


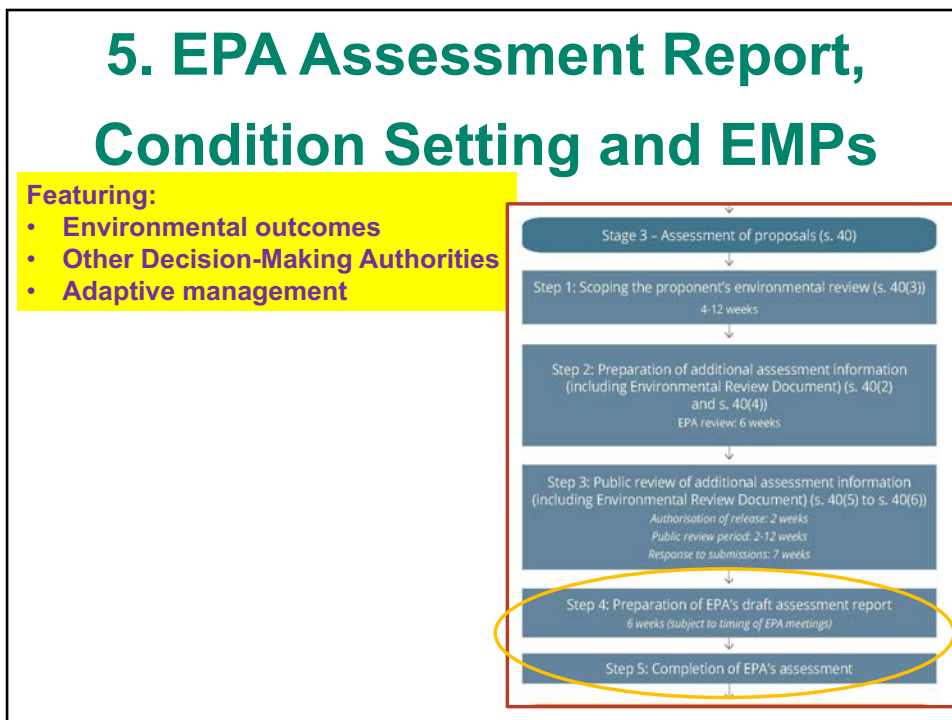
EIA Practitioners Course March 13 & 14 February 2024

Table List – Day 2 – 14 February

Table 1	Table 2	Table 3	Table 4
Kane Jackson Pamela Simpson Erin Cameron Sophia Gia Brandao Pinto Cally Koopman Sujan Henk	Camila Bedulli do Carmo Sheldon Chambers Catherine Rea Dominic Flynn Lauren Munks Toni Munro	Helen Shaughnessy Jack Robinson Christine Athanassiou Yoanna Seesaha Andrew Wiltshire Cindy Beckley	Nathan Sumner Minh Vo Ryan Cook Hannah Raphael Shona Wharton Linda Dalgliesh
Table 5	Table 6	Table 7	Table 8
Ashlee Barrowcliff Debbie Gleeson Haydn Davies Stefen Humphries Brooke Campbell Lindsay Shelton	Amanda Thomas Robyn Chesney Tracy de Vetter Kat Partridge Brandon Ovens Pierre Bouvais	Kate Morrison Clare Whyte Ben Miles Matthew Germs Shona James Jason Paterson	Hannah Sumner Viki Cramer Stacey Meredith Samantha Mickan Kieran Birch Nicole Dakin
	Table 9	Table 10	
	Rowan Inglis Lauren Kupsch Samuel Luckas Rochelle Lupton Rachel Bell Felicity Keet	Sarah Jupp Megan Jones Kirk Rumball Shirley Dawe Jacob Boxall Jade Pitman	



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EPA Report – EPAct 1986, s44 (1), (2), (2a)

44. Report by Authority

(1) ...the Authority ... **must prepare a report** on the outcome of its assessment ... and give that report (the "assessment report") to the Minister

(2) The assessment report **must set out** –


- (a) what the Authority considers to be the **key environmental factors** identified in the course of the assessment; and
- (b) the Authority's recommendations as to **whether or not the proposal may be implemented** and, if it recommends that implementation be allowed, as to the **conditions and procedures**, if any, to which implementation should be subject.

[2AA]...

(2a) The Authority **may**, if it thinks fit, **include other information, advice and recommendations** in the assessment report.


[Section 44 amended by No. 40 of 2020, s 27.]

[similar provision for Schemes – in s48D(1)]



(EPAct s44)

advice can be to Minister or to any other person (Admin Proc 2021, s4.1)



3

Environmental outcomes (i)

2 Introduction + holistic impact assessment

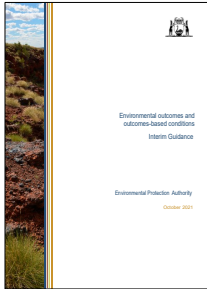
In assessing proposals, a central consideration for the EPA is whether a proposal can be implemented in conformity with the achievement of its environmental objectives. Environmental outcomes are a key tool for the EPA to use in considering this.

The EPA's ability to consider whether its environmental objectives are met is improved when it is provided with information from the proponent about proposed environmental outcomes or information about residual environmental impacts, rather than just being provided with measures to minimise or manage impacts.

Environmental outcomes are fundamental to the EPA's decision on whether or not to recommend approval

EPA 2021, *Environmental outcomes... Interim Guidance*, p2

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes (ii)

3 What is an environmental outcome?

An environmental outcome, in the context of EIA, is the state of the environment at a point in time during implementation or after a proposal has been implemented.

Environmental outcomes:

- reflect specific and measurable environmental states
- have a clear boundary, size, extent, or limit
- are associated with the achievement of one or more of the EPA's objectives for environmental factors (refer to the EPA's [Statement of environmental principles, factors, objectives and aims of EIA](#)).

The EPA believes the focus on environmental outcomes throughout the EIA process is a key mechanism to ensuring proposals can be implemented to be consistent with the *Environmental Protection Act 1986* (EP Act) principles and with the EPA's objectives for environmental factors.

Proponent responsibility

EPA 2021, *Environmental outcomes... Interim Guidance*, p2

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Identifying environmental outcomes - proponents

6 Requirements of proponents – identifying proposed environmental outcomes

The EPA requires proponents to identify the environmental outcomes likely to result from their proposal as early as possible in the development of their proposal, and to continue to assess and refine the proposed environmental outcomes throughout the assessment process.

This process should begin in the pre-referral discussions. This enables proponents to consider from the outset whether likely outcomes appear to be inconsistent with the EP Act principles and EPA objectives for environmental factors. Proposed environmental outcomes should also be included in the referral document, so they can be considered during public comment on the referral, and in the EPA's decision whether or not to assess a proposal.

Proponents should apply the mitigation hierarchy to reduce the environmental impacts of their proposal at pre-referral and referral, and then continue to apply the mitigation hierarchy throughout any further assessment phase as more information about the proposal and its impacts is known. Proponents should then assess likely residual environmental impacts as a result of their proposals.

Once the likely residual impacts (proposal-centric) from a proposal are assessed, proponents should then propose the environmental outcomes (environment-centric) they believe are achievable during and after the implementation of their proposal up until the proposal is fully implemented. This process should take into account whether the proposed environmental outcomes are consistent with the EP Act principles and EPA objectives for environmental factors.

EPA 2021, *Environmental outcomes... Interim Guidance*, p5

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes throughout EIA process (i) *Referral*

5 Environmental outcomes throughout the EIA process

Environmental outcomes are relevant at every stage of assessment, as outlined in the EPA's Procedures Manual and associated Instructions, and as summarised below.

Note: Environmental outcomes are referred to as "likely" until they are substantiated and proposed by a proponent in a formal EIA application (i.e., referral, assessment or post assessment application), where they are referred to as "proposed" environmental outcomes.

