

# PROPOSED ADELAIDE DESALINATION PLANT



## Chapter 1 Introduction



Government of  
South Australia



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# 1.1 The Proposal

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In December 2007, the Government of South Australia announced it proposed to construct a seawater desalination plant (the 'Adelaide Desalination Project') at Port Stanvac, located approximately 30 kilometres south of the Adelaide Central Business District.

The Desalination Plant includes the following elements:

- A Desalination Plant based on reverse osmosis technology, with an initial capacity of 50 GL of drinking water per annum (or 150 ML/day) with infrastructure for 100 GL of drinking water per annum (or 300 ML/day); and
- Intake and outfall pipelines and structures to draw seawater into the facility and return saline concentrate to Gulf St Vincent.

The South Australian Water Corporation (SA Water) is seeking approval to construct and operate the proposed Desalination Plant. This Environmental Impact Statement (EIS) has been prepared as part of the assessment process for the proposal. SA Water has undertaken a range of environmental, scientific and technical investigations to assess the potential impacts of the proposed development on the marine and terrestrial environments and inform the design, management and mitigation strategies proposed to address these impacts. These investigations have considered both the initial capacity of 50 GL of drinking water per annum and also the future capacity of up to 100 GL of drinking water per annum.

The associated matters and works included within the Adelaide Desalination Project (ADP) will be subject to separate approvals by SA Water. These include (but are not limited to) the following:

- Transfer pipeline from the proposed Desalination Plant to the Happy Valley Water System including pumps, interface works and water blending facilities at Happy Valley Water Filtration Plant; and
- Electricity connection and electrical energy supplied from the grid for construction activities as well as for the operation of the proposed Desalination Plant.

The EIS is presented in two volumes.

**Volume One** comprises the Executive Summary and Chapters 1 – 6 (inclusive). These Chapters provide the contextual background to the Desalination Plant and include:

- The need for the proposed Desalination Plant;
- A description of the Desalination Plant components;
- Relevant planning and environmental legislation and policies;
- Management arrangements for both the construction and operation phases; and
- The implications of the proposed development on the South Australian Government's energy, sustainability and climate change objectives.

**Volume Two** comprises Chapters 7 – 11 (inclusive) and includes:

- The potential impacts of the proposed Desalination Plant on the marine and terrestrial environments in and around Port Stanvac;

- The potential socio-economic, noise, dust, odour and waste management impacts; and
- Compliance of this EIS with the statutory requirements or the guidelines of the assessment process.

Both Volumes provide information on the management and mitigation strategies to be employed during the construction and ongoing operation of the Desalination Plant in order to minimise impacts and avoid environmental harm. A brief description of the content of each Chapter is presented in Section 1.6 below.

Approximately 40 environmental, scientific and technical studies have been undertaken to inform the design and environmental assessment process reported in this EIS. A number of studies are ongoing and will continue to inform the final design of the proposed Desalination Plant through the environmental assessment process. These studies will be included as an integral part of SA Water's formal response to submissions lodged during the public notification period.

A list of all technical studies underpinning the design and environmental assessment process is provided in the Table of Contents with the studies appended to this document as a compact disc. It is noted that majority of the studies have been completed.

Ongoing studies include:

- Further monitoring of the baseline marine environment, including during the spring season and ongoing water quality characterisation;
- Ongoing plankton and larvae assessments (to further characterise the plankton community in the region) utilising the temporary desalination pilot plant;
- Ongoing ecotoxicological investigations utilising the temporary desalination pilot plant;

These studies will further help to characterise the natural variations that occur in the marine ecosystems and provide validation of the outcomes achieved to date and continue to provide baseline data for the whole-of-life operation of the proposed Desalination Plant.

### 1.1.1 Major Development Status of ADP

On 17 April 2008, the South Australian Minister for Urban Development and Planning declared, by notice in the Government Gazette, that the proposed Desalination Plant would be assessed as a Major Development in accordance with Sections 46, 46B and 48 of the South Australian *Development Act 1993 (SA)*. The Minister's declaration triggered a comprehensive and coordinated State-run assessment of the Desalination Plant as detailed in Section 1.3 below.

The Minister's declaration specifically *excluded* the following elements from this assessment:

- The construction and operation of a small-scale temporary desalination pilot plant. The temporary pilot desalination plant was assessed as a Crown agency development in accordance with Section 49 of the *Development Act 1993 (SA)* and was granted development approval on 23 May 2008;

- Preliminary site works including surveys, geotechnical and other site investigations, stormwater, access, site security and approach works; and
- All interconnection works including pipes, storage tanks and pumping stations required to transfer water from the proposed Desalination Plant to the Happy Valley Water Treatment Plant (HWWTP).

