the licence condition within the audit period or for the licence to meet this condition.

Audit grades have been assigned for the compliance of the IOP with its relevant Water Industry Competition (General) Regulations 2008 (NSW) (Regulation) requirements in Appendix A. Audit grades have been assigned for the compliance of the WQP with its relevant Water Industry Competition (General) Regulations 2008 (NSW) (Regulation) requirements in Appendix B.

IPART's Audit Guideline specifies that Licence Plans which contain some insignificant items that are not compliant with the guidelines and standards may still be adequate and that the auditor should express an opinion on the adequacy of the Licence Plans' (as a whole) in the audit report.

## 2 Infrastructure Operating Plan

### 2.1 Summary of Findings

Key findings of the audit of the IOP were:

- ▶ As was found at the previous audits of the IOP, the Plan is supported by well documented systems and processes within a plant-based Quality Management System that is third party accredited.
- ▶ Where required, the Plan and the supporting documents have been updated to take account of the change of ownership of the Plant.
- ▶ The key documents that set out the requirements and responsibilities for the Plant and the operating protocols between the three main stakeholders (SDP, VWA and SWC) are the Operate and Maintain Contract and the Sydney Desalination Plant Water Supply Agreement. The VWA systems for the plant have been developed in response to these contract requirements.
- ▶ The IBMS Manual, which includes the high level management plans, has been updated to take account of the change of ownership and the current mothballing of the site. The Manual also reflects the change of ownership and O&M arrangements for the DWPS and the delivery pipeline.
- ▶ The IOP has been updated to reflect the change in the operational boundary. The operational boundary between SDP and the Customer (Sydney Water Corporation) is now at the last valve before Shaft 11 where the delivery pipeline enters the city tunnel (asset #SNSV1/VLV01).
- ▶ The preventative maintenance requirements in Maximo, the maintenance management system, have been adjusted for the mothballing phase. The Contract Asset Renewal Management System (CARMS), the spreadsheet used for forecasting renewals based on the level of risk is currently in abeyance while the site is mothballed and no renewals are planned at the present time while the Plant is not operating. No operational deterioration of the Plant's assets is predicted during mothballing.
- ▶ The Membrane Change Out Regime spreadsheet is an optimised renewal program to allow the management of individual membranes as they approach the end of their lives. However, with the plant currently mothballed, no major replacements are predicted at the Kurnell site for the next few years.
- ▶ VWA has developed a new section of its document hierarchy (Section 19) to cover the shutdown of the Plant. All relevant documents are stored under this section.
- ▶ VWA has a separate Plant Mothball Procedure (PR-KDP-19-5071) that outlines the actions at a high level (Section 4) with reference to specific work instructions underneath. This also includes actions related to the mothballing of the delivery pipeline.

Based on the findings of the audit, 'Non-Compliant Insignificant' grades have been awarded against the requirements for a number of clauses, and these are listed in Table 2-1.

**Table 2-1 Summary of Issues Graded Non-Compliant Insignificant from Audit of IOP**

Licence Condition Reference	Issue
WIC Reg Sched 1 cl.6(1)(a) WIC Reg Sched 1 cl.6(1)(b) WIC Reg Sched 1 cl.6(1)(c)	<ul style="list-style-type: none"> <li>▪ Although VWA has the higher level Plans and Procedural documents, The Work Instructions that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years. Essentially the Work Instructions will be "undoing" the tasks involved in shutting down the Plant.</li> </ul>
WIC Reg Sched 1 cl.6(1)(a) WIC Reg Sched 1 cl.6(1)(b) WIC Reg Sched 1 cl.6(1)(e)	<ul style="list-style-type: none"> <li>▪ The system operating rules are communicated through the Operating Protocol and this document has been updated to reflect the change of ownership. The previous document used was TO0011 Operating Protocol but this has been superseded by the Sydney Desalination Plant Water Supply Agreement – Exhibit</li> </ul>

Licence Condition Reference	Issue
	C – Operating Protocols. This updated document takes account of the changes in changes in protocols and how SDP, VWA and SWC interact.

Full details of the audit findings for the IOP are listed in Appendix A.

Although we have observed minor Non-Compliant Insignificant matters regarding the IOP requirements, we consider that for the current time the Plan is adequate to meet the current operational needs of the Kurnell Plant.

## 2.2 Review of Actions

The matters in our assessment of the IOP that were considered were non-compliant are outlined above in Table 2-1.

Although VWA has the higher level Plans and Procedural documents, the more detailed documentation that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years.

Based on the requirements for the Plan to cover all main operational eventualities, we consider that this warrants a Non-Compliant Insignificant grading, although we consider that for the current time the Plan is adequate to meet the current operational needs of the Kurnell Plant during the mothball period.

As the time to restart reduces, the absence of the more detailed Work Instructions and other documents could potentially become a Non-Compliant (Significant) matter. However, although this is possible, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.

The referencing of the previous Operating Protocol is a minor oversight in the updated version of the Plan but as it forms one of the main reference documents supporting the IOP the references should be replaced by the references to the new Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols.

Based on our audit findings, the SDP plans to undertake the following actions to respond to the non-compliance matters that were raised in the draft report:

- ▶ SDP/VWA have developed an action plan to address the documentation that it will require for the re-start of the Plant, with the details and timeframes outlined in the following table.

Document	Origins	Format	Due Date
Restart Programme	Developed from the current restart procedure	MS Project	Dec-13
<b>KEY AREA - WORK INSTRUCTIONS</b>			
Inlet / Outlet Restart Work Instruction	Developed from the Mothball WI	MS Word	Nov-13
Pre-treatment & Waste Water WI	Developed from the Mothball WI	MS Word	Dec-13
RO System Restart Procedure	Procedure (dependant on shutdown length)	MS Word	Feb-14
DWPS & Remin Restart WI	Developed from the Mothball WI	MS Word	Dec-13
Electrical & Instrumentation Restart WI	Developed from the Mothball WI	MS Word	Feb-14
Chemical Tanks & System Restart WI	Developed from the Mothball WI	MS Word	Feb-14
Master Lime System Mothball WI	Developed from the Mothball WI	MS Word	Dec-13
Pipeline Restart WI	Developed from the Pipeline Purge WI	MS Word	Feb-14

- ▶ SDP/VWA will address other areas for improvement for the IOP, namely:
  - Correcting references in the IOP and the and the appendix
  - Finalising the Pipeline establishment phase and updating the IOP and the Operating Protocol document to reflect the pipeline operations
  - SDP / VWA and SWC are currently reviewing the Operating protocols and the Incident Management procedure as part of the Water Supply Agreement annual review and also as part of the integration of the pipeline O&M with VWA.
  - SDP will monitor Re-start plan progress as part of ongoing reporting and interfacing with VWA via its monthly meeting framework.

The restart program and detailed planning is, in part, a reverse engineering of the Work Instructions (WIs) and Integrated Test Plans (ITPs) that are associated with the mothballing process. VWA is currently putting significant effort into these ITPs which will add valuable assistance to the detailed restart planning and documentation. The Mothball WIs are complete and were sighted by the Cardno during the audit. The ITPs are regularly worked on by VWA and at this point in time are considered 65% complete.

In addition to the high level restart plan, a detailed Re-start risk assessment has been carried out across all key areas of the plant and this risk assessment will help influence and drive the detailed plans associated with the lower level Re-start plans/WIs.

### **2.3 Opportunities for Improvement**

During the audit of the IOP, it was observed that the Table of Contents in the IOP needs to be refreshed to update it to reflect the document's current contents.



## 3 Water Quality Plan

### 3.1 Summary of Findings

Key findings of the audit of the WQP were:

- ▶ As was found at the previous audits of the WQP, the Plan is supported by well documented systems and processes within a plant-based Quality Management System that is third party accredited.
- ▶ Where required, the Plan and the supporting documents have been updated to take account of the change of ownership of the Plant.
- ▶ The key documents that set out the requirements and responsibilities for the Plant and the operating protocols between the three main stakeholders (SDP, VWA and SWC) are the Operate and Maintain Contract and the Sydney Desalination Plant Water Supply Agreement. The VWA systems for the plant have been developed in response to these contract requirements. The systems supporting management of water quality are considered to be well developed.
- ▶ The IBMS Manual, which includes the high level management plans, has been updated to take account of the change of ownership and the current mothballing of the site. The Manual also reflects the change of ownership and O&M arrangements for the DWPS and the delivery pipeline.
- ▶ Operational procedures related to the shutdown and mothballing of the Plant are included in Section 19 of VWA's document management system, with procedures for normal operating conditions uploaded to Section 20 of the system.
- ▶ VWA has been contracted by SDP to undertake maintenance on the delivery pipeline, with inspections and corrective and preventative maintenance due to start in November 2013. VWA has set up the preventative maintenance schedules in Maximo 7 in advance of the contract officially starting.
- ▶ The monitoring at CCP 7 at the delivery point to SWC before Shaft 11 is SDP's responsibility as owner of the delivery pipeline. The maintenance of the online monitoring systems at CCP 7 has recently been contracted to VWA under the O&M Contract but the agreement between SDP and VWA does not include the operational monitoring, analysis and reporting of parameters due to the pipeline being capped and no water being supplied through to SWC. The responsibility for monitoring at CCP 7 could be assigned to VWA if SDP choses to at a later date before the restart of the Plant.

Based on the findings of the audit, 'Non-Compliant Insignificant' grades have been awarded against the requirements for a number of clauses, and these are listed in Table 3-1

**Table 3-1 Summary of Issues Graded Non-Compliant Insignificant from Audit of WQP**

Licence Condition Reference	Issue
<i>WIC Reg Sched 1 cl.7(1)(a)</i>	
<i>Element 1 The WQP (dw) shows a commitment to water quality management</i>	<ul style="list-style-type: none"> <li>▪ At the present time, SDP does not have its own drinking water policy but expects to have one in place by the time that the Plant starts producing water again. At this time, any potential conflicts will need to be checked and the WQP will need to be updated to explain the role/coverage of each of the two policies.</li> </ul>
<i>Element 2 The WQP (dw) includes an assessment of the water supply system</i>	<ul style="list-style-type: none"> <li>▪ VWA maintains a separate risk assessment spreadsheet for risks associated with the delivery pipeline. The assessment has not been completed as VWA only took over the operation and maintenance of the pipeline in May 2013 and the pipe is not expected to be needed for at least two years.</li> <li>▪ The pipeline risk assessment document should be added to the list of supporting documents included in Appendix 1</li> <li>▪ VWA also has a separate risk assessment for the restart phase of plant operation. At the present time, the risks that have been prioritised have been related to the more-operational risks. However, this register, is expected to be</li> </ul>