Stage 1 - Referral of a proposal to the EPA

Proponents are encouraged to discuss likely environmental outcomes of their proposal and application of the mitigation hierarchy in pre-referral discussions with the EPA.

If it appears the likely environmental outcomes of a proposal may be inconsistent with the EP Act principles and EPA objectives for environmental factors, the EPA encourages proponents to consider proposal alternatives and further apply the mitigation hierarchy.

Proponents should discuss proposed environmental outcomes in referral documentation, as outlined in the EPA's [Instruction and form: Referral of a proposal under section 38 of the EP Act](#).

EPA 2021, *Environmental outcomes... Interim Guidance*, p3

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes throughout EIA process (ii) *ERD*

5 Environmental outcomes throughout the EIA process

Stage 3 - Assessment of proposals

Proponents should assess likely residual impacts from the implementation of the proposal in any assessment information they prepare, including any Environmental Review Document (see the EPA's [Instruction and template: How to prepare an Environmental Review Document](#) for more detailed information about the content required in an Environmental Review Document).

Once likely residual impacts from a proposal are assessed, the proponent should specify the related environmental outcomes they propose to achieve or ensure during and at the cessation of the implementation of their proposal. Examples of how to translate a likely residual impact (which is proposal-centric) into a proposed environmental outcome (which is environment-centric) are discussed in Section 6.

Proponents should then consider whether the proposed environmental outcomes are consistent with the EP Act principles and EPA objectives for the key environmental factors.

Proponents should also include details on whether and how the proposed environmental outcome can be assured by conditions or other statutory decision-making processes.

As in Step 1, if it appears the environmental outcomes of a proposal may be inconsistent with the EP Act principles and EPA objectives for environmental factors, the EPA encourages proponents to consider proposal alternatives and further apply the mitigation hierarchy.

EPA 2021, *Environmental outcomes... Interim Guidance*, p4

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes throughout EIA process (iii) **EPA report**

5 Environmental outcomes throughout the EIA process

Stage 4 - EPA report on the assessment of a proposal

In its Assessment Report to the Minister, the EPA will consider likely residual impacts and proposed environmental outcomes, including whether these are consistent with the EP Act principles and EPA objectives for the final key environmental factors.

The EPA will also consider whether to recommend conditions to ensure environmental outcomes are met. The EPA prefers outcome-based conditions where practical, leaving the proponent flexibility in how the outcome-based condition is achieved.

The EPA will also consider whether to recommend that outcome-based environmental management plan conditions should be imposed to provide assurance that environmental outcomes can be met (see the EPA's [Instruction and template: How to prepare EP Act Part IV Environmental Management Plans](#) for further detail about the content of outcome-based environmental management plan conditions).

Note: If there is inconsistency between proposed environmental outcomes and the EP Act principles and/or EPA objectives for the final key environmental factors, the EPA may take this into account when recommending whether or not the proposal may be implemented.

EPA 2021, *Environmental outcomes... Interim Guidance*, p4

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes versus residual impact (i)

In identifying environmental outcomes, it is important to distinguish the difference between an environmental outcome and a residual impact.

Residual impacts are the **impact/s** of a proposal that are **expected to remain after the application of the mitigation** hierarchy.

Environmental outcomes are the **state of the environment** at a point in time during implementation or after a proposal has been implemented.

Residual impacts are "proposal-centric" whereas **environmental outcomes are "environment-centric"**.

EPA 2021, *Environmental outcomes... Interim Guidance*, p2

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes versus residual impact (ii)

An example of this process is: if the residual impact of a proposal was a low risk of the introduction of new weed species, the proponent may consider it achievable to ensure no weeds were introduced and propose an environmental outcome for the proposal of “no introduction of weeds to the development envelope”. Achievement of this outcome would be consistent with the EPA’s objective for its flora and vegetation environmental factor.

Another example is: if the residual impact of a proposal was that discharge of brine to the marine environment of x ML/d with a salinity of y mg/L was not likely to cause a significant impact on marine environmental values, the proponent may propose an environmental outcome of “meet the (specified criteria – consistent with high level of environmental protection) for [specified environmental value] within z m of the outfall”. Achievement of this outcome would be consistent with the EPA’s objective for its marine environmental quality environmental factor.

Or consider amount of clearing (proposal) versus extent remaining (environment)

EPA 2021, *Environmental outcomes... Interim Guidance*, p5

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcomes_based_conditions.pdf



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Environmental outcomes at the Commonwealth level (i)

The EPBC Act has no comprehensive mechanism to describe the environmental outcomes it is seeking to achieve, or to ensure decisions are made in a way that contributes to them (Samuel, 2020, p2)



Samuel G, (2020) *Independent Review of the EPBC Act – Final Report October 2020*, <https://epbcactreview.environment.gov.au/resources/final-report>

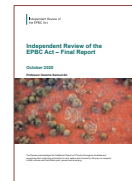
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Environmental outcomes at the Commonwealth level (ii)

National Environmental Standards should set clear requirements for those that interact with the EPBC Act and clear bounds for decision-makers.

Standards should prescribe how activities at all scales, including actions, decisions, plans and policies contribute to outcomes for the environment.

(Samuel, 2020, p2)



Samuel G, (2020) *Independent Review of the EPBC Act – Final Report October 2020*, <https://epbcactreview.environment.gov.au/resources/final-report>

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EPA assessment provisions in *Admin Proc* (i)

3.1.4 Step 4. Preparation of EPA's draft assessment report

The EPA starts to prepare a draft assessment report when it has adequate information that meets its requirements. This is either when—

1. **the EPA decides to assess a proposal**, if the only information required for the assessment is the referral information (specified in the level of assessment record required by s. 39(b)), or
2. **the EPA accepts additional assessment information** (including an Environmental Review Document, or information requested by written notice) provided during an assessment, if public review of that information is not required, or
3. **the public review period closes** (on an Environmental Review Document or other additional assessment information), if public review of that information is required and the EPA does not require the proponent to respond to submissions, or
4. **the EPA decides that it can proceed to prepare its draft assessment report after receipt of the proponent's response to submissions** (on an Environmental Review Document or other additional assessment information), if public review of that information is required and the EPA requires the proponent to respond to submissions.



[*Admin Proc* 2021, s3.1.4]

The EPA commences reporting preparation as soon as possible after referral (e.g. template for report – some fields can be filled in immediately) but obviously EPA needs proponent's ERD (or other) material, public review inputs and (ideally) proponent's response to submissions

- EPA may assess and report without adequate proponent response to submissions (EIA Procedures Manual 2021, s3.1.3,)

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EPA assessment provisions in *Admin Proc* (ii)

The EPA *will*—

- assess the proposal, based on information that includes but is not limited to—
 - referral information (and request/s for further information, if required)
 - additional assessment information, including an Environmental Review Document
 - information requested by written notice
 - submissions (if information is made available for public review) and the proponent's response to any submissions, if required
 - additional assessment information obtained during the assessment, including the EPA's own investigations and inquiries (s. 40(2a))
- consider whether conditions are necessary and if they are, *will* develop draft conditions.
- consider whether Environmental Management Plans required during the assessment are adequate.
- prepare a draft assessment report.

If any substantial relevant new issues arise during the preparation of the draft EPA's assessment report that require substantial changes, the EPA will revise the draft assessment report.

