

# PROPOSED ADELAIDE DESALINATION PLANT



## EIS – Chapter 5 Planning and Environmental Legislation and Policies



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South Australia



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## 5.1 Introduction

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This Chapter discusses and assesses the consistency of the proposed Desalination Plant with applicable South Australian and Commonwealth legislation and policies. The intent of relevant State-wide Plans and legislative instruments is outlined. This provides the context for the proposed development. The compatibility of the proposal with key objectives contained within South Australia's Strategic Plan, the Strategic Infrastructure Plan for South Australia and the Planning Strategy for Metropolitan Adelaide is then assessed. A land use and planning assessment of the proposal against the relevant provisions of the applicable Development Plans is then presented, followed by a discussion of those activities requiring compliance with the *Environment Protection Act 1993*. The chapter concludes with an assessment of the consistency of the proposed Desalination Plant with relevant South Australian and Commonwealth legislation.

## 5.2 Strategic Context

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### 5.2.1 Introduction

The development of the proposed Desalination Plant is being undertaken within the context of a number of relevant State Government strategic policy documents that address water and water-related issues. The following State-wide plans provide the context for the proposed development.

### 5.2.2 South Australia's Strategic Plan

The South Australian Government first released South Australia's Strategic Plan (SASP) in March 2004, with an update released in January 2007. SASP is the overarching policy document influencing the direction of South Australia. It seeks to deliver a range of economic, environmental and social outcomes to benefit the residents of the State and contains some 84 targets (most of which are to be reached within a 10-year time frame) aimed at achieving the following key objectives:

1. Growing prosperity;
2. Improved wellbeing;
3. Attaining sustainability;
4. Fostering creativity and innovation;
5. Building communities; and
6. Expanding opportunity.

Of these six objectives, those most relevant to the proposed Desalination Plant are 'Attaining sustainability' and 'Improved wellbeing'. These objectives identify the State's water supply as a critical environmental issue facing South Australia and highlight the need to focus on securing water supplies for the future.

Target T3.9 specifically identifies the need for South Australia's water resources to be managed within sustainable limits by 2018. While this target does not specifically mention the proposed Desalination Plant, the provision of a climate-independent supply of drinking water via the proposed Desalination Plant will contribute to increasing 'sustainable' levels of water consumption into the future and so assist in attaining this target.

The proposed Desalination Plant will also assist in meeting Target T1.7 *Performance in the Public Sector – Customer and Client Satisfaction with Government Services*. It is anticipated that a more secure water supply to metropolitan Adelaide will enhance the level of customer / client satisfaction with SA Water services. The proposed development will contribute to the objective 'Improved wellbeing' in that it will help to secure a critical resource – i.e. water – that is vital to human wellbeing and to many of the features of the metropolitan environment which benefit the community and which require water for survival, such as open space, public reserves and private gardens.

The water needs of industry will be secured and enhanced by the proposed Desalination Plant, which will also assist in achieving the key objective of 'Growing prosperity'.

For these reasons, the proposed development is considered to be consistent with South Australia's Strategic Plan.

### 5.2.3 Strategic Infrastructure Plan for South Australia

Investment in infrastructure is critical to meeting the objectives of SASP and in May 2005, the Office of Major Projects and Infrastructure facilitated the development of the Strategic Infrastructure Plan for South Australia 2005/6 – 2014/15. The key objectives of the Plan are to identify strategic infrastructure priorities and facilitate the timely delivery of key infrastructure projects that support the economic, social and environmental development of the State.

The Strategic Infrastructure Plan acknowledges South Australia's high dependency on water from the River Murray and the Mount Lofty Ranges and discusses how the State Government will continue to implement programs to reduce the demand for this water and to increase the reuse of treated wastewater and stormwater.

The Strategic Infrastructure Plan recognises that there will be a marked increase in demand for water to sustain new economic activity in the State, particularly in the mining, industry and agricultural/horticultural sectors. Accordingly, the availability of appropriate infrastructure to provide a secure water supply will play an important role to facilitate economic expansion.

To these ends, the Strategic Infrastructure Plan identifies the implementation of the *Water Proofing Adelaide Strategy* as a priority. The *Water Proofing Adelaide Strategy* promotes the use of demand management programs to reduce the demand for this water and supporting further developments in desalination plants, where economically feasible.

