

Change of environmental conditions — Beenyup ocean outfall duplication

Water Authority of Western Australia

Proposed changes to environmental conditions

**Report and recommendations
of the Environmental Protection Authority**

JMa

**Environmental Protection Authority
Perth, Western Australia
Bulletin 762
November 1994**

THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposed changes to conditions.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's report.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

APPEALS

If you disagree with any of the contents of the assessment report or recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
12th Floor, Dumas House
2 Havelock Street
WEST PERTH WA 6005

CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 9th December 1994.

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Summary

In 1989 the Water Authority of Western Australia referred to the Environmental Protection Authority a proposal to build a second ocean outfall from the Beenyup Wastewater Treatment Plant into Marmion Marine Park. The proposal was assessed and reported on in Bulletin 393 of January 1990¹. In July 1990, the Minister for the Environment issued a statement that the proposal could proceed subject to a number of environmental conditions and commitments.

In addition to placing stringent controls on the levels and loadings of nutrients released, the conditions required the proponent (the Water Authority of Western Australia) to undertake major studies of the predicted impacts of continued marine disposal of treated wastewater on Perth's coastal waters. These studies were to be reported on by 1 December 1994.

Although the studies are well advanced some additional time for reporting is required and on 21 September 1994 the Minister for Water Resources on behalf of the Water Authority asked the Minister for the Environment to consider altering the conditions to extend this deadline. In October 1994, the Minister for the Environment requested the Environmental Protection Authority to initiate investigations and provide a report to him under Section 46 of the Environmental Protection Act.

The Environmental Protection Authority considers the extension sought, to 31 March 1995, would have no significant environmental implications.

The Environmental Protection Authority therefore recommends that the statement issued in 1990 be amended to require these reports to be presented by 31 March 1995.

In more recent approvals it has become standard to include a flexibility clause to enable the Minister to approve such environmentally insignificant changes without recourse to the provisions of Section 46. The Environmental Protection Authority recommends that the conditions be amended to include this flexibility clause.

Since 1990 there have been improvements in the way in which conditions are worded, making requirements and responsibilities clearer. Without changing the intent or effect of the conditions the Environmental Protection Authority recommends that these improvements in wording should be effected.

Some conditions which related solely to the pre-construction and construction phases have now been satisfactorily completed and formally cleared. They are no longer necessary, and can now be deleted.

Recom- mendation	
1	Proposed time extension environmentally acceptable.
2	Condition 1 should be amended to include the standard flexibility clause.
3	Conditions 9 & 10, which have been fully satisfied, should be deleted.
4	Condition 5 should be a 'procedure'.
5	Where appropriate, without altering the intent of conditions, wording should be updated to current best practice.

1. Introduction and background

In 1989 the Water Authority of Western Australia referred to the Environmental Protection Authority a proposal to build a second ocean outfall from the Beenyup Wastewater Treatment Plant into Marmion Marine Park. The proposal was assessed and reported on in Bulletin 393 of January 1990¹. In July 1990, the Minister for the Environment issued a statement that the proposal could proceed subject to a number of environmental conditions and commitments (Appendix 1).

In addition to placing stringent controls on the levels and loadings of nutrients released, the conditions required the proponent (the Water Authority of Western Australia) to undertake major studies of the predicted impacts of the disposal of wastewater on Perth coastal waters.

2. Summary description of proposal

Conditions 12 and 13 of the 1990 approval, reproduced below, require the Water Authority to undertake and complete studies on the predicted levels and impacts of nutrient loads on Perth's coastal waters to the year 2040 and to investigate the alternatives to ocean disposal of treated wastewater. Under the conditions the studies are to be reported on by 1 December 1994.

- 12 Prior to December 1994, the proponent shall undertake and complete studies to the satisfaction of the Environmental Protection Authority which:
 - predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and
 - determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040.
- 13 Prior to December 1994, the proponent shall undertake and complete a study to the satisfaction of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.

Although the studies are well advanced some additional time for reporting is required and on 21 September 1994 the Minister for Water Resources on behalf of the Water Authority asked the Minister for the Environment to consider altering these conditions to extend this deadline to 31 March 1995.

In October 1994, the Minister for the Environment requested the Environmental Protection Authority to initiate investigations and provide a report to him under Section 46 of the Environmental Protection Act.

3. Environmental impact assessment method

The assessment method employed by the Environmental Protection Authority was to consider:

- progress to date on the required studies;
- compliance with conditions to date;
- the results of monitoring reported to date under the terms of the Licence; and
- the environmental implications of the proposed change of conditions.

The opportunity was also taken to review the wording of the conditions in the light of current best practice.

4. Evaluation

The Department of Environmental Protection has advised through its membership on the Technical Advisory Committee set up under Condition 3 that progress made on the required studies, while insufficient to meet the specified deadline is nevertheless substantial and should enable the completion of reporting by the end of March 1995 as requested.

The information summarised in Appendix 2 shows that to date the proponent has satisfactorily complied with the conditions.

The results of monitoring reported under the licence to date do not suggest any need to change the conditions to rectify any inadequacies in environmental protection.

The studies required by Conditions 12 and 13 address long term issues. Any actions which follow will similarly be aimed at longer term environmental effects and a delay of some months in reporting on the studies will have no significant environmental impact. The word 'satisfaction' has been changed to 'requirements' in line with current practice. Changes are underlined.