Licence Condition Reference	Issue
	<p>re-evaluated and completed in the time before the restart of the Plant takes place.</p> <ul style="list-style-type: none"> <li>▪ A schematic of the water supply system is included in Figure 5 in the WQP but is considered to be too high level. A second figure (Figure 6) shows the key steps of the desalination plant, including the critical control points, but is again at a high level. The Process Flow Diagram (figure WTWO155-P-O-DW-0011 quoted as a supporting document) provides sufficient information on the plant, although it doesn't extend to the full extent of the scheme, with the DWPS and pipeline not included. However, it would be preferable that the schematic in the main document is updated with more detailed information.</li> <li>▪ VWA have a separate operations management plan for the pipeline, which includes a procedure for water quality monitoring at Shaft 11 (PR-KDP-21-6320). We would recommend that these documents are added to the supporting references included in the WQP and IOP.</li> <li>▪ We would also recommend that VWA develops new documents or provides additional information in its existing documents to cover the relevant information and characteristics of the DWPS and the delivery pipeline.</li> <li>▪ VWA maintains a HCCP Register that provides detail of the warning and critical levels for the water quality parameters at each of the Plant's critical control points (CCPs). The Register was last updated on 16 April 2012 and includes CCPs 1 to 6 but it does not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. However, the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline. We would recommend that VWA updates the relevant CCP documents to take account of the new CCP 7 that it now has responsibility for maintaining.</li> <li>▪ The text in Section 2.3.4 of Appendix 1 in the WQP includes a reference to Sydney Water that needs to be taken out of the Plan. The reference was relevant when SWC were originally involved in the evaluation of the hazards but this is no longer applicable, although SWC are still part of the process via consultation by VWA as the customer of water produced by the Plant.</li> <li>▪ VWA developed a new separate risk register for the restart of the Plant in June 2013. This has not yet been assigned a document reference number and so has not been officially uploaded to VWA's document management system.</li> </ul>
<p><i>Element 3</i>  <i>The WQP (dw) outlines the preventive measures for drinking water quality management.</i></p>	<ul style="list-style-type: none"> <li>▪ The WQP lists Appendix 2 CCP Summary Table in Appendix 1 as a supporting document but this has not been included in the version of the Plan provided to the auditor. Appendix 2 was unable to be found on VWA's document management system at the audit. The table is thought to be based on the decision tree included in VWA's HACCP Analysis (CRA-KDP-13-651) but this could not be verified. We recommend that Appendix 2 be included back in the WQP if the document can be found or Appendix 2 deleted if not.</li> <li>▪ VWA's HACCP-related information will need to be updated to include CCP 7 at the delivery point to SWC at the end of the delivery pipeline, although the water quality requirements will be the same as at CCP 6. However, although the analysis doesn't specifically cover the process steps for the DWPS or the delivery pipeline, the HACCP analysis covers 'drinking water' as the last process step. Therefore, although the documentation should be updated to include the entire 'source/catchment to customer' hazards and hazardous events and estimated residual risks for each, this is essentially covered by 'drinking water' as the last process step.</li> </ul>
<p><i>Element 4</i>  <i>The WQP (dw) outlines the operational procedures and process control for the scheme</i></p>	<ul style="list-style-type: none"> <li>▪ VWA has developed detailed work instructions to support the shutdown and mothball procedures. However, although Plans and procedures have been developed for the restart of the Plant, VWA has not yet developed the lower level, more detailed work instructions for activities involved in the restart.</li> <li>▪ We observed that there is a small typographical error in the document reference code for the Chemicals and Materials section of the IBMS Manual. The correct reference is Section 9.10 not Section 9, 10.</li> </ul>
<p><i>Element 6</i>  <i>The WQP (dw) includes details on the management of incidents and emergencies.</i></p> <p><i>Element 8</i></p>	<ul style="list-style-type: none"> <li>▪ The key communication protocols related to the management of incidents and emergencies are documented in the Appendix 1 text and the nominated VWA supporting documents. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol</li> </ul>

Licence Condition Reference	Issue
<i>The WQP (dw) outlines the process for community consultation, awareness and involvement.</i>	that has superseded the original document.

Full details of the audit findings for the WQP are listed in Appendix B.

Although we have observed minor Non-Compliant Insignificant matters regarding the WQP requirements, we consider that for the current time the Plan, with the Plant not producing any water and not expected to for at least another two years, is adequate to meet the current operational needs of the Kurnell Desalination Plant.

### 3.2 Review of Actions

The matters in our assessment of the IOP that were considered were non-compliant are outlined above in Table 3-1.

As with the IOP, VWA has developed high level management plans and procedures related to the restart of the Plant but has not yet developed more detailed documentation and specific work instructions. This includes documentation related to the DWPS and the delivery pipeline as well as the treatment plant itself.

Although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed. In addition, the CCP-related documents provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining. VWA has listed the documentation that needs to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years.

Based on the requirements for the Plan to cover all main operational eventualities, we consider that this warrants a Non-Compliant Insignificant grading, although we consider that for the current time the Plan is adequate to meet the current operational needs of the Kurnell Plant during the mothball period.

As the time to restart reduces, the absence of the more detailed Work Instructions and other documents could potentially become a Non-Compliant (Significant) matter. However, although this is possible, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.

There are also a number of incorrect references and text included in the WQP which will need to be updated in the next version of the Plan.

Based on our audit findings, the SDP plans to undertake the following actions to respond to the non-compliance matters that were raised in the draft report:

- ▶ SDP/VWA have developed an action plan to address the documentation that it will require for the re-start of the Plant, with the details and timeframes outlined in the following table.

Document	Origins	Format	Due Date
Restart Programme	Developed from the current restart procedure	MS Project	Dec-13
<b>KEY AREA - WORK INSTRUCTIONS</b>			
Inlet / Outlet Restart Work Instruction	Developed from the Mothball WI	MS Word	Nov-13
Pre-treatment & Waste Water WI	Developed from the Mothball WI	MS Word	Dec-13
RO System Restart Procedure	Procedure (dependant on shutdown length)	MS Word	Feb-14

Document	Origins	Format	Due Date
DWPS & Remin Restart WI	Developed from the Mothball WI	MS Word	Dec-13
Electrical & Instrumentation Restart WI	Developed from the Mothball WI	MS Word	Feb-14
Chemical Tanks & System Restart WI	Developed from the Mothball WI	MS Word	Feb-14
Master Lime System Mothball WI	Developed from the Mothball WI	MS Word	Dec-13
Pipeline Restart WI	Developed from the Pipeline Purge WI	MS Word	Feb-14

- ▶ SDP/VWA will address other areas for improvement for the IOP, namely:
  - Correcting references in the IOP and the and the appendix
  - Finalising the Pipeline establishment phase and updating the IOP and the Operating Protocol document to reflect the pipeline operations
  - SDP / VWA and SWC are currently reviewing the Operating protocols and the Incident Management procedure as part of the Water Supply Agreement annual review and also as part of the integration of the pipeline O&M with VWA.
  - SDP will monitor Re-start plan progress as part of ongoing reporting and interfacing with VWA via its monthly meeting framework.

The restart program and detailed planning is, in part, a reverse engineering of the Work Instructions (WIs) and Integrated Test Plans (ITPs) that are associated with the mothballing process. VWA is currently putting significant effort into these ITPs which will add valuable assistance to the detailed restart planning and documentation. The Mothball WIs are complete and were sighted by the Cardno during the audit. The ITPs are regularly worked on by VWA and at this point in time are considered 65% complete.

In addition to the high level restart plan, a detailed Re-start risk assessment has been carried out across all key areas of the plant and this risk assessment will help influence and drive the detailed plans associated with the lower level Re-start plans/WIs.

APPENDIX A  
DETAILED AUDIT  
FINDINGS –  
INFRASTRUCTURE  
OPERATING PLAN



Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(1)(a) and/or cl.13(1)(a)	The IOP indicates the arrangements in relation to the design, construction, operation and maintenance of the infrastructure, including particulars as to the life-span of the infrastructure, the system redundancy built into the infrastructure and the arrangements for renewal of the infrastructure.	Non-compliant Insignificant

Risk	Target for full compliance
Low	The IOP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant

**Evidence sighted**

- MN-GWA-KDP-200 IBMS Manual Section 9 Asset Management Plan
- PR-GWA-KDP-2202 CMMS Operations and Maintenance
- CMMS - MAXIMO 7 Database
- PR-GWA-KDP-2207 Asset Condition and Risk Assessment
- CARMS (Contract Asset Renewal Asset Management System)
- Membrane Change Out Regime spreadsheet
- MN-GWA-KDP-200-6 IBMS Manual Section 7 Operations and Maintenance Management Plan
- MN-GWA-KDP-900 Incident & Emergency Manual

**Summary of reason for grade**

Although VWA has the higher level Plans and Procedural documents, the more detailed documentation that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years. Based on the requirements for the Plan to cover all main operational eventualities, we consider that this warrants a Non-Compliant Insignificant grading. Although as the time to restart reduces, this could potentially become a Non-Compliant (Significant) matter, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.

In addition, The IOP references the previous Operating Protocol throughout the supporting evidence included in Appendix 1 of the Plan and needs to be replaced by a reference to the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols.

**Discussion and notes**

**Asset Register**

- An overview of the operational arrangements for the Plant are provided in Section 2.1.4 of the main body of the Plan with details of the O&M Contract between SDP and VWA summarised in Section 3.3 and the Operating Protocols that describe the operational interface arrangements and key procedures outlined in Section 3.4 of the IOP
- Further descriptions of the arrangements documented in Appendix 1 of the Plan together with the nominated supporting documents.
- The IBMS Manual, which includes the high level management plans, has been updated to take account of the change of ownership and the current mothballing of the site. The Manual also reflects the change of ownership and O&M arrangements for the DWPS and the delivery pipeline.
- VWA's asset register is held in the CMMS –Maximo 7 database. This contains relevant asset attribute data including the DWPS and pipeline assets.
- Secondary and alternative sources/infrastructure relating to the plant and the DWPS system redundancy are identified by the asset hierarchy through the Asset Register and integrated into the plant and DWPS designs.
- The IOP has been updated to reflect the change in the operational boundary. The operational boundary between SDP and the Customer (Sydney Water Corporation) is now at the last valve before Shaft 11 where the delivery pipeline enters the city tunnel (asset #SNSV1/VLV01).

**Operational Analysis**

- SDP requirements related to the operational analysis of the assets to meet present and future needs are set out in the O&M Contract, Exhibit C Part 3.9.
- The system operating rules are communicated through the Operating Protocol and this document has been updated to reflect the change of ownership. The previous document used was TO0011 Operating Protocol but this has been superseded by the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols. This updated document takes account of the changes in protocols and how SDP, VWA and SWC interact. The Operating Protocols are reviewed on an annual basis and the most current version of the document is currently being reviewed by SWC for final acceptance by them. SDP is pushing SWC to finalise.

- VWA's Asset Management Plan is included in Section 9 of the IBMS Manual. The Operations and Maintenance Management Plan is set out in Section 7 of the IBMS Manual.
- VWA has a risk-based system (CARMS) for estimating renewal requirements supported by a number of documented procedures.
- VWA has a Membrane Management Tool to manage the 36,000 membranes at the plant. VWA is currently looking at developing a new standalone system for managing the membranes at all of the sites it operates and maintains in Australia.
- The Membrane Change Out Regime spreadsheet is an optimised renewal program to allow the management of individual membranes as they approach the end of their lives. However, with the plant currently mothballed, no major replacements are predicted at the Kurnell site for the next few years.