#### 1.1.1.1 Variation to Gazetted Area

The original notice in the Government Gazette delineated an area of land owned by Mobil encompassing both the proposed site for the Desalination Plant as well as the large land parcel to the south of the subject site occupied by the existing (but non-operational) Port Stanvac oil refinery.

An area extending into Gulf St Vincent adjacent to the coastline at Port Stanvac was also delineated at this time. This marine area was subsequently varied in order to optimise the alignment and effectiveness of the proposed intake and outfall pipelines extending into the Gulf. The extended area was gazetted on 24 July 2008. The original Gazette notice published on 17 April 2008 and the varied Gazette notice published on 24 July 2008 are attached as Figures 11.1 and 11.2 respectively in Chapter 11.

#### 1.1.1.2 Level of Assessment for Proposed Desalination Plant

On 13 September 2008, the South Australian Minister for Urban Development and Planning determined an EIS was an appropriate level of assessment for the Desalination Plant. An EIS is the highest and most complex assessment process and involves extensive investigations of potential impacts arising from the proposed development and consideration of appropriate mitigation strategies to address these impacts.

The Minister subsequently issued a set of assessment guidelines (Guidelines) outlining the key environmental, social and economic issues the EIS is required to address. Table 1.1 summarises these issues and identifies the sections in which these issues have been assessed. A comprehensive review of how this EIS complies with and addresses the Guidelines is presented in Chapter 11.

*Table 1.1 Summary of Assessment Guidelines and Relevant Section of the EIS.*

Issue identified in Guidelines	Relevant section of the EIS
Need for and description of the proposed Desalination Plant	Chapters 2 & 3
Consistency with Government policy/legislation	Chapters 5 & 6
Assessment of environmental issues	Chapters 7 & 8
Assessment of visual amenity and landscape character	Chapter 8
Risk/hazard management, construction/operation effects and management arrangements	Chapter 4
Socio-economic issues including traffic, effects on communities, native title and cultural heritage	Chapter 10
Noise, dust, odour and waste management	Chapter 9
Effects on infrastructure requirements	Chapters 3, 4 & 6

### 1.1.2 Purpose and Description of the EIS

The purpose of the EIS is to evaluate the social, environmental and economic impacts of the construction and operation of the proposed Desalination Plant as set out in the Concept Design of the Desalination Plant prepared by SA Water's technical specialists, Connell Wagner. The Concept Design is underpinned by key environmental objectives and detailed performance criteria. The detailed requirements of the environmental performance criteria must be achieved by the Contractor in developing the final design (see Table 3.1).

The EIS also sets out the mitigation, management and monitoring measures proposed to address any potential detrimental impacts associated with the construction and operation of the Desalination Plant.

The EIS will provide interested groups, individuals, State Government agencies, local councils and other key stakeholders with an understanding of the proposal, the underlying rationale for the Desalination Plant and the likely benefits and costs to the South Australian community. Accordingly, this EIS provides a framework for considering the economic, social and environmental impacts of the proposed Desalination Plant and the management of those impacts having regard to the applicable legislative and policy requirements in order to help the relevant decision makers in the environmental assessment of the Desalination Plant.

In summary, the EIS:

- Provides comprehensive information about the proposed Desalination Plant and underlying rationale for its development to the community, interested groups, State Government agencies, local councils and other key stakeholders;
- Describes the existing environment within and around the proposed location of the Desalination Plant;
- Identifies the environmental, social and economic impacts that may occur during construction and operation of the proposed Desalination Plant, including its likely benefits and costs to the South Australian community;
- Describes how any negative or undesirable effects will be avoided, minimised or managed; and
- Provides a framework for considering the economic, social and environmental impacts of the proposed Desalination Plant in the context of the legislative and policy requirements.

### 1.1.3 Community/Stakeholder Consultation

A range of methods have been employed to seek feedback about the proposed development from individuals and organisations, including Government agencies, environment and community organisations, industry and the general public.

The purpose of the engagement process was to identify stakeholder and community views so these could be addressed in the development and assessment of the EIS. Key stakeholder issues are identified and reported in Chapter 10. These issues have influenced SA Water's further development of the Concept Design and the decision-making processes, where appropriate. In addition, these key stakeholder issues were used to prepare detailed performance criteria and form part of SA Water's requirements in formulating the conditions that the Desalination Plant Contractor will need to meet.

