



**PERTH SEAWATER DESALINATION PLANT  
MINISTERIAL STATEMENT No.655 & 832**



**1 May 2010 – 30 April 2011  
COMPLIANCE ASSESSMENT REPORT**



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- Appendix 1 Letter from OEPA - 11 March 2011 - Management Response
- Appendix 2 3rd Party Audit Report

## 1. INTRODUCTION

The Water Corporation was given approval by the Minister for Environment through Ministerial Statement 626 to construct and operate a 30 GL per annum seawater desalination plant in either Rockingham or Kwinana on 26 May 2003. The Water Corporation subsequently sought an amendment to Ministerial Statement 626, under Section 46 of the Environmental Protection Act 1986, to increase the production capacity of the desalination plant to 45 GL per annum for the Kwinana site (EPA 2004a). The amendment was approved by the Minister for Environment in July 2004 and Ministerial Statement 655 was issued for the proposal.

In July 2005, the Minister for Environment requested that the Office of the Environmental Protection Authority (OEPA) consider and provide advice under Section 46 of the Environmental Protection Act 1986 on Water Corporation's approval associated with the Perth Seawater Desalination Plant (PSDP) (Assessment 1512, Statement 655). The Section 46 Report was submitted to the DEC on 14 November 2007. The public comments period ran from 17 March 2008 to 14 April 2008. The Water Corporation responded to a number of public comments.

On behalf of the EPA, the Department of Environment and Conservation (DEC) commissioned a second peer review of the Section 46 Report by Dr Robert Spiegel of NIWA. In December 2008, the Water Corporation produced a Response to Public Comments document addressing issues raised during the public comments period and in the NIWA peer review.

On 25 May 2009, the OEPA issued a report to the Minister for the Environment in response to the Section 46 Report with advice and recommendations to the Minister on the key environmental factors, conditions and procedures for the proposal.

On 28 June 2010, Ministerial Statement 832 was issued in addition to the existing Statement 655. Statement 832 includes conditions that require the development and implementation of a marine monitoring plan and management response to declines in dissolved oxygen in the bottom waters of Cockburn Sound. Statement 832 also incorporates an amendment to the previous compliance reporting condition in Ministerial Statement 655 requiring more robust compliance assessment planning and reporting.

This Compliance Assessment Report (CAR) covers the period 1 May 2010 – 30 April 2011.

## 2. CURRENT STATUS

The PSDP is currently operating at full capacity. A 5 year operating licence valid to September 2013 has been issued by the DEC for ongoing operation of the PSDP. The following components of the proposal and their current status are as follows:

- Design – the overall engineering and design is complete
- Plant construction – major construction works are complete
- Pipeline construction – the 1200 mm pipeline from the Perth Seawater Desalination Plant to Thomsons Reservoir is complete

The 1400 mm pipeline From Thomsons Reservoir and the construction of the Nicholson Road Pump Stations is also complete but these components of the project were subject to separate approvals.

## 3. COMPLIANCE

### 3.1 Non-conformances/Non-compliances:

There were two non-compliances identified during the operation phase of the project during this reporting period.

- (1) MS832 Condition 8.1.2 requires the Water Corporation *undertake a management response to the satisfaction of the CEO of the OEPA if the monitoring required by condition 8.1.1 detects declines in dissolved oxygen of bottom waters to 60% saturation or less ...*

The OEPA advised the Water Corporation on 4 March 2011 that the Management Response provided in response to a dissolved oxygen event less than 60% on 1 March 2011 was unsatisfactory (refer to Appendix 1).

The Marine Monitoring and Management Plan (MMMP) signed by OEPA on 28 February 2011 did not include provisions for a Management Response. This has since been identified and in order to capture requirements of Condition 8.1.2, amendments have been made to the MMMP. The amended MMMP is currently under review by OEPA.

- (2) MS832 Condition 8.2 requires the Water Corporation *implement the monitoring plan required by condition 8.1.1 for a continuous period extending over at least two autumn periods.*

Near Seabed Dissolved Oxygen (NSDO) monitoring was introduced in the MMMP in order to establish the relationship between dissolved oxygen saturation at 0.5m and 0.2m above the seabed.

Insufficient time was given to establish the NSDO monitoring program prior to 1 March 2011. The MMMP was endorsed on 28 February 2011. In order to acquire the equipment from overseas and deploy, a revised timeframe of 1 May 2011 was amended in the MMMP. The amended MMMP is currently under review by OEPA.

Remaining monitoring continued in accordance with the MMMP.

This information is summarised in the Audit table within this report

### **3.2 Internal / External Audits:**

During this reporting period, a third party surveillance integrated Management System Audit was conducted by SGS from the 13<sup>th</sup> – 15<sup>th</sup> December 2010. The Audit Report is included as Appendix 2.

The PSDP maintained certification for ISO 9001:2008, ISO 14001:2004 and AS/NZS 4801:2001.

### **3.3 Complaints Register:**

No complaints regarding environmental management at PSDP were received by the Water Corporation during this reporting period.

## **4. ENVIRONMENTAL MONITORING AND RESEARCH**

There has been significant monitoring and research undertaken as part of the PSDP project to date. Data associated with the operational verification and modelling is summarised in the Section 46 report, submitted to the DEC in November 2007 and publicly available on the Water Corporation website.

The monitoring program was extended beyond the end of April 2008 to comply with DEC Part V Licence requirements. Reports provided in the Section 46 report conducted by Centre for Water Research at the University of Western Australia show that the brine discharge from the PSDP is being thoroughly mixed, and not reaching the deeper parts of Cockburn Sound.

Dissolved Oxygen (DO) is being monitored via two Real Time Monitors in the deeper basin of Cockburn Sound. Three Real Time Monitoring Stations (RTMS) were originally deployed in June 2006. The northern station was decommissioned in March 2011 following removal from DEC Part V Licence conditions.

The RTMS measure DO, temperature, conductivity, and wind speed and direction continuously. The real-time data is remotely transmitted to the plant operators and Water Corporation's Operations Centre.

Monitoring via the RTMS' is undertaken in accordance with the Marine Monitoring and Management Plan (MMMP). The MMMP was prepared by the Water Corporation to meet the requirements of Condition 8 of Ministerial Statement 832 and replaces monitoring that was required under DEC licence L8108/2004/3. The MMMP came into effect on 28 February 2011.