#### **System Operating Rules and Performance Requirements**

- VWA has developed a new section of its document hierarchy (Section 19) to cover the shutdown of the Plant. All relevant documents are stored under this section.
- High level management plan information is documented in PL-KDP-19-4364 Plant Shutdown Management Plan. The outlines the overall management of the plant for different shutdown periods, including the notice to be given by SDP to shutdown for each category and the restart period needed. Mothball is specified as a 2 – 5 years shutdown, with up to 8 months needed to restart the plant to be able to provide full operation.
- The Plan also lists the shutdown strategies for each key area of the plant related to the proposed length of the shutdown period.
- VWA has a separate Plant Mothball Procedure (PR-KDP-19-5071) that outlines the actions at a high level (Section 4) with reference to specific work instructions underneath. This also includes actions related to the mothballing of the delivery pipeline.
- Specific tasks for mothballing are included in the Mothball Sequence of Events spreadsheet. This document provides a breakdown of the day-to-day tasks under different categories, although it has been superseded by the same information in a database form. These tasks are particular to the conditions for this specific shutdown and mothballing.
- VWA has also developed a separate Risk Assessment for mothballing, CRA-KDP-19-4681.
- VWA uses the Care and Maintenance Plant Checks WI-KDP-19-4669 work instruction for site checks. These have been revised to reflect the operational status during mothballing. If the inspections find an issue, work orders are raised in Maximo and any required actions taken.
- VWA also has a Mothball ITP (Inspection and Test Plans) work instruction (WI-KDP-19-50-24) that is used for setting up and completing tests on specific assets. As the plant is currently mothballed, the procedure is used to record what has been done to a certain asset (e.g. how valves set, cleaned, stripped down etc) so that it knows how the assets have been left during the mothball phase and what to do to reset everything for restart. This information is currently in paper form but VWA is outing this into an electronic form.
- VWA has also kept back-ups of the SCADA information which will allow it to re-set setting for the restart phase. The Care and Maintenance SCADA (WI-KDP-19-4911) is used for completing daily SCADA checks.
- VWA has reconfigured the alarms for the Care and Maintenance phase of operation. As the site is not staffed 24/7 now, events and alarms information now need to be recorded. Security personnel remain on site 24/7.
- VWA has a Restart Management Plan (PL-KDP-19-6322) which describes at high level how to restart the Plant, and also includes the Contractual requirements. The Plan includes an overview of the restart strategy in Section 3, with the Risk Assessment that covers all aspects of the restart included in Section 3.2.
- The Plan also includes references to Restart Procedure document (PR-KDP-19-5244). The procedure provides an overview of the tasks required to be completed in order to restart the Plant. The actions included in the Procedure all related back to the dam level triggers. The resource requirements are also related to the dam levels that govern the restarting of the Plant. At the present time, VWA has 16 staff but would need to increase staffing levels to 36 to move out of the mothball period back to full operation. VWA is able to draw on experienced staff from other desalination sites it operates and maintains to assist in the restart process.
- Although VWA has the higher level Plans and Procedural documents, The Work Instructions that set out the step-by-step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years. Essentially the Work Instructions will be "undoing" the tasks involved in shutting down the Plant. VWA's document control management allows monitoring and reporting of progress associated with documentation. This is included in the monthly report to the SDP.
- The Mothball Restart Risk Assessment (CRA-KDP-19-6328) is a separate sheet in the Risk Register. It currently includes a number of mitigated high-risks that VWA will need to assess and look to add in additional controls to further mitigate. The Restart Risk Register is still a work in progress, with workshops and discussions during the mothball phase expected to be used to further develop the assessment. Some of the restart risks are already included in other Risk Registers that VWA maintain (e.g. Water Quality).
- Water supply and water delivery availability targets are outlined in the O&M contract and these define the performance requirements for the assets. As noted previously, operating rules are communicated through the Operating Protocol, which was developed under the water supply agreement with SWC.
- VWA's SOPs provide step-by-step actions to operate the Plant, although there is no specific reference to operating



the Plant under breakdown conditions. Similarly, the UPGs (Unit Process Guides) provide detailed asset information but not necessarily related to operating under a breakdown. The intent is to operate the Plant as much as can be achieved to meet the production requirements while completing any repairs that need to be carried out. However, VWA notes that there are still “unavailable days” when the Plant is not able to produce water. If VWA experiences issues with the pre-treatment process area, then no processes following it are going to be able to function. Similarly, if the DWPS is, for some reason, inoperable, the Plant will not be able to provide treated water into supply.

Note: The version of Appendix 1 that was provided to the auditors prior to the audit was an older version of the document. The supporting documents and references included in the table used VWA’s previous file reference numbers. These have been updated to the new reference numbers in the most recent of version of Appendix 1 and VWA has provided this to the auditors to assist in preparing this audit report. The difference in document reference numbers is not an issue as VWA’s document management system on its intranet allows documents to be searched for and retrieved based on the old reference numbers. VWA reviews its documents at least once every three years and any revisions to other documents referenced will be made at this time.

Note: the Table of Contents in the IOP needs to be refreshed to update it to reflect the document’s current contents

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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(1)(b) and/or cl.13(1)(b)	The continued safe and reliable performance of the infrastructure	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The IOP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ Veolia Monthly Performance Reports</li> <li>▪ MN-GWA-KDP-200-6 IBMS Manual Section 7 (Operations and Maintenance Management Plan)</li> <li>▪ MN-GWA-KDP-200-6 IBMS Manual Section 9 (Asset Management Plan)</li> <li>▪ IBMS Manual Section 12 (Quality Management Plan)</li> <li>▪ PR-GWA-KDP-2207 Asset Condition and Risk Assessment</li> <li>▪ CARMS (Contract Asset Renewal Asset Management System)</li> <li>▪ CMMS - MAXIMO 7 Database</li> <li>▪ UG-VW-ANZ-950 Training Database</li> <li>▪ UPGs, SOPs and Work instructions listed in MN-GWA-KDP-200 IBMS Manual</li> <li>▪ PR-GWA-KDP-2203 Conducting Preventative Maintenance</li> <li>▪ MN-GWA-KDP-200 IBMS Manual – Appendix 2, Responsibility Matrix</li> </ul>		
<b>Summary of reason for grade</b>		
<p>Although VWA has the higher level Plans and Procedural documents, the more detailed documentation that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years. Based on the requirements for the Plan to cover all main operational eventualities, we consider that this warrants a Non-Compliant Insignificant grading. Although as the time to restart reduces, this could potentially become a Non-Compliant (Significant) matter, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.</p> <p>In addition, The IOP references the previous Operating Protocol throughout the supporting evidence included in Appendix 1 of the Plan and needs to be replaced by a reference to the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols.</p>		
<b>Discussion and notes</b>		
<b>Performance Criteria and Levels of Service</b>		
<ul style="list-style-type: none"> <li>▪ The performance criteria and levels of service for the Kurnell Desalination Plant assets, including the DWPS and delivery pipeline, are documented in Appendix 1 of the Plan and nominated supporting documents</li> <li>▪ Performance criteria are listed in the Schedule 6, Part B of the O&amp;M contract. VWA submits a comprehensive monthly report to SDP on plant performance. Any excursions from contractual requirements are highlighted and reasons provided.</li> <li>▪ The IOP and the supporting documents take account of the recent change (May 2013) to transfer the O&amp;M obligations for the delivery pipeline to VWA. Previously SWC were managing the pipeline on behalf of the SDP.</li> <li>▪ With the Plant not producing water at the present time, the main focus of the performance criteria and statutory obligations relate to the discharges from the site to meet the EPA's licence conditions. As the discharges from site are not continuous at the present time, VWA is using the batch licence obligations. The batch reports are uploaded to VWA's website each month, details are included in the monthly management report to the SDP and are also reported to the EPA. A recent discharge event report (07/07/2013) was reviewed at audit.</li> <li>▪ The other performance information that VWA currently reports to the SDP includes preventative maintenance carried out, safety, breaches of security, environmental approvals and clean-up of pollution incidents.</li> <li>▪ If VWA does not comply with the performance criteria and levels of service reporting to the SDP, it accrues penalty points under the conditions of the contract which can lead to financial penalties.</li> </ul>		
<b>Asset Condition and Risk Assessment</b>		
<ul style="list-style-type: none"> <li>▪ Processes related to asset condition and risk assessment are documented in Appendix 1 of the IOP and nominated supporting documents.</li> <li>▪ Asset condition and risk assessments requirements are specified in the O&amp;M contract.</li> <li>▪ VWA's Asset Management Plan is included in Section 9 of its Integrated Business Management System (IBMS).</li> </ul>		



VWA also has a procedure for Asset Condition and Risk Assessment (PR-KDP-2207)

- The condition and criticality of each asset is stored in Maximo-7
- Asset condition and risk assessment information is included in VWA's monthly report to the SDP.

#### **Operations and Maintenance**

- The key high level documents and systems that outline the operation and maintenance policies, procedures and schedules for all key infrastructure at the Plant are documented in Appendix 1 of the Plan and nominated supporting documents. The high level documents include references to more specific policies, procedures and schedules.
- As noted previously, the O&M Contract has been updated to reflect the recent changes to transfer the O&M obligations for the delivery pipeline to VWA.
- At audit we confirmed that the most recent update of the IBMS Manual took place in February 2013. We also confirmed the version history for the Manual. Section 9 of the Manual is the Asset Management Plan. Details related to the O&M procedures for the shutdown and restart of the Plant are included in Section 7 of the Manual.
- We noted that the strategies against Section 2.1.4 of IPART's WICA Audit Guidance in Appendix 1 of the IOP reference SWC's performance management system. This information is no longer relevant and the paragraph should be taken out of the IOP.
- Section 22 of the IBMS Manual covers training requirements to ensure personnel are trained in the procedures required to operate and maintain the Plant and that the training is kept current. VWA manages this using a training database which documents the skills/ training required by all staff and plans and records the training. The SDP manages its own training requirements although it does not have a system for recording this.
- VWA has not produced any Standard Operating Procedures (SOPs) for the mothballing phase as this is not considered to be standard operating. Instead mothballing operations and maintenance is covered by management plans, procedures and Work Instructions for completing the relevant tasks.
- VWA's maintenance procedures are documented in Appendix 1 of the Plan and the nominated supporting documents
- We reviewed the Asset Condition and Risk Assessment Procedure (PR-KDP-2207) and confirmed that it includes criticality analysis, appropriate strategies and whole-of-life costing information.
- The preventative maintenance requirements have been adjusted for the mothballing phase. VWA assessed each asset in a series of workshops and discussions to revise the maintenance requirements to a more appropriate regime while the Plant is not operating.
- The new mothball maintenance activities are recorded in Maximo and have replaced the previous maintenance activities that were in place when the Plant was operating. This has changed the tests and the timeframes for each particular maintenance requirement. When the Plant is restarted, VWA is able to reset the maintenance requirements for each asset recorded in the system back to its previous settings.
- Initially, maintenance procedures/ schedules are based on manufacturers' recommendations. These are optimised as asset performance is analysed. Where appropriate, manufacturers have been consulted for changes to the maintenance regime in moving into mothballing.

#### **Infrastructure Planning and Investment**

- Processes related to infrastructure investment/capital works requirements are documented in Appendix 1 of the IOP and nominated supporting documents. Section 9.8 of the IBMS Manual outlines the capital replacement program for the Plant.
- The infrastructure renewals requirements are derived using CARMS and this information is used to develop the Asset Renewals Plan. The membrane renewals are currently estimated using the Membrane Change Out Regime spreadsheet. However, CARMS is currently in abeyance while the site is mothballed and no renewals are planned at the present time while the Plant is not operating. No operational deterioration of the Plant's assets is predicted during mothballing.
- However, the membranes will continue to age during preservation but are at a much reduced rate. VWA is carrying out autopsy testing of membranes to look at condition and the performance of the assets over time. The testing is completed by an independent testing company. Test reports were provided at audit as evidence. It has provided two brand new unused membranes for testing to establish a performance standard. VWA is looking at low and high pressure comparisons of the membranes for future comparisons of the units. It is expecting to undertake annual testing of the membranes while in preservation but has just completed a six month test.
- For the non-membrane assets, VWA uses condition assessments, performance data and manufacturers information to develop the asset renewal programs. Although Maximo and CARMS are separate systems, with Maximo used for maintenance management and CARMS used for renewals programming, asset criticality and asset condition information is shared between the two systems.
- With regard to security of supply, Section 15.8 of VWA's IBMS relates to Business Continuity Planning. This provides a high level overview of risks and responses/actions.
- In addition, VWA's Incident and Emergency Management Manual includes different scenarios for how the Plant could be affected and includes guidance as to how best manage these events. We confirmed that the contacts list in the Incident and Emergency Management Manual has been updated (February 2013) to take account of the change of ownership for the Plant and to also ensure that the details are up-to-date.
- VWA carried out two site evacuations each year as part of its incident and emergency training and management of these events. It also undertakes monthly scenario reviews to test out its emergency response procedures.