### 5.2.4 Planning Strategy for Metropolitan Adelaide

The Planning Strategy for Metropolitan Adelaide 2007 presents the South Australian Government's policy directions for the physical development of the State over the next 10 to 15 years. The Planning Strategy provides a spatial policy framework to assist in reaching the various targets outlined in SASP. Of particular relevance to the proposed Desalination Plant are the water resources policies detailed in the metropolitan wide section of the Planning Strategy.

The water resources policies identify the need to use Adelaide's limited water more sustainably through the efficient and effective use of our existing water resources. There is also a clear indication that water demand will increase through the continued growth and development of the Adelaide metropolitan area. Increases in the demand for water will be driven by population and household growth, as well as ongoing industrial, agricultural and horticultural development located within and around the metropolitan area.

Due to the anticipated increase in demand for water, the Planning Strategy suggests that alternative ways of using and supplying water from different sources should be examined. Desalination is one of these alternatives. It is expected that the proposed Desalination Plant will diversify Adelaide's existing water supply sources and offset the reduced inflows from the Mount Lofty Ranges and Murray-Darling Basin, thereby securing metropolitan Adelaide's water supply into the future.

## 5.2.5 The Adelaide and Mount Lofty Ranges Natural Resources Management Plan

The Adelaide and Mount Lofty Ranges NRM Plan 2008 (NRM Plan) has been developed by the Adelaide and Mount Lofty NRM Board. The NRM Plan presents the NRM Board's vision and goals for the region over the next 20 and 50 years. It details the NRM Board's commitment to achieving the State Water Plan for the region. The 20 year plan has 13 targets; those of particular relevance to the proposed Desalination Plant are targets T1 – 3 and T9 – 12.

Target 1 seeks the re-use of stormwater. The proposed Desalination Plant aims to manage stormwater through a series of vegetated swales, table drains and detention basins so that discharge is minimised. Any discharge that is required, must meet the Environment Protection Authority (EPA) requirements (see Chapter 8). This is consistent with Target 2.

The primary objective of the proposed Desalination Plant is to secure and diversify the sources of metropolitan Adelaide's water supply by delivering a climate-independent supply of drinking water resulting in a variety of water resources that can be managed within sustainable limits. This is consistent with Target 3.

Target 9 seeks the conservation of native species. There are some scattered native plants within the cliff zone. Construction and operation activities at the proposed Desalination Plant site will be managed so as to avoid removal of, or damage to, areas of native vegetation and habitat (see Chapter 8).

Target 10 seeks to reduce land based impacts on coastal waters and Target 12 seeks water quality discharge to meet water quality guidelines. The quality of the outlet water will be monitored to ensure it meets the EPA's water quality standards. The impact on the marine environment has been modelled as is discussed further in Chapter 7.

Target 11 refers to halting the decline of marine habitat. The performance criteria for the Desalination Plant requires that the seawater intake and outfall structures minimise any adverse impact to the marine zone including ensuring construction does not result in direct physical impact to the intertidal and subtidal zones. Chapter 7 addresses this in detail.

## 5.3 Land Use and Planning Assessment

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### 5.3.1 Introduction

This Section outlines how the proposed Desalination Plant satisfies the intent and desired outcomes of the relevant Development Plans for the area in which the development is proposed.

### 5.3.2 Description of Existing Land Uses

The proposed site for the Desalination Plant is located some distance north of the existing but non-operational Port Stanvac oil refinery. The subject land consists of two irregular shaped parcels along with four regular shaped parcels with an approximate total area of 60 hectares. This land is bounded:

- To the south, by the northern property boundary of the oil refinery land;
- To the east, by Chrysler Road;
- To the north, by an unmade road and open (undeveloped) land, beyond which is land within the City of Marion Council area; and
- To the west, by the coast and marine environments.

The land has a notable slope from east to west, is free from built form development and cleared of native vegetation. A dense vegetated strip exists on the site's south-eastern boundary extending north and west for an approximate distance of 100 metres and 500 metres respectively. This vegetation is understood to have been planted by Mobil Refining Australia irrigating it with treated site wastewater.

While zoned for industrial use, the subject site has been and is currently being used for grazing and cropping activities, providing a substantial and effective buffer between the refinery and more sensitive (mostly residential) uses further north in the suburb of Hallett Cove.