As a requirement of the MMMP, Near Seabed Dissolved Oxygen Loggers were deployed on 29 April 2011 at two sites in Cockburn Sound. This monitoring is designed to establish empirical relationships between dissolved oxygen saturation at 0.2m and 0.5m above the seabed.

Reporting to the Office of the Environmental Protection Authority on the monitoring program is undertaken in accordance with the MMMP

## **5. STAKEHOLDER CONSULTATION**

During this reporting period the Water Corporation consulted with a number of key stakeholders and the community regarding the plant and pipelines that comprise the PSDP and associated operational works that occur frequently at the PSDP. Specific groups consulted during this reporting period include

### Community Groups

- Cockburn Sound Management Council
- Rockingham and Kwinana Community and Industries Forum (Kwinana Recquatic)
- KIMA

### Government Agencies (State and Federal)

- Office of the Environmental Protection Authority
- Department of Environment and Conservation (DEC)
- Department of Planning (DoP)
- Western Australian Planning Commission (WAPC)
- Western Power Corporation
- Verve Energy
- New Gen

### Local Government

- City of Cockburn
- Town of Kwinana

### Others

- Fremantle Port Authority
- James Point Port Ltd
- James Point Port Stakeholder Reference Group

## 6. TABLE

The OEPA audit table is included below with an updated status for each Ministerial condition, i.e.

- Compliant (C)
- Non-Compliant (NC)
- Verification Required (VR)
- Completed (CLD)
- Not Required at this Stage (NR)
- Not Audited (NA)
- In Process (IP)

**Note:**

- Phases that apply in this table = **Pre-Construction, Construction, Operation, Decommissioning, Overall (several phases)**
- This audit table is a summary and timetable of conditions and commitments applying to this project. Refer to the Minister's Statement for full detail/precise wording of individual elements.
- Code prefixes: M = Minister's condition; P = Proponent's commitment; A = Audit specification; N = Procedure.
- Any elements with status = "Audited by proponent only" are legally binding but are not required to be addressed specifically in compliance reports, if complied with.
- Acronyms list: - Minister for the Environment - Min for Env; Chief Executive Officer - CEO; Department of Environment - DoE; Evaluation Division - Part IV; Pollution Prevention Division - Part V; Waste Management Division - WMD; Department of Conservation and Land Management - CALM; Department of Minerals and Energy - DME; Environmental Protection Authority - EPA; Health Department of WA - HDWA; Water and Rivers Commission - WRC; Bush Fires Board – BFB, Perth Seawater Desalination Plant – PSDP

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:G									
655:M1.1	Implementation	Implement the project as documented in Schedule 1 of Statement 655	Compliance report as required by condition 5.1	This report	DoE		Overall	Throughout the life of the project	Compliant
655:M2.1	Proponent Commitments	Implement the environmental management commitments documented in Schedule 2 of Statement 655	Compliance report as required by condition 5.1	This report	DoE		Overall		Compliant
655:M3.1	Nominated Proponent	The proponent nominated by the Minister for the Environment, under S38(6) or (7) of the EP Act is responsible for the implementation of the project until the Minister has revoked this nomination and nominated another person in respect of the proposal under S38(7) of the EP Act		No change. The Water Corporation continues to remain the proponent for this project	Min for Env	EPA	Overall		Compliant
655:M3.2	Change in Proponent	Any request for a change in proponents shall be accompanied by a copy of the Minister's statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in Statement 655. Contact details and appropriate	Statement endorsed by the proposed replacement proponent. Contact details of proposed replacement proponent.	No change. The Water Corporation continues to remain the proponent for this project	Min for Env	EPA	Overall	Before transfer of ownership of the proposal	Compliant

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
		documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.							
655:M3.3	Proponent	Notify the DoE of any change of proponent contact name and address	Notification of change of proponent contact name and address	No change. The Water Corporation continues to remain the proponent for this project	DoE		Overall	Within 60 days of any change of address	Compliant
655:M4.1	Commencement	Substantially commence the proposal within five years of the date of Statement 655 or the approval granted in the statement of 9 July 2009 shall lapse and be void.			Min for Env		Overall	By 9 July 2009	Completed
655:M4.2	Commencement	Make an application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of Statement 655	Demonstrate that: the environmental factors of the proposal have not changed significantly; new, significant environmental issues have not arisen; and all relevant government authorities have been consulted. Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.	Letter regarding extension required, stating that the proposal is to be implemented as approved.	Min for Env	EPA	Design	At least six months prior to the expiration date of the five year period (by 9 Jan 2009)	Completed
832:M5.1	Compliance Reporting	Prepare and maintain a compliance assessment plan to the satisfaction of the CEO of the Office of the Environmental Protection Authority		Compliance Assessment Plan	CEO of EPA	EPA	Overall	Throughout the life of the project	Compliant

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
832:M5.2	Compliance Reporting	Submit to the CEO of the Office of the Environmental Protection Authority the compliance plan required by condition M5.1	The compliance plan shall indicate: <ol style="list-style-type: none"> <li>1. the frequency of compliance reporting;</li> <li>2. the approach and timing of compliance;</li> <li>3. the retention of compliance assessments;</li> <li>4. reporting of potential non-compliances and corrective actions taken;</li> <li>5. the table of contents of compliance assessment reports; and</li> <li>6. public availability of compliance assessment reports.</li> </ol>	Compliance Assessment Plan	CEO of EPA	EPA	Operation	Six months prior to the first compliance assessment report	Completed
832:M5.3	Compliance Reporting	Assess compliance with conditions in accordance with the compliance assessment plan (CAP) required by condition 5-1	Annual compliance assessment report and Biennial Internal Third Party Compliance Audit	This report. Internal biennial audit scheduled in RCMS (Regulatory Conditions Management System database).	Min for Env	EPA	Ongoing	Throughout the life of the project	Compliant
832:M5.4	Compliance Reporting	Retain reports of all compliance assessments described in the compliance assessment plan and make reports available when requested by the CEO of the OEPA	Record Keeping	Historical reports kept in aquaDOC (electronic document management system). Hard copies kept in the Perth Seawater Desalination Ministerial corporate file.	CEO of EPA	EPA	Ongoing	Throughout the life of the project	Compliant
832:M5.5	Compliance Reporting	Advise the CEO of the OEPA of any potential non-compliance as soon as practicable	Notify CEO of EPA	Amended management plan was sent to OEPA on 23 March 2011 outlining unachievable non-compliance regarding deployment of Near Seabed Dissolved Oxygen (NSDO) Loggers by 1 March 2011. Lead time to internationally source and deploy equipment was not achievable.	CEO of EPA	EPA	Ongoing	As soon as practicable	Compliant