### **Forecast Expenditure**

- The processes for future life-cycle expenditure are outlined in Appendix 1 of the Plan and nominated supporting documents.
- Schedule 6 of the O&M contract includes calculations for determining contract fees covering operation, maintenance and renewal including non-performance penalties. Management and administration costs, other than SDP's own costs, are also managed through the contract. The public document does not include actual figures as these are 'commercial in confidence'.
- Future expenditure is reviewed annually. However, a two year mothball period has been assumed with no new or replacement capital costs to be incurred and this will have to be reviewed next year.

### **Responsibilities for the Implementation of the Infrastructure Operating Plan**

- The responsibilities are outlined at a high level in Appendix 1 of the Plan, with the detailed arrangements included in the nominated supporting documents. The documented evidence supports the clear allocation of responsibilities to manage various aspects of the treatment plant.
- The Human Resources Management Plan is included in Part 3.10 of Volume, 4 Exhibit C in the O&M Contract. Roles and responsibilities for individuals and teams, and the responsibility interactions between SDP, VWA and SWC (as the customer) are clearly defined in Sydney Desalination Plant Water Supply Agreement, Exhibit C Operating Protocol.
- Responsibility is assigned in the Veolia Responsibility Matrix. This assigns the high level responsibilities for overall operation of the plant, including full production and mothballing. Individual responsibilities and authorities are defined in Position Descriptions signed by each employee and their manager.
- During the mothball phase of operation, VWA has combined a number of the roles. There are no shift cycles for running the Plant at the moment and so all technical staff are onsite for the same hours.

### **Review of the Infrastructure Operating Plan**

- Review processes to ensure the IOP and associated procedures are kept current are documented in Appendix 1 of the Plan and nominated supporting documents.
  - The process is described in the IBMS, with Section 12 of the manual covering the Quality Management Plan. Documents are reviewed at least every three years, with an automated system in the document management system providing notification of documents that need to be reviewed.
  - VWA has been QMS certified under ISO9001 since 2012. SDP and the system are now subject to a number of quality audits.
  - SDP reviews certain documents in accordance with the requirements of the O&M Contract. SDP also take guidance from SWC, where appropriate, to assist in operating in accordance with the Operating Protocols included in the Water Supply Agreement.
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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(1)(c) and/or cl.13(1)(c)	The continuity of the water supply	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The IOP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-GWA-KDP-200-6 IBMS Manual Section 7, 9 and 18</li> <li>▪ MN-GWA-KDP-900 Incident &amp; Emergency Manual</li> <li>▪ CARMS (Contract Asset Renewal Asset Management System)</li> <li>▪ CMMS - MAXIMO 7 Database</li> </ul>		
<b>Summary of reason for grade</b>		
<p>Although VWA has the higher level Plans and Procedural documents, the more detailed documentation that set out the step-by step actions to complete the tasks involved in restarting the Plant still have to be developed. VWA has listed the tasks that need to be developed but there is no timeframe for this to be completed. However, they are not expected to be required for a minimum of another two years. Based on the requirements for the Plan to cover all main operational eventualities, we consider that this warrants a Non-Compliant Insignificant grading. Although as the time to restart reduces, this could potentially become a Non-Compliant (Significant) matter, we would not expect this to happen, with the documents managed through VWA's documents management system, meaning there will be automated reminders to review and update documents periodically and ensure the documents are completed in good time.</p>		
<b>Discussion and notes</b>		
<b>Operational and Maintenance Procedures</b>		
<ul style="list-style-type: none"> <li>▪ Operational and maintenance procedures address both normal and abnormal (incident and emergency) conditions are described at high level in Appendix 1 of the IOP, with specific detailed information include in the nominated supporting documents.</li> <li>▪ Management of abnormal (incident and emergency) conditions is described in the Incident and Emergency Manual (MN-GWA-KDP-900) for a range of potential scenarios. Procedures and detailed work instructions have been developed for carrying out specific tasks associated with operating and maintaining the assets under these conditions.</li> <li>▪ Each asset is assigned a likelihood and consequence of failure in Maximo and this is utilised in CARMS for asset renewals management. Asset criticality ratings are also recorded in both systems</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(1)(d) and/or cl.13(1)(d)	Alternative water supplies when the infrastructure is inoperable	Not Required
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The IOP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>		
<b>Summary of reason for grade</b>		
As SDP have no alternative water supply infrastructure and alternative water supplies are the responsibility of SWC, we consider that this requirement is not required.		
<b>Discussion and notes</b>		
<ul style="list-style-type: none"> <li>▪ SDP have no alternative water supply infrastructure as it is not required. Alternative water supplies are the responsibility of SWC. This is confirmed in Appendix 1 of the Plan.</li> <li>▪ Arrangements are documented in the Water Supply Agreement Operating Protocols in relation to SWC.</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.6(1)(e) and/or cl.13(1)(e)	The IOP indicates the arrangements in relation to the maintenance, monitoring and reporting of standards of service	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The IOP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ VWA IBMS Manual</li> <li>▪ IBMS Manual Section 7, 8, 9</li> <li>▪ KPI's described in Schedule 6 Part B of the O&amp;M contract</li> <li>▪ Veolia Monthly Plant Performance Reports</li> <li>▪ Veolia Monthly KPI Performance Reports</li> <li>▪ CMMS - MAXIMO 7 Database</li> </ul>		
<b>Summary of reason for grade</b>		
<p>VWA have well established systems, management plans, procedures and work instructions in relation to the maintenance, monitoring and reporting of standards of service and these are described in the IOP and the supporting reference documents. However, the IOP references the previous Operating Protocol throughout the supporting evidence included in Appendix 1 of the Plan and needs to be replaced by a reference to the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocols. We consider that this warrants a Non-compliant Insignificant audit grade for this section.</p>		
<b>Discussion and notes</b>		
<b>Quality/Performance Management Systems</b>		
<ul style="list-style-type: none"> <li>▪ The quality/performance management system for monitoring and implementing the IOP is outlined in in Appendix 1 of the Plan and nominated supporting documents.</li> <li>▪ VWA's documents are managed through IBMS which is certified to ISO 9001. The last certification audit of VWA took place in October 2012 and covered quality management, environmental management, Safety and Food Safety.</li> <li>▪ SDP are currently developing its own document and quality management systems but rely on VWA's at present for matters relating to the Plant.</li> </ul>		
<b>Monitoring and Control Systems</b>		
<ul style="list-style-type: none"> <li>▪ Details regarding the monitoring and control systems are summarised in Appendix 1 of the Plan, with the key supporting documents referenced.</li> <li>▪ The plant has well developed monitoring and control systems. The VWA SCADA is used to control and manage plant functions. SWC IICATS controls the operations of the drinking water pumps and associated equipment and monitors flows and key online drinking water parameters at the plant, along the pipeline and at Shaft 11C. However, at the present time with the Plant mothballed, the DWPS and pipeline are not in use.</li> <li>▪ VWA provide a monthly report to SDP that covers plant performance and also reports against its KPIs and whether the targets have been achieved.</li> <li>▪ Online operating data is captured in the Data Historian. The system captures detailed data for the last 12 month period but less detailed information (due to longer intervals between data points) for any data older than 12 months.</li> </ul>		

APPENDIX B  
DETAILED AUDIT  
FINDINGS – WATER  
QUALITY PLAN



Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 1</b> The WQP (dw) shows a commitment to water quality management	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership and the current mothballing of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ PO-ANZ-5-396 VWA Water Quality Policy</li> <li>▪ MN-KDP-1-806 IBMS Manual - Sections 6.2.1, Commitment &amp; 6.2 Quality Policy</li> <li>▪ Business Management System (BMS) (Veolia)</li> <li>▪ MN-KDP-1-806 IBMS Manual (Veolia) Section 16 – Compliance Management Plan</li> <li>▪ REG-NSW-18-4809 NSW Compliance Register</li> <li>▪ MN-KDP-1-806 IBMS Manual - Section 17, Change Management Plan</li> <li>▪ PR-ANZ-2-477 Compliance Procedure</li> <li>▪ PR-KDP-11-844 Stakeholder Engagement and Evaluation</li> <li>▪ CRA-KDP-13-650 Water Quality Risk Assessment</li> <li>▪ WTW0155-P-0-DW-0011- Simplified Process Flow Diagram 250MLD</li> </ul>		
<b>Summary of reason for grade</b>		
<ul style="list-style-type: none"> <li>▪ The updated WQP provides clear evidence of the commitment to water quality management. However, at the present time, SDP does not have its own drinking water policy but expects to have one in place by the time that the Plant starts producing water again. At this time, any potential conflicts will need to be checked and the WQP will need to be updated to explain the role/coverage of each of the two policies.</li> </ul>		
<b>Discussion and notes</b>		
<b>Drinking Water Quality Policy</b>		
<ul style="list-style-type: none"> <li>▪ VWA has a corporate-wide Drinking Water Policy endorsed by the company's senior executives. The most recent version of this document is dated 4 October 2012.</li> <li>▪ At the present time, SDP does not have its own drinking water policy but expects to have one in place by the time that the Plant starts producing water again. At this time, any potential conflicts will need to be checked and the WQP will need to be updated to explain the role/coverage of each of the two policies.</li> <li>▪ The VWA policy is available on the intranet site and is also located on the plant office wall.</li> <li>▪ The TP-ANZ-1-534 IBMS Induction document was reviewed and observed to be a corporate document that mentions the company's policies in broad terms and how they interact with other key corporate systems and documents, but with no specific reference to the policy for Drinking Water Quality. We would suggest that the reference to this document is superfluous and it could be removed.</li> </ul>		
<b>Regulatory and Formal Requirements</b>		
<ul style="list-style-type: none"> <li>▪ Section 16 of the IBMS Manual references the O&amp;M Contract items and provides an outline for compliance and regulatory obligations and requirements, including audits.</li> <li>▪ VWA maintains a company-wide Compliance Register that specifies the regulatory and formal requirements for the Kurnell site as well as the other sites that VWA operate and maintain. The spreadsheet is reviewed annually. VWA's Corporate office and the Plant receive alerts and changes to the regulatory requirements. These are reviewed by the VWA's Head Office and advice provided as to how any changes will impact on VWA and the operating and maintenance of the Plant and any changes that are needed to be able to comply with the new requirements. The latest version of the NSW Compliance Register is dated 7 September 2012, with the next review due in September 2013. However, if required, the Register would be updated with any new regulatory requirements as they were received, but none have been in the last year.</li> <li>▪ SDP is responsible for the WICA and IPART licences as well as the water supply agreement with SWC. SDP has ultimate sign-off responsibility for regulatory and formal matters relating to the running of the Plant.</li> <li>▪ The responsibilities managing the regulatory requirements are outlined at a high level in Appendix 1 of the Plan, with the detailed arrangements included in the nominated supporting documents. The documented evidence supports the clear allocation of responsibilities to manage various aspects of the treatment plant.</li> <li>▪ Responsibility is assigned in the Veolia Responsibility Matrix. This assigns the high level responsibilities for overall operation of the plant, including water quality-related responsibilities. The matrix assigns the water quality responsibilities to the Operations Manager and the Process Engineer. Individual responsibilities and authorities are defined in Position Descriptions signed by each employee and their manager. SDP personnel have their own</li> </ul>		



position descriptions, but these were not reviewed at audit.