[i.e. transparency/public record of EIA activities is important]



[*Admin Proc* 2021, s3.1.4]

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EPA assessment report contents (i)

3.1.4.1 Preparation and content of draft assessment report

In preparing its draft assessment report, the EPA will consider and include content about:

- the **proposal content**...
- whether the preliminary key env. factors are the final key env. factors
- **how the proponent has applied the mitigation hierarchy** ...
- the **residual environmental impacts** of the proposal including:
 - impacts on key environmental factors and environmental values
 - **cumulative environmental impacts**
 - ...[for] a significant amendment, ... combined impacts with ... existing
- **assessment of residual environmental impacts** and ... **significance**
- **whether** the likely environmental **outcomes**, after the application of conditions, **are consistent with the EPA's objectives** ...
- **whether any offsets** (if proposed) **are likely to counterbalance** any significant residual environmental impacts
- **assessment of holistic impacts**
- consideration of MNES [bilateral/accredited assessment]

Environmental Impact Assessment
(Part IV Divisions 1 and 2)
Procedures Manual

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EPA assessment report contents (ii)

3.1.4.1 Preparation and content of draft assessment report

In preparing its draft assessment report, the EPA will consider and include content about: ...

- whether the proposal may be implemented ...and, if so, whether ... :
 - any or all of the proposal elements should be limited through conditions
 - any other conditions should be recommended (with a **preference for outcomes-based conditions**)
 - **any offsets are required**
 - any conditions are required to **ensure** that the proposal's environmental **impacts are monitored**, that the monitoring results are reviewed and reported, and that contingency measures are implemented
 - any conditions are required to ensure the **ongoing and continual improvement of the proposal's environmental management**, including **adaptive management**
 - there are other statutory decision-making processes that can mitigate the proposal's potential impacts on the environment
 - whether compliance with environmental management plans should be recommended as a condition, and whether to require the proponent to amend any environmental management plans.

[i.e. legal basis of EMPs is important (more later)]

Environmental Impact Assessment
(Part IV Divisions 1 and 2)
Procedures Manual

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Consideration of other DMAs throughout EIA process

PART C: OTHER APPROVALS AND REGULATION	
Decision-making authorities and their approvals	
Provide a table list of the decision-making authorities, associated legislation or agreement regulating the activity and the specific approval required. (Example table at the end of form)	
Provide a summary of the statutory decision-making processes you consider can mitigate the potential impacts of the proposal on the environment. (Note: this should be a summary of the information provided in Part B section 2.4).	
Tenure and Local Government approvals	
Location of proposal: a) street address, lot number, suburb, and nearest road intersection; or b) if remote, the nearest town and distance and direction from that town to the proposal site.	
Name of the Local Government Authority in which the proposal is located.	
Is rezoning of any land required before the proposal can be implemented?	<input type="checkbox"/> Yes

4 | October 2021

(EPA Referral Form, p4)

First identified (by proponent) at referral stage

(EPA Referral Instructions and Form
<https://www.epa.wa.gov.au/forms-templates/s38-referral-instructions-and-form>)

Example Table: Other approvals

Decision-making authority	Legislation or Agreement regulating the activity	Approval required (and specify which proposal element the approval is related to)	Whether and how statutory decision-making process can mitigate impacts on the environment? (Yes/No and summary of reasons. Include a separate line item for each relevant impact, and discuss how

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EPA*Act 1986 – s3: Definition of **DMA*

3. Terms used in this Act

(1) In this Act, unless the contrary intention appears —

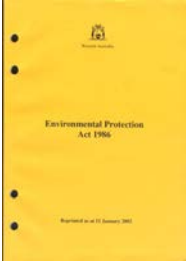
decision-making authority means a public authority empowered by or under —

(a) a written law; or

(b) any agreement —

(i) to which the State is a party; and

(ii) which is ratified or approved by an Act, to make a decision in respect of any proposal and, in Division 2 of Part IV, includes, in relation to a particular proposal, any Minister prescribed for the purposes of this definition as being the Minister responsible for that proposal;



(EPAAct s3)

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Other DMAs – Decision on whether to assess & EPA Report

38G. Authority must decide whether to assess a referred proposal

...

(4) In making its decision ...the Authority **may take into account other statutory decision-making processes that can mitigate the potential impacts** of the proposal on the environment.

[Section 38G inserted by No. 40 of 2020, s 15.]


44. Report by Authority

...

(2AA) In considering key environmental factors and any recommendations that may be included in the assessment report the Authority **may take into account other statutory decision-making processes that can mitigate the potential impacts** of the proposal on the environment.

[Section 44 amended by No. 40 of 2020, s 27.]

[Test is whether or not the DMA's process can deliver environmental outcomes consistent with the EPA's factor objectives]



(EPAAct s38G & 44)

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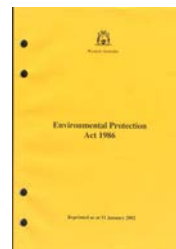
Other DMAs – Decision to withdraw Ministerial Statement s47A(3)(b)

47A.

...

- (3) This subsection applies if the proponent of an approved proposal requests the Minister, in writing, to withdraw the Ministerial statement relating to the proposal and the Minister is satisfied —
- (a).....

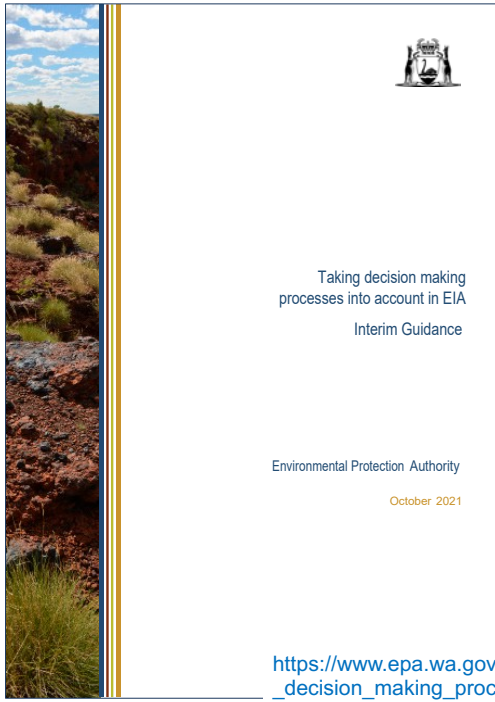
(b) *that the impacts of the implementation of the proposal can be satisfactorily mitigated by way of licensing or some other form of regulatory control under this Act or another written law.*



(EPA Act s44)

[Section 47A inserted by No. 40 of 2020, s 31.]

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The purpose of this Interim Guidance is to **provide guidance** to decision-making authorities (DMA), proponents and the public **on matters** the Environmental Protection Authority (EPA) **may consider when taking into account other statutory decision-making processes which can mitigate the potential impacts** of a proposal on the environment.

(EPA 2021, *Interim Guidance: Taking decision making processes into account in EIA*, p2)

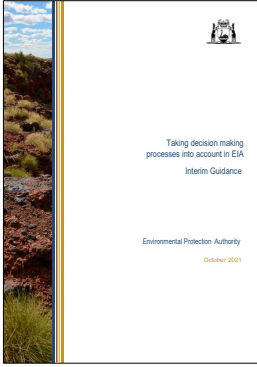
https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Taking_decision_making_processes_into_account_in_EIA.pdf

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Taking other DMAs into account - considerations

1. **The ability** of the DMA to consider impact of proposal.
2. **The process** that the DMA uses to assess the potential impacts of the activity on the environment
3. **The relevant considerations** which the DMA can take into account in decision making
4. **The conditions** that may be applied as a result of the decision-making process
5. **Likely outcomes**
6. **Overall conclusion**

[**approvals' versus assessment**
(not just availability of another DMA's approval process that matters, but assessment of how that DMA would protect env. for the impact/factor)]




https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Taking_decision_making_processes_into_account_in_EIA.pdf

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DMA deep dive: Aboriginal cultural heritage in EIA