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:M6.1	Preliminary Decommissioning Plan	Prepare a Preliminary Decommissioning Plan, which provides the framework to ensure that the site is left in an environmentally acceptable condition	Addressing: rationale for the siting and design of plant and infrastructure as relevant to environmental protection, and conceptual plans for the removal or, if appropriate, retention of plant and infrastructure; a conceptual rehabilitation plan for all disturbed areas and a description of a process to agree on the end land use(s) with all stakeholders; a conceptual plan for a care and maintenance phase; and management of noxious materials to avoid the creation of contaminated areas	Preliminary Decommissioning Plan. Available on Water Corporation website.	Min for Env	EPA	Design		Completed
655:M6.2	Final Decommissioning Plan	Prepare a Final Decommissioning Plan	Address: 1) removal or, if appropriate, retention of plant and infrastructure in consultation with relevant stakeholders; 2) rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and 3) identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities	Final Decommissioning Plan	Min for Env	EPA	Operation	At least twelve months prior to the anticipated date of decommissioning or at a time agreed with the EPA	Not required at this stage
655:M6.3	Final Decommissioning Plan	Implement the Final Decommissioning Plan		Compliance Assessment Report	Min for Env	EPA	Closure		Not required at this stage

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:M6.4	Final Decommissioning Plan	Make the Final Decommissioning Plan required by Condition M6.2 publicly available	Make the document publically available on website	Compliance Assessment Report	CEO		Operation	Within 2 weeks of the Plan being approved	Not required at this stage
655:M7.1	Management Plans	Prior to finalisation of the management plans referred to in commitments 1, 2, 3, 4, 6, 7 and 12, the proponent shall make each draft management plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed	Carry out the following: 1) Request DoE to advertise the availability in the EPA weekly advertisement in the main daily newspaper; 2) Provide free copies of the documentation when approved for release to organisations nominated by EPA - the DoE library (2 copies), Battye Library (2 copies) and local Government libraries - those belonging to local government municipalities bordering Cockburn Sound (2 copies each) or make the documents publicly available on website.	The original plans were made available for public comment. Various correspondence from DEC and other agencies can be provided on request. Documents are available on the Water Corporation website <a href="http://www.watercorporation.com.au/D/desalination_environment.cfm">http://www.watercorporation.com.au/D/desalination_environment.cfm</a>	CEO		Overall	Prior to finalisation of the management plans referred to in commitments 1, 2, 3, 4, 6, 7 and 12	Complete
655:M7.2	Monitoring reports-public availability	Make the monitoring reports publicly available	Make the document publicly available on website	Monitoring reports are available on the Water Corporation website	Min for Env	EPA	Overall	Within 2 weeks of submission	Compliant
832:M8.1.1	Marine Water Quality	Operate the PSDP so that increases in the intensity and/or duration of density stratification do not cause declines in dissolved oxygen of bottom water, defined as less than or equal to 0.5metres above the seabed, to 60% saturation (24 hour running median) or less than in the high and/or moderate protection areas of	Develop a monitoring plan to the satisfaction of the CEO of the OEPA. Monitoring will include dissolved oxygen levels of the bottom water and other parameters relating to dissolved oxygen levels in Cockburn Sound. The monitoring plan will also consider the parameters necessary to define the spatial extent,	Marine Monitoring and Management Plan (MMMP) signed by OEPA on 28 February 2011. Amendments awaiting review by OEPA.	CEO of OEPA		Operation	Throughout the life of the project	In Process