- The processes for reviewing and updating the regulatory and formal requirements are documented in Appendix 1 of the Plan and nominated supporting documents.
- Appendix 1 of the WQP includes a number of references to SWC documents, which were challenged at audit. VWA and SDP consider that these documents have probably been included as SWC are a major stakeholder as a customer in the Plant and still provides certain reports to VWA. As the plant is not operating at the present time, SWC is not issuing these (or any other) reports to VWA. SDP and VWA meet with SWC regularly and expect the level of communication and discussion to increase when the Plant is operating.
- As noted previously, under VWA's document management system, all documents are reviewed at least once every three years. Regulatory and formal requirements are included in the Compliance Register which is reviewed annually, with the next formal review due in September 2013.
- The Change Management Plan included in Section 17 of the IBMS Manual provides an overview of how compliance is maintained when there are changes to the regulations and obligations.
- VWA's Compliance Procedure (PR-ANZ-2-477) details responses and actions including how the procedure aligns with risk management activities, how compliance requirements are kept up to date, implemented and how any changes are communicated. Monitoring, measuring and reporting of compliance requirements is also covered in the document.
- The key supporting documents referenced in Appendix 1 of the WQP include the *SDP Pty Limited WICA Compliance Program*. At the audit, SDP commented that they had their own compliance schedule for the regulatory requirements that they are responsible for, however, this document was not available for review at the time. SDP noted that it is looking at developing its own management systems to help support its own obligations and requirements.

#### **Engaging Stakeholders**

- The processes for identifying relevant stakeholders are documented in Appendix 1 of the Plan and nominated supporting documents.
- VWA has a Stakeholder Engagement and Evaluation Procedure (PR-KDP-11-88) is reviewed and updated annually to ensure that stakeholders are kept up-to-date. The procedure includes a matrix of current stakeholders
- Sydney Catchment Authority are a key stakeholder in the Metropolitan Plan forum and although they do not have a direct influence on the Plant itself, they should be added to the list of Stakeholders that are listed in the WQP.
- The supporting documents included in Appendix 1 reference the TO0011 Operating Protocol but this is the previous document that was in place prior to the change of ownership and has been superseded by the information in the Sydney Desalination Plant Water Supply Agreement, Exhibit C – Operating Protocol, Section 13.2. This document is currently being reviewed by SWC for acceptance of the Agreement.
- Appropriate processes and practices to ensure stakeholders are engaged and all activities and outcomes are documented in Appendix 1 of the Plan and nominated supporting documents.
- Although SDP currently undertakes these activities, it is looking to develop its own communications strategies and protocols.
- Any activities and outcomes involving the identified stakeholders are communicated in the monthly report provided by VWA to SDP. However, as the Plant is not producing water at the present time, there is not as much to document as would be expected when the Plant moves out of mothballing.
- The list of stakeholders is updated in accordance with VWA's document and quality management system procedures. The list is updated at least annually, with the most recent version of the Stakeholder Engagement and Evaluation Procedure dated 22 April 2013.



Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 2</b> The WQP (dw) includes an assessment of the water supply system	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	

#### Evidence sighted

- MN-KDP-1-806 IBMS Manual - Sections 7 and 9 (process)
- Functional Design Specifications (FDS) SDP's
- Infrastructure Operating Plan (IOP)
- PR-ANZ-1-475 Audit Procedure
- PR-KDP-1-845 Collaborative Audit by KDP and Client procedure
- CRA-KDP-13-650 Water Quality Risk Assessment
- REG-KDP-13-652 HACCP Register
- REF-KDP-24-808 Internal/External Testing Schedule
- FM-KDP-9-785 Early Warning / Incident Notification
- WI-KDP-24-1033 Response to Out of Specification Lab Results
- PR-KDP-9-899 Kurnell Water Quality Incident – Physical/Chemical
- PR-KDP-20-847 Critical Control Point Response Procedure
- Unit Process Guidelines- troubleshooting guide (referenced in Operations and Maintenance Management Plan - IBMS Manual Section 7)
- Monthly O&M Contractual reporting requirements
- FM-KDP-20-675 Agenda for Daily Production Meeting
- Monthly reports of VWA to SDP
- MN-KDP-1-806 IBMS Manual - Section15, Risk Management Plan
- PR-ANZ-13-444 Risk Management Procedure
- MN-KDP-1-806 IBMS Manual – Section 8
- CRA-KDP-13-653 Strategic, Operations and Compliance Risk Register
- CRA-KDP-13-664 Security Risk Register
- CRA-KDP-13-666 Environmental Risk Register
- CRA-KDP-13-665 OHS Risk Register
- MN-KDP-1-806 IBMS Manual - Section15, Risk Management Plan

#### Summary of reason for grade

Based on our findings at audit, we consider that the WQP and the supporting documents do not fully meet the target criteria for full compliance.

- As with the IOP, VWA has developed high level management plans and procedures related to the restart of the Plant but has not yet developed more detailed documentation and specific work instructions. This includes documentation related to the DWPS and the delivery pipeline as well as the treatment plant itself.
- Although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed.
- In addition, the CCP-related documents provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.
- There are also a number of incorrect references and text included in the WQP which will need to be updated in the next version of the Plan.

#### Discussion and notes

##### Water Supply System Analysis

- VWA's key processes related to the assessment of the water supply system documented in Appendix 1 of the WQP and the nominated supporting documents.

- As described in the previous audit report, the analysis was undertaken in two parts: the initial process was undertaken by SWC as part of the planning process and this was followed by an assessment undertaken by VWA as part of the O&M contract. This is documented in the main body of the Plan.
- VWA's Water Quality Risk Assessment CRA-KDP-13-650) includes a list of participants involved in the risk assessment of the system. Any new risks that have been added to the spreadsheet record the names of personnel who were involved in adding that risk to the assessment in a comment box in the spreadsheet for each particular line.
- The Water Quality Risk Assessment has not been updated since 21 July 2011. Although the document should have been reviewed and updated according to VWA's quality management system requirements, due to the shutdown of the Plant and as there is no water being produced, the review was not completed.
- The assessment includes the inherent risks, controls and mitigated risks for the water quality risks that have been identified with running the Plant. The risks are categorised under assessment categories of chemical, biological and physical water quality risks. The risks include those for water supplied out of the plant and for the DWPS.
- After the controls, there are no mitigated risks that have been assessed with a risk score of 'High'. The highest scored risk is rated as 'Medium' and is for the formation of white water and customer complaints associated with this.
- VWA maintains a separate risk assessment spreadsheet for risks associated with the delivery pipeline. The assessment has not been completed as VWA only took over the operation and maintenance of the pipeline in May 2013 and the pipe is not expected to be needed until at least two years time.
- At the current time the risk assessment for the pipeline only includes one drinking water quality related risk for contamination of the water when the pipeline is filling or emptying. The document was last updated in July 2013. As with the Water Quality Risk Assessment, the risk assessment for the pipeline records the personnel involved in the assessment and any new risks that have been added to the spreadsheet record the names of personnel who were involved in adding that risk to the assessment in a comment box in the spreadsheet for each particular line.
- The pipeline risk assessment document should be added to the list of supporting documents included in Appendix 1
- VWA also has a separate risk assessment for the restart phase of plant operation. At the present time, the risks that have been prioritised have been related to the more-operational risks. However, this register, as well as the one for the pipeline are expected to be re-evaluated and added to in the time before the restart of the Plant takes place.
- A schematic of the water supply system is included in Figure 5 in the WQP but is considered to be too high level. A second figure (Figure 6) shows the key steps of the desalination plant, including the critical control points, but is again at a high level.
- The Process Flow Diagram (figure WTWO155-P-O-DW-0011 quoted as a supporting document) provides sufficient information on the plant, although it doesn't extend to the full extent of the scheme, with the DWPS and pipeline not included. However, it would be preferable that the schematic in the main document is updated with more detailed information.
- An overview of the pertinent information and key characteristics of the water supply system are documented in Appendix 1 of the Plan, with more detailed information included in the nominated supporting documents. The characteristics of the water supply system are considered across other relevant elements of VWA's management plans and procedural and process documents, including the risk assessments.
- High level information is provided in Section 7 (Operations and Maintenance Management Plan) and Section 9 (Asset Management Plan) of the IBMS Manual.
- VWA's Unit Process Guides (UPGs) explain the key characteristics of each treatment process unit. Functional Design Specifications (FDSs) provide detail for how the SCADA is set up and functions for each treatment process unit. The overview document, the list of all the FDSs and examples of the individual documents were observed at the audit. At the current time, VWA's detailed documentation extends to the 40 ML drinking water supply tank but does not include the DWPS, the ammonia/chlorine dosing downstream of the DWPS or the delivery pipeline.
- The DWPS is controlled by SWC but maintained by VWA. The DWPS was remotely controlled by SWC so that they could regulate the supply of drinking water into the SWC system, with SWC using the control of the DWPS adjusting the levels of water in the tank to achieve this. If required, VWA had to ask SWC to restart or shutdown the DWPS if the levels in the water supply tank were too high or too low.
- There has been no change to the set-up except for SDP now owning the DWPS assets and VWA undertaking the maintenance. VWA is discussing with SWC how to best control and manage the asset into the future. VWA have the responsibility for water quality coming out of the plant and if there was any issue with the water, VWA would have to ask SWC to stop taking water from the Plant.
- VWA don't see the Shaft 11 instrumentation monitoring on the Plant's SCADA system but can access SWC's IICATS monitoring at the interface point.
- VWA have a separate operations management plan for the pipeline, which includes a procedure for water quality monitoring at Shaft 11 (PR-KDP-21-6320). We would recommend that these documents are added to the supporting references included in the WQP and IOP.
- We would also recommend that VWA develops new documents or provides additional information in its existing documents to cover the relevant information and characteristics of the DWPS and the delivery pipeline.
- VWA's processes for periodically reviewing the water supply system analysis are documented in Appendix 1 of the Plan and nominated supporting documents. The process is documented in Section 7.5 of the IBMS Manual.
- Five risk assessments have been undertaken since May 2009 (pre-commissioning).

- As noted previously, although under VWA's normal QA processes it should be reviewed annually, the Water Quality Risk Assessment has not been reviewed since 21 July 2011. However, there is no requirement to review and update the risk assessment during mothball while the Plant is not producing any water for supply.
- VWA has an internal audit program that includes aspects of the water quality associated plans and procedures. The annual schedule of audits was confirmed at audit. VWA and SDP also undertake collaborative audits in addition to VWA's normal audit program.
- VWA maintains a HACCP Register that provides detail of the warning and critical levels for the water quality parameters at each of the Plant's critical control points (CCPs). The Register was last updated on 16 April 2012 and includes CCPs 1 to 6 but it does not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. However, the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline. We would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.

#### Assessment of Water Quality Data

- VWA's processes for collecting and retaining historical data from source water, the treatment plant and finished water supplied to SWC are documented in Appendix 1 of the Plan and nominated supporting documents. VWA's Water quality data requirements are set out in the O&M Contract.
- The Internal/External Testing Schedule (REF-KDP-24-808) and VWA's other associated data documents have been developed to record data during times when the Plant is operating. Therefore, these are not being used while the Plant is mothballed. VWA will have to develop some additional documents for collecting and retaining water quality data during the restart period.
- VWA's processes for identifying, listing and examining exceedances are documented in Appendix 1 of the Plan and nominated supporting documents.
- Water quality events are covered in VWA's Incident and Emergency Manual and VWA has a form for providing early warning and incident notification (FM-KDP-9-785)
- VWA also has a CPP Response Procedure (PR-KDP-20-847) as determined by the HCCP Register for a range of different water quality event scenarios. The response procedure does not take account of CCP 7 although the exceedance criteria will be the same as for CCP 6.
- VWA outlines the processes for assessing data to identify trends and potential problems in Appendix 1 of the Plan and nominated supporting documents.
- VWA uses SCADA data and grab samples for identifying trends and potential water quality/asset performance problems. Sampling and assessment of data continues during the Care and Maintenance mode.
- Daily SCADA checklists and site plant checks are carried out and the data recorded during the mothball phase.
- A comprehensive monthly report is provided by VWA to the SDP.