### 5.3.3 Relevant Development Plans

The proposed Desalination Plant is located within the City of Onkaparinga local government area while the proposed intake and outfall pipelines and structures would be located within the adjacent coastal and marine environments. Accordingly, the relevant Development Plans against which an assessment of the proposed development is made are:

- Onkaparinga (City) Development Plan consolidated 10 April 2008; and
- Land Not Within A Council Area (Metropolitan) Development Plan consolidated 1 November 2007.

The following review of the proposal against the relevant provisions of these Development Plans, having specific regard to the intent of the Zones and Coastal Areas provisions, demonstrates that the proposed Desalination Plant is consistent and complies with the desired outcomes of both Development Plans.

### 5.3.3.1 Compliance with Sea Level Policies in the Development Plan

The Council-wide objectives relating to coastal areas (Onkaparinga (City) Development Plan, consolidated 10 April 2008) seek to control development in coastal areas that could affect or could be affected by natural coastal processes. These provisions seek to ensure that development minimises the potential for coastal hazard risks, including sea level rise.

Given the nature of development and the nature of the surrounding coastal environment (rocky flats and platforms) it is considered unlikely that the proposed intake and outfall pipelines will be subject to or unduly interfere with coastal processes or unduly impact on sensitive coastal features.

The proposed Desalination Plant and associated infrastructure is to be sited on land that varies from AHD 26 metres to AHD 67 metres. Accordingly, there will be no impacts of sea level rise on these components of the project.

The marine structures are required to be designed to meet the following requirements:

- Avoidance of undercutting by long term sediment movement at the seabed with maximum long term (100 years) total settlement of any section to be no greater than 150 millimetres;
- Burying and armouring to protect against scour and damage during a 1 in 100 year storm, with a minimum cover over the conduit of 0.5 metres;
- Ensure that any future climate change does not adversely affect production of the defined minimum daily output of the Desalination Plant; and
- Provision for ready replacement / maintenance access to those individual components of marine structures which are vulnerable to damage.

The intake structure will be designed and constructed to be capable of operation during highest and lowest astronomical tides, 100 year storm surge and predicted sea level rises.

The water level in the drop structure which is required to transfer the saline concentrate into the outfall duct will be designed to cater for the full range of expected and possible loading conditions, including where the Desalination Plant is running at full capacity during a 100 year storm surge.

Accordingly, the proposed Desalination Plant is considered to be consistent with the relevant provisions of the Development Plan relating to sea level rise and the desired outcomes for the area in which the proposed Desalination Plant is to be located.

The following Council-wide objectives (Onkaparinga (City) Development Plan, consolidated 10 April 2008) are relevant to potential sea level rise impacts:

- *Objective 5: Development only undertaken on land which is not subject to or that can be protected from coastal hazards including inundation by storm tides or combined storm tides and stormwater, coastal erosion or sand drift, and probable sea level rise.*
- *Objective 6: Development that can accommodate anticipated changes in sea level due to natural subsidence and probable climate change during the first 100 years of the development.*

- *Objective 7: Development which will not require, now or in the future, public expenditure on protection of the development or the environment.*

The following principles of development control are relevant to the Desalination Plant:

#### 5.3.3.1.1 Hazard Risk Minimisation

- *Development and its site should be protected against the standard sea-flood risk level which is defined as the 1 in 100 year average return interval flood extreme sea level (tide, stormwater and associated wave effects combined), plus an allowance for land subsidence for 50 years at that site.*
- *Commercial, industrial, tourism or residential development, and associated roads and parking areas should be protected from sea level rise by ensuring all of the following apply:*
  - a) site levels are at least 0.3 metres above the standard sea-flood risk level*
  - b) building floor levels are at least 0.55 metres above the standard sea-flood risk level*
  - c) there are practical measures available to protect the development against a further sea level rise of 0.7 metres above the minimum site level required by part (a).*
- *Buildings to be sited over tidal water or which are not capable of being raised or protected by:*
  - *Flood protection measures in future, should have a floor level of at least 1.25 metres above the standard sea-flood risk level.*
  - *Development that requires protection measures against coastal erosion, sea or stormwater flooding, sand drift or the management of other coastal processes at the time of development, or in the future, should only be undertaken if all of the following apply:*
    - a) the measures themselves will not have an adverse effect on coastal ecology, processes, conservation, public access and amenity.*
    - b) the measures do not nor will not require community resources, including land, to be committed.*
    - c) the risk of failure of measures such as sand management, levee banks, flood gates, valves or stormwater pumping, is acceptable relative to the potential hazard resulting from their failure.*
    - d) binding agreements are in place to cover future construction, operation, maintenance and management of the protection measures.*