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
		Cockburn Sound as defined by the State Environmental (Cockburn Sound) Policy 2005 (SEP).	characteristics and persistence of the Plant plume;						
832:M8.1.2	Marine Water Quality	Operate the PSDP so that increases in the intensity and/or duration of density stratification do not cause declines in dissolved oxygen of bottom water, defined as less than or equal to 0.5metres above the seabed, to 60% saturation (24 hour running median) or less than in the high and/or moderate protection areas of Cockburn Sound as defined by the State Environmental (Cockburn Sound) Policy 2005 (SEP).	Undertaking a management response to the satisfaction of the CEO of OEPA if the monitoring required by condition 8.1.1 detects declines in dissolved oxygen of bottom waters, defined as less than or equal to 0.5 metres above the seabed, to 60% saturation (24 hour running median) or less in the high and/or moderate protection areas of Cockburn Sound.	Water Corporation provided an unsatisfactory management response in reference to letter from OEPA on 4 March 2011 (Refer to Appendix 1) However management response requirement was not included in the MMMP. Amendments to MMMP are under review by OEPA.	CEO of OEPA		Overall	If the monitoring required by condition 8.1.1 detects declines in dissolved oxygen of bottom waters, defined as less than or equal to 0.5 metres above the seabed, to 60% saturation (24 hour running median) or less in the high and/or moderate protection areas of Cockburn Sound.	Non-compliant
832:M8.2	Marine Water Quality	Implement the monitoring plan required by condition 8.1.1 for a continuous period extending over at least two autumn periods.	Implement monitoring plan as required by condition 8.1.1	Monitoring plan successfully implemented however an unachievable non-compliance is noted associated with deploying Near Seabed Dissolved Oxygen Loggers by 1 March 2011. Lead time to internationally source and deploy equipment was not achievable. MMMP being amended to reflect achievable deployment date of 1 May 2011. Remaining monitoring compliant and available on Water Corporation systems.	Min for Env		Operation	Over at least two autumn periods	Non-compliant
655:P1	Consultative Environmental Management Plan	Prepare a Consultative Environmental Management Plan	Include the following: Water Quality Management Plan (see commitment 2). Flora and Fauna Management Plan (see commitment 3). Greenhouse Gas Management Plan (see commitment 4). Noise Management Plan (see commitment 6). Hazardous Materials	The CEMP was submitted in August 2005. The Noise, Greenhouse Gas Management, Hazardous Materials management plans have been cleared. The WQMP was completed prior to decision to construct and has since been revised as part of the S46 submission	DoE	CALM, CSMC, Town of Kwinana, City of Rockingham	Design	Within four months following a decision to construct	Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
			Management Plan (see commitment 7). Cooling Water Monitoring Programme (see commitment 2)						
655:P2.1:1.1	Draft Water Quality Management Plan	Make the draft Water Quality Management Plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed	1) Water Quality Management Plan to be submitted to DoE after the public comments have been considered 2) Evidence that any matters arising from public comment and advisory agency comments have been addressed.	The original WQMP was made available for public comment and was revised as part of the S46 submission. Documents are available on the Water Corporation website <a href="http://www.watercorporation.com.au/D/desalination_environment.cfm">http://www.watercorporation.com.au/D/desalination_environment.cfm</a>	DoE		Design	Within four months following a decision to construct	Completed
655:P2.1:1.2	Water Quality Management Plan	Submit the Water Quality Management Plan which will include the following: Procedures to mitigate potential impacts of construction of the discharge pipeline and intake		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.1:1.3	Water Quality Management Plan	Submit the Water Quality Management Plan including the following: Monitoring program for TDS (salinity), temperature and DO (dissolved oxygen) of water surrounding the discharge site, a nearby reference site, and a site in the deeper waters of Cockburn Sound.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.1:1.4	Water Quality Management Plan	Submit the Water Quality Management Plan including the following: A monitoring programme to ensure that the diffuser is performing to specifications and achieving the required level of dilution.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:P2.1:1.5	Water Quality Management Plan	Submit the Water Quality Management Plan including the following: Monitoring of sediment habitat pre- and post-commissioning.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.1:1.6	Water Quality Management Plan	Submit the Water Quality Management Plan including the following: A contingency plan that examines the risk of contamination and procedures to mitigate any unanticipated impacts.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.1:1.7	Water Quality Management Plan	Submit the Water Quality Management Plan including the following: Whole of effluent testing methodology and protocols.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.1:1.8	Water Quality Management Plan	Submit the Water Quality Management Plan which will include the following: A monitoring programme for Kwinana Power Station cooling water, if used as input water, will be conducted. Analysis will be of sufficient accuracy and precision to enable comparison with appropriate standards and criteria for Cockburn Sound.			DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Not Required
655:P2.1:1.9	Water Quality Management Plan	Submit the Water Quality Management Plan which will include the following: An annual inspection programme to check the physical integrity of the outlet pipe and diffuser.		Water Quality Management Plan	DoE	DoE (Marine Branch)	Design	Following the public review of the plan	Completed
655:P2.2:1	Water Quality	Implement the Water		CR – Closure. The construction	DoE		Construction		Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
	Management Plan	Quality Management Plan		aspects of the original WQMP were implemented effectively.					
655:P2.2:2	Water Quality Management Plan	Implement the Water Quality Management Plan		Monitoring as per the WQMP continuing through RTMS's, manual sampling and diffuser performance testing	DoE		Operation		Compliant
655:P3.1:1	Draft Flora and Fauna Management Plan	Make the draft Flora and Fauna Management Plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed		On Water Corporation website	DoE		Design	Within four months following a decision to construct	Completed
655:P3.1:2	Flora and Fauna Management Plan	Submit the Flora and Fauna Management Plan to DoE	Include the following: Locating the plant and pipelines to minimise clearing and effects on conservation values. Mitigating impacts on Priority Flora. Dieback management measures. Weed control measures.	1) Flora and Fauna Management Plan to be submitted to DoE after the public comments have been considered 2) Evidence that any matters arising from public comment and advisory agency comment have been addressed.	DoE	DoE (Terrestrial section), CALM	Design	Following the public review of the plans	Completed
655:P3.2:1	Flora and Fauna Management Plan	Implement the Flora and Fauna Management Plan described in commitment 3.1		The construction aspects of the plan have been implemented and restoration of the foredune is complete. A figure showing the rehabilitated area was supplied to DEC in September 2006	DoE		Construction		Completed
655:P3.2:2	Flora and Fauna Management Plan	Implement the Flora and Fauna Management Plan described in commitment 3.1		Annual monitoring undertaken. Reports available on request.	DoE		Operation		Compliant
655:P4.1:1	Draft Greenhouse Gas Management Plan	Make the draft Greenhouse Gas Management Plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed			DoE		Design	Within four months following a decision to construct	Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:P4.1:2	Greenhouse Gas Management Plan	Submit the Greenhouse Gas Management Plan to DoE	Including: Use of sources of renewable energy as far as is practicable. Calculation of the greenhouse gas emissions associated with the proposal, as indicated in Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No 12 published by the Environmental Protection Authority. Specific measures to minimise the greenhouse gas emissions associated with the proposal. Monitoring of greenhouse gas emissions. Estimation of the greenhouse gas efficiency of the proposal in comparison with the efficiencies of other comparable projects producing a similar product. An analysis of the extent to which the proposal meets the requirements of the National Strategy using a combination of: "no regrets measures, beyond no regrets measures, land use change or forestry offsets, and international flexibility mechanisms.	1) Greenhouse Gas Management Plan to be submitted to DoE after the public comments have been considered 2) Evidence that any matters arising from public comment and advisory agency comment have been addressed.  Letter from DEC dated 5 <sup>th</sup> of September 2006 stating that the management plan was accepted by the DEC. The letter was included in the 2009 PCR	DoE	DoE (Air Quality Management Branch)	Design	Following the public review of the plan	Completed
655:P4.2	Greenhouse Gas Management Plan	Implement the Greenhouse Gas Management Plan		The Water Corporation has implemented the requirements of the management plan	DoE		Operation		Completed
655:P5	Greenhouse Gases	Take all reasonable and practicable steps to obtain an electricity contract for the plant which will specify that the		All reasonable steps have been taken to meet the requirements of this commitment	DoE		Operation		Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
		electricity will be sourced from gas-fired generating units at least 95% of the time							
655:P6.1:1	Draft Noise Management Plan	Make the draft Noise Management Plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed		The plan was available for public comment prior to approval and subsequent clearance of Commitment 6.1.2	DoE		Design	Within four months following a decision to construct	Completed
655:P6.1:2	Noise Management Plan	Submit the Noise Management Plan which includes detailed modelling of noise emissions and cumulative effect of emissions to DoE		Noise Management Plan	DoE	DoE (Noise Management Branch)	Design	Following the public review of the plan	Completed
655:P6.2:1	Noise Management Plan	Implement the Noise Management Plan		The management plan was implemented during the construction phase. Refer to the letter dated 6 <sup>th</sup> March 2006 which was included in the 2009 PCR	DoE		Construction		Completed
655:P6.2:2	Noise Management Plan	Implement the Noise Management Plan		The implementation of acoustic enclosures around the HP Pumps and ERIs has proven impractical for maintenance purposes. Enclosures have been removed and acoustic testing is to be undertaken. The noise management plan will be updated as required.	DoE		Operation		In Process
655:P7.1:1	Draft Hazardous Materials Management Plan	Make the draft Hazardous Materials Management Plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed		The plan was approved and managed under the site's dangerous goods licence. Please refer to letter dated 5 <sup>th</sup> of September 2006 which was included in the 2009 PCR	DoE		Design	Within four months following a decision to construct	Completed
655:P7.1:2	Hazardous Materials Management Plan	Submit the Hazardous Materials Management Plan to DoE		Hazardous Materials Management Plan	DoE	DoIR	Design	Following the public review of the plan	Completed
655:P7.2:1	Hazardous Materials Management Plan	Implement the Hazardous Materials Management Plan		The plan was approved and managed under the requirements of the site's dangerous goods license	DoE		Construction		Completed
655:P7.2:2	Hazardous	Implement the		This commitment is managed under the	DoE		Operation		Not Audited