The engagement process was developed in accordance with the South Australian Government EIS guideline requirements and the principles of the International Association of Impact Assessment (IAIA 2006). This involved the early identification of stakeholders and key community groups, the development and implementation of a comprehensive consultation program appropriate for an EIS, and the ongoing recording and communication of stakeholder/community feedback to the ADP team.

The type of consultation activities employed for the proposed Desalination Plant were spread across the engagement continuum and included the following:

- Community Information Forums;
- Community newsletters;
- Information sheets;
- Public displays;
- The development and regular update of the ADP website;
- Local groups discussion forum;
- Ongoing consultation with the Kaurana Heritage Board;
- Telephone and email information line;
- Advertisements on television and in newspapers;
- Information days;
- Special interest forums; and
- Local council briefings and agency workshops.

These activities are discussed in more detail in Chapter 10.

## 1.2 Details of the Proponent

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The proponent for the Desalination Plant is SA Water. SA Water is a government enterprise wholly owned by the Government of South Australia on behalf of the people of South Australia. SA Water is charged with providing water and wastewater services to over 1.5 million people across the State.

### 1.2.1 History

SA Water was established by the proclamation of the South Australian *Water Corporation Act 1994* on 1 July 1995. In the early years, the primary focus of SA Water and its predecessors was securing a supply of quality water for the State through the development of reservoirs, dams and a network of pipelines to transport water from the River Murray to Adelaide and regional South Australia. This facilitated the development of South Australia's agricultural, horticultural and manufacturing industries and provided the means to sustain the State's growing population.

Over the past 70 years, SA Water has pioneered the treatment and recycling of wastewater in order to reduce the State's reliance on traditional water sources.

SA Water has also sought to introduce more innovative methods of supplying water through its involvement in and support of the *Water Proofing Adelaide Project* (see Chapter 2). The *Water Proofing Adelaide Project* was established to set a blueprint for the management, conservation and development of Adelaide's water resources to 2025 and to allow the State to grow and develop while providing reliable water supplies. SA Water is also playing an integral part of implementing the South Australian Government's *Four Way Strategy* that addresses the current switch to a drier climate regime compared with the previous 1950 – 2000 period, which has been driven by both natural variability and climate change.

### 1.2.2 Supply of Water

The SA Water Charter 2008 sets out the primary function of SA Water to provide services:

- For the supply of water by means of reticulated systems;
- For the storage, treatment and supply of bulk water;
- For the removal and treatment of wastewater by means of sewerage systems;
- To carry out research and works to improve water quality and wastewater disposal and treatment methods;
- To provide consultancy and other services within areas of SA Water's expertise;
- To develop commercially and market products, processes and intellectual property produced or created in the course of SA Water's operations;
- To advise users of water in the efficient and effective use of water;
- To encourage and facilitate private or public sector investment and participation, whether from within or outside the State, in the provision of water and wastewater

services and facilities subject to Section 9 of the South Australian *Water Corporation Act 1994 (Water Corporation Act)* and only where there is a clear public benefit; and

- To undertake any other function conferred on SA Water by the Water Corporation Act, any other Act or the South Australian Minister for Water Security or delegated to SA Water by the Minister.

In providing these functions, SA Water acts in accordance with the South Australian Government's policies and vision and works collaboratively with other Government agencies towards the Government's strategic objectives expressed in South Australia's Strategic Plan (see Chapter 5).

SA Water is required to undertake and develop commercial operations consistent with its strategic business plan, in particular:

- System Performance: to plan, develop, operate and maintain infrastructure to consistently meet the needs of its customers; and
- Sustainable Future: to play a leading role in providing a sustainable and secure water supply for the community and minimise its impact on the environment in accordance with Government policy.

### 1.2.3 Project Procurement

The Desalination Plant will be delivered through a Design, Build, Operate and Maintain (DBOM) approach. The DBOM procurement method means that the design, construction and operation of the proposed Desalination Plant will be carried out by a Contractor (or Consortium) selected on the basis of a competitive bid process. The competitive bid process allows the South Australian Government the opportunity to maximise value for money while ensuring compliance with the performance objectives and detailed performance criteria established for the Desalination Plant. In addition, the competitive bid process encourages the incorporation of innovative technologies into the design of the proposed Desalination Plant.