#### Hazard Identification and Risk Assessment

- As noted previously, the WQP defines the approach and methodology to be used for hazard identification and risk assessment. The analysis was undertaken in two parts; the initial process was undertaken by SWC as part of the planning process and this was followed by an assessment undertaken by VWA as part of the O&M contract.
- Hazards, sources and hazardous events for each component of the water supply system are documented in Appendix 1 of the WQP and nominated supporting documents. The HACCP Register and the Water Quality Risk Assessment are key documents used to identify this information. As noted previously, the registers do not currently extend to the whole of the supply system owned by SDP and this information will need to be updated to account for the DWPS and delivery pipeline and CCP 7.
- A daily walk around the Plant is completed to identify potential hazards. The items to assess and the observations are recorded on the Route A (WI-KDP-20-943) and Route B (WI-KDP-20-4216) Plant Checks. The walk is carried out during the current mothballing of the Plant, although only twice a week rather than daily. During operation, the inspection takes 8 hours but is reduced to an hour at the present time. If any new hazards or hazardous events are noted, they are called back in by radio, with a work order raised to carry out any minor works if required.
- The level of risk for each identified hazard or hazardous event is documented in Appendix 1 of the Plan, with the Water Quality Risk Assessment being the key document.
- The VWA Water Quality Risk Assessment document evaluates the major sources of uncertainty associated with each hazard and hazardous event and outlines the actions to further mitigate risk level.
- The text in Section 2.3.4 of Appendix 1 in the WQP includes a reference to Sydney Water that needs to be taken out of the Plan. The reference was relevant when SWC were originally involved in the evaluation of the hazards but this is no longer applicable. However, SWC are still part of the process via consultation by VWA as the customer of water produced by the Plant.
- The risk assessment for the plant in mothball (CRA-KDP-19-4681) includes an evaluation of uncertainty and outlines the actions to mitigate the risks for these particular phases of operation.
- The assessment includes a separate worksheet for the environmental risks associated with mothballing the Plant. All risks have been mitigated to medium and low risks and there are no high risks that require further controls and mitigation. The assessment was last reviewed in May 2012 just before the Plant was shutdown. However, a review has recently taken place and the document is due to be updated.
- VWA developed a new separate risk register for the restart of the Plant in June 2013. This has not yet been

assigned a document reference number and so has not been officially uploaded to VWA's document management system.

- The significant risks and the priorities for risk management are included in VWA's Water Quality Risk Assessment spreadsheet
  - The process for periodically reviewing and updating the hazard identification and risk assessment to incorporate any changes to the system is outlined in the Risk Management Plan contained in Section 15 of the IBMS Manual. Risk registers are reviewed at least annually in accordance with VWA's document management system. However, these reviews are not required while the plant is mothballed.
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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 3</b> The WQP (dw) outlines the preventive measures for drinking water quality management.	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ CRA-KDP-13-650 Water Quality Risk Assessment</li> <li>▪ CRA-KDP-13-651 Completed HACCP Analysis</li> <li>▪ MN-KDP-9-807 Incident &amp; Emergency Manual</li> <li>▪ PR-ANZ-1-475 Audit Procedure</li> <li>▪ Kurnell Audit Schedule</li> <li>▪ REG-KDP-13-652 HACCP Register</li> <li>▪ PR-ANZ-13-444 Risk Management procedure</li> <li>▪ PR-KDP-20-847 Critical Control Response Procedures</li> <li>▪ Unit Process Guidelines (referenced in MN-KDP-1-806 IBMS Manual - Section 7, Operations and Maintenance Management Plan)</li> <li>▪ REG-KDP-24-716 Lab Results Ranges and Limits Master List</li> </ul>		
<b>Summary of reason for grade</b>		
Based on our findings at audit, we consider that the WQP and the supporting documents do not fully meet the target criteria for full compliance.		
<ul style="list-style-type: none"> <li>▪ As with the IOP, VWA has developed high level management plans and procedures related to the restart of the Plant but has not yet developed more detailed documentation and specific work instructions. This includes documentation related to the DWPS and the delivery pipeline as well as the treatment plant itself.</li> <li>▪ Although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed.</li> <li>▪ In addition, the CCP-related documents provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.</li> </ul>		
<b>Discussion and notes</b>		
<b>Preventative Measures and Multiple Barriers</b>		
<ul style="list-style-type: none"> <li>▪ The HACCP analysis completed by VWA (CRA-KDP-13-651) was completed prior to the Water Quality Risk Assessment (CRA-KDP-13-650) in order to identify the CCPs. Although the analysis doesn't specifically cover the process steps for the DWPS or the delivery pipeline, the analysis covers 'drinking water' as the last process step. Therefore, although the documentation should be updated to include the entire 'source/catchment to customer' hazards and hazardous events and estimated residual risks for each, this is essentially covered by 'drinking water' as the last process step.</li> <li>▪ VWA's Water Quality Risk Assessment (CRA-KDP-13-650) documents actions to further mitigate risk level. Preventative measures are reviewed each time the assessment is reviewed.</li> <li>▪ VWA also undertakes mock water quality incident events to review current controls and identify changes and improvements. The last incident exercises that VWA completed were in February 2013 and covered a range of different incident scenarios, including membrane failure, biological growth in the intake tunnel and loss of power at the site. These incident exercises were all carried out as desktop studies. The membrane failure desktop exercise covered failure of the assets after shutdown and mothballing of the Plant. The exercise identified a recommendation for an update of the Unexpected Early Failure of Membranes response procedure. The biological growth in the intake tunnel exercise also covered the incident occurring during mothballing and the impacts of the flow into the plant on restart. The mock exercise concluded that shock chlorine dosing would minimise any impact.</li> <li>▪ VWA also uses its audit program to identify improvements to preventative measures. We confirmed the audit schedule for 2013 but with the plant currently not operating, none of the recent audit reports involved any items specifically relating to water quality.</li> </ul>		
<b>Critical Control Points</b>		
<ul style="list-style-type: none"> <li>▪ The WQP lists Appendix 2 CCP Summary Table in Appendix 1 as a supporting document but this has not been</li> </ul>		

included in the version of the Plan provided to the auditor. Appendix 2 was unable to be found on VWA's document management system at the audit. The table is thought to be based on the decision tree included in VWA's HACCP Analysis (CRA-KDP-13-651) but this could not be verified. We recommend that Appendix 2 be included in the WQP if the document can be found.

- As noted previously VWA's HACCP-related information will need to be updated to include CCP 7 at the delivery point to SWC at the end of the delivery pipeline, although the water quality requirements will be the same as at CCP 6.
  - VWA's mechanisms for operational control at critical control points are documented in the nominated VWA supporting documents included in Appendix 1 and include Section 7 of the IBMS Manual (the Operations and Maintenance Management Plan) and the Critical Control Response Procedure (PR-KDP-20-847).
  - Specific details for operational control mechanisms are covered in SOPs, UPGs and FDSs.
  - An overview of the mechanisms is also included in VWA's HACCP Awareness training presentation (TP-KDP-20-922). The PowerPoint document will need to have CCP 7 added to the information it contains.
  - Critical control points, critical limits and target criteria are documented in the nominated VWA supporting documents. Included in Appendix 1.
  - We confirmed that detailed information for the critical limits and target criteria are included in the Lab Results Ranges and Limits Master List (REG-KDP-24-716)
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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 4</b> The WQP (dw) outlines the operational procedures and process control for the scheme.	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	

#### Evidence sighted

- MN-KDP-1-806-6 IBMS Manual - Section 7, Operations and Maintenance Management Plan
- Standard Operating Procedures (referenced in MN-KDP-1-806 IBMS Manual - Section 7, Operations and Maintenance Management Plan)
- OnTap Document Centre
- REF-KDP-24-808 Internal/External Lab Testing Schedule
- MN-KDP-1-806 IBMS Manual - Section 8, Process and Performance Management Plan
- Unit Process Guidelines (referenced in Operations and Maintenance Management Plan - IBMS Manual Section 7)
- FM-KDP-20-675 Agenda for Daily Production Meeting
- PR-KDP-24-857 Laboratory Management
- REF-KDP-24-808 Internal External Testing Schedule
- FM-KDP-24-714 Plant Sampling Point
- WI-KDP-24 group of work instructions
- PR-ANZ-1-439 Document Management Procedure
- PR-KDP-20-847 Critical Control Response Procedures
- MN-KDP-9-807 Incident and Emergency Management Manual
- WI-KDP-24-1033 Response to Out of Specification Lab Results
- PR-ANZ-1-474 Continual Improvement Procedure
- REF-KDP-9-915 Kurnell External Incident Notification Process
- PR-KDP-9-899 Physical/Chemical Water Quality Incident Response Plan
- MN-KDP-1-806 IBMS Manual - Section 9, Asset Management Plan
- PR-KDP-22-849 CMMS Operations and Maintenance Procedure
- PR-KDP-22-850 Conducting Preventative Maintenance Procedure
- PR-KDP-24-857 Laboratory Management
- REF-KDP-13-913 Chemical Supplier Assessment
- Treatment Chemicals Risk Assessment included in the CRA-KDP-13-650 Water Quality Risk Register
- MN-KDP-1-806 IBMS Manual - Section 9.10 Material and Chemicals
- PO-ANZ-12-415 Procurement Policy
- PR-KDP-20-846 Change Management Procedure
- REF-KDP-13-913 Chemical Supplier Assessment

#### Summary of reason for grade

Based on our findings at audit, we consider that the WQP and the supporting documents do not fully meet the target criteria for full compliance.

- As with the IOP, VWA has developed high level management plans and procedures related to the restart of the Plant but has not yet developed more detailed documentation and specific work instructions. This includes documentation related to the DWPS and the delivery pipeline as well as the treatment plant itself.
- Although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed.
- In addition, the CCP-related documents provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.

## Discussion and notes

### Operational Procedures

- VWA's key high level documents that identify the operational procedures are documented in the nominated VWA supporting documents included in Appendix 1 of the Plan. This includes Section 7 Operation and Maintenance Management Plan in the IBMS Manual, the O&M Contract between SDP and VWA and the SDP Water Supply Agreement - Exhibit C - Operating Protocol. The supporting documents also references the list of SOPs included in Section 7 of the IBMS Manual.
- Operational procedures related to the shutdown and mothballing of the Plant are included in Section 19 of VWA's document management system, with procedures for normal operating conditions uploaded to Section 20 of the system.
- VWA has developed detailed work instructions to support the shutdown and mothball procedures. However, although Plans and procedures have been developed for the restart of the Plant, VWA has not yet developed the lower level, more detailed work instructions for activities involved in the restart.
- Internal audits are used to identify any procedures or work instructions that need to be developed. The management plans also identify future actions, including procedural and more detailed documentation that needs to be developed. Progress against documentation targets is included in the monthly report that VWA submits to SDP.
- VWA has been contracted by SDP to undertake maintenance on the delivery pipeline, with inspections and corrective and preventative maintenance due to start in November 2013. VWA has set up the preventative maintenance schedules in Maximo 7 in advance of the contract officially starting. The contract includes annual and three monthly inspections of the pipeline, easement maintenance where the pipeline crosses third-parties land, cathodic protection twice a year and maintenance of the instrumentation at the Shaft 11 CCP 7. Protocols regarding easement access have already been set up.
- VWA's operational procedures are documented in the nominated VWA supporting documents included in Appendix 1 of the Plan. Procedures are referenced in Section 7 Operations and Maintenance Management Plan in the IBMS Manual and all documents are stored and easily accessible from VWA's OnTap Document Centre.