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
	Materials Management Plan	Hazardous Materials Management Plan		requirements of the site's dangerous goods license					
655:P8.1	Ocean outlet for seawater return	Design the ocean outlet diffuser system and locate it to ensure the discharge complies with the requirements of the Revised Draft Cockburn Sound Environmental Protection Policy 2002 and the Revised Environmental Quality Criteria Reference Document (Cockburn Sound). The design is to be certified by an expert as soon as the optimised design of the diffuser is available		CR- ocean outlet diffuser system certified by expert	DoE		Design		Completed
655:P8.2	Ocean outlet for seawater return	Locate ocean outlet diffuser system to ensure the discharge complies with the requirements of the Revised Draft Cockburn Sound Environmental Protection Policy 2002 and the Revised Environmental Quality Criteria Reference Document (Cockburn Sound).		Report showing compliance was submitted to the DEC on the 27 <sup>th</sup> February 2006	DoE		Construction		Completed
655:P9	Seawater return	Obtain an expert assessment of the likely stratification build up and any subsequent dissolved oxygen effects in the deeper area of Cockburn Sound		CR. Expert assessment findings.	DoE		Design		Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
655:P10.1	Whole effluent toxicity testing	Conduct WET testing of the high salinity seawater discharge including added chemicals (anti-scalants and biocides) as soon as the chemicals to be used and their likely dosing rates are known to a reasonable level of certainty. Conduct the testing following the principles contained in the USEPA, APHA and ASTM protocols at a NATA accredited laboratory in accordance with the protocols set out in ANZECC/ARMCANZ (2000) whole effluent toxicity protocols, at various concentration levels as stated in the Water Quality Management Plan. 2. Report the results of WET testing as described in commitment 10.1 to the DoE		Reports available on request. Additional WET testing above ministerial requirements undertaken in 2011.	DoE		Design		Completed
655:P10.2	Whole effluent toxicity testing	Report the results of WET testing as described in commitment 10.1 to the DoE		CR	DoE		Design		Completed
655:P10.3	Whole effluent toxicity testing	Conduct WET testing of the high salinity seawater discharge as described in commitment 10.1 above 12 months after commissioning		Reports available on request. Additional WET testing above ministerial requirements undertaken in 2011.	DoE		Operation		Completed
655:P10.4	Whole effluent toxicity testing	Report the results of WET testing as described in commitment 10.3 to the DoE		CR	DoE		Operation		Completed
655:P11.1	Vegetation, Declared Rare	Conduct a survey of product pipeline		Survey findings	DoE	CALM	Design	Spring season and prior to	Completed

Audit Code	Subject	Action	How	Evidence	Requirements of	Advice from	Phase	When	Status
	and Priority Flora and Fauna Habitat	routes to determine final alignments to avoid areas identified by CALM or DoE						ground-disturbing activities	
655:P11.2	Vegetation, Declared Rare and Priority Flora and Fauna Habitat	Conduct detailed surveys for Rare and Priority Flora, to contribute to the Flora and Fauna Management Plan		Rare flora and Priority Flora and Fauna Survey findings	DoE	CALM	Design	Spring season and prior to ground-disturbing activities	Completed
655:P12	Nitrogen loading to Cockburn Sound	Prepare a management plan to ensure that the upgraded desalination plant is nitrogen-neutral relative to the 30 GL/a desalination plant		This commitment has been fulfilled. Refer to letter dated 5 September 2006 which was included in the 2009 PCR	DoE	Cockburn Sound Management Council, Town of Kwinana, Town of Rockingham	Construction	Prior to operation	Completed
655:P13	Nitrogen loading to Cockburn Sound	Use Nitrogen-free alternatives for process chemicals where appropriate and practicable		Nitrogen is present in the coagulant aid and biocide, however mass balances are undertaken as part of NPI reporting and emissions are typically less than background levels. PSDP conscious of nitrogen outputs.	DoE	Cockburn Sound Management Council, Town of Kwinana, City of Rockingham	Operation		Compliant

## **Appendix 1**

### **Letter from OEPA - 4 March 2011 – Management Response**



Ms Suzanna Brown  
Manager Environment  
Environmental Branch  
Water Corporation  
PO Box 100  
LEEDERVILLE WA 6902

Your Ref: No 1616  
Our Ref: OEPA 2010/000325  
Enquiries: Sam Eaton (6467 5187)  
Email: [sam.eaton@epa.wa.gov.au](mailto:sam.eaton@epa.wa.gov.au)

**Attention: Guy Watson**

Dear Ms Brown

#### **CONDITION 8 OF STATEMENT 832 – MARINE WATER QUALITY**

The Perth Metropolitan Desalination Proposal is subject to the implementation conditions of Statement 832, published on 28 June 2010. Condition 8-1-2 requires the proponent, Water Corporation, to undertake a management response to the satisfaction of the Chief Executive Officer of the Office of the Environmental Protection Authority if the monitoring required by Condition 8-1-1 detects declines in dissolved oxygen of bottom waters, defined as less than or equal to 0.5 metres above the seabed, to 60% saturation (24 hour running median) or less in the high and/or moderate protection areas of Cockburn Sound.

