



Ass # 636  
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WESTERN AUSTRALIA

**MINISTER FOR THE ENVIRONMENT**

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

**CONTAMINATION MANAGEMENT STRATEGY FOR THE EAST PERTH GAS-WORKS  
SITE AND ADJACENT AREAS OF THE SWAN RIVER (636)**

**EAST PERTH REDEVELOPMENT AUTHORITY**

This proposal may be implemented subject to the following conditions:

**1 Implementation**

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 1-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

**2 Clean-up of Off-site Contamination**

- 2-1 Within three years of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall ensure that off-site contamination of adjacent areas of the Swan River, its foreshore and the Claisebrook Drain originating from the gas-works site is cleaned up.
- 2-2 To achieve the requirement of condition 2-1, the proponent shall submit an Environmental Management Programme giving details of the off-site clean-up, to the requirements of the Minister for the Environment, within five months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986. Prior to the Minister for the Environment accepting this Environmental Management Programme, the Minister for the Environment will consult with the Minister for Planning.

This programme shall be prepared in consultation with the Environmental Protection Authority and the Swan River Trust, and shall include, but not necessarily be limited to:

- (1) measures to remediate off-site contamination, giving consideration to;
- (a) dredging of about six hectares of the Swan River to remove contaminated sediments, and

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- (b) construction, operation and decommissioning of a separation plant for the removal of contamination from the dredged sediments to a quality permitting the return of the clean component of the sediments to the Swan River;
  - (2) contingency planning in the event of a release of contaminated material to the environment during remediation of off-site contamination;
  - (3) excavation and removal of contaminated sediments in the Claisebrook Drain beyond the cadastral boundaries of the gas-works site; and
  - (4) monitoring and reporting of dredging of the Swan River and associated fauna, and the sediment separation system.
- 2-3 Notwithstanding the requirements of condition 2-2(1), the proponent may use alternative methods or strategies for the clean-up of off-site contamination, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Swan River Trust.
- 2-4 Within three months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall develop clean-up criteria and definitions of acceptable off-site environmental impacts to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Swan River Trust. These criteria and definitions shall be subsequently incorporated in the Environmental Management Programme required by condition 2-2.
- 2-5 The proponent shall implement the Environmental Management Programme required by condition 2-2 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 2-6 In the event that monitoring shows unacceptable environmental impacts beyond criteria required by condition 2-4, the proponent shall prepare and subsequently implement programmes to mitigate these impacts to the requirements of the Environmental Protection Authority on advice of the Swan River Trust.
- 2-7 The proponent shall review the Environmental Management Programme required by condition 2-2 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

### **3 Containment and Management of On-site Contamination**

- 3-1 The proponent shall ensure that no further off-site impacts, beyond criteria required by condition 3-4, arise from contamination originating from the gas-works site, either from the time when the clean-up of contamination in the Swan River as required by condition 2 is completed or from the time when the Claisebrook Inlet construction programme is completed, whichever is the sooner.
- 3-2 To achieve the requirement of condition 3-1, the proponent shall submit an Environmental Management Programme giving details of the containment and management of on-site contamination, to the requirements of the Minister for the Environment, within five months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986. Prior to the Minister for the Environment accepting this Environmental Management Programme, the Minister for the Environment will consult with the Minister for Planning.

This programme shall be prepared in consultation with the Environmental Protection Authority, the Swan River Trust, and the Water Authority of Western Australia when appropriate, and shall include, but not necessarily be limited to:

- (1) measures to contain contaminated soils, sediments, ground and surface waters on-site, giving consideration to:
    - (a) construction of a low permeability in-ground barrier wall to prevent off-site migration of contamination;
    - (b) construction of an up-gradient drainage trench against the barrier wall to collect contaminated groundwater;
    - (c) construction and operation of a dedicated treatment plant to treat this groundwater to a quality permitting discharge to the Swan River; and
    - (d) decommissioning of structures and installations used in the decontamination exercise where appropriate;
  - (2) monitoring and reporting of contaminants outside the site boundaries, including those in the groundwater, in any groundwater treatment system, and in any water discharged from the site to the Swan River; and
  - (3) contingency planning if monitoring shows that unacceptable discharges from the site are occurring.
- 3-3 Notwithstanding the requirements of condition 3-2(1), the proponent may use alternative methods or strategies for the containment and management of on-site contamination, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Swan River Trust.
- 3-4 Within three months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall develop criteria for containment and management of on-site contamination and definitions of acceptable off-site environmental impacts in the Environmental Management Programme required by condition 3-2, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Swan River Trust. These criteria and definitions shall be subsequently incorporated in the Environmental Management Programme required by condition 3-2.
- 3-5 The proponent shall implement the Environmental Management Programme required by condition 3-2 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 3-6 In the event that monitoring shows unacceptable environmental impacts beyond criteria required by condition 3-4, the proponent shall prepare and subsequently implement programmes to mitigate these impacts to the requirements of the Environmental Protection Authority on advice of the Swan River Trust and the Water Authority of Western Australia.
- 3-7 The proponent shall review the Environmental Management Programme required by condition 3-2 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

**4 Co-ordination of Contamination Management with Construction of the Claisebrook Inlet (East Perth Project, Assessment No. 698)**

- 4-1 Prior to the completion of the Claisebrook Inlet construction programme, the proponent shall clean-up off-site soil and sediment contamination as required by condition 2.
- 4-2 The proponent shall co-ordinate the preparation and implementation of the Environmental Management Programmes required by conditions 2 and 3 with those parts of the construction programme for the Claisebrook Inlet which involve management of the contamination from the gas-works site, including:
- (1) dredging of the entrance channel;
  - (2) excavation of the lower parts of Claisebrook Drain;
  - (3) connection of the Inlet with the Swan River;
  - (4) commissioning of the entrance channel for public use; and
  - (5) construction of the Inlet within the cadastral boundaries of the gas-works site (see attachment A).

These shall be done to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

- 4-3 The proponent shall ensure that, during the construction of the Claisebrook Inlet east of Trafalgar Road, contaminated groundwater is prevented from entering the Inlet by construction of a barrier wall or by an alternative mechanism, such that the objective of condition 3-1 is met, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

**5 Clean-up of the Gas-works Site for Gazetted Land Use and Long Term Protection of the Swan River**

- 5-1 Within five months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall identify the most suitable methods of cleaning up the gas-works site, such that the final levels of contaminants are compatible with the land uses permitted in the "East Perth Redevelopment Scheme" gazetted on 18 December 1992 and ensure that there is no long term threat to the Swan River from the contaminants, in the opinion of the Minister for the Environment. This exercise shall include investigations into bioremediation and other applicable technologies.
- 5-2 Within three years of meeting the requirements of condition 5-1, the proponent shall ensure that the gas-works site is remediated, such that the final levels of contaminants are compatible with the land uses permitted in the "East Perth Redevelopment Scheme" gazetted on 18 December 1992 and meet the criteria and definitions required by condition 5-4 and ensure that there is no long term threat to the Swan River from the contaminants, in the opinion of the Minister for the Environment.
- 5-3 Within five months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall submit an Environmental Management Programme giving details of the proposed remediation methods required by condition 5-1, to the requirements of the Minister for the Environment. Prior to the Minister for the Environment accepting this Environmental Management Programme, the Minister for the Environment will consult with the Minister for Planning. Additionally, the proponent shall submit to the Minister for the Environment progress reports during the preparation of the programme.