### Operational Monitoring

- VWA outlines the monitoring protocols for operational performance of the system, including the selection of operational parameters and criteria, and the routine analysis of results in the Appendix 1 text and in the supporting documents.
- The monitoring at CCP 7 at the delivery point to SWC before Shaft 11 is SDP's responsibility as owner of the delivery pipeline. The maintenance of the online monitoring systems at CCP 7 has recently been contracted to VWA under the O&M Contract but the agreement between SDP and VWA does not include the operational monitoring, analysis and reporting of parameters due to the pipeline being capped and no water being supplied through to SWC. The responsibility for monitoring at CCP 7 could be assigned to VWA if SDP choses to at a later date before the restart of the Plant.
- The daily site inspections carried out at the site are used to develop the Agenda for Daily Production Meeting form (FM-KDP-20-675). This includes details of any operational performance parameters that have been picked up or are relevant to that particular day. This form is not used at the present time with the Plant not operating.
- VWA's IBMS Manual includes the Water Quality and Process Performance Plan is Section 8 of the document. There are sections within the Plan that cover Process Monitoring Requirements (Section 8.5), Assessment of the Drinking Water System (8.6), Preventative Measure for Drinking Water Quality management (Section 8.7), Operational Procedures (Section 8.9) and Verification of Drinking Water Quality (Section 8.10). These sections of the Plan include references to further supporting documentation, including specific procedures and work instructions.
- VWA's Laboratory Management Plan describes the function of the laboratory and the responsibilities of the lab staff. The Plan also covers the requirements for online sampling, onsite analysis, offsite analysis and references the appropriate work instructions for sampling, analysing and reporting water quality data.

### Corrective Action

- VWA's procedures for corrective action to control excursions in operational parameters are documented in Appendix 1 text and the nominated VWA supporting documents.
- VWA's processes for rapid communication systems to deal with unexpected events are documented in Appendix 1 text and the nominated VWA supporting documents. VWA's key high level document for managing unexpected events is the Incident and Emergency Manual (MN-KDP-9-807). The communication arrangements and protocols between SDP, VWA and SWC are outlined in the SDP Water Supply Agreement – Exhibit C – Operating Protocol.
- The Incident Notification Process (REF-KDP-9-915) provides a flowchart of actions and responsibilities for different unexpected event scenarios. In addition, the Physical/Chemical Water Quality Incident Response Plan also provides a flowchart of actions for specific water quality incidents.

### Equipment Capability and Maintenance

- The processes to ensure that equipment performs adequately and provides sufficient flexibility and process control for the Plant are documented in Appendix 1 text and the nominated VWA supporting documents.
- VWA's program for regular inspection and maintenance of all equipment, including monitoring equipment, is included in its Maximo maintenance management system. An overview of the program and processes are documented in the Appendix 1 text, with the key procedural and work instruction supporting documents also referenced.



### Materials and Chemicals

- VWA's processes and procedures to ensure that only approved materials and chemicals are used are documented in Appendix 1 text and the nominated VWA supporting documents.
  - We observed that there is a small typographical error in the document reference code for the Chemicals and Materials section of the IBMS Manual. The correct reference is Section 9.10 not Section 9, 10.
  - VWA maintains a Chemical Supplier Assessment spreadsheet (REF-KDP-13-913) which lists the supplies and requirements for each chemical/material provided to the Plant. This includes requirements for QA systems and for meeting the ADWG requirements. The spreadsheet also includes the residual risks associated for each chemical being supplied by each supplier. The Assessment has not been reviewed or updated recently as no chemicals are being procured to operate the Plant for production.
  - VWA has a risk assessment for the supply of bulk chemicals and quality issues included in its Water Quality Risk Register (CRA-KDP-13-650). This lists the key controls to mitigate the risk.
  - VWA also maintains a Workplace Substance Register that lists the chemicals and suppliers and provides safety information for each, including whether is classed as dangerous good or a poison. This register is updated if any new chemical or material is delivered to site or ordered to the stores. The Workplace Substance Register is not listed in the supporting documents and we would recommend that a reference to it is added.
  - VWA's procedures for evaluating chemicals, materials and suppliers are also documented in Appendix 1 text and the nominated VWA supporting documents.
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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 5</b> The WQP (dw) outlines the process for verification of the drinking water quality.	Non-compliant insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership, the current mothballing and the restart of the Plant	

#### Evidence sighted

- REF-KDP-24-808 Internal/External Testing Schedule
- PR-KDP-24-857 Laboratory Management Procedure
- FM-KDP-24-714 Plant Sampling Points
- WI-KDP-24 group of work instructions
- FM-KDP-24-707 Laboratory Manual Results Sheets
- PR-KDP-11-838 Handling Complaints Procedure
- MN-KDP-1-806 IBMS Manual - Section 11, Project Communications Management Plan
- FM-KDP-20-675 Daily Production Meeting Agenda
- PR-KDP-11-837 Internal Communications Protocol
- MN-KDP-9-807 Kurnell Incident and Emergency Manual
- Water Quality Incident database in GoFish
- PR-ANZ-1-474 Continual Improvement Procedure

#### Summary of reason for grade

Based on our findings at audit, we consider that the WQP and the supporting documents do not fully meet the target criteria for full compliance.

- The CCP-related documents for the verification of the drinking water quality provide details on CCPs 1 to 6 but do not include the new CCP 7 which relates to the delivery point before Shaft 11 at the interface between the SDP owned assets and SWC's supply system. Although the warning and critical limits would be the same at the inlet and outlet point of the delivery pipeline, we would recommend that VWA updates the relevant documents to take account of the new CCP 7 that it now has responsibility for maintaining.
- There is an incorrect reference to the previous Operating Protocols which will need to be updated in the next version of the Plan.

#### Discussion and notes

##### Drinking Water Quality Monitoring

- VWA's monitoring requirements are outlined in Appendix 1 text and supported by the nominated procedural documents referenced.
- The text references SWC being involved in developing the water quality monitoring program but this reference is relevant as SWC are involved in the quality of the water it receives as the customer, with the protocols described in the O&M Contract and the operating protocols included in the Water Supply Agreement.
- The warning and critical limits for the characteristics of the drinking water supplied to SWC are recorded against CCP 6 in the HACCP Register.
- VWA is able to monitor the water quality monitoring instrumentation at the delivery point via SWW's IICATS system.
- Sampling and monitoring procedures and frequencies are documented in Appendix 1 text and the nominated VWA supporting documents.
- VWA's Plant Sampling Point form (FM-KDP-24-714) provides information for each sampling point, including photos of the location. The Internal/External Testing Schedule (REF-KDP-24-808) includes details of the testing location and the frequency of sampling.
- VWA's procedures for sampling and testing are documented in Appendix 1 text and the nominated VWA supporting documents.
- VWA's processes for ensuring that the monitoring data is representative, reliable and fully validated are documented in Appendix 1 text and the nominated VWA supporting documents.
- If the monitoring data shows that limits have been breached, VWA uses internal, external and online sources of data to validate that the any breaches are correct. The external laboratory engaged by VWA contacts the Plant if their independent testing shows that any of the water quality parameters tested are higher than the allowed levels. VWA has a series of work instructions associated with tasks undertaken by the Plant's laboratory and the lab personnel. The Laboratory Manual Results Sheet form (FM-KDP-24-707) is a spreadsheet used to record the lab results.

- The Laboratory Management Procedure (PR-KDP-24-857) includes use of spike tests to ensure that monitoring instruments are working correctly and outlines procedures for calibration of instrumentation.
- VWA's Process Engineers review the monitoring data each day as part of their duties. Responsibilities for drinking water quality are assigned in VWA's Responsibility Matrix.

#### **Customer Satisfaction**

- VWA's outlines its consumer complaint and response program in the Appendix 1 text, supported by the nominated referenced documents. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.
- Complaints are generally received via SWC. If the complaint is considered legitimate, the responses are discussed between SDP, VWA and SWC.

#### **Short-term Evaluation of Results**

- VWA's procedures for the daily review of water quality monitoring data and consumer satisfaction are documented in Appendix 1 text and the nominated VWA supporting documents. At the present time, with the plant not producing any water for supply, these procedures and protocols are not in use.
- VWA's Internal and external reporting mechanisms are documented in Appendix 1 text and the nominated VWA supporting documents. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.
- The Incident and Emergency Manual (MN-KDP-9-807) outlines the procedures for reporting incident and emergency events. The Internal Communications Protocol describes the procedures for internal reporting mechanisms. The O&M Contract documents the requirements for monthly KPI and performance reporting from VWA to SDP.
- VWA uses its corporate GoFish database for managing its water quality issues, incidents and the associated follow-up actions. The last water quality incident that was recorded in the database occurred in March 2012, prior to the shutdown of the Plant. GoFish is also used by VWA for identifying improvement opportunities, which can be added to the notes for each record. Issues/incidents can be reported from GoFish to allow progress on actions to be monitored.