This EIS and the information contained within it has been developed on the basis of a Concept Design. This Concept Design has been used both to support the environmental impact assessment process and provide a basis for the technical feasibility of various project elements in accordance with a set of environmental and engineering performance objectives established by SA Water (see Chapter 3). The significance of the DBOM approach is that the Contractor's detailed design must achieve the specified performance objectives in developing the final design of the proposed Desalination Plant.

The implications of the DBOM procurement process for the purposes of this EIS are as follows:

1. Plans and elevations of the proposed development structures and buildings will be further developed and optimised by the selected Contractor as the detailed design of the ADP is progressed. The attached plans and elevations (see Chapter 3) show the indicative locations of these proposed structures and the building envelopes in which the development will be sited;
2. The Contractor will be required to develop the overall Environmental Management and Monitoring Plan (EMMP). The EMMP includes the Construction Environmental Management and Monitoring Plan (CEMMP) and Operational Environmental Management and Monitoring Plan (OEMMP) for the proposed Desalination Plant. These plans will comply with the prescribed

environmental and engineering performance objectives and will be developed and finalised prior to commencement of any activities on site;

3. Based on the Concept Design, key performance criteria have been developed for the marine structures and the final design must meet or exceed these key environmental and engineering performance criteria; and
4. The assessment of the construction and operational effects associated with the Desalination Plant has been based on the Concept Design. Changes to this Concept Design that occur during the detailed design phase will also need to meet the environmental and engineering performance objectives to mitigate any adverse impacts. SA Water will continue to consult with the Environment Protection Authority (EPA) to ensure regulatory compliance.

## 1.3 Assessment of Proposal

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The proposed Desalination Plant is subject to the requirements of the Major Development process contained within Sections 46, 46B and 48 of the *Development Act 1993 (SA)*.

The objective of Section 46 is to ensure that matters significantly affecting the environment, the community or the economy as a result of a proposed development are fully examined and taken into account in the assessment of a proposal. The *Development Act 1993 (SA)* includes three levels of assessment that may apply to a Major Development proposal. As indicated above, it was determined that the proposed Desalination Plant is subject to the processes and procedures of an EIS owing to the wide range of issues that would need to be investigated to determine the likely impacts of the proposal.

The following sections describe the EIS approval process and the associated legislative requirements for the proposed Desalination Plant.

### 1.3.1 Approval Process

Following the declaration of the proposed Desalination Plant as a Major Development, a development application was prepared by SA Water and lodged with the South Australian Minister for Urban Development and Planning on 24 June 2008. This development application outlined the nature of the proposed Desalination Plant and provided an assessment of the proposal against the provisions of the relevant Development Plans, namely the Onkaparinga (City) Development Plan and the Land Not Within a Council Area (Metropolitan) Development Plan (see Chapter 5.3).

Upon receipt of the development application, the Minister for Urban Development and Planning referred the application to the South Australian Development Assessment Commission (DAC). The DAC then considered the information contained within the development application and determined, on the basis of this information, that the proposed Desalination Plant would be subject to an EIS, as announced by the Minister for Urban Development and Planning.

The DAC also prepared the assessment Guidelines against which the proposal is to be assessed. In preparing these Guidelines, the DAC specified the key issues requiring detailed investigation by SA Water in the preparation of the EIS. The Guidelines thereby established the structure for the assessment process.

#### 1.3.1.1 Agency Referrals

Given that the proposed Desalination Plant comprises works or activities of environmental significance as defined by the South Australian *Environment Protection Act 1993*, the draft Guidelines were first referred to the EPA for a prescribed period of 15 business days.

The DAC then referred the draft Guidelines to a range of other State Government agencies deemed to have an interest in the proposal including:

- Department for Environment and Heritage (DEH) including the Coast Protection Board (CPB);
- Department of Health;

- Department of Premier and Cabinet (DPC) including the Aboriginal Affairs and Reconciliation Division (AARD);
- Department for Transport, Energy and Infrastructure (DTEI);
- Primary Industries and Resources SA (PIRSA) including the South Australian Research and Development Institute (SARDI);
- Department of Water, Land and Biodiversity Conservation (DWLBC);
- Native Vegetation Council; and
- Adelaide Mount Lofty Natural Resource Management Board.