- Historical overlap/ambiguity between *EPA Act 1986* and *Aboriginal Heritage Act (AHA) 1972* for assessing impacts on Aboriginal heritage
- Not much clearer under short-lived *Aboriginal Cultural Heritage Act (ACHA) 2021*
- *ACHA 2021* repealed in Nov 23, and *AHA 1972* reinstated with minor amendments, including:
 - S18 consent holders' duty to report new information
 - Traditional Owners right of appeal to State Appeals Tribunal (SAT)
 - Prohibition of gag laws
- EPA revised Social Surroundings EFG in:
 - June 2023 (to reflect ACHA)
 - October 23 (to reflect amendment AHA)
- Also released new Technical Guidance (to replace GS41)





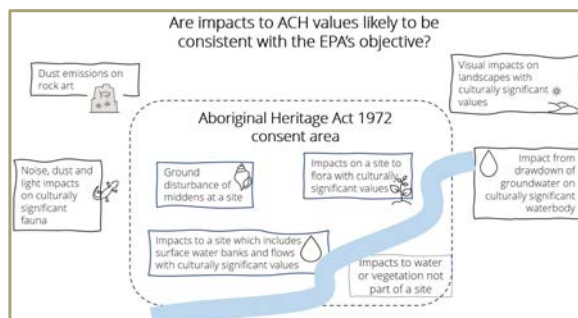




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Technical Guidance: EIA of Social Surroundings – Aboriginal cultural heritage

- Onus on proponent to distinguish between impacts that may or may not be managed under the AHA, and evaluate extent to which AHA process is likely to mitigate the impact and ensure the EPA’s factor objective for social surroundings can be met
- EPA can still condition Aboriginal cultural heritage but moving away from CHMPs



[https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Technical_Guidance_EIA_of_Social_Surroundings - Aboriginal Cultural Heritage \(Nov2023\)_2.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Technical_Guidance_EIA_of_Social_Surroundings_-_Aboriginal_Cultural_Heritage_(Nov2023)_2.pdf)

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Alkimos – EPA assessment of social surroundings (pp 47-52)

2.4 Social Surroundings

2.4.5 Potential impacts from the proposal

The proposal has the potential to impact on social surroundings from:

- Potential impacts to Aboriginal heritage, the Alkimos Waugal place ID 23053 and/or cultural values.
- Temporary impacts to amenity from dust, noise, and vibration from construction of the plant and tunnel boring for the marine intake and outlet pipelines.
- Potential impacts to amenity values to residential and recreational areas in proximity to the desalination plant from operational noise.

The EPA considers that the residual risk to Aboriginal cultural heritage from potential indirect impacts is unlikely but, in the event, cultural heritage materials, human remains, or unknown sites are uncovered or disturbed, can be subject to other statutory decision-making processes in accordance with the *Aboriginal Heritage Act 1972*. The EPA therefore considers the environmental outcome is likely to be consistent with the EPA’s objective for social surroundings.



Table 6: Summary of assessment for social surroundings

Residual impact or risk to environmental value	Assessment finding	Recommended conditions and DMA regulation
1. Potential residual impact to future residents from construction noise and vibration.	The EPA advises that this residual impact is unlikely due to the construction being undertaken before residential development in areas that may be impacted by noise and vibration. If required, this can be regulated through <i>Environmental Protection (Noise) Regulations 1997</i> .	Complementary regulation and approval (if required) of noise management plan for construction outside of prescribed hours.

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EPA assessment provisions in *Admin Proc* (iii)

3.1.5 Step 5. Completion of the EPA's assessment

The EPA **completes its assessment** when the EPA considers the draft Assessment report and any conditions and—

- agrees on the key environmental factors identified in the course of the assessment
- agrees to recommend whether or not the proposal may be implemented
- agrees to adopt the draft assessment report as the basis for the EPA's (final) Assessment report
- resolves that the EPA prepare the (final) Assessment report and give that report to the Minister, pursuant to s. 44.

If the EPA does not agree to the above, the EPA will revise the draft assessment report based on any additional information it needs to complete its assessment and will reconsider the draft assessment report.

[i.e. in practice DWER assessment officers prepare draft EPA assessment report – to be finalised/endorsed by the EPA Board]



[Admin Proc 2021, s3.1.5]

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EPA's draft assessment report

The EPA usually considers the draft assessment report at an EPA meeting. The EPA may invite the proponent to attend the EPA meeting. [Procedures Manual 2021, s3.1.5]

Environmental Impact Assessment
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Consultation on conditions

The EPA may seek comment on the draft recommended conditions from the proponent, relevant decision-making authorities and other relevant government agencies, before finalising its report to—

- correct any errors of fact
- confirm the conditions are clear and relevant to the proposal
- confirm that the conditions are technically feasible and can be complied with
- identify any practical opportunities for strengthening the environmental outcomes of the conditions.

[Admin Proc 2021, s4.2]

[i.e. no surprises – natural justice
+ opportunity for proponent to present their case]




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Structure of EPA report (for each key environmental factor):

1. Environmental objectives
2. Investigations and surveys
3. Assessment context: Existing environment
4. Consultation
5. Potential impacts from the proposal
6. Avoidance measures
7. Minimisation measures (including other DMAs)
8. Assessment of impacts to environmental values
9. Summary of key factor assessment and recommended conditions

Summary: Residual impact/ Assessment finding



Alkimos – EPA report TOC



5. EPA Assessment Report, Condition Setting and EMPs

Implementation conditions (i) – *Admin Proc* 4.2 Recommended conditions and procedures

The EPA *will* recommend conditions to which implementation should be subject (s. 44(2)(b)), and ***these conditions*** will relate to, and ***should protect, abate, restore or mitigate, the detrimental impact on the environment*** which the implementation of the proposal may or would cause.

[*Admin Proc* 2021, s4.2]



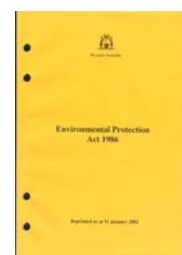
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EPA Report (i) – *EPA* Act 1986, s44 (1), (2)

44. Report by Authority

- (1) ...the Authority ... ***must prepare a report*** on the outcome of its assessment ... and give that report (the "assessment report") to the Minister
- (2) The assessment report ***must set out*** –
 - (a) what the Authority considers to be the key environmental factors identified in the course of the assessment; and
 - (b) ***the Authority's recommendations*** as to whether or not the proposal may be implemented and, if it recommends that implementation be allowed, as to ***the conditions and procedures, if any, to which implementation should be subject.***

[repeat content]



(*EPA* Act s44)

[Section 44 amended by No. 40 of 2020, s 27.]

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45A. Implementation Conditions *EPA Act 1986, s45A*

(1) The following list sets out things the proponent of the assessed proposal can be required to do under implementation conditions —



- (a) ...commence implementation of ...proposal within ..specified period...
- (b) ...take **environmental protection, abatement or restoration measures on the subject land, or on other land, ...to directly or indirectly offset the impacts** ...
- (c) **contribute moneys** to be used for... [same list as (b)];
- (d) ...**environmental undertaking in relation to other land**;
- (e) arrange for an **environmental protection covenant** ... by ...person other than ... proponent ... [for] other land;
- (f) ...**prepare, implement and adhere to EMS, EMPs and environmental improvement plans**;
- (g) ...**audits** [to show]...conditions ...complied with ...

[Section 45A inserted by No. 40 of 2020, s 28.]