#### 5.3.3.1.2 Erosion Buffers

- *Development should be set back a sufficient distance from the coast to provide an erosion buffer which will allow for at least 100 years of coastal retreat for single buildings or small scale developments, or 200 years of coastal retreat for large scale developments (i.e. new townships) unless either of the following applies:*

- a) *the development incorporates appropriate private coastal protection measures to protect the development and public reserve from the anticipated erosion.*
- b) *the Council is committed to protecting the public reserve and development from the anticipated coastal erosion.*
- *Where a coastal reserve exists or is to be provided it should be increased in width by the amount of any required erosion buffer. The width of an erosion buffer should be based on the following:*
  - a) *the susceptibility of the coast to erosion*
  - b) *local coastal processes*
  - c) *the effect of severe storm events*
  - d) *the effect of a 0.3 metre sea level rise over the next 50 years on coastal processes and storms*
  - e) *the availability of practical measures to protect the development from erosion caused by a further sea level rise of 0.7 metres per 50 years thereafter.*
- *Development should not occur where essential services cannot be economically provided and maintained having regard to flood risk and sea level rise, or where emergency vehicle access would be prevented by a 1 in 100 year average return interval flood event, adjusted for 100 years of sea level rise.*

### 5.3.4 Planning Assessment of Proposed Development

The site of the proposed Desalination Plant (main plant and buildings) comprises two zones, namely the Industry Zone and the Coastal Zone as identified on Maps Onka/20 and Onka/29 in the Onkaparinga (City) Development Plan, consolidated 10 April 2008. The subject site is also contained within the General Industry Policy Area (i.e. Policy Area 58).

Beyond the low water mark, the Coastal Zone as detailed in the Land Not Within A Council Area (Metropolitan) Development Plan consolidated 1 November 2007, applies to the proposed development of the intake and outfall pipelines and structures of the proposed Desalination Plant.

The Development Plan provisions applicable to the proposed Desalination Plant are shown in Table 5.1:

Table 5.1 Relevant Development Plan Provisions

Onkaparinga (City) Development Plan	Objectives	Principles of Development Control
Industry Zone	1-8	1-3, 5, 7, 8, 10, 13-25
General Industry Policy Area	1	1
Coastal Zone	1, 2, 5, 6	1-3
Council-Wide Provisions		
- Bulk handling & storage facilities	1	1-4
- Coastal areas	1-8	1-28
- Design and appearance	1, 2	1-12, 14-20
- Energy efficiency	1-6	-

Onkaparinga (City) Development Plan	Objectives	Principles of Development Control
- Hazards - Heritage conservation - Industrial development - Infrastructure - Landscaping, fencing and walls - Siting and visibility - Sloping land - Transportation and access - Waste management facilities - Waste	1-9 1 1, 4-7 1, 4, 5 1, 2 1 1 2, 5 1-3 1, 2	1-10, 13, 20-25 1 2, 4, 7 1-6, 9-12 1-4 1, 2, 4-8 1-6 1, 11-13, 21-25, 27-38 1, 3, 4, 6, 8-13 1, 2, 4, 5, 7-14
Land Not Within a Council Area (metropolitan) Development Plan	Objectives	Principles of Development Control
Coastal Zone	1, 2, 4-6	1-3, 6, 8
Metropolitan-Wide	1-3, 24, 25, 29, 30, 33-37, 43-46, 48-51	1, 2
Council-Wide	5-9, 11-16, 18	1-10, 13, 14, 41-45, 47-52, 54-58, 60-63, 67-69, 73-76, 79-89, 91, 92

#### 5.3.4.1 [Industry Zone and General Policy Area 58](#)

The primary intent of the Industry Zone is to accommodate industrial development of various types which are suitably located and designed to minimise impacts on adjoining localities. The zone provisions recognise that general industry activities and / or those land uses which require a larger area are not only appropriate, but should be afforded preference in some areas provided that there are no adverse impacts on other developments within and adjoining the zone. Other provisions applicable to the site include causing minimal effects on the environment and the amenity of the area, while ensuring the functional aspects of the development (such as traffic management and access arrangements) can be provided for and maintained.