Condition 12 makes reference to the term 'assimilative capacity'. The use of this term is currently the subject of some controversy in the scientific community (see EPA Bulletin 749 p1)². At a later date it may be appropriate to consider amending the terminology.

Table 1 Recommended changes to conditions

No	Original condition	No	Recommended condition
12	Prior to December 1994, the proponent shall undertake and complete studies to the satisfaction of the Environmental Protection Authority which:	12 12-1	Studies to predict loads and impacts by 2040 Prior to <u>31 March 1995</u> , the proponent shall undertake and complete studies to the <u>requirements</u> of the Environmental Protection Authority which:
	<ul style="list-style-type: none"> predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and 		<ul style="list-style-type: none"> predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and
	<ul style="list-style-type: none"> determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040. 		<ul style="list-style-type: none"> determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040.
13	Prior to December 1994, the proponent shall undertake and complete a study to the satisfaction of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.	13 13-1	Studies of alternatives to ocean disposal Prior to <u>31 March 1995</u> , the proponent shall undertake and complete a study to the <u>requirements</u> of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.

Condition 1 requires the proponent to adhere to the proposal as assessed, leaving no scope for minor changes, even those which may be environmentally benign or beneficial. In more recent approvals it has become standard practice to word this condition more flexibly to enable the Minister to approve such environmentally insignificant changes without recourse to the provisions of Section 46.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
1	The proponent shall adhere to the proposal outlined in the Public Environmental Review and as assessed by the Environmental Protection Authority.	1	Implementation The proponent must adhere in substance to the proposal as assessed. However, 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.

Conditions 9 and 10, which relate solely to the pre-construction and construction phases, have now been satisfactorily completed and formally cleared. They are no longer necessary, and can now be deleted.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
9	Prior to adoption of final pipeline alignment, the proponent shall undertake and complete a survey to the satisfaction of the Environmental Protection Authority on advice from the Department of Conservation and Land Management, to examine the flora and fauna along the path and within an area approximately 10 metres either side of the proposed pipeline.	9	Approval of pipeline alignment Survey completed. Alignment approved and pipeline constructed - condition deleted.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
	Should the survey identify an area which is determined by the Minister for the Environment on advice from the Environmental Protection Authority and the Department of Conservation and Land Management to have high conservation value or sensitivity, the proponent shall modify the pipeline alignment to the satisfaction of the Minister for the Environment.		No sensitive areas identified. Alignment approved and pipeline constructed - condition deleted.
10	Prior to construction, the proponent shall find an alternative to underwater blasting as the method of rock removal satisfactory to the Minister for the Environment on advice from the Environmental Protection Authority.	10	Alternative to underwater blasting for rock removal Alternative approved and rock removed - condition deleted.

Condition 5 is a requirement for action by agencies other than the proponent. It is now normal practice to express such requirements as procedures at the end of the statement, rather than as conditions. Such procedures are usually expressed in terms of what the agencies 'will' do, by agreement (through consultation on the conditions to be set), while conditions are things which the proponent 'shall' (i.e. is required to) do.

The details of how compliance is to be verified are also now spelled out in procedures as standard practice. These procedures do not add any new requirements but simply describe the arrangements which are already in place for this project. In the interests of consistency they should be added to the statement.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended procedure
		1	Procedure The Department of Environmental Protection 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 Department of Environmental Protection, 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.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended procedure
5	Prior to commencing operations, the Environmental Protection Authority, on advice from the Water Authority of Western Australia, and the Departments of Conservation and Land Management, Health and Fisheries shall identify beneficial uses and beneficial use zones for the waters in the locality of the outlets and determine a mixing zone to the satisfaction of the Minister for the Environment. The water quality criteria for the beneficial use zones shall be established by the Environmental Protection Authority Bulletin No 103 Water Quality Criteria for Marine and Estuarine Waters of Western Australia April 1981 or as revised from time to time.	3	Prior to commencing operations, the <u>Department of Environmental Protection will seek</u> advice from the Water Authority of Western Australia, the Departments of Conservation and Land Management <u>and</u> Health and <u>the Fisheries Department on the identification of</u> beneficial uses and beneficial use zones for the waters in the locality of the outlets and <u>the determination of</u> a mixing zone to the <u>requirements</u> of the Minister for the Environment. The water quality criteria for the beneficial use zones <u>will be those</u> established by the Environmental Protection Authority Bulletin No 103, Water Quality Criteria for Marine and Estuarine Waters of Western Australia, April 1981, as revised from time to time.
	The allocation of beneficial uses and beneficial use zones and the mixing zone shall be periodically reviewed in the light of monitoring data to the satisfaction of the Minister for the Environment.	4	The allocation of beneficial uses and beneficial use zones and the mixing zone <u>will</u> be periodically reviewed in the light of monitoring data to the requirements of the Minister for the Environment.

Since 1990 there have been a number of improvements in the way in which conditions are worded, making requirements and responsibilities clearer.

For example, some conditions refer to the 'Environmental Protection Authority' at a time when it could have referred to the Authority itself or to the Department of Environmental Protection. It is desirable to clarify the intent of these conditions.

Without changing the intent or effect of the conditions the Environmental Protection Authority recommends that these minor improvements in wording should be effected. In Table 1 the recommended changes are highlighted by underlining.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
2	The combined mean monthly nutrient loadings within both the existing and proposed offshore pipelines from the Beenyup Wastewater Treatment Plant shall not exceed the maximum loads set for total Phosphorus (plus ten per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913 kg per day and for total Nitrogen the maximum load is 3.6 tonnes per day.	2 2-1	Target Loads for Nitrogen and Phosphorus <u>The proponent shall not permit</u> the combined mean monthly nutrient loadings within both the existing and proposed offshore pipelines from the Beenyup Wastewater Treatment Plant to exceed the maximum loads set for total Phosphorus (plus ten per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913 kg per day and for total Nitrogen 3.6 tonnes per day.