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Types of conditions – *Procedures Manual* (i)

4.2.1 Types of conditions

The EPA usually recommends three types of conditions:

1. Limit on proposal extent or capacity.
2. Proposal-specific environmental conditions.
3. Standard matter conditions.

Environmental Impact Assessment
(Part IV Divisions 1 and 2)
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(Procedures Manual 2021, s4.2.1)

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Types of conditions: **limit on proposal extent**

4.2.2 Limit on proposal extent or capacity

The EPA may recommend whether any proposal elements need to be limited or controlled and, if so, will **usually include a table (and figures) of the limit of proposal elements** (including physical and operational elements). Limits may be specified where:

- An element is environmentally significant, such as extent of clearing within a development envelope.
- An outcome-based condition is not practical to achieve consistency with an EPA environmental factor objective(s), but a limit on proposal extent or capacity is suitable to achieve consistency with the objective.
- A potential environmental outcome needs to be limited to achieve consistency with an EPA environmental factor objective. An example of this might be where a proponent proposes groundwater abstraction of 20 GL/year, but the EPA recommends it is limited to 15 GL/year.

[Closely related to, but not exactly the same thing as the Proposal Content Document]

(Procedures Manual 2021, s4.2.2)

Environmental Impact Assessment
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Limit and extent of proposal condition – Alkimos

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)

ALKIMOS SEAWATER DESALINATION PLANT

PART A: PROPOSAL EXTENT

A1 Limitations and Extent of Proposal

A1-1 The proponent must ensure that the proposal is implemented in such a manner that the following limitations or maximum extents/capacities/ranges are not exceeded:

Proposal element	Location	Maximum extent
Physical elements		
Terrestrial development envelope	Within the development envelope shown in Figure 1	Clearing of no more than 51.2 ha of native vegetation within a development envelope of 130.15 ha
Marine development envelope	Within the development envelope shown in Figure 2	Disturbance to no more than 8.39 ha within a 11.45 ha development envelope
Operational elements		
Marine brine discharge		Maximum salinity of 75,200 mg/L
Intake velocity		Maximum velocity 0.15 metres/second
Timing elements		
Project life – operation of desalination plant		100 years from commissioning of desalination plant

https://www.epa.wa.gov.au/sites/default/files/Ministerial_Statement/1739Statement_1207_for_publishing_-_Alkimos_Seawater_Desal_Plant.pdf

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Types of conditions: **standard matter conditions**

Standard matter conditions

The EPA will recommend conditions relating to standard matters including, but not limited to:

- notification of change of proponent contact details
- time limit for proposal implementation
- compliance reporting
- public availability of data
- environmental management plans, including compliance, amendment and review requirements
- reports relevant to the environmental performance of the proposal.

(Procedures Manual 2021, s4.2.2)

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Types of conditions: **proposal-specific conditions**

4.2.3 Proposal-specific environmental condition types

The EPA uses three types for proposal-specific environmental conditions, where the EPA's view is that regulatory control is required to mitigate the proposal's potential impacts on the environment:

1. **Prescriptive conditions** – which contain specified actions or procedures.
2. **Outcomes-based conditions** – which contain a measurable environmental outcome that must be met.
3. **Objectives-based management plan conditions** – which contain a requirement for a management plan to achieve an environmental objective. May also contain the plan components required to meet that environmental objective.

The EPA uses the condition types as a guide and may recommend a hybrid of the types or depart from the types where a case-specific approach is needed.

The EPA's *preference is for outcomes-based conditions* where practical.

We will come back to EMPs shortly

(Procedures Manual 2021, s4.2.3)

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Types of conditions: **prescriptive conditions**

4.2.3.1 Prescriptive conditions

Prescriptive conditions prescribe the required actions directly in the condition.

The EPA may recommend prescriptive conditions where the actions represent standard practice for a particular environmental issue common to many proposals, for example:

- actions to minimise noise impacts on marine fauna from pile-driving
- actions to minimise impacts on terrestrial fauna from trenching.

(Procedures Manual 2021, s4.2.3.1)

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Types of conditions: **outcomes-based conditions (i)**

4.2.3.2 Outcomes-based conditions

Outcomes-based conditions **specify a measurable environmental outcome to be met, without prescribing how that outcome is to be achieved**. This provides certainty and transparency, is consistent with **adaptive environmental management and continuous improvement**, and is recognised as regulatory best practice.

[Outcome-based conditions will usually require a monitoring environmental management plan].

(Procedures Manual 2021, s4.2.3.2)

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Types of conditions: **outcomes-based conditions** (ii)

4.2.3.2 Outcomes-based conditions

...

Outcomes-based conditions **can directly prescribe an environmental outcome that must be met.**

They can also include a 'surrogate outcome' that is performance based. A surrogate is a physical, chemical, or biological characteristic that supports an aspect of the environment.

For example, water quality could be a surrogate for the habitat condition of an aquatic species.

(Procedures Manual 2021, s4.2.3.2)

Environmental Impact Assessment
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Types of conditions: **outcomes-based conditions** (iii)

4.2.3.2 Outcomes-based conditions

...

An outcomes-based condition may be expressed as:

- An **impact that must be avoided**. For example, there is no disturbance to a threatened ecological community in a defined area.
- A **level of impact that must not be exceeded**. For example, groundwater drawdown must not exceed X metres below ground level outside a defined area.
- A **level of protection that must be achieved**. For example: maintain water quality parameters (pH, salinity, water temperature and dissolved oxygen concentration) of an individual surface water site to pre-disturbance levels or a suitable reference site; or maintain water quality in area X consistent with the environmental quality criteria for the 'high level of ecological protection of ecosystem health' established in the *State Environmental (Cockburn Sound) Policy 2015*.

(Procedures Manual 2021, s4.2.3.2)

Environmental Impact Assessment
(Part IV Divisions 1 and 2)
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Outcomes-based conditions – examples (i) [Sea]

8 Examples of environmental outcomes

Table 1: Example of how to propose environmental outcomes

Theme	Factor	Example of environmental outcomes
Sea	Benthic Communities and Habitats	<ul style="list-style-type: none"> Direct disturbance of benthic communities and habitats to be confined to proposal footprint No serious damage to benthic communities and habitats outside the Zone of High Impact No impacts to benthic communities and habitats within the Zone of Moderate Impact unless they are recoverable No impacts outside the Zone of Moderate Impact, including no impact in the Zone of Influence
	Coastal Processes	<ul style="list-style-type: none"> Direct disturbance to be confined to proposal footprint Flow rates over x tidal flat to be no more than y m/s No wrack accumulation on x beach which has an adverse impact on social amenity including odour or public beach access No sediment deposition or accumulation which adversely affects the natural breeding behaviour of x fauna No detectable impact to seagrass communities
	Marine Environmental Quality	Return discharge water to the marine environment will not exceed the following water quality parameters: <ul style="list-style-type: none"> Turbidity: median > 80th percentile reference site Temperature: 20th or > 80th percentile of baseline or reference site Dissolved Oxygen: < 60% saturation
	Marine Fauna	No introduction of marine pests as a result of the proposal

EPA 2021, *Interim guidance on outcomes and outcome-based conditions*

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcome_based_conditions.pdf



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Outcomes-based conditions – examples (ii) [Land]

8 Examples of environmental outcomes

Table 1: Example of how to propose environmental outcomes

Theme	Factor	Example of environmental outcomes
Land	Flora and Vegetation	<ul style="list-style-type: none"> Direct disturbance to be confined to proposal footprint No direct disturbance in exclusion areas No impact on black cockatoo breeding trees No impacts on TECs outside development envelope No introduction of weeds into development envelope
	Landforms	<ul style="list-style-type: none"> Landforms not to exceed x m Landforms to meet x safety factor No disturbance of landforms within x of y sensitive receptor Final landform to be consistent with undisturbed landforms in region (within 100 km)
	Subterranean Fauna	<ul style="list-style-type: none"> No disturbance of subterranean fauna within exclusion zones No disturbance of subterranean fauna habitat outside development envelope For any new species – no disturbance unless found in a sustainable population outside the development envelope
	Terrestrial Environmental Quality	<ul style="list-style-type: none"> No process waste to be disposed of on Swan Coastal Plain No contamination of soil outside proposal footprint
	Terrestrial Fauna	<ul style="list-style-type: none"> No disturbance of fauna habitat within exclusion zones No disturbance of native fauna habitat outside development envelope For any new species – no disturbance unless found in a sustainable population outside the development envelope