The Policy Area 58 – General Industry provisions envisage the area accommodating general industry and related activities. Light industry activities may be appropriate but only where existing land division has created smaller allotments for that purpose (which does not appear to be the case in this location). The provisions also seek to discourage development that may detract from the capacity to establish and operate general industries in the Policy Area.

The proposed Desalination Plant would require a land area of between 20 - 30 hectares while allowing for safety buffering and environmental requirements. The nature of the proposal is such that it is not likely to detract from the ability to establish and operate other general industries within the local area (especially to the south of the proposed site). Indeed, the proposed Desalination Plant may encourage related industrial development in the immediate area as it is expected to have minimal impact on adjoining localities. The proposed Desalination Plant is therefore considered to be compatible with the intent and desired outcomes of the Industry Zone provisions of the Onkaparinga (City) Development Plan.

### 5.3.4.2 Coastal Zone

The primary intent of the Coastal Zone in the Land Not Within A Council Area (Metropolitan) Development Plan is to conserve, rehabilitate and improve the natural features of the coast in order to improve the open space character and recreational opportunities that the coast offers. The provisions also recognise that development on the coast should be for the benefit and use of the public rather than for private interests. Development located close to the coast should only be undertaken after proper and thorough justification of the benefits to the community. Further, development should not diminish the ability of the public to use and enjoy the coast or to gain access to the foreshore. Only development that specifically requires a coastal location should be located within the Coastal Zone.

As previously indicated, the proposed location of the Desalination Plant (main plant and buildings) is to occur within a highly modified environment outside of a Coastal Zone. It is absolutely necessary, however, for the proposed intake and outfall pipelines to have access to the coast and marine environments. While the coastal environment adjoining the subject site constitutes a reasonably modified environment, it is far less disturbed than other locations along the metropolitan coastline.

The proposed development will have minimal impact on the coastal environment as the design and location of the proposed pipelines and associated elements will not alter the natural features of the coast and will retain the open character and recreational opportunities that the coast currently offers. Access to and along this part of the coast, as well as the adjoining marine environment, has been restricted for some time due to the previous refining activities undertaken in and around the subject site and the adjoining marine environment. Whilst it is anticipated that the proposal will generally maintain the status quo in relation to restricted access, there may be an extension to the Existing Marine Exclusion Zone to ensure the security of the proposed intake and outfall structures, as well as ensuring public safety around these structures.

The proposal is also consistent with provisions that seek to ensure that development on the coast is for the benefit of the public. The proposed Desalination Plant will provide a secure supply of water for the entire metropolitan population and will also assist in encouraging ongoing investment in industry; thereby providing indirect employment benefits to the wider Adelaide community (see Chapter 10.2).

The proposed Desalination Plant requires an appropriate coastal location that satisfies specific land use, coast and marine attributes. The proposed site of the Desalination Plant meets these requirements through characteristics such as adequate access to the marine environment, adequate ocean depths and good marine dispersion characteristics.

Accordingly, the proposal is consistent with the intent and desired outcomes of the Coastal Zone provisions of the Land Not Within a Council Area (Metropolitan) Development Plan and is considered an appropriate form of development on coastal land.

### 5.3.4.3 Council Wide Provisions

In addition to the Council-wide coastal areas (Onkaparinga (City) Development Plan, consolidated 10 April 2008) provisions discussed in Section 5.3.3.1 above, a number of objectives seek to manage development to sustain or enhance the natural coastal environment by protecting the coast from development that may interfere with environmentally important features or adversely affect the marine and onshore environment by pollution, erosion, damage or depletion of physical or biological resources. Further, development should not detract from sites of ecological, economic,

heritage, cultural, scientific, environmental or educational importance and should preserve areas of high landscape and amenity value, including vegetation, exposed cliffs, headlands, islands and hill tops, and areas which form an attractive background to urban and tourist developments.