#### **Corrective Action**

- VWA's procedures for corrective action in response to non-conformances are documented in Appendix 1 text and the nominated VWA supporting documents. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.
  - VWA has established rapid communication systems to deal with unexpected events and these are documented in Appendix 1 text and the nominated VWA supporting documents.
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Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 6</b> The WQP (dw) includes details on the management of incidents and emergencies.	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership, the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-KDP-9-807 Kurnell Incident and Emergency Manual</li> <li>▪ REF-KDP-9-915 Kurnell External Incident Notification Process</li> <li>▪ PR-ANZ-9-465 Incident, Reporting, Recording and Investigation Procedure</li> <li>▪ MN-KDP-1-806 IBMS Manual - Section 18, Incident and Crisis Management Plan</li> <li>▪ CRA-KDP-13-650 Water Quality Risk Assessment</li> <li>▪ Kurnell Audit &amp; Incident Scenario Schedule</li> </ul>		
<b>Summary of reason for grade</b>		
Based on our findings at audit, we consider that the WQP and the supporting documents do not fully meet the target criteria for full compliance.		
<ul style="list-style-type: none"> <li>▪ As with the IOP, VWA has developed high level management plans and procedures related to the restart of the Plant but has not yet developed more detailed documentation and specific work instructions. This includes documentation related to the DWPS and the delivery pipeline as well as the treatment plant itself.</li> <li>▪ Although Risk Assessment Registers have been developed for the restart process and for the delivery pipeline, these have not yet been fully completed.</li> <li>▪ There are also a number of incorrect references and text included in the WQP which will need to be updated in the next version of the Plan.</li> </ul>		
<b>Discussion and notes</b>		
<b>Communication</b>		
<ul style="list-style-type: none"> <li>▪ The key communication protocols related to the management of incidents and emergencies are documented in the Appendix 1 text and the nominated VWA supporting documents. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.</li> <li>▪ A public and media communications strategy been developed, with VWA preparing the information and any release to the public or media requiring to be authorised and distributed by SDP and SWC. VWA's requirements are outlined in the O&amp;M Contract. The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.</li> </ul>		
<b>Incident and Emergency Response Protocols</b>		
<ul style="list-style-type: none"> <li>▪ An overview of VWA's incident and emergency management is described in the Appendix 1 text, with the nominated VWA supporting documents providing further detail, including references to the appropriate management plans (the Incident and Emergency Manual and IBMS Manual, Section 18 – Incident and Crisis Management Plan), which themselves outline specific procedures and tasks and VWA's Water Quality Risk Assessment (CRA-KDP-13-650). The supporting documents include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.</li> <li>▪ An overview of VWA's training emergency response plans and information regarding the testing of emergency response plans is provided in the Appendix 1 text, supported by referenced VWA supporting documents.</li> <li>▪ VWA's procedures for investigation of incidents or emergencies, includes the processes for reviewing incidents or emergencies and making any necessary amendments to protocols are documented in Appendix 1 text and the nominated VWA supporting documents. Incidents are recorded in VWA's corporate GoFish system, which is used to record, monitor and report on corrective actions.</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 7</b> The WQP (dw) outlines employee training and awareness requirements.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership, the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-KDP-1-806 IBMS Manual - Section 22, Human Resources Management Plan</li> <li>▪ PR-KDP-11-837 Internal Communications Protocol</li> <li>▪ UG-VW-ANZ-950 Training Database</li> <li>▪ PR-KDP-14-884 Training Procedure and Records</li> </ul>		
<b>Summary of reason for grade</b>		
The updated WQP meets the target criteria for full compliance in relation to outlining employee training and awareness requirements.		
<b>Discussion and notes</b>		
<b>Employee Awareness and Involvement</b>		
<ul style="list-style-type: none"> <li>▪ An overview of VWA's mechanisms and communication procedures to increase employees' awareness of, and participation in managing water quality are documented in Appendix 1 text and the nominated VWA supporting documents.</li> </ul>		
<b>Employee Training</b>		
<ul style="list-style-type: none"> <li>▪ The process for ensuring that employees, including contractors, maintain the appropriate experience and qualifications the plant is documented in Appendix 1 text and the nominated VWA supporting documents. VWA's overall Human Resources Management Plan is included in Section 22 of the IBMS Manual and carried out through a suite of training-related procedures and work instructions.</li> <li>▪ The text in Appendix 1 of the WQP outlines the system for identifying VWA's employee training needs. Learning needs are identified on Learning Paths which are developed for each position. Appropriate resources are available to support any training programs that are identified as being required.</li> <li>▪ The text in Appendix 1 of the WQP also outlines the processes and procedures that VWA has in place for documenting training and maintaining records of all employees training. It has a specific procedural document for achieving this, the Kurnell Training Procedures and Records (PR-KDP-650) and maintains a database for recording and monitoring the training records for each member of staff</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 8</b> The WQP (dw) outlines the process for community consultation, awareness and involvement.	Non-compliant Insignificant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-KDP-1-806 IBMS Manual - Section 11, Project Communications Management Plan</li> </ul>		
<b>Summary of reason for grade</b>		
There are a number of incorrect references to the previous Operating Protocols which will need to be updated in the next version of the Plan, although we acknowledge that this is a very minor matter.		
<b>Discussion and notes</b>		
<b>Community Consultation</b>		
<ul style="list-style-type: none"> <li>▪ Appendix 1 of the WQP describes the key requirements for SDP/VWA's effective community involvement, with reference to the main supporting documents that outline the requirements, including the Project Communications Plan in Section 11 of the IBMS Manual (MN-KDP-1-806) and the relevant sections of the O&amp;M Contract that establish VWA and SDP's responsibilities.</li> <li>▪ The supporting documents also include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.</li> <li>▪ Appendix 1 also provides an overview of the community consultation strategy and references the key supporting documents. The supporting documents also include a reference to the TO0011 Operating Protocol which needs to be updated with the Sydney Desalination Plant Water Supply Agreement – Exhibit C – Operating Protocol that has superseded the original document.</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 9</b> The WQP (dw) outlines the validation process for the scheme.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-KDP-1-806 IBMS Manual - Section 19, R&amp;D Management Plan</li> <li>▪ MN-KDP-1-806 IBMS Manual - Section 7 &amp; 8, Operations and Maintenance Management Plan and Process Performance Management Plan</li> <li>▪ PR-KDP-20-846 Change Management Procedure</li> </ul>		
<b>Summary of reason for grade</b>		
The updated WQP meets the target criteria for full compliance in relation to the requirements for validating the process for the scheme.		
<b>Discussion and notes</b>		
<b>Investigative Studies and Research Monitoring</b>		
<ul style="list-style-type: none"> <li>▪ The WQP includes an overview of VWA's commitment to increasing their knowledge and improving their management of the water supply system. VWA's supporting documents include the relevant section of the O&amp;M Contract that sets out its requirements under the contract and which is set out in more detail in Section 19 – R&amp;D Management Plan in the IBMS Manual (MN-KDP-1-806).</li> <li>▪ VWA maintains a three year organisation-wide R&amp;D Plan that sets out its research work. However, as the Kurnell Desalination Plant is currently mothballed, no sea water is being drawn into the site and the pilot plant that was set-up is currently not operating.</li> <li>▪ The Care and Maintenance phase of operations that VWA are maintaining during the mothballing of the Plant, including the preservation of the membranes, will be used to increase VWA's knowledge for improving the management of the water supply system, as no desalination plant of this size has been mothballed for the length of period that Kurnell is likely to experience under the current conditions.</li> </ul>		
<b>Validation of Processes</b>		
<ul style="list-style-type: none"> <li>▪ The methodology for validating processes and procedures to ensure that the system is effective at controlling hazards is outlined in the text included in Appendix 1 of the WQP, with the key supporting documents that include the more detailed information referenced.</li> <li>▪ The established processes and practices that VWA has in place for periodical revalidation of processes when changes in conditions occur are documented in Appendix 1 text and the nominated VWA supporting documents.</li> </ul>		
<b>Design of Equipment</b>		
<ul style="list-style-type: none"> <li>▪ VWA has a documented process for validating the selection and design of new equipment and infrastructure to ensure continuing reliability and this is described in the Appendix 1 text and in the nominated VWA supporting documents that are referenced. The requirements are specified in the Change Management Procedure (PR-KDP-1-836).</li> </ul>		



Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<p><b>Element 10</b></p> <p>The WQP (dw) outlines the process management of documentation and records as well as the reporting requirements.</p>	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership, the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ PR-ANZ-1-439 Document Management Procedure</li> <li>▪ PR-KDP-1-836 Records Management Procedure</li> <li>▪ VWA's Document Centre</li> <li>▪ MN-KDP-1-806 IBMS Manual</li> <li>▪ PR-KDP-11-837 Internal Communications Protocol</li> <li>▪ WI-KDP-24-1032 Entering Internal Data and Checking Excel Results Sheets</li> </ul>		
<b>Summary of reason for grade</b>		
The updated WQP meets the target criteria for full compliance in relation to outlining the process management of documentation and records as well as the reporting requirements.		
<b>Discussion and notes</b>		
<b>Management of Documentation and Records</b>		
<ul style="list-style-type: none"> <li>▪ Appendix 1 of the WQP outlines the process for documenting information pertinent to all aspects of water quality management, with the Document Management Procedure (PR-KDP-1-439) and the Records Management Procedure (PR-KDP-1-836) used to support VWA's document management system. VWA is ISO 9001 accredited for its quality management system.</li> <li>▪ VWA's document control system is used to control and communicate all of the organisations documents. This includes processes to ensure current versions of key documents are in use. All of VWA's documents are reviewed at least once every three years, and where necessary, the review process is annually.</li> <li>▪ VWA's records are managed through its IBMS Records management Procedure (PR-KDP-1-836). VWA personnel are required to sign-off that they have read and understand their responsibilities for maintaining records. Employees are trained in their responsibilities through the IBMS Induction Training that VWA carried out for new staff.</li> <li>▪ VWA's processes to periodically review documentation and revise as necessary are described in the text in Appendix 1 of the WQP, with further details included in the nominated supporting documents.</li> </ul>		
<b>Reporting</b>		
<ul style="list-style-type: none"> <li>▪ VWA's procedures for effective internal and external reporting are described in the text in Appendix 1 of the WQP, with further details and specific information included in the nominated supporting documents.</li> <li>▪ SDP is required to submit an annual report under the requirements of its WICA licence. The supporting documents included in Appendix 1 reference an annual report dated 17 August 2011 which was submitted to IPART as part of these WICA Licence conditions. This was the last report that is thought to have been submitted to IPART. The SDP have owned the Plant for less than a year and IPART has confirmed to the SDP that at the current time, while the plant is shutdown, it does not need to submit an annual report.</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 11</b> The WQO outlines the process for long-term evaluation of results and the audit of the plan.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership, the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ PR-KDP-1-836 Records Management Procedure</li> <li>▪ Monthly Performance Report (from July 2013)</li> <li>▪ PR-ANZ-1-475 Audit Procedure</li> <li>▪ Kurnell Operations Audit Schedule</li> <li>▪ PR-KDP-1-845 Collaborative Audits by KDP and Client</li> <li>▪ MN-KDP-1-806 IBMS Manual - Section 12.19</li> <li>▪ Issues Management System, Issues Register and Audit Reports</li> </ul>		
<b>Summary of reason for grade</b>		
The updated WQP meets the target criteria for full compliance in relation to the process for long-term evaluation of results and the audit of the plan.		
<b>Discussion and notes</b>		
<b>Long-Term Evaluation of Results</b>		
<ul style="list-style-type: none"> <li>▪ The processes and practices for the collection and evaluation of long-term data to assess performance and identify problems are documented in Appendix 1 text and the nominated VWA supporting documents.</li> <li>▪ The processes and practices for documenting and reporting results are documented in Appendix 1 text and the nominated VWA supporting documents. The supporting documentation that has been referenced by VWA includes a July 2011 monthly performance report as an example of the information that is included in the report. A more concise monthly report is currently submitted to the SDP by VWA to reflect that the Plant is mothballed.</li> </ul>		
<b>Audit of Drinking Water Quality Management</b>		
<ul style="list-style-type: none"> <li>▪ The protocols for internal and external auditing to be conducted are documented in Appendix 1 text and the nominated VWA supporting documents.</li> <li>▪ The WQP (defines the process for documenting and communicating audit results to relevant stakeholders in the Appendix 1 text and the nominated VWA supporting documents that have been referenced.</li> </ul>		

Clause	Requirement	Compliance Grade
WIC Reg Sched 1 cl.7(1)(a)	<b>Element 12</b> The WQP outlines a process for review and continual improvement.	Compliant
<b>Risk</b>	<b>Target for full compliance</b>	
Low	The WQP is in accordance with the requirements and the Plan and supporting documents have been updated to take account of the change of ownership. the current mothballing and the restart of the Plant	
<b>Evidence sighted</b>		
<ul style="list-style-type: none"> <li>▪ MN-KDP-1-806 IBMS Manual - Section 21, Management Review</li> <li>▪ PR-ANZ-1-476 Management Review Procedures</li> <li>▪ O&amp;M Contract Volume 4 Clause 26</li> <li>▪ PR-ANZ-1-474 Continual Improvement procedure</li> </ul>		
<b>Summary of reason for grade</b>		
The updated WQP meets the target criteria for full compliance in relation to outlining a process for review and continual improvement.		
<b>Discussion and notes</b>		
<b>Review by Senior Executive</b>		
<ul style="list-style-type: none"> <li>▪ VWA's processes for senior executive review of the effectiveness of the management system and WQP are documented in Appendix 1 text and the nominated VWA supporting documents. The requirements are set out in the relevant section of the O&amp;M Contract, with the Management Review Plan included in Section 21 of the IBMS Manual (MN-KDP-1-806)</li> <li>▪ The processes for the evaluation of the need for change of the WQP are documented in the Appendix 1 text and the nominated VWA supporting documents.</li> </ul>		
<b>Drinking Water Quality Management Improvement Plan</b>		
<ul style="list-style-type: none"> <li>▪ The processes and procedures for the continual improvement of the WQP are documented in the Appendix 1 text and the nominated VWA supporting documents.</li> <li>▪ The process for communicating and implementing continual improvement actions is documented in Appendix 1 text and the nominated VWA supporting documents. The continual improvement process is monitored for effectiveness.</li> <li>▪ The supporting documents reference the SDP Annual Report. However, the SDP have not yet owned the Plant for 12 months and have yet to prepare or submit an Annual Report. IPART has confirmed to SDP that at the current time, while the plant is shutdown, it does not need to submit an annual report.</li> </ul>		