EPA 2021, *Environmental outcomes... Interim Guidance, p7*

https://www.epa.wa.gov.au/sites/default/files/Interim_Guidance_Environmental_outcomes_and_outcome_based_conditions.pdf



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Outcomes-based conditions – examples (iii) [Water/Air/People]

8 Examples of environmental outcomes

Table 1: Example of how to propose environmental outcomes

Theme	Factor	Example of environmental outcomes
Water	Inland Waters	Water quality parameters (pH, salinity, water temperature and dissolved oxygen concentration) of an individual surface water site will be maintained to pre-disturbance levels or a suitable reference site.
	Air Quality	The SO _x and NO _x concentrations measured at site x shall not exceed x concentration.
Air	Greenhouse Gas Emissions	<ul style="list-style-type: none"> • Net zero emission by 2050 along (at a minimum) a straight line trajectory based on emissions measured at 5 year intervals • X % reduction by 2030
	Social Surroundings	<ul style="list-style-type: none"> • No direct or indirect disturbance of the exclusion zones • No interruption of access for traditional use or custom • No exceedance of EP Noise Regulations at x • No direct disturbance in the buffer separation zone
People	Human Health	<ul style="list-style-type: none"> • No air-borne asbestos above background levels • No radiation above background levels

EPA 2021, *Environmental outcomes... Interim Guidance*, p7

https://www.epa.gov/sites/default/files/interim_guidance_environmental_outcomes_and_outcome_based_conditions.pdf



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Types of conditions: objectives-based management plan conditions

4.2.3.3 Objectives-based management plan conditions

.....

While the EPA's *preference is for outcome-based conditions*, the EPA may decide objectives-based management plan conditions are appropriate in some cases, such as for new industries.

Objectives-based management plan conditions specify *an environmental objective/s, which is a desired state for a key environmental factor/s*. The plan objective/s will be a specific objective associated with one or more of the EPA's objectives for environmental factors. *The environmental objective will generally be expressed in terms such as 'minimise impacts as far as practicable' on an element of the environment such as flora, vegetation or fauna.*

If an objectives-based management plan condition is appropriate, the EPA will usually require a management plan....

(Procedures Manual 2021, s4.2.3.3)

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Types of conditions: **management plans (outcomes-based and objectives-based)**

4.2.3.4 Specific requirements for management plans (outcomes-based and objectives-based)

Where the EPA recommends either an outcomes-based or objectives-based management plan condition, it will usually recommend **a condition to** either:

- **implement a management plan** it received during an assessment which it considers acceptable, or
- **prepare and implement a management plan.**

A management plan required for an implementation condition **is a legally enforceable document**. Proponents must comply with the components set out in the management plan. The plan's components should be as precise as possible so that proponents can fully understand their legal obligations in relation to the implementation condition and make them clearly auditable (by the CEO). Management plans should therefore not include information that DWER does not need.

Any **failure to implement** the required components in **a management plan constitutes a non-compliance** with the implementation conditions, which may become subject to enforcement by the CEO...

(Procedures Manual 2021, s4.2.3.4)

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Types of conditions: **case-specific conditions**

4.2.4 Case-specific conditions

The conditions may also include case-specific matters.

[with 4 types being]:

4.2.4.1 Baseline conditions

[i.e. requirement for (further) baseline surveys]

4.2.4.2 Offset conditions

[i.e. to counterbalance a significant residual impact]

(more details on offset conditions follow)

4.2.4.3 Mine closure conditions

[i.e. where not already covered by *Mining Act 1978*]

4.2.4.4 Strategic proposal conditions

[i.e. specific to future derived proposals]

(Procedures Manual 2021, s4.2.4)

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Types of conditions: **offset plan conditions**

4.2.4.2 Offset conditions

The EPA's **preference is to recommend specific offset conditions** to the Minister.

However, in some cases the EPA may recommend that a condition be imposed where the proponent must develop an offset plan post-approval, which the Minister or another decision-maker approves.

In such cases the EPA will usually recommend that the **proposal elements** which are likely to have a significant residual environmental impact and **require counterbalancing by the offsets, do not begin until the offsets plan has been approved.**

(Procedures Manual 2021, s4.2.4.2)

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Structure of conditions has been simplified

Ministerial Statements now have **four categories of conditions**:

Part A – Proposal extent (replaces old Schedule 1)

Part B – Environmental outcomes, prescriptions & objectives

- includes standardised conditions for:
 - Offsets and Pilbara Environmental Offsets Fund
 - Rehabilitation
 - Closure

Part C – Environmental management plans & monitoring

- mostly standardised, can be tailored

Part D – Compliance, time limits, audits & other conditions

- standardised compliance and administrative conditions (which are not intended to change)

The 1st Ministerial Statement issued with this new structure was Parker Range Iron Ore Haul Road Proposal (April 2023)

[https://www.epa.wa.gov.au/sites/default/files/1MINSTAT/1735/Statement 1202 for publishing - Parker Range.pdf](https://www.epa.wa.gov.au/sites/default/files/1MINSTAT/1735/Statement%201202%20for%20publishing%20-%20Parker%20Range.pdf)

Published on: 19 April 2023 Statement No. 1202
STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)
PARKER RANGE (MOUNT CAUDAN) IRON ORE HAUL ROAD PROPOSAL
Proposal: The proposal involves the development of a Haul Road to transport iron ore from the Parker Range (Mount Caudan) Iron Ore Project to the Koolyanobbing Operations.
Proponent: Pilbara Metals Pty Ltd
Australian Company Number 085 223 570
Proponent address: 20 Walters Drive
OSBORNE PARK WA 6017
Assessment number: 2297
Report of the Environmental Protection Authority: 1735

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5. EPA Assessment Report, Condition Setting and **EMPs**

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EPA website on EMPs...

EMPs may be provided at referral, during an assessment by the EPA, **or required as an implementation condition** under a Ministerial statement.

[Submitting an EMP during assessment is the preferred approach of the EPA...]

(EPA 2021, *Instructions: How to prepare an EMP*, p3)

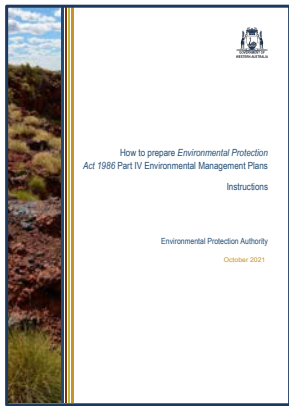
Concerns about 'secondary approvals' tested in Yeelirrie court case
[CONSERVATION COUNCIL OF WESTERN AUSTRALIA (INC) -v- THE
HON STEPHEN DAWSON MLC [2018] WASC 34; 8 February 2018
<https://jade.io/article/570285?at.hl=+conservation+council+of+western%252Caustralia+%255B2018%255D>

Note: EMP is generic term, documents may be referred to in various ways, e.g. 'Fauna Management Plan' or 'Groundwater Monitoring and Management Plan'



<https://www.epa.wa.gov.au/forms-templates/instructions-part-iv-environmental-management-plans>

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How to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans Instructions

Environmental Protection Authority
October 2021

Templates

Environmental Management Plans

1. Executive Summary (Template in Attachment 1)
2. Context, scope and rationale
 - 2.1. Proposal
 - 2.2. Key environmental factor/s
 - 2.3. Condition requirements
 - 2.4. Rationale and approach
 - Environmental outcome or management objective/s
 - Survey and study findings
 - Key assumptions and uncertainties
 - Objective-based EMP – risk-based approach
 - Rationale for choice of indicators and/or management actions
3. EMP Components (template in Attachment 2)
 - 3.1. Outcome-based EMPs
 - Outcome
 - Indicators (trigger criteria and threshold criteria)
 - Response actions (trigger level actions and threshold contingency actions)
 - Monitoring
 - Reporting
 - 3.2. Objective-based EMPs
 - Objective
 - Management actions
 - Management targets
 - Monitoring
 - Reporting
4. Adaptive management and review of the EMP
5. Stakeholder consultation
6. Changes to an EMP table (template in Attachment 3) *[if required]*

Figures

Glossary *[if required]*

Schedules *[optional]*

Appendices *[if required]*

1 | October 2021

Note: types of EMPs and key content requirements (details follow)

<https://www.epa.wa.gov.au/forms-templates/instructions-part-iv-environmental-management-plans>

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How to prepare an EMP


- *stand-alone document*

How to prepare an EMP

Proponents should understand what is needed in an EMP to adequately demonstrate and communicate how the potential impacts on the environment will be avoided, mitigated, monitored and managed, and how environmental outcomes can be achieved.