### 1.3.1.2 [Agency Workshops](#)

A series of workshops between SA Water and key State Government and regulatory agencies (including those named at 1.3.1.1 above) have been held throughout the development of the ADP to identify, discuss and clarify the key issues that needed to be satisfactorily addressed in this EIS. These workshops provided direction for the detailed investigation of issues and subsequent development of mitigation strategies for input into the assessment documentation. A total of 7 workshops have been conducted as follows:

- A due diligence workshop was held on 25 January 2008 to assist in the identification of gaps in the information gathering process;
- An agency briefing (involving all referral agencies noted above) was held at Planning SA on 12 May 2008 to inform agency representatives of the background to the Desalination Plant and anticipated timeframes for the lodgement of key documents (in particular, the Development Application report for the proposed development);
- A risk assessment workshop with key agency representatives and SA Water technical specialists was held on 14 May 2008 to identify and assess the potential risks to the marine environment associated with the proposed Desalination Plant. The outcomes of this workshop ensured that these risks were considered early in the design process and assisted in the development of the environmental and engineering performance criteria for the Desalination Plant;
- An agency meeting with staff from Planning SA, DEH, DTEI, and the Adelaide Mount Lofty Natural Resource Management Board was held at Planning SA to discuss the requirements of the visual assessment of the proposed Desalination Plant on 24 July 2008;
- An agency workshop with staff from Planning SA, Department of Health, EPA, Department for Families and Communities (DFC), DPC, DWLBC, Adelaide Mount Lofty Natural Resource Management Board, and Department of Education and Children's Services (DECS) was held at SA Water's offices on 9 September 2008. This workshop aimed to inform the Social Impact Assessment and discussed the potential social impacts of the proposed Desalination Plant on local and regional communities (see Chapter 10);
- An agency workshop with staff from Planning SA, Department of Health, EPA, DFC, DPC, AARD, DWLBC, Department of Trade and Economic Development (DTED), PIRSA, DTEI and the Adelaide Mount Lofty Natural Resource Management Board

was held on 14 October 2008. Workshop participants discussed the marine sections of the draft EIS with a view to resolving any concerns or issues that agencies had with the information provided and any potential impacts identified in the marine studies; and

- A further agency workshop with staff from Planning SA, Department of Health, EPA, DFC, DPC, AARD, DWLBC, DTED, PIRSA, DTEI and the Adelaide Mount Lofty Natural Resource Management Board was held on 16 October 2008. This workshop dealt with the terrestrial sections of the draft EIS and aimed to identify concerns or issues, as well as potential impacts of the proposed development.

### 1.3.1.3 [Developing the EIS](#)

On finalising the Guidelines against which the proposed Desalination Plant is to be assessed, the DAC reported the outcomes of this process to the South Australian Minister for Urban Development and Planning. On receipt of the DAC's report, the Minister provided a copy to SA Water and publicly issued the final Guidelines on 13 September 2008, which specified the following requirements:

- A statement of the expected environmental, social and economic effects of the proposed Desalination Plant;
- A statement to which the expected effects of the Desalination Plant are consistent with the provisions of any relevant Development Plans, the Planning Strategy for Metropolitan Adelaide, relevant South Australian and Commonwealth legislation, and any matters prescribed by the *Development Regulations 2008 (SA)*;
- A statement of the extent to which the expected effects of the proposal are consistent with the objectives of the *Environment Protection Act 1993 (SA)*, the general environmental duty, and relevant environment protection policies under that Act;
- A statement of SA Water's commitments to meet conditions (if any) to avoid, mitigate or satisfactorily manage and control any potentially adverse effects of the proposed Desalination Plant on the environment; and
- A statement of any other particulars in relation to the Desalination Plant that are required by either the regulations and/or the South Australian Minister for Urban Development and Planning.

### 1.3.1.4 [On Completion of the EIS](#)

On completion of the EIS, the following development referrals and public notification processes are to occur:

- The EIS will be referred to the EPA for comment and assessment as the proposed Desalination Plant will involve prescribed activities of environmental significance as defined by the *Environment Protection Act 1993*;
- The EIS will be referred to any prescribed authority or body (including the agencies noted above) for comment and assessment;
- The EIS will be referred to relevant council/s (i.e. the City of Onkaparinga) for comment;

- The EIS will be referred to such other authorities or bodies as determined by the South Australian Minister for Urban Planning and Development;
- The EIS will be placed on public exhibition for at least thirty (30) business days inviting interested persons to make written submissions on the EIS; and
- The South Australian Minister for Urban Planning and Development will appoint a suitable person to conduct a public meeting during the period of public exhibition of the EIS.