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
	There shall be no increase in nutrients beyond levels set unless approved by the Minister for the Environment, following referral to the Environmental Protection Authority and separate environmental impact assessment.	2-2	<u>The proponent shall refer any proposal to increase the levels of nutrients discharged beyond the levels set in 2-1 to the Environmental Protection Authority.</u>
	Monitoring reports, satisfactory to the Environmental Protection Authority, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater, shall be submitted to the Authority by 1 September each year.	2-3	<u>The proponent shall submit monitoring reports to the Department of Environmental Protection by 1 September each year, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater.</u>
3	Prior to 31 July 1990, the proponent shall commence the following studies to determine the impacts of nutrients from the Beenyup outfalls in consultation with and to the satisfaction of the Environmental Protection Authority on advice from Department of Conservation and Land Management.	3	<p>Nutrient Impact Studies</p> <p><u>The proponent should undertake studies to determine the impacts of nutrients from the Beenyup outfalls in consultation with and to the satisfaction of the Department of Environmental Protection on advice from the Department of Conservation and Land Management.</u></p>
	<ul style="list-style-type: none"> To examine water circulation in the region of the outlets of both the existing and proposed pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model. 	3-1	<p><u>Prior to 31 July 1990, the proponent shall commence studies to examine water circulation in the region of the outlets of both pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model.</u></p> <p>(Studies commenced, but on-going - deletion of condition not recommended.)</p>
	<ul style="list-style-type: none"> To examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2). 	3-2	<p><u>Prior to 31 July 1990, the proponent shall commence a study to examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2).</u></p> <p>(Studies commenced, but on-going - deletion of condition not recommended.)</p>

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
	Prior to commencement of these studies, the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the Environmental Protection Authority, the Department of Fisheries and the Department of Conservation and Land Management, to co-ordinate the studies.	3-3	Prior to commencement of <u>the studies required by conditions 3-1 and 3-2</u> , the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the <u>Department of Environmental Protection, the Fisheries Department</u> and the Department of Conservation and Land Management, to co-ordinate the studies. (TAG established, but on-going - deletion of condition not recommended.)
	In the event of the effluent causing an impact due to excessive nutrient loading which is unacceptable to the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.	3-4	In the event <u>that, due to excessive nutrient loading, the effluent causes an unacceptable environmental impact in the opinion of</u> the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.
4	The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the satisfaction of the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries.	4 4-1	Monitoring programme The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the requirements of the <u>Department of Environmental Protection</u> in consultation with the Department of Conservation and Land Management and the Fisheries Department .
	The proponent shall submit reports on the monitoring programme to the Environmental Protection Authority as outlined in the Public Environmental Report to the satisfaction of the Environmental Protection Authority.		The proponent shall submit reports on the monitoring programme to the <u>Department of Environmental Protection</u> as outlined in the Public Environmental Report to the requirements of the <u>Department of Environmental Protection</u> .
6	Should water quality criteria for bacteria in the prescribed beneficial use zones be exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations to the satisfaction of the Environmental Protection Authority.	6 6-1	Bacterial concentrations In the event <u>that water quality criteria for bacteria in the prescribed beneficial use zones are exceeded</u> , the proponent shall further treat the effluent to reduce bacterial concentrations to the requirements of the <u>Department of Environmental Protection</u> .

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
7	Should concentrations of bacteria or other contaminants introduced into the receiving water by the proponent be found by the Minister for the Environment to be unacceptable because of demonstrable effects on marine biota (especially mammals) concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.	7 7-1	Effects on marine biota <u>In the event that</u> concentrations of bacteria or other contaminants introduced into the receiving water by the proponent <u>are unacceptable in the opinion of the Minister for the Environment</u> because of demonstrable effects on marine biota (especially mammals) <u>the proponent shall ensure that</u> concentrations of contaminants are reduced to levels which are acceptable to the Minister for the Environment on advice from the <u>Department of Environmental Protection</u> .
8	The proponent shall undertake surveys, to the satisfaction the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.	8 8-1	Surveys of biota contamination The proponent shall undertake surveys, to the <u>requirements the Department of Environmental Protection</u> in consultation with the Department of Conservation and Land Management and the Fisheries Department, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.
	The surveys shall:		The surveys shall:
	<ul style="list-style-type: none"> • incorporate an initial survey which shall commence as soon as possible and be completed before the proposed pipeline becomes operational, to establish current levels of contamination in a range of species; and 		<ul style="list-style-type: none"> • incorporate an initial survey <u>commencing</u> as soon as possible and to be completed before the <u>second</u> pipeline becomes operational, to establish current levels of contamination in a range of species; and
	<ul style="list-style-type: none"> • include follow-up surveys which shall take place every three years with a major review after 12 years; and 		<ul style="list-style-type: none"> • include follow-up surveys <u>to</u> take place every three years with a major review after 12 years.
	<ul style="list-style-type: none"> • be forwarded to the above mentioned agencies within six months of completion of sampling. 		[<u>The proponent shall forward</u> results to the <u>Department of Environmental Protection</u> within six months of completion of sampling.]