An EMP should be a stand-alone document. Information provided in the document should be specific and directly relevant to the purpose of the EMP and able to be read and understood on its own, using clear and concise language. The EMP should not contain an assessment of impacts, but a description of the monitoring and management actions against the potential impacts on the environment.

Cross-referencing to other documents should be avoided, as this may hinder the review of the document and impact on timelines. Where appropriate, documents suitable for cross-referencing may include publicly available documents, those approved by other decision-making authorities and other approved and relevant management plans accompanying the submission.



Instructions: How to prepare an EMP, p1

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Outcomes-based EMPs (i)

4.2.3.2 Outcomes-based conditions

...

For any recommended outcome-based condition/s, the EPA may also recommend a condition where the **proponent must monitor, review and report against the environmental outcomes, and adopt adaptive management approaches, to ensure they achieve the environmental outcome.**

The **EPA may recommend an outcomes-based management plan** for this requirement. *[i.e. to be prepared in accordance with Instructions & Template for EMPs]*

May also be referred to as a **Monitoring EMP**
– defines trigger criteria and threshold criteria

(Procedures Manual 2021, s4.2.3.2)

Environmental Impact Assessment
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Outcomes-based EMPs - indicators

Indicators are selected to determine if the outcome is being achieved. The assessment of indicators can be used to evaluate the health or condition for part of the environment. The EPA has identified two levels of indicators: criteria relating to trigger levels; and criteria relating to threshold levels.

These criteria must include proposal-specific information such as location, time period, scale and a relative benchmark such as comparison to control or reference sites or to pre-established guidelines such as the National Water Quality Guidelines.

Trigger criteria are the indicators selected for monitoring to provide a warning that if exceeded, the outcome may not be achieved.

Trigger criteria are intended to forewarn of the approach of the threshold criteria and prompt trigger response actions. Trigger criteria must be set at a conservative level to ensure trigger level actions are implemented well in advance of the threshold criteria to avoid non-compliance and to avoid compromising the environmental outcome. Trigger criteria may be set through scientific research, impact assessment or by statutory, regulatory and/or policy requirements.

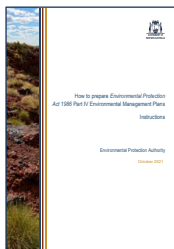
Threshold criteria are indicators selected to represent the limit of acceptable impact beyond which the environmental outcome is not being met and there is likely to be a significant impact on the environment. Threshold criteria may be set through scientific research, impact assessment or by statutory, regulatory and/or policy requirements.

The trigger level actions and threshold contingency actions are important considerations after determining the trigger and threshold criteria. These actions are the specific activities and timing that proponents will implement to ensure impacts remain below the trigger or threshold criteria. Actions should be defined in a manner that is easily assessed and audited.

Instructions: How to prepare an EMP, p4

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Adaptive management and EMPs



Instructions: How to prepare an EMP, pp 7-8

Adaptive management and early response

i. Adaptive management

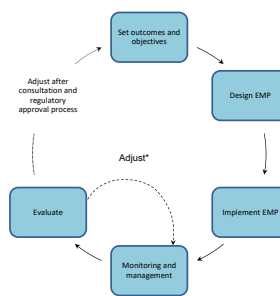
Adaptive management is a systematic approach to improving environmental results and management practices during project implementation through the application of learning from monitoring of outcomes and management actions (Figure 1).

Adaptive management involves more than just reviewing the trigger/threshold criteria and/or management targets following any learning.

Adaptive management in relation to an EMP includes:

- defining the issue and objectives or required outcomes and developing the EMP to address these
- implementing the management and mitigation measures
- monitoring and evaluating the applied management and mitigation against the outcomes and objectives
- adjusting the management and mitigation measures and monitoring (if required) to meet the outcome or objective, based on what is learnt from:
 - evaluation of monitoring data or methodology
 - review of assumptions and uncertainties
 - re-evaluation of risk assessment
 - increased understanding of the ecological system
 - external changes during the life of the proposal (e.g. technical advances or innovation).

Subject to conditions in Ministerial statements, changes to an EMP may require approval from DWER and may involve consultation with relevant stakeholders.



*Changes may require regulatory approval and may involve stakeholder consultation

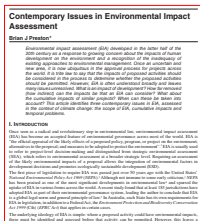
Figure 1: Adaptive management cycle for Environmental Management Plans

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Need for adaptive management (Preston, 2020)

[International perspective]

Science evolves, community expectations and needs evolve, and environmental problems evolve. Nature does not stand still. Yet project approvals remain static, involving “a once-and-for-all determination of the application with no opportunity to reconsider or impose new conditions of consent in response to evolving information or changes in circumstances”. (Preston, 2020, p442)



Preston B (2020) Contemporary Issues in Environmental Impact Assessment, *Environmental Planning and Law Journal*, 37: 423–442

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[International perspective]

Defn of adaptive management

(Fitzpatrick and Williams 2020)

3.1 ADAPTIVE MANAGEMENT²

An important, but often poorly implemented design element of strong follow-up and monitoring programs is adaptive management. “[A]daptive management is a systematic process for improving strategies and practices by learning and acting on the outcomes of management experience” [43]. Adaptive management can be employed to monitor expected interactions, address unexpected outcomes [13], learn from unanticipated effects and make changes, as appropriate. [34, 35, 44].



Fitzpatrick P and B Williams (2020) *Building the system: Follow-up, monitoring & adaptive management*, The University of Winnipeg: Winnipeg, MB.
http://winnspace.uwinnipeg.ca/bitstream/handle/10680/1787/08_04_2020_KMG_IA_Follow_Up_Fitzpatrick_Williams.pdf?sequence=1&isAllowed=y

Adaptive management refers to planned reactive, iterative, on-going examination, based on systematic monitoring with feedback (to stakeholders) and learning, rather than managing adaptively (ad hoc learning from mistakes).

[defn from research project underway currently...]


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Adaptive management in EIA follow-up best practice principles

Impact assessment follow-up principles

IA follow-up should be guided by these 15 best practice principles.