In correspondence dated 3 March 2011, Water Corporation advised of the following in relation to its management response:

- that dissolved oxygen saturation levels fell below those outlined above on 1 March 2010;
- that it believes the fall in dissolved oxygen saturation levels is due to a naturally occurring event in Cockburn Sound; and
- accordingly it proposes to continue operations.

Further to my verbal advice to Water Corporation on 3 March 2011, as Chief Executive Officer of the Office of the Environmental Protection Authority, I advise the Water Corporation that the management response outlined in its correspondence of 3 March 2011 is unsatisfactory. It is recommended that Water Corporation continues manual plume tract monitoring as detailed in the *Perth Seawater Desalination Plant Marine Monitoring and Management Plan February 2011* every 24 hours until dissolved oxygen levels exceed 60% saturation (24 hour running median) or until other wise agreed.

Please provide a revised management response by close of business 4 March 2011. Additionally please provide the OEPA with the most recent monitoring data from manual plume tracking, the most recent RTMS data (as the 24 hr running median for both Southern and Central sites) and wind mixing forecasts to allow the OEPA to continue to monitor the situation.

If you have any questions, please contact Mr Sam Eaton on 6467 5187 or Dr Ray Masini on 6467 5494.

Yours sincerely



**Kim Taylor**  
General Manager

4 March 2011

## **Appendix 2**

### **3<sup>rd</sup> Party Audit Report**



**Melbourne**

480 Princes Highway  
Noble Park Vic 3174

Tel: (61-3) 9790 3400  
Fax: (61- 3) 9701 0988  
Email: [suzana.turcic@sgs.com](mailto:suzana.turcic@sgs.com)  
Web: [www.sgsaustralasia.com](http://www.sgsaustralasia.com)

15<sup>th</sup> December 2010

Mr Arthur Poulos  
Management System Co-Ordinator  
Degremont Perth Saltwater Desalination Plant  
Lot 3003, Barter Road, Naval Base  
WA 6165

**INTEGRATED MANAGEMENT SYSTEM CERTIFICATION**

*ISO 9001 : 2008, ISO 14001 : 2004, AS / NZS 4801 : 2001 AUDIT*

Dear Arthur,

Please find enclosed our report as a result of the integrated Management System Audit carried out on 13<sup>th</sup> – 15<sup>th</sup> December 2010.

The format of the report is:

<b>Section 1 and 2</b>	Defines the parameters of the audit
<b>Section 3</b>	Audit findings & conclusions
<b>Section 4</b>	Previous audit results and closure
<b>Section 5</b>	Details of conformance audit findings regarding your systems ability to comply to the core elements of the applicable Standards
<b>Section 6</b>	Details of the conformance findings for the areas visited and in the operational processes that are in scope
<b>Section 7</b>	Details any non conformities identified during the audit and the requirements for resolution
<b>Section 8</b>	Details of any general observations and opportunities for continual improvement in the processes reviewed (both for core elements and operational processes as well as any other areas noted) during this audit.

Although non-conformities were identified, these were isolated lapses and all of these were assessed as Minor. None raised significant doubt as to the quality of what the organization is supplying nor put the certification at risk in regards to EMS, OHS Standards and are being used to assist you drive “Continual Improvement” within the business.

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Your Organisation's next Surveillance Audit is scheduled for December 2011.

If you have any queries, please do not hesitate to contact me on mobile number 0412 133 322.

Yours sincerely,

**SGS SYSTEMS & SERVICES CERTIFICATIONS PTY LTD**

***Patrick Crook***

*Senior Auditor*

**Attachments and related documentation:**

Audit Report  
Corrective Action Request (previously presented)  
Audit Itinerary  
(Outlining your Company's planning for the next activity)

**Copy to:**

SGS Certification Manager.

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## Integrated Management System Certification Surveillance Audit Summary Report

Organization:	Degremont Pty Ltd		
Address:	Lot 3003, Baxter Road, Naval Base WA 6165		
Standard(s):	ISO 9001:2008, ISO 14001:2004, AS/NZS 4801:2001	Accreditation Body(s) JAS-ANZ	
Representative:	Mr Arthur Poulos		
Site(s) audited:	Naval Base WA	Date(s) of audit(s):	13 <sup>th</sup> -15 <sup>th</sup> December 2010
EAC Code:	27	NACE Code:	41.0
No. of Employees:	20 plus 5 trainees (some are Water Corporation employees).	No. of Shifts:	2
Lead auditor:	Patrick Crook	Additional team member(s):	Nil
This report is confidential and distribution is limited to the auditor, client representative and the SGS office.			

### 1. Audit objectives

The objectives of this audit were:

- to confirm that the management system conforms with all the requirements of the audit standard;
- to confirm that the organization has effectively implemented the planned management system;
- to confirm that the management system is capable of achieving the organization's policy objectives.

### 2. Scope of certification

#### ISO 9001 : 2008

Provision of management services for the operation and maintenance of a seawater desalination plant for the supply of potable water.

*ISO 9001 exclusions: Design and development*

#### ISO 14001 : 2004

The environmental management system associated with the provision of management services for the operation and maintenance of a seawater desalination plant for the supply of potable water.

#### AS / NZS 4801 : 2001

The occupational health and safety management system associated with the provision of management services for the operation and maintenance of a seawater desalination plant for the supply of potable water.

Has this scope been amended as a result of this audit?

Yes  No

This is a multi-site audit and an Appendix listing all relevant sites and/or remote locations has been established (attached) and agreed with the client

Yes  No

### 3. Current audit findings and conclusions

The auditor conducted a process-based audit focusing on significant aspects/risks/objectives required by the standard(s). The audit methods used were interviews, observation of activities and review of documentation and records.

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The structure of the audit was in accordance with the audit plan and audit planning matrix included as annexes to this summary report.

The auditor concludes that the organization  has  has not established and maintained its management system in line with the requirements of the standard and demonstrated the ability of the system to systematically achieve agreed requirements for products or services within the scope and the organization's policy and objectives.

Number of nonconformities identified: Major Nil Minor Two

Although non-conformities were identified, these were isolated lapses and all of these were assessed as minor. None raised significant doubt as to the quality of what the organization is supplying nor put the certification at risk in regards to EMS or OHS Standards.