Table 1 Recommended changes to conditions (continued)

No	Original condition	No	Recommended condition
	Should levels of contamination of biota be found to be unacceptable to the Minister for the Environment, concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.	8-2	<u>In the event that levels of contamination of biota are found to be unacceptable in the opinion of the Minister for the Environment, the proponent shall reduce concentrations of contaminants to levels which are acceptable to the Minister for the Environment on advice from the Department of Environmental Protection.</u>
11	Following the construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the satisfaction of the Environmental Protection Authority on advice from the Department of Planning and Urban Development.	11 11-1	Rehabilitation of on-shore site Following the <u>completion of</u> construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the requirements of the <u>Department of Environmental Protection</u> on advice from the Department of Planning and Urban Development.
14	The proponent shall be responsible for decommissioning, and if necessary, removal of the pipeline and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority. Accordingly, the proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.	14 14-1 14-2 14-3	Decommissioning The proponent shall <u>achieve</u> satisfactory decommissioning, and if necessary, removal of the pipeline and rehabilitation of the site and its environs. The proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the <u>requirements of the Department of Environmental Protection.</u> <u>The proponent shall implement the plan required by condition 14-2.</u>

5. Discussion and synthesis

The request for an extension in the reporting deadline for Conditions 12 and 13 is environmentally acceptable. The conditions could be updated in line with current best practice by the inclusion of the standard flexibility clause, the deletion of those conditions which have been fully met and other minor improvements in wording and layout.

6. Conclusions and recommendations

The Environmental Protection Authority recommends that Conditions 12 and 13 of the statement issued in 1990 be amended to require the reports to be presented by 31 March 1995.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by the Water Authority of Western Australia for Changes to Environmental Conditions to the Beenyup wastewater ocean outlet duplication into Marmion Marine Park is environmentally acceptable.

In reaching this conclusion the Environmental Protection Authority recognised that the discharge of wastewater to Perth's coastal waters is of such importance that adequate time is necessary for reporting on the studies undertaken, and that there were no environmental factors requiring reporting by an earlier date.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to:

- the Environmental Protection Authority's recommendations in this Assessment Report.**

The Authority's experience is that it is common for details of the proposal to alter. In many cases alterations are not environmentally significant or have positive effects on the environmental performance of the project. The Authority believes that such non-substantial changes, and especially those which improve the environmental performance and protection, should be provided for.

Recommendation 2

The Environmental Protection Authority recommends that Condition 1 of the Statement of July 1990 be replaced by the standard 'flexibility clause'.

Conditions 9 and 10 which relate solely to the pre-construction and construction phases and have now been satisfactorily completed and formally cleared should be deleted.

Recommendation 3

The Environmental Protection Authority recommends that Conditions 9 and 10 having been fully satisfied and formally cleared should be deleted, and their deletion appropriately noted on the statement.

Condition 5 is a requirement for action by agencies other than the proponent. It should be expressed as a set of procedures at the end of the statement, rather than as a condition. The standard procedures on compliance verification should also be added.

Recommendation 4

The Environmental Protection Authority recommends that Condition 5 should be deleted and re-expressed as a set of procedures at the end of the statement, along with the standard procedures on compliance verification.

Since 1990 there have been a number of improvements in the way in which conditions are worded, making requirements and responsibilities clearer. Without changing the intent or effect of the conditions the Environmental Protection Authority recommends that these improvements in wording should be effected.

Recommendation 5

The Environmental Protection Authority recommends that minor changes in wording consistent with the original effect of the conditions and with current condition setting practice should be effected.

7. Recommended environmental conditions

Based on its assessment of this proposal and recommendations in this report, the Environmental Protection Authority considers that the following Recommended Environmental Conditions are appropriate.

PROPOSAL: BEENYUP WASTEWATER OCEAN OUTLET
DUPLICATION INTO MARMION MARINE PARK
CURRENT PROPONENT: WATER AUTHORITY OF WESTERN AUSTRALIA
CONDITIONS SET ON: 16 JULY 1990

The implementation of this proposal is now subject to the following conditions which replace all previous conditions:

1 Implementation

The proponent must adhere in substance to the proposal as assessed. However, 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 Target Loads for Nitrogen and Phosphorus

- 2-1 The proponent shall not permit the combined mean monthly nutrient loadings within both the original and second pipelines from the Beenyup Wastewater Treatment Plant to exceed the maximum loads set for total Phosphorus (plus 10 per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913kg per day and for total Nitrogen 3.6 tonnes per day.
- 2-2 The proponent shall refer any proposal to increase the levels of nutrients discharged beyond the levels set in 2-1 to the Environmental Protection Authority.
- 2-3 The proponent shall submit monitoring reports to the Department of Environmental Protection by 1 September each year, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater.

3 Nutrient Impact Studies

The proponent should undertake studies to determine the impacts of nutrients from the Beenyup outfalls in consultation with and to the satisfaction of the Department of Environmental Protection on advice from the Department of Conservation and Land Management.

- 3-1 Prior to 31 July 1990, the proponent shall commence studies to examine water circulation in the region of the outlets of both pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model.

- 3-2 Prior to 31 July 1990, the proponent shall commence studies to examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2).
- 3-3 Prior to commencement of the studies required by conditions 3-1 and 3-2, the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the Department of Environmental Protection, the Fisheries Department and the Department of Conservation and Land Management, to coordinate the studies.
- 3-4 In the event that, due to excessive nutrient loading, the effluent causes an unacceptable environmental impact in the opinion of the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.