The proposed intake and outfall conduits will be tunnelled beneath the cliff and nearshore zones. Hence it is considered unlikely that the proposed intake and outfall conduits will unduly interfere with coastal processes or unduly impact on sensitive coastal features. The proposed development will not adversely affect either the marine or onshore environment through damage or erosion, as the pipeline structures will be purposely designed and located so as not to detract from areas of cultural, heritage, environmental, economic, ecological or educational value. Further, the seawater discharge will be appropriately managed, dispersed and monitored to avoid undue impact to the marine environment (see Chapter 7). EPA approval and licensing to discharge to marine waters will be sought by SA Water and the Contractor will be required to comply with the approval conditions. In addition, ongoing monitoring of the outfall will occur in conjunction with the relevant regulatory authorities.

Accordingly, the proposed Desalination Plant is considered to be consistent with the relevant provisions of the Onkaparinga (City) Development Plan and the Land Not Within a Council Area (Metropolitan) Development Plan and the desired outcomes for the area in which the proposed Desalination Plant is to be located.

### 5.3.5 Proposed Amendments to Development Plans

Given the overall consistency and compliance of the proposed Desalination Plant with the relevant provisions of the Onkaparinga (City) Development Plan and the Land Not Within A Council Area (Metropolitan) Development Plan, it is considered that the proposal will not require any amendments to either Development Plan.

## 5.4 Environment Protection Act

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### 5.4.1 Requirements of the *Environment Protection Act 1993*

The South Australian *Environment Protection Act 1993* provides for the establishment of the EPA and seeks to protect the environment from harm through the management of site contamination, air quality, water quality, noise and waste. A key object of the Act is to promote principles of ecologically sustainable development via both regulatory mechanisms and educational programmes that encourage and assist industry, public authorities and the community more generally to avoid harming the environment.

The *Environment Protection Act 1993* has been amended with the passage of the *Environment Protection (Miscellaneous) Amendment Act 2005* to strengthen the array of mechanisms available to protect the environment. This Amendment Act introduces a set of civil penalties for offences under the *Environment Protection Act 1993*, provides for local government involvement in the administration of that Act and confers a wider range of tools available to the EPA to better protect the environment.

### 5.4.2 Compliance with the *Environment Protection Act 1993*

Given that the proposed Desalination Plant will involve activities of environmental significance as prescribed by Schedule 1 of the *Environment Protection Act 1993*, authorisation for and ongoing licensing of these activities from the EPA will be required. These activities include:

- **The storage and warehousing of chemicals.** The operation of the proposed Desalination Plant will require the ongoing storage and warehousing of chemicals, in particular chlorine, chemical coagulant, caustic soda or sulphuric acid, flocculants, polyelectrolyte, sodium bisulphite, hydrated lime, carbon dioxide and fluorsilic acid (FSA), at quantities that will exceed the thresholds specified in Schedule 1 of the Act. To obtain the required authorisation, SA Water will need to demonstrate that appropriate safeguards are in place to ensure that the transfer and storage of these chemicals will not adversely impact on the environment.
- **Dredging.** The proposed intake and outfall pipelines and structures are to be located within the marine environment, which will require some excavation and disturbance (i.e. dredging) of the seabed in order to install these pipelines/structures. To obtain the required authorisation, SA Water will need to develop a set of environmental management measures that will minimise the impact on the marine environment (see Chapters 4 and 7). The proposed location and construction of the intake/outfall pipelines and structures are anticipated to have minimal impact on both the marine and coastal environments (see Chapters 4 and 7).
- **Discharging to marine waters.** The operation of the proposed Desalination Plant will require the ongoing discharge into marine waters of seawater concentrate at quantities that exceed the thresholds specified in Schedule 1 of the *Environment Protection Act 1993*. The seawater discharge may also contain small amounts of water treatment chemicals. This is discussed further in Chapter 7. To obtain the required authorisation, SA Water will have to demonstrate that neither the seawater discharge nor the chemicals within that discharge will cause any harm to the receiving marine environment or the flora and fauna species within that environment.

Furthermore, SA Water has and will continue to consult with the EPA to ensure that all requirements under the Act are satisfied. SA water is carrying out an extensive series of ecotoxicological studies to confirm that the proposed minimum initial dilution of 50:1 will provide a high degree of protection to marine ecosystems.