Once the State agencies referral period and public notification period have expired, the Minister must forward to SA Water any submissions on the EIS. SA Water will then prepare a written response to matters raised during the referrals and public notification period and submit the response document to Planning SA.

Planning SA (on behalf of the South Australian Minister for Urban Development and Planning) will then prepare an Assessment Report that documents the Minister's assessment of the proposed development, the outcomes of the referrals and public notification period, SA Water's response to submissions and any other comments or matters that the Minister may require.

The South Australian Minister for Urban Planning and Development will then notify all those agencies and persons who made a submission of the availability of the Assessment Report and publicly advertise the locations where copies of this report will be available for viewing and/or purchase.

The EIS, SA Water's response document and the Assessment Report will then be forwarded to the Governor of South Australia for a decision in accordance with Section 48 of the *Development Act 1993 (SA)*. The Governor may either approve the proposed development, approve the proposed development with conditions or refuse the proposed development. The Governor's decision is then published in the *South Australian Gazette* which generally concludes the Major Development assessment process.

Figure 1.1 summarises the Major Development assessment process.

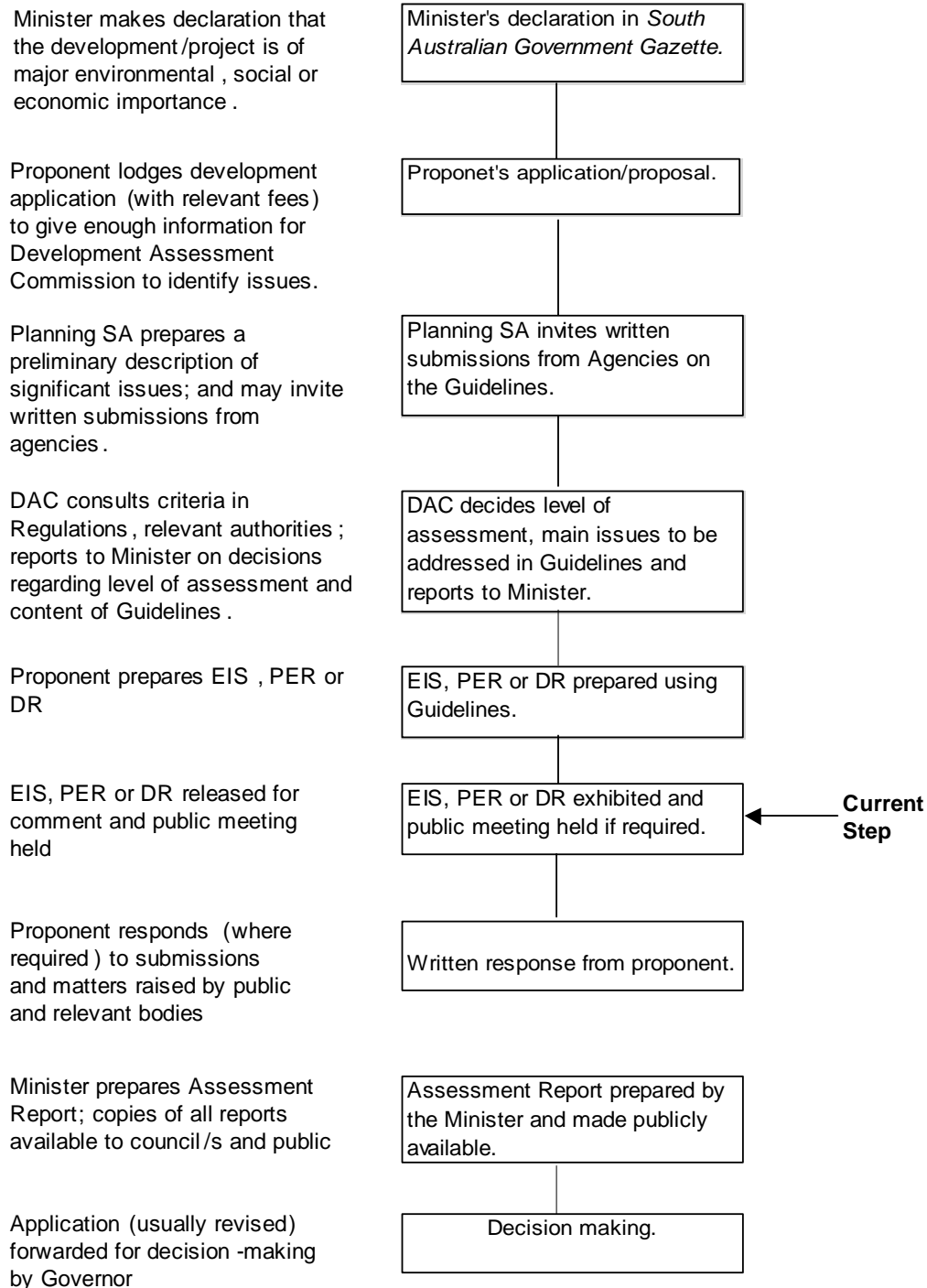


Figure 1.1 Major Development or Projects – Assessment Process and Decision-Making.