4 Monitoring programme

- 4-1 The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the requirements of the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department.

The proponent shall submit reports on the monitoring programme to the Department of Environmental Protection as outlined in the Public Environmental Report to the requirements of the Department of Environmental Protection.

5 Water quality

Condition deleted - replaced by Procedures 3 and 4.

6 Bacterial concentrations

- 6-1 In the event that water quality criteria for bacteria in the prescribed beneficial use zones are exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations.

7 Effects on marine biota

- 7-1 In the event that concentrations of bacteria or other contaminants introduced into the receiving water by the proponent are unacceptable in the opinion of the Minister for the Environment because of demonstrable effects on marine biota (especially mammals) the proponent shall take actions to ensure that concentrations of contaminants are reduced to levels which are acceptable to the Minister for the Environment on advice from the Department of Environmental Protection.

8 Surveys of biota contamination

- 8-1 The proponent shall undertake surveys, to the requirements the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.

The surveys shall:

- incorporate an initial survey commencing as soon as possible and to be completed before the second pipeline becomes operational, to establish current levels of contamination in a range of species; and
- include follow-up surveys to take place every three years with a major review after 12 years.

[The proponent shall forward results to the Department of Environmental Protection within six months of completion of sampling.]

8-2 In the event that levels of contamination of biota are found to be unacceptable in the opinion of the Minister for the Environment, the proponent shall reduce concentrations of contaminants to levels which are acceptable to the Minister for the Environment on advice from the Department of Environmental Protection.

9 Approval of pipeline alignment

Alignment now approved and pipeline constructed - condition deleted.

10 Alternative to underwater blasting for rock removal

Alternative approved and rock removed - condition deleted.

11 Rehabilitation of on-shore site

11-1 Following the completion of construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the requirements of the Department of Environmental Protection on advice from the Department of Planning and Urban Development.

12 Studies to predict loads and impacts by 2040

12-1 Prior to 31 March 1995, the proponent shall undertake and complete studies to the requirements of the Environmental Protection Authority which:

- predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and
- determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040.

13 Studies of alternatives to ocean disposal

13-1 Prior to 31 March 1995, the proponent shall undertake and complete a study to the requirements of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.

14 Decommissioning

14-1 The proponent shall achieve satisfactory decommissioning, and if necessary, removal of the pipeline and rehabilitation of the site and its environs.

14-2 The proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the requirements of the Department of Environmental Protection.

14-3 The proponent shall implement the plan required by condition 14-2.

Procedure

- 1 The Department of Environmental Protection 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 Department of Environmental Protection, 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 Prior to commencing operations, the Department of Environmental Protection, on advice from the Water Authority of Western Australia, the Departments of Conservation and Land Management, Health and the Fisheries Department shall identify beneficial uses and beneficial use zones for the waters in the locality of the outlets and determine a mixing zone to the requirements of the Minister for the Environment. The water quality criteria for the beneficial use zones shall be established by the Environmental Protection Authority Bulletin No 103 Water Quality Criteria for Marine and Estuarine Waters of Western Australia, April, 1981 or as revised from time to time.
- 4 The allocation of beneficial uses and beneficial use zones and the mixing zone shall be periodically reviewed in the light of monitoring data to the requirements of the Minister for the Environment.

8. References

1. Environmental Protection Authority "Proposed Beenyup wastewater ocean outlet duplication into Marmion Marine Park - Report and Recommendations of the Environmental Protection Authority", Bulletin 393, Perth, January 1990
2. Environmental Protection Authority "Review of Peel Inlet - Harvey Estuary Management Strategy, Stage 2, Environmental Conditions - Public discussion paper of the Environmental Protection Authority", Bulletin 749, Perth, July 1994

Appendix 1

Environmental statement 16 July 1990



WESTERN AUSTRALIA
MINISTER FOR ENVIRONMENT

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

BEENYUP WASTEWATER OCEAN OUTLET DUPLICATION INTO MARMION MARINE PARK

This proposal may be implemented subject to the following conditions:

- 1 The proponent shall adhere to the proposal outlined in the Public Environmental Review and as assessed by the Environmental Protection Authority.
- 2 The combined mean monthly nutrient loadings within both the existing and proposed offshore pipelines from the Beenyup Wastewater Treatment Plant shall not exceed the maximum loads set for total Phosphorus (plus ten per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913 kg per day and for total Nitrogen the maximum load is 3.6 tonnes per day.

There shall be no increase in nutrients beyond levels set unless approved by the Minister for the Environment, following referral to the Environmental Protection Authority and separate environmental impact assessment.

Monitoring reports, satisfactory to the Environmental Protection Authority, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater, shall be submitted to the Authority by 1 September each year.

- 3 Prior to 31 July 1990, the proponent shall commence the following studies to determine the impacts of nutrients from the Beenyup outfalls in consultation with and to the satisfaction of the Environmental Protection Authority on advice from Department of Conservation and Land Management.
 - To examine water circulation in the region of the outlets of both the existing and proposed pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model.
 - To examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2).

Prior to commencement of these studies, the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the Environmental Protection Authority, the Department of Fisheries and the Department of Conservation and Land Management, to co-ordinate the studies.

In the event of the effluent causing an impact due to excessive nutrient loading which is unacceptable to the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.

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- 4 The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the satisfaction of the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries.