- **Earthworks drainage.** During construction, earthworks drainage may be required if groundwater is intercepted, if dredged spoil requires de-watering or if low lying areas need dewatering following rainfall. Schedule 1 of the *Environment Protection Act 1993* requires a licence for earthworks drainage if the total suspended solids exceed 25 milligrams per litre and the amount discharged exceeds 100 KL where waste water is discharged into marine or inland waters or onto land where it is likely to indirectly discharge into waters. To obtain the required authorisation, SA Water will need to develop a set of environmental management measures that will minimise the impact of the wastewater discharge.

The Contractor will be responsible for ensuring that the final design of the proposed Desalination Plant will demonstrate compliance with the EPA requirements through the CEMMP and OEMMP, as well as the environmental objectives and performance criteria established by SA Water.

## 5.5 Consistency with Legislation

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### 5.5.1 South Australian Legislation

There are 19 pieces of South Australian legislation that are relevant to the development of the proposed Desalination Plant. While the respective requirements of the *Development Act 1993* and the *Environment Protection Act 1993* are discussed above, the following section examines the *Coast Protection Act 1972* which is of particular relevance to the proposed Desalination Plant. The section concludes with a summary, presented in tabular form, of the range of legislation which applies to the proposed Desalination Plant and its ongoing operation.

#### 5.5.1.1 Coast Protection Act

The *Coast Protection Act 1972* provides for the conservation and protection of South Australia's beaches and coastal environment. Section 6 of this Act also establishes the Coast Protection Board, the primary authority with responsibility for protecting, restoring, developing and managing the coast amongst other matters. The Coast Protection Board is a key referral agency in the development assessment process for proposals likely to affect the coastal environment. It is in this capacity that the Coast Protection Board will be considering the proposed Desalination Plant and associated intake/outfall pipeline and structures to determine the impact on:

- The way in which the coast is used;
- The provision and location of coastal facilities;
- The visual qualities of the coast; and
- The environmental significance of the coast (DEH, 2008).

As indicated above, considerable care has been taken during the concept design of the proposed Desalination Plant to ensure that any impacts to the marine and coastal environments are minimised and will not cause environmental harm. SA Water acknowledges that the proposed development will have some impact, but these impacts will be managed and/or mitigated to ensure that all requirements under both the *Coast Protection Act 1972* and the *Environment Protection Act 1993* are complied with. The Environmental Management and Monitoring Plan (EMMP), together with the CEMMP and OEMMP have been developed to ensure the requisite protection is accorded to the environment and surrounding locality of the proposed Desalination Plant (see Chapter 4).

#### 5.5.1.2 Summary of Relevant South Australian Legislation

The following table provides a summary of relevant South Australian legislation that the proposed Desalination Plant will need to comply with. The respective requirements of the *Climate Change and Greenhouse Emissions Reduction Act 2007*, *Aboriginal Heritage Act 1988*, *Heritage Places Act 1993* and *Historic Shipwrecks Act 1993* are specifically addressed in Chapters 6, 8 and 10.