## 1.4 Other Legislative Requirements

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Compliance with a number of Commonwealth and State Government legislative instruments is required as part of the development and operation of the proposed Desalination Plant. These are detailed in Chapter 5.

Principal amongst these are the following:

- The South Australian *Environment Protection Act 1993*. The proposed Desalination Plant will involve activities of environmental significance as prescribed by Schedule 1 of this Act (see Chapter 5).
- The Commonwealth *Environment Protection and Biodiversity (EPBC) Act 1999*. While no significant impacts to defined matters of national environmental significance have been identified by SA Water, the ADP has been referred to the Commonwealth for a formal determination (see Chapter 8).

In relation to the South Australian *Environment Protection Act 1993*, the proposed development could involve activities for which authorisation and ongoing licensing from the EPA will be required. These activities include:

- The storage of chemicals;
- Potential dredging within the marine environment adjacent to the proposed site at Port Stanvac;
- Potential earthworks, drainage and dewatering during construction; and
- Discharging of saline concentrate into the marine environment.

In support of the application for the necessary authorisations, SA Water has undertaken a range of environmental assessments to demonstrate that the construction and operation of the proposed Desalination Plant will be in accordance with the performance objectives developed for the Desalination Plant. Consultation with the EPA will be ongoing to ensure that all requirements are satisfied.

In relation to the Commonwealth *EPBC Act 1999*, a referral to the Commonwealth Department for the Environment, Water, Heritage and the Arts was prepared by SA Water and lodged on 3 October 2008. SA Water's application sought a formal determination that the ADP is not a "controlled action" on the basis that the Desalination Plant does not have significant impacts on matters of national environmental significance.

SA Water is expecting a determination on this matter during November 2008.

## 1.5 Timelines and Staging of Project

The anticipated timelines and staging of the ADP are presented in the sections below.

### 1.5.1 Assessment of the Project

Anticipated timelines for the preparation, assessment and determination of the development application and environmental assessment process for the proposed Desalination Plant are detailed in Table 1.2.

*Table 1.2 Timelines for Assessment of the Proposal.*

Activity	Timeframe	Completion Status
Commencement of baseline environmental investigations	December 2007	Complete
Government announcement of Port Stanvac as preferred site	December 2007	Complete
Declaration and Gazettal of ADP as Major Project	April 2008	Complete
Preparation and lodgement of Development Application for the Desalination Plant	June 2008	Complete
Assessment Guidelines issued	September 2008	Complete
EPBC Act consultation, referral and determination	May - November 2008	In Progress
Prepare assessment documentation (EIS)	April – November 2008	In Progress
EIS document submitted	November 2008	
Response to submissions	Anticipated January 2009	
Preparation of Assessment Report	Anticipated February 2009	
Amendments to Development Application	Anticipated February 2009	
Governor to determine Development Application	Anticipated early March 2009	

### 1.5.2 Staging of the Project

Subject to the approval of the Desalination Plant, the anticipated timelines for the staging, construction and operation of the proposed Desalination Plant are detailed in Table 1.3.

Table 1.3 Timelines for Staging, Construction and Operation of the Project.

Activity	Timeframe	Completion Status
Project Feasibility	October 2008	Complete
Design, build, operate, maintain (DBOM) contract short-list of bidders appointed as part of the Early Contractor Involvement process	September 2008	Complete
Commence detailed design and preparation of detailed management plans by the Contractors	October 2008 to December 2008	In Progress
Design, build, operate and maintain (DBOM) contract award	March 2009	In Progress
Construction commencement	Anticipated April 2009	
First water available	December 2010	
Practical Completion	June 2011	
Operation and Maintenance Period	20 years from Practical Completion	

First water from the ADP will be achieved upon the successful completion of a series of tests required to produce at least 15 ML of drinking water within a 24 hour period with the output progressively increasing over time to 50 GL per annum of drinking water by June 2011. Future capacity increase up to 100 GL per annum has been considered in this EIS and may be undertaken by SA Water. The Contractor will be responsible for the operation of the Plant for up to 20 years from date of Practical Completion, i.e. until June 2031.