Therefore the auditor recommends that, based on the results of this audit and the system's demonstrated state of development and maturity, management system certification be:

Granted /  Continued /  Withheld /  Suspended until satisfactory corrective action is completed.

#### 4. Previous Audit Results

The results of the last audit of this system have been reviewed, in particular to assure appropriate correction and corrective action has been implemented to address any nonconformity identified. This review has concluded that:

- Any nonconformity identified during previous audits has been corrected and the corrective action continues to be effective.
- The management system has not adequately addressed nonconformity identified during previous audit activities and the specific issue has been re-defined in the nonconformity section of this report.

#### 5. Audit Findings

##### **Audit Process**

The auditor conducted a process-based audit focusing on significant aspects/risks/objectives.

The audit methods used were interviews, observation of activities, premise, plant and equipment and review of documentation and records to ascertain the following results in this report: -

Yes  No

The management system documentation demonstrated conformity with the requirements of the audit standard and provided sufficient structure to support implementation and maintenance of the management system.

Yes  No

The organization has demonstrated effective implementation and maintenance / improvement of its management system.

Yes  No

The organization has demonstrated the establishment and tracking of appropriate key performance objectives and targets and monitored progress towards their achievement.

Yes  No

The organization has demonstrated the personnel are trained, aware and competent to perform the tasks and assist in achieving the objectives and targets set while improving the system.

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The internal audit program has been fully implemented and demonstrates effectiveness as a tool for maintaining and improving the management system.  Yes  No

The management review process demonstrated capability to ensure the continuing suitability, adequacy and effectiveness of the management system.  Yes  No

Throughout the audit process, the management system demonstrated overall conformance with the requirements of the audit standard.  Yes  No

Certification claims / use of Logos are accurate and in accordance with SGS guidance  N/A  Yes  No

As this audit was integrated the following details your compliance against these standards: –

**Management Processes & System**  Yes  No

The documentation demonstrated substantial conformity with the requirements of the Management Processes & System relating to ISO 9001:2008, ISO 14001:2004 & AS / NZS 4801:2001 audit standards and provided sufficient structure to support implementation and maintenance of the management system.

This encompasses

- System Requirements, Structure, Policies, Objectives & Targets/Aspects & Impacts/Hazards & Risk Control, Planning, Systems Audit & Review
- Resource Allocation; Responsibilities, Communication, Training, Awareness & Competency plus Performance Appraisal.
- Document & Data Control and Records Management.

**Planning / Audit / Risk Management / Monitoring and Response**  Yes  No

The documentation demonstrated conformity with the requirements of the audit standards regarding the Planning / Audit / Risk Management for Legal & Other Requirements, Environmental Planning (Aspects & Impacts), Hazard Identification, Hazard/Risk Assessment & Control, Monitoring & Measurement, Data Analysis and Continual Improvement including Monitoring and Response incorporating Area Audits / Inspections (in conjunction with systems audits), Incident Investigation, Risk Management, Emergency Response, Corrective & Preventive Action.

**Purchasing, Storage & Receival**  Yes  No

The System displayed appropriate control over purchasing processes and sub-contractors to ensure their substantial compliance to the client requirements and the intents of the applicable Standards.

**Operations / Processes**  Yes  No

Key parameters of Operations / Processes [Design & Development, Production & Service Provision] are controlled (ie processes were viewed and Production & Service Provision, Hazard, Aspect / Impact identification & Risk Management approach, Customer Communication & Focus, Reporting, etc verified).

**Control of Assets, Monitoring & Measurement Devices**  Yes  No

The Management System has identified and displayed appropriate control over the business assets, including human assets, that ensure the key characteristics of its operations and activities are maintained. For example appropriate responsibilities, authorities and accountabilities assigned, equipment and accommodation maintained, finance allocated, health monitored, etc, to ensure those that may cause deviation or impact on the continuing capability and accuracy are identified and controlled to give substantial compliance.

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as to the detail of the checks conducted. E.g. In the Chlorine plant area the inspection record has some aspects as N/A but these were applicable.

b. The same checklists do not always adequately specify what exactly is to be checked (and in some instances do not provide or refer to guidance documents which would assist the inspector).

c. The workplace inspections are challenged as to do they always trap discrepant housekeeping practices.

E.g. In the Workshop the following were noted:-

a. One of the grinding wheels was unguarded.

b. The electrical power cord to the MIG welder was not tagged. c. The blue gas hose to one of the welding gas cylinders was showing signs of deterioration and cracking (albeit in the early stages).

**NonConformity** N° 2 of 2  Major  Minor  
 Department / BIF sand First Aid Register Standard ASNZS4801 : 2001 4.5.2  
 Function: Ref.:  
 Document Ref.: BIF Procedure Issue / Rev. Current  
 Status:

Details of Nonconformity: The Company needs to raise BIFs as per procedure to First Aid incidents. It is noted that the discrepant incidents were well documented as to investigation, corrective and preventive action.

Nonconformities detailed here shall be addressed through the organization's corrective action process, in accordance with the relevant corrective action requirements of the audit standard(s), including actions to analyse the cause of the nonconformity and prevent recurrence, and complete records maintained.

- Corrective actions to address identified *major* nonconformities shall be carried out immediately and SGS notified of the actions taken within 30 days. An SGS auditor will perform a **follow up visit** within 90 days to confirm the actions taken, evaluate their effectiveness, and determine whether certification can be granted or continued.
- Corrective actions to address identified major nonconformities shall be carried out immediately and **records with supporting evidence sent to the SGS auditor** for close-out within 90 days.
- Corrective Actions to address identified minor non conformities shall be documented on an action plan and sent by the client to the auditor within 90 days for review. If the actions are deemed to be satisfactory they will be followed up at the next scheduled visit.
- Corrective Actions to address identified minor non-conformities have been detailed on an action plan and the intended action reviewed by the Auditor, deemed to be satisfactory and will be followed up at the next scheduled visit.

Note:- Initial, Re-certification and Extension audits – recommendation for certification cannot be made unless the action plan for these has been submitted and accepted (ie check box 4 is completed). For re-certification audits the time scales indicated may need to be reduced in order to ensure re-certification prior to expiry of current certification.

Note: At the next scheduled audit visit, the SGS auditor will follow up on *all* identified nonconformities to confirm the effectiveness of the corrective actions taken.