Table 5.2 Key State Legislation Relevant to ADP

Legislation	Applicability to ADP
<i>Aboriginal Heritage Act 1988</i>	This Act protects all aspects of Aboriginal cultural heritage in South Australia.
<i>Adelaide Dolphin Sanctuary Act 2005</i>	This Act establishes a sanctuary to protect the dolphin population of the Port Adelaide River estuary and Barker Inlet. It provides for the protection and enhancement of the dolphin's natural habitat by applying principles of ecological sustainable development in managing the Port Adelaide River estuary and Barker Inlet.
<i>Air Navigation Act 1937</i>	This Act provides for the application of the Commonwealth Air Navigation Regulations to air navigation within the State.
<i>Climate Change and Greenhouse Emissions Reduction Act 2007</i>	This Act provides for measures to address climate change to assist in achieving a sustainable future for South Australia. It sets targets to reduce greenhouse gas emissions, promotes the use of renewable energy sources, promotes business and community understanding of climate change and facilitates policy development to address climate change.
<i>Coast Protection Act 1972</i>	The main aim of this Act is to conserve the South Australian coastline.
<i>Development Act 1993</i>	The Development Act (and Regulations) is the primary land use planning and development legislation in South Australia.
<i>Environment Protection Act 1993</i>	This Act provides for the establishment of the EPA, the prevention and control of pollution, and the protection and management of the environment (including site contamination, air quality, water quality, noise and waste management). A licence for chemical storage, dredging and marine discharge is required under the <i>Environment Protection Act 1993</i> .
<i>Fisheries Management Act 2007</i>	This Act provides for the management of fishing activities to allow for the conservation, enhancement and management of fisheries in South Australian waters.
<i>Harbors and Navigation Act 1993</i>	This Act provides for the development and management of harbours and provides for safe navigation in South Australia.
<i>Heritage Places Act 1993</i>	This Act requires the identification and protection of places and objects of non-Aboriginal heritage significance.
<i>Highways Act 1926</i>	This Act provides for the construction and maintenance of roads and works.
<i>Historic Shipwrecks Act 1993</i>	This Act extends the Commonwealth protection of shipwrecks and historic relics to bays and estuaries within South Australian waters.
<i>Local Government Act 1999</i>	This Act provides a framework within which local governments throughout the State operate.
<i>National Parks &amp; Wildlife Act 1972</i>	This Act provides for the establishment and maintenance of reserves for conservation and recreation, as well as the protection of endemic and endangered flora and fauna.
<i>Native Title (South Australia) Act 1994</i>	This Act outlines the laws applying to the existence, management and exercise of Native Title rights in South Australia. A referral for Native Title claims has been undertaken (see Chapter 10).
<i>Native Vegetation Act 1991</i>	This Act provides for the regulation of native vegetation clearance and management of native vegetation communities in the State. A referral for native vegetation clearance has been undertaken (see Chapter 8).

Legislation	Applicability to ADP
<i>Natural Resource Management Act 2004</i>	This Act promotes sustainable and integrated management of the State's natural resources and provides for the protection of these resources through the establishment of NRM regions, authorities and NRM plans.
<i>River Murray Act 2003</i>	This Act provides for the protection and enhancement of the River Murray and related areas and ecosystems. It seeks to promote principles of ecologically sustainable development, ensure that proper weight is given to the River's significance and well being while respecting the interests and aspirations of Indigenous peoples with an association with the River.
<i>Road Traffic Act 1961</i>	This Act provides for the management and protection of road traffic.

## 5.5.2 Commonwealth Legislation

There are three Commonwealth Acts that are relevant to the development and ongoing operation of the proposed Desalination Plant. While the requirements of the *Environment Protection and Biodiversity Act 1999* are discussed in detail in Chapter 8, the following section provides a summary, presented in tabular form, of the relevant legislation.

### 5.5.2.1 Summary of Relevant Commonwealth Legislation

The following table provides a summary of relevant Commonwealth legislation that the proposed Desalination Plant will need to comply with.

Table 5.3 Key Commonwealth Legislation Relevant to ADP

Legislation	Applicability to ADP
<i>Environment Protection &amp; Biodiversity Conservation Act 1999</i>	This Act applies to all Commonwealth territories and waters. Any proposed actions that are likely to have a significant impact upon defined matters of national environmental significance are subject to an assessment and approval process through the federal Minister for the Environment.
<i>Historic Shipwrecks Act 1976</i>	This Act extends to coastal waters, but excludes bays and estuaries, where relevant State legislation applies. It provides protection to shipwrecks and historic relics and prohibits certain activities in these zones.
<i>Native Title Act 1993</i>	This Act was enacted as a result of the <i>Mabo</i> decision, which recognised that in certain circumstances, Native Title continues to exist in Australia. This Act provides for the establishment, management and exercise of Native Title rights in Australia and allows for each State and Territory to implement its own Native Title legislation, which reflects the provision of the Commonwealth Act.

## 5.5.3 Required Approvals

The proposed Desalination Plant requires development approval under the South Australian *Development Act 1993* prior to its development and operation.

### 5.5.3.1 Section 46 of the *Development Act 1993*

The proposed Desalination Plant is being assessed as a 'Major Development' pursuant to Section 46 the *Development Act 1993*. Approval for the proposal will proceed according to the procedures outlined in Chapter 1.3, involving the DAC, the Minister for Urban Development and Planning and the Governor of South Australia as the final decision maker. Full development approval for the proposed Desalination Plant, incorporating both Development Plan Consent and Building Rules Consent, will be required under the Act.

### 5.5.3.2 *Environment Protection and Biodiversity 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 project is not a "controlled action" under the EPBC Act requiring Commonwealth approval 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.