The proponent shall submit reports on the monitoring programme to the Environmental Protection Authority as outlined in the Public Environmental Report to the satisfaction of the Environmental Protection Authority.

- 5 Prior to commencing operations, the Environmental Protection Authority, on advice from the Water Authority of Western Australia, and the Departments of Conservation and Land Management, Health and Fisheries shall identify beneficial uses and beneficial use zones for the waters in the locality of the outlets and determine a mixing zone to the satisfaction of the Minister for the Environment. The water quality criteria for the beneficial use zones shall be established by the Environmental Protection Authority Bulletin No 103 Water Quality Criteria for Marine and Estuarine Waters of Western Australia April 1981 or as revised from time to time.

The allocation of beneficial uses and beneficial use zones and the mixing zone shall be periodically reviewed in the light of monitoring data to the satisfaction of the Minister for the Environment.

- 6 Should water quality criteria for bacteria in the prescribed beneficial use zones be exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations to the satisfaction of the Environmental Protection Authority.
- 7 Should concentrations of bacteria or other contaminants introduced into the receiving water by the proponent be found by the Minister for the Environment to be unacceptable because of demonstrable effects on marine biota (especially mammals) concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.
- 8 The proponent shall undertake surveys, to the satisfaction the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.

The surveys shall:

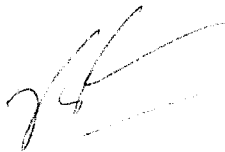
- incorporate an initial survey which shall commence as soon as possible and be completed before the proposed pipeline becomes operational, to establish current levels of contamination in a range of species; and
- include follow-up surveys which shall take place every three years with a major review after 12 years; and
- be forwarded to the above mentioned agencies within six months of completion of sampling.

Should levels of contamination of biota be found to be unacceptable to the Minister for the Environment, concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.

- 9 Prior to adoption of final pipeline alignment, the proponent shall undertake and complete a survey to the satisfaction of the Environmental Protection Authority on advice from the Department of Conservation and Land Management, to examine the flora and fauna along the path and within an area approximately 10 metres either side of the proposed pipeline.

Should the survey identify an area which is determined by the Minister for the Environment on advice from the Environmental Protection Authority and the Department of Conservation and Land Management to have high conservation value or sensitivity, the proponent shall modify the pipeline alignment to the satisfaction of the Minister for the Environment.

- 10 Prior to construction, the proponent shall find an alternative to underwater blasting as the method of rock removal satisfactory to the Minister for the Environment on advice from the Environmental Protection Authority.
- 11 Following the construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the satisfaction of the Environmental Protection Authority on advice from the Department of Planning and Urban Development.
- 12 Prior to December 1994, the proponent shall undertake and complete studies to the satisfaction of the Environmental Protection Authority which:
 - predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and
 - determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040.
- 13 Prior to December 1994, the proponent shall undertake and complete a study to the satisfaction of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.
- 14 The proponent shall be responsible for decommissioning, and if necessary, removal of the pipeline and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority. Accordingly, the proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.



Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

13 JUL 1990

Appendix 2

List of environmental conditions with a summary of monitoring, compliance, and recommendations for change.

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
1	The proponent shall adhere to the proposal outlined in the Public Environmental Review and as assessed by the Environmental Protection Authority.	Performance has been satisfactory to date. In more recent statements this condition has been changed to allow the Minister some flexibility to approve minor changes of the proposal which may be environmentally beneficial or neutral.	Replace the condition with the following: 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	The combined mean monthly nutrient loadings within both the existing and proposed offshore pipelines from the Beenyup Wastewater Treatment Plant shall not exceed the maximum loads set for total Phosphorus (plus ten per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913 kg per day and for total Nitrogen the maximum load is 3.6 tonnes per day.	These levels and sampling methods have been set in conditions D1 to D8 of the Licence issued under the Environmental Protection Act. Reports of monitoring to date show the levels have not been exceeded.	2-1 The proponent shall not permit the combined mean monthly nutrient loadings within both the original and second pipelines from the Beenyup Wastewater Treatment Plant to exceed the maximum loads set for total Phosphorus (plus ten per cent) and total Nitrogen for the original single outfall. The maximum load set for total Phosphorus is 913 kg per day and for total Nitrogen 3.6 tonnes per day. 2-2 The proponent shall refer any proposal to increase the levels of nutrients discharged beyond the levels set in 2-1 to the Environmental Protection Authority.
	There shall be no increase in nutrients beyond levels set unless approved by the Minister for the Environment, following referral to the Environmental Protection Authority and separate environmental impact assessment.	No referral made to date. Reports of monitoring to date show the levels have not been exceeded.	

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
	Monitoring reports, satisfactory to the Environmental Protection Authority, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater, shall be submitted to the Authority by 1 September each year.	This reporting is carried out under Licence condition G2(a) 1992/3 Report forwarded 30 August 1993. 1993/4 Report forwarded 23 August 1994 Quarterly reports have also been submitted.	2-3 The proponent shall submit monitoring reports to the Department of Environmental Protection by 1 September each year, giving details of the plant performance, in relation to the mean monthly nutrient concentrations and loads in the wastewater.
3	Prior to 31 July 1990, the proponent shall commence the following studies to determine the impacts of nutrients from the Beenyup outfalls in consultation with and to the satisfaction of the Environmental Protection Authority on advice from Department of Conservation and Land Management. <ul style="list-style-type: none"> • To examine water circulation in the region of the outlets of both the existing and proposed pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model. 	Studies commenced. Reporting covered under Condition 12.	3-1 Prior to 31 July 1990, the proponent shall commence studies to examine water circulation in the region of the outlets of both pipelines in order to determine the flushing characteristics of the receiving waterbody. A complete range of conditions shall be sampled to enable calibration of an appropriate numerical model.
	<ul style="list-style-type: none"> • To examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2). 	Studies commenced. Reporting covered under Condition 12.	3-2 Prior to 31 July 1990, the proponent shall commence studies to examine the effects of nutrient loadings on the local marine communities. This study shall involve at least three years of intensive effort (Phase 1) and two to three years of reduced effort (Phase 2).