## 8. General Observations & Opportunities for Improvement

- i. The Company needs to raise BIFs as per procedure to First Aid incidents. It is noted that the discrepant incidents were well documented as to investigation, corrective and preventive action.

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- ii. The Workplace inspection Checklists are deficient in that:-
  - d. Some of the Workplace Inspection Checklists need to provide clearer evidence as to the detail of the checks conducted. E.g. In the Chlorine plant area the inspection record some as aspects as N/A but these were applicable.
  - e. The same checklists do not always adequately specify what exactly is to be checked (and in some instances do not provide or refer to guidance documents which would assist the inspector).
  - f. The workplace inspections are challenged as to do they always trap discrepant housekeeping practices.  
E.g. In the Workshop the following were noted:-
    - c. One of the grinding wheels was unguarded.
    - d. The electrical power cord to the MIG welder was not tagged. c. The blue gas hose to one of the welding gas cylinders was showing signs of deterioration and cracking (albeit in the early stages).

These issues have been raised as a Minor CAR.

- iii. The internal audit records do now provide sufficient recorded evidence to substantiate compliance. E.g. Audit records for the audits of the Intake Operators Manual (Report # 1021) on the 7/9/10 and the audit of Laboratory Safety as to AS 2243.0, 0.1, 0.2, 0.7, 0.9, 0.10 an AS2982 : 2010 by an externally commissioned auditor were well documented. Thus the previously raised Minor CAR # 1 has been closed. The problem was resolved by internal training of the 7 internal auditors in June 2010 by Mr Arthur Poulos.

Also the BIF # BPET-4E5119 and BIF # JCAN87A265 were raised and are being actioned.

- iv. As above the Company has now done an internal audit of the laboratory as to AS 2243. Also the Risk Management document is in the process of being updated / expanded as to some of the risks within the laboratory (e.g. Chemical storage and disposal) based on the internal audit findings. Thus the previously raised Minor CAR # 2 has been closed.
- v. The internal audit schedule was met except for the December 2010 audits which are in progress.  
The other audits challenged were also thorough. I.e.
  - o Audit 1014 as to the Management Of Waste in August 2010. The BIF RCHK-59FD96 raised was also well managed and included also the NSW changes identified by the Trevor Brown Audit.
  - o Audit # 1025 of Water Corporation Chemical Purchasing on the 15<sup>th</sup> November 2010.
- vi. The Project Register was well maintained and update and includes the evidence of continual improvement of EMS/QMS/OHS areas as well as communication and responsibility and change management. It also includes the cross reference to the HAZOPs.
- vii. The Incident Management Plan has been updated and modified on the 9/12/10 (Rev4).
- x. The nonconformance and corrective and preventive action systems have been reduced as to the number of forms. They now include the General BIFs, Safety BIFs, the First Aid Register, Level of Service Failure reports, Projects and Defects Register and also Work Orders.

This is currently has been integrated with the Intergrum software. This will be followed up at the next audit.

- xi. The Induction process would benefit by clarifying the 2m versus 1.8 m as to working at heights requirement in the video versus the Exam Questions.

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- xii. The two Level Of Service Reports were in January 2010 and 25<sup>th</sup> June 2010. The January event was an area wide power failure and resulted in a complete restart of the plant in 5 hours. The June was due to the Water Corporation requesting a shutdown due to low Dissolved Oxygen in Cockburn Sound. The event is naturally occurring. The plant was shut to 1/6 flow and thus is much easier to restart which is as per licence condition.
- xiii. There no BIFs raised as to Incident reporting requiring communication with the Water Corporation.
- xiv. The Operations PSDP Meetings run in conjunction with the Water Corporation on the 4th Aug 2010 was concise and covered PSDP production issues of interest including pH of drinking water, shutdown planning.
- xv. The PSDP Quality, Environmental & Safety Objectives – 2010 were well monitored and maintained.
- xvi. The investigation and the root cause identification of the lower level pH trend in the potable water was well done as are the control of the plant modifications with regard to the now constant dosing of the carbon dioxide and the titrating dosing of the lime as against the pH readings.
- xvii. The Training Database and Training Matrix and records of qualifications / certificates / licences were challenged and substantially compliant with regard to two new recruits. I.e. A Shift technician and the Laboratory Chemist.
- xviii. The Incoming Chemical Inspection Sheet record was challenged and compliant as to the Acceptance Check, Traceability of the Delivery Docket and the amount received for a delivery from Coogee Chemicals. Also the Induction and Licence checks were compliant.
- xix. The Critical Suppliers Performance Evaluation was challenged as to the new software writer for the SACADA system. The Evaluation Sheet indicated nothing wrong.
- xx. The SCADA Control Room and the PSDP Operational Daily Trends, the Daily Rounds including the Shift Technician Checklist, the HMI Round –Visual Check of HMI Data and the Shift Log (in an Excel Logbook) which included the history and reason for changes were all well managed. Also challenged and compliant were the alarm settings versus the client specifications.
- xxi. The measuring system on the CO2 tanks may be worth recalibrating. Although well monitored and recorded and reported the Company measurement system is approximately 15% different to the values reported as delivered by Air Liquide. Management advised this had been reported and was under review.
- xxii. The internal audits (e.g. of Management Of Waste) and subcontractor audits9e.g. Blakers 11/8/10 and Grougno (2/8/10) were both well done.
- xxiii. The Lock and Tag Out System with the sample of the Lime Building was compliant.
- xxiv. The controls and records from an OHS/EMS/QMS perspective of the inspection and repair of the 2HP Motor Drive Bearing, Pump D1 seal which was leaking. The PSDP Work Clearance Certificates (e.g. # 3342) and the Work Method Statements (e.g. # 2327), the Isolation permit, the Isolation List the induction records of the subcontractors were all compliant.

Similarly for the plant adjustment of the CO2 lime dosing as to the preparatory work, installation and the actual job as to the Work Clearances, the Lock and Tag out and the Work Method Statements, Isolation Sheets, Hot Work Gas Permit and the Lift Study Checklist were compliant.

Also for the FSA Dosing Pump repair and the weekly dosing pump check.

- xxv. The laboratory would benefit by the conduct of a Good Laboratory Practice compliance audit.

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- xxvi. The Spill Management procedure differs slightly from the MSDS as to the control of the fluorosilicic acid spill situation and would benefit by review.

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