The proponent shall prepare this Environmental Management Programme in consultation with the Environmental Protection Authority and the Swan River Trust, and shall make it available for public review. The programme shall include, but not necessarily be limited to:

- (1) results of investigations referred to in condition 5-1;
- (2) remediation of highly contaminated soils and groundwater within the gas-works site;
- (3) consideration of the treatment of any contaminated materials which may have been removed from the Swan River and the Claisebrook Drain and stored on site;
- (4) describing how the environment and human health will be protected during and at cessation of operations;
- (5) reuse of treated materials where practicable;
- (6) disposal of any contaminated materials off-site; and
- (7) decommissioning of any plant and installations used in the decontamination.

5-4 Within three months of the formal authority issued to the decision-making authorities under Section 45(7) of the Environmental Protection Act 1986, the proponent shall develop remediation criteria and definitions of acceptable residual contamination, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority and the Swan River Trust. These criteria and definitions shall be subsequently incorporated in the Environmental Management Programme required by condition 5-3.

5-5 The proponent shall implement the Environmental Management Programme required by condition 5-3 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority. The proponent shall also submit to the Minister for the Environment annual progress reports during the implementation of this programme.

5-6 In the event that monitoring shows unacceptable environmental impacts beyond criteria required by condition 5-4, the proponent shall prepare and subsequently implement programmes to mitigate these impacts to the requirements of the Environmental Protection Authority on advice of the Swan River Trust.

5-7 The proponent shall review the Environmental Management Programme required by condition 5-3 within time-frames and to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

## **6 Proponent**

These conditions legally apply to the nominated proponent.

6-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

**7 Time Limit on Approval**

The environmental approval for the proposal is limited.

- 7-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced. Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

**8 Compliance Auditing**

In order to ensure that environmental conditions and commitments are met, an audit system is required.

- 8-1 The proponent shall prepare periodic "Progress and Compliance Reports", to help verify the environmental performance of this project, in consultation with the Environmental Protection Authority.

**Procedure**

- 1 The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.
- 2 If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.
- 3 The Environmental Protection Authority will consider any comments arising from the public review period required by condition 5-3, prior to advising the Minister for the Environment on the acceptability of the programme.

**Note**

The proponent may be required to apply for a Works Approval and Licence under the provisions of Part V of the Environmental Protection Act 1986.

Kevin Minson MLA  
MINISTER FOR THE ENVIRONMENT

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## SECTION 4 – DESCRIPTION OF SITE

## 4.1 CADASTRAL INFORMATION

The East Perth Gasworks is located on the western bank of the Swan River between the Bunbury Railway line to the north and the Claisebrook Drain to the south. On the western side, the site is bounded by Trafalgar Road and on the eastern side the site is separated from the river shoreline by a narrow strip of public open space.

Title details are as follows:

- Swan Location 8292 being the whole of land contained in Certificate of Title Volume 291 Folio 189a.
- Portion of Swan Location A1 on Diagram 201 and being the whole of the land contained in Certificate of Title Volume 416 Folio 51.
- Perth Lot 745 being the whole of land contained in Certificate of Title Volume 107B Folio 437.
- Portion of Swan Location A2 on Diagram 121B6 and being the whole of land contained in Certificate of Title Volume 1079 Folio 98.
- Perth Lot 764 being the whole of land contained in Certificate of Title Volume 119B Folio 658.

The Gasworks site location is shown on Figure 2.1.

## 4.2 TOPOGRAPHY, GEOLOGY, GROUNDWATER AND HYDROGEOLOGY

## 4.2.1 Topography

The site slopes approximately 10 metres from the north-west corner to the south-east corner.

## 4.2.2 Geology

The site lies on the Swan Coastal Plain, which is a low-lying and gently undulating area extending for several hundred kilometres along the southwest coast. Near Perth, the coastal plain is about 30km wide and is bounded by the coast to the west and the Darling Scarp to the east. Sedimentary units of the Perth basin lie beneath the Swan Coastal Plain.

Near the site the stratigraphic sequence consists of a mixture of recent alluvial deposits from the Swan River, Pleistocene sands and clayey sands of the Bassendean Sand Guildford Formation, and the Tamala limestone.