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
	<p>Prior to commencement of these studies, the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the Environmental Protection Authority, the Department of Fisheries and the Department of Conservation and Land Management, to co-ordinate the studies.</p>	<p>TAG established and functioning. Condition satisfied and formally cleared 27/7/92.</p>	<p>3-3 Prior to commencement of the studies required by conditions 3-1 and 3-2, the proponent shall establish a Technical Advisory Group, which includes representatives from the Water Authority of Western Australia, the Department of Environmental Protection, the Fisheries Department and the Department of Conservation and Land Management, to co-ordinate the studies.</p>
	<p>In the event of the effluent causing an impact due to excessive nutrient loading which is unacceptable to the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.</p>	<p>Reports of monitoring of effluent nutrient loadings to date show the levels set have not been exceeded. To date no instances of unacceptable impact have been reported. Further reporting covered under Condition 12.</p>	<p>3-4 In the event that, due to excessive nutrient loading, the effluent causes an unacceptable environmental impact in the opinion of the Minister for the Environment on advice from the Environmental Protection Authority, the proponent shall undertake additional treatment of the effluent to further remove nutrients to a level acceptable to the Minister for the Environment.</p>
4	<p>The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the satisfaction of the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries.</p>	<p>Licence condition D10 requires additional parameters to those listed in the PER and a sampling frequency reduced from quarterly to annual, as foreshadowed in the PER.</p>	<p>4-1 The proponent shall continue with the existing monitoring programme as described in the Public Environmental Report to the requirements of the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department.</p>
	<p>The proponent shall submit reports on the monitoring programme to the Environmental Protection Authority as outlined in the Public Environmental Report to the satisfaction of the Environmental Protection Authority.</p>	<p>Licence condition D10 requires annual reporting of this monitoring. 1992/3 Report forwarded 30 August 1993. 1993/4 Report forwarded 23 August 1994</p>	<p>The proponent shall submit reports on the monitoring programme to the Department of Environmental Protection as outlined in the Public Environmental Report to the requirements of the Department of Environmental Protection.</p>

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
5	<p>Prior to commencing operations, the Environmental Protection Authority, on advice from the Water Authority of Western Australia, and the Departments of Conservation and Land Management, Health and Fisheries shall identify beneficial uses and beneficial use zones for the waters in the locality of the outlets and determine a mixing zone to the satisfaction of the Minister for the Environment. The water quality criteria for the beneficial use zones shall be established by the Environmental Protection Authority Bulletin No 103 Water Quality Criteria for Marine and Estuarine Waters of Western Australia April 1981 or as revised from time to time.</p>	<p>The PER proposed beneficial uses. The EPA accepted these, and a 300m mixing zone, in the interim while the studies required by Conditions 12 and 13 were completed.</p> <p>Condition satisfied and formally cleared 27/7/92.</p>	<p>Deleted - replaced by this Procedure:</p> <p>3 Prior to commencing operations, the Department of Environmental Protection will seek advice from the Water Authority of Western Australia, the Departments of Conservation and Land Management and Health and the Fisheries Department on the identification of beneficial uses and beneficial use zones for the waters in the locality of the outlets and the determination of a mixing zone to the requirements of the Minister for the Environment. The water quality criteria for the beneficial use zones will be those established by the Environmental Protection Authority Bulletin No 103, Water Quality Criteria for Marine and Estuarine Waters of Western Australia, April 1981, as revised from time to time.</p>
	<p>The allocation of beneficial uses and beneficial use zones and the mixing zone shall be periodically reviewed in the light of monitoring data to the satisfaction of the Minister for the Environment.</p>	<p>A review is currently underway as part of the studies under Conditions 12 and 13.</p>	<p>Deleted - replaced by this Procedure:</p> <p>4 The allocation of beneficial uses and beneficial use zones and the mixing zone will be periodically reviewed in the light of monitoring data, to the requirements of the Minister for the Environment.</p>
6	<p>Should water quality criteria for bacteria in the prescribed beneficial use zones be exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations to the satisfaction of the Environmental Protection Authority.</p>	<p>Reports of monitoring to date show the levels have not been exceeded.</p>	<p>6-1 In the event that water quality criteria for bacteria in the prescribed beneficial use zones are exceeded, the proponent shall further treat the effluent to reduce bacterial concentrations.</p>