## 1.6 Structure of Document

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This EIS has been structured to provide a document which identifies and discusses the potential environmental, social and economic impacts of the ADP and proposes management and mitigation strategies to address these impacts. A brief description of each chapter is presented below:

- **Chapter 1: Introduction** provides an introduction to the ADP and the proposed Desalination Plant, the proponent (SA Water) and the various legislative and assessment requirements governing the construction and operation of the Desalination Plant.
- **Chapter 2: Need for the Proposed Desalination Plant** discusses the need for the proposed Desalination Plant, the objectives and the anticipated benefits and costs arising from the development. This Chapter also summarises the array of environmental, social and economic arguments supporting the proposal, including a consideration of the likely consequences of not proceeding with the ADP.
- **Chapter 3: Description of the Project** describes the ADP and details the proposed site of the development, the nature of the development, the anticipated construction and commissioning timeframes for the Desalination Plant, the design and environmental performance criteria that have determined the layout and overall design of the proposed Desalination Plant and the management arrangements for its construction and ongoing operation.
- **Chapter 4: Management Arrangements for Construction and Operational Stages** discusses the management arrangements to be put in place for the construction and operational stages of the Desalination Plant and identifies the processes through which any risks are to be mitigated. The proposed monitoring framework for the Desalination Plant is outlined, noting that the final management and monitoring regime for the proposed development will be further developed during the detailed design phase.
- **Chapter 5: Planning and Environmental Legislation and Policies** considers the planning and environmental legislative and policy context of the proposed Desalination Plant and provides an assessment of the proposed development against the provisions of the relevant Development Plans.
- **Chapter 6: Energy, Sustainability and Climate Change** considers the development and operation of the Desalination Plant in the context of the State Government's sustainability, energy and climate change initiatives. The energy requirements of the ADP and the desalination process along with the potential greenhouse gas emissions associated with the Desalination Plant are explained. The South Australian Government's 'carbon neutral' commitment is considered and SA Water's progress towards maximising energy efficiency and procuring renewable energy or purchasing of carbon permits and/or off-sets is discussed. The potential impacts of climate change on the need for the proposed Desalination Plant and the physical impact of sea level rise on the coastal and marine environments in which the proposed Desalination Plant is to be located are outlined.

**Chapter 7: The Marine Environment** identifies and discusses the potential impacts of the proposed development on the marine environment in and around Port Stanvac. It begins with an overview of Gulf St Vincent and then provides an overview of the scientific and technical studies that have been commissioned by SA Water to assess the marine impacts of the proposed Desalination Plant. The Chapter includes a summary of the existing marine habitats or zones evident at the Port Stanvac site. Each of these marine zones is described in terms of the existing marine conditions and ecology, which is followed by a consideration of the possible impacts of the construction and operation of the proposed development. Management and mitigation strategies addressing potential impacts are then presented for each marine zone.

- **Chapter 8: The Terrestrial Environment** identifies and discusses the potential impacts of the proposal on the terrestrial environment in and around Port Stanvac, including groundwater, surface water, native vegetation and native fauna. This chapter also considers the impacts of the proposed Desalination Plant under the provisions of the Commonwealth *EPBC Act 1999*. The potential visual impact of the Desalination Plant is also assessed from a range of coastal and inland vantage points. An account of the potential environmental risks associated with the proposed development and the management and mitigation strategies that are to be implemented to address these risks are also presented.
- **Chapter 9: Noise, Dust, Odour and Waste Management** addresses the likely noise, dust, odour and waste management effects of both the construction and operation of the proposed Desalination Plant and considers these impacts in the context of relevant legislative and policy requirements.
- **Chapter 10: The Socio-Economic Environment** discusses the socio-economic impacts of the ADP, including its economic and employment effects, traffic impacts on the local/regional road network and surrounding communities, impacts on local residents, businesses, service providers, community activities and recreational activities, as well as the potential effects of the Desalination Plant on the community's sense of place. The development and operation of the ADP is also considered in the context of legislative requirements concerning Indigenous and European cultural heritage and Native Title.
- **Chapter 11: Statement of Compliance with Guidelines** considers the compliance of this EIS with the assessment Guidelines established by the DAC to demonstrate that all of the issues requiring assessment have been satisfactorily addressed in the EIS.