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
7	Should concentrations of bacteria or other contaminants introduced into the receiving water by the proponent be found by the Minister for the Environment to be unacceptable because of demonstrable effects on marine biota (especially mammals) concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.	To date no instances of unacceptable impacts on marine biota have been reported. Further reporting is covered under Condition 12.	7-1 In the event that concentrations of bacteria or other contaminants introduced into the receiving water by the proponent are unacceptable in the opinion of the Minister for the Environment because of demonstrable effects on marine biota (especially mammals) the proponent shall take actions to ensure that concentrations of contaminants are reduced to levels which are acceptable to the Minister for the Environment on advice from the Department of Environmental Protection.
8	The proponent shall undertake surveys, to the satisfaction the Environmental Protection Authority in consultation with the Departments of Conservation and Land Management and Fisheries, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.	Satisfactory to date (see below).	8-1 The proponent shall undertake surveys, to the requirements the Department of Environmental Protection in consultation with the Department of Conservation and Land Management and the Fisheries Department, to investigate contamination of biota (particularly the harvestable fish species of the area) by heavy metals, pesticides and by-products of the chlorination process.
	The surveys shall: <ul style="list-style-type: none"> incorporate an initial survey which shall commence as soon as possible and be completed before the proposed pipeline becomes operational, to establish current levels of contamination in a range of species; and include follow-up surveys which shall take place every three years with a major review after 12 years; and 	Condition satisfied and formally cleared 27/7/92. First follow-up survey not due yet.	The surveys shall: <ul style="list-style-type: none"> incorporate an initial survey commencing as soon as possible and to be completed before the second pipeline becomes operational, to establish current levels of contamination in a range of species; and include follow-up surveys to take place every three years with a major review after 12 years.
	<ul style="list-style-type: none"> be forwarded to the above mentioned agencies within six months of completion of sampling. 	Satisfactory to date.	[The proponent shall forward results to the Department of Environmental Protection within six months of completion of sampling.]

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
	Should levels of contamination of biota be found to be unacceptable to the Minister for the Environment, concentrations of contaminants shall be reduced to levels which are acceptable to the Minister for the Environment on advice from the Environmental Protection Authority.	Follow-up surveys will monitor levels of contamination. First follow-up survey not due yet.	8-2 In the event that levels of contamination of biota are found to be unacceptable in the opinion of the Minister for the Environment, the proponent shall reduce concentrations of contaminants to levels which are acceptable to the Minister for the Environment on advice from the Department of Environmental Protection.
9	Prior to adoption of final pipeline alignment, the proponent shall undertake and complete a survey to the satisfaction of the Environmental Protection Authority on advice from the Department of Conservation and Land Management, to examine the flora and fauna along the path and within an area approximately 10 metres either side of the proposed pipeline.	Pipeline alignment examined and approved. Condition satisfied and formally cleared 15/7/91.	Delete. No longer needed.
	Should the survey identify an area which is determined by the Minister for the Environment on advice from the Environmental Protection Authority and the Department of Conservation and Land Management to have high conservation value or sensitivity, the proponent shall modify the pipeline alignment to the satisfaction of the Minister for the Environment.	The survey did not reveal any need to modify the pipeline alignment. Condition satisfied and formally cleared 15/7/91.	Delete. No longer needed.
10	Prior to construction, the proponent shall find an alternative to underwater blasting as the method of rock removal satisfactory to the Minister for the Environment on advice from the Environmental Protection Authority.	Alternative of a large cutter suction dredge found acceptable. Condition satisfied and formally cleared 15/7/91.	Delete. No longer needed.
11	Following the construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the satisfaction of the Environmental Protection Authority on advice from the Department of Planning and Urban Development.	WAWA to engage landscape architect to prepare draft plans for discussion with EPA and other agencies.	11-1 Following the completion of construction and launching of the pipeline, the proponent shall rehabilitate the onshore site to the requirements of the Department of Environmental Protection on advice from the Department of Planning and Urban Development.

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
12	<p>Prior to December 1994, the proponent shall undertake and complete studies to the satisfaction of the Environmental Protection Authority which:</p> <ul style="list-style-type: none"> predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and 	<p>Proponent has requested an extension of the time for reporting. This extension would have no unacceptable environmental impacts.</p>	<p>12-1 Prior to 31 March 1995, the proponent shall undertake and complete studies to the requirements of the Environmental Protection Authority which:</p> <ul style="list-style-type: none"> predict the wastewater discharges and characteristics likely to occur by the year 2040 from metropolitan Perth (including discharges from the area between Mandurah and Yanchep inclusive); and
	<ul style="list-style-type: none"> determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040. 	<p>The use of the term "assimilative capacity" is currently the subject of some controversy in the scientific community (see EPA Bulletin 7492 p1). At a later date it may be appropriate to consider amending the wording of this condition.</p>	<ul style="list-style-type: none"> determine whether or not the waters off Metropolitan Perth have the assimilative capacity for the combined wastewater discharges predicted to occur by 2040.
13	<p>Prior to December 1994, the proponent shall undertake and complete a study to the satisfaction of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.</p>	<p>Proponent has requested an extension of the time for reporting. This extension would have no unacceptable environmental impacts.</p>	<p>13-1 Prior to 31 March 1995, the proponent shall undertake and complete a study to the requirements of the Environmental Protection Authority which investigates alternatives to ocean disposal of wastewater.</p>

Appendix 2: List of conditions, report on compliance and recommendations for changes

No	Original condition	Compliance to date	Recommendation
14	<p>The proponent shall be responsible for decommissioning, and if necessary, removal of the pipeline and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority. Accordingly, the proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.</p>	<p>Not due yet.</p>	<p>14-1 The proponent shall achieve satisfactory decommissioning, and if necessary, removal of the pipeline and rehabilitation of the site and its environs.</p> <p>14-2 The proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the requirements of the Department of Environmental Protection.</p> <p>14-3 The proponent shall implement the plan required by condition 14-2.</p>