1. **State the objective of each impact assessment follow-up activity and the overall program.**
IA follow-up should be objectives-led and goal oriented.
2. **Be tailored to context.**
IA follow-up should be 'fit-for-purpose' recognising that individual applications of IA follow-up will vary according to the specific contextual factors at play (e.g., project or plan type or locality, significance of impacts or issues arising, or institutional setting).
3. **Commence early in the impact assessment process.**
Timing is vital in IA follow-up and developing a follow-up program should start early in the IA process (e.g., during screening and scoping) and thereafter be acted upon as appropriate.
4. **Be carried out throughout the project or plan life-cycle.**
IA follow-up should be carried out on an iterative and ongoing basis. IA follow-up provisions should be established by the time that projects or plans are approved. Implementation of follow-up actions should commence and continue through the construction, operation, and, where relevant, the decommissioning phases of development.
5. **Be transparent.**
All IA follow-up arrangements (e.g., design, processes and governance) and implementation actions and their outcomes (monitoring, evaluation, management and engagement with stakeholders) should be publicly disclosed. All stakeholders have a right to feedback on the IA process.
6. **Be accessible to all impact assessment stakeholders.**
IA follow-up information should be easy to access and to understand. Archiving, retrieval and disclosure of follow-up information requires careful attention. As a minimum, stakeholders should be informed about IA follow-up activities and outcomes, and to be provided with opportunities to give input or feedback; but active engagement in follow-up program design and implementation is desirable.
7. **Provide clear accountability for impact assessment follow-up responsibilities.**
Ensure that there is clear accountability established in the governance arrangements for IA follow-up. Enabling a two-way flow of communication between stakeholders who are affected and those responsible for IA follow-up and/or the development is important.
8. **Provide clear, pre-defined and well-justified performance criteria.**
Follow-up actions should produce useful information and outcomes which can be easily measured, and unambiguously ap-
praised against clear and pre-defined performance criteria. The performance criteria should be rigorous and reflect best practice (e.g. through adopting well-defined methodologies or approaches to monitoring, evaluation, management, communication and engagement).
9. **Specify enforcement provisions.**
In addition to promoting 'good behaviour', it is also important to identify the consequences for non-compliance within IA follow-up provisions.
10. **Promote continuous learning from experience to improve future practice.**
IA follow-up should enable learning from experience through active feedback. It should not be static. Such learning may inform the management of other similar projects or plans regardless of whether they are operated by the same or other proponents, to improve IA practice.
11. **Facilitate adaptive management.**
Mitigation provisions for a project or plan should be adjustable as needed. Learning derived from IA follow-up should inform ongoing adaptive management of the project or plan as necessary in order to achieve its objectives. IA follow-up would ideally also enable unexpected consequences to be revealed and addressed as appropriate, as part of an effective adaptive management approach.
12. **Be flexible according to emerging needs.**
Governance arrangements for IA follow-up, and the IA follow-up program itself, should be adjusted as necessary to emerging needs (e.g., arising from environmental changes, evolving needs of stakeholders, or changes in the regulatory framework).
13. **Inform and be informed by follow-up for other relevant activities at different levels of decision-making.**
IA follow-up should facilitate the transfer of information between different levels of IA application – tiering the various strategic and operational planning stages of policies, plans, programs and projects.
14. **Address cumulative effects.**
IA follow-up activity should account for the environmental impacts from all stressors in a regional environment, not solely those of the project or plan under evaluation.
15. **Consider the overall effects of the project or plan.**
IA follow-up should provide a holistic perspective of the project or plan outcomes, taking into account how each of the individual effects of a project or plan interact with each other to contribute to sustainable development.



[International perspective]

Arts, J. and Morrison-Saunders, A. (2022) *Impact Assessment Follow-up: International Best Practice Principles*. Special Publication Series No. 6. Fargo, USA: International Association for Impact Assessment.
https://iaia.org/uploads/pdf/SP6_22_Follow_up_converted.pdf

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[repeat slide]


Aims of EIA in WA (i)

4 Aims of EIA

EPA

In conducting EIA, the EPA aims to:

1. fulfil the object of, and apply the principles of, the Act
2. provide independent, timely and sound advice about the environmental impacts of a proposal to enable the Government to make an informed decision in relation to the implementation of the proposal
3. provide opportunities for public participation, and input from decision-making authorities and other relevant government agencies in the assessment of the environmental impacts of a proposal before decisions are made
4. ensure that proponents take primary responsibility for the protection of the environment relating to their proposals, detailed in the aims of EIA for the proponent outlined below
5. promote adaptive environmental management, positive environmental outcomes and continuous improvement through learning and knowledge gained through the EIA process and project implementation
6. promote education and awareness of environmental issues.



[EPA 2021, Statement of env principles, p4]

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Objectives-based EMPs (i)

4.2.3.3 Objectives-based management plan conditions

The EPA ***will consider recommending objectives-based management plan conditions when outcome-based conditions are not practical.***

While the EPA's preference is for outcome-based conditions, the EPA may decide objectives-based management plan conditions are appropriate in some cases, such as for new industries.

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(Procedures Manual 2021, s4.2.3.3)

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Objectives-based EMPs (ii)

4.2.3.3 Objectives-based management plan conditions

...

Objectives-based management plan conditions *specify an environmental objectives/s, which is a desired state for a key environmental factor/s*. The plan objective/s will be a specific objective associated with one or more of the EPA’s objectives for environmental factors. The environmental objective will generally be expressed in terms such as ‘minimise impacts as far as practicable’ on an element of the environment such as flora, vegetation or fauna.

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(Procedures Manual 2021, s4.2.3.3)

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Objectives-based EMPs - examples

Objective-based EMPs

Objective-based EMPs (previously known as management-based EMPs) relate to management actions and management targets. An **objective** is the proposal-specific desired state for an environmental factor/s, to be achieved from the implementation of management actions. An objective must relate to the EPA’s environmental objective for a particular factor/s.

Objective based examples:

- Objective-based Example 1: Implement the proposal to ensure that interruption to beach access is avoided where practicable, and otherwise minimised during operational activities. This is considered an objective as the management actions are required to achieve this objective (pedestrian pathways, signage, fencing, notification in local newspapers, coordination with local government, safety actions).
- Objective-based Example 2: During operations the proponent shall take all reasonably practicable measures to prevent, eradicate and minimise the number of feral animals attracted to the development area. This is considered an objective as the management actions are required to achieve this objective (baiting, shooting and trapping regimes, fencing, access to water and food sources).



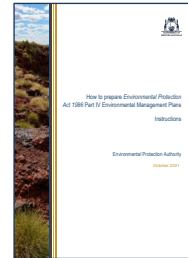
Instructions: How to prepare an EMP, p5

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Objectives-based EMPs – management actions

Management actions are the identified actions implemented to meet the environmental objective/s. Management actions generally relate to the 'minimise' and 'rehabilitate' steps of the mitigation hierarchy.

Management actions should include auditable timelines, clear identification of record-keeping and reporting against actions and be prioritised using a risk-based approach. The greatest management effort should align with proposal activities that have the highest likelihood of causing environmental impacts, where the consequences of the impacts are severe and likely irreversible.



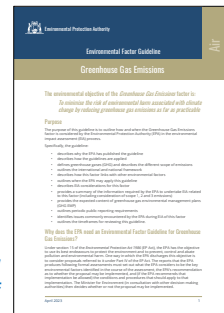
Instructions: How to prepare an EMP, p5

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EMP deep dive: Greenhouse Gas (GHG)

- EPA released initial GHG EFG in March 2019, and withdrew it one week later
- Revised GHG EFG released April 2020
- Following review, current version released April 2023:
 - Revised factor objective
 - Scope 2 emissions included
 - Expectation of straight line to Net Zero in 2050 is explicit
 - Specifies that Cth Safeguard Mechanism may be relied upon if it meets EPA's factor objective
 - Discusses assessments of amended proposals and need to consider combined impacts (more on this later)

https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Guideline-GHG-Emissions – April 2023.pdf



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Why climate change is a big challenge for EIA...

[international perspective]

Climate change is unlike other adverse environmental impacts traditionally assessed, and a challenge to incorporate into traditional IA methodologies and processes. This is due in part to three key characteristics:

- i. the **effects of releasing GHG emissions are felt globally**, with regional variations in the nature and scale of the effects,
- ii. the effects are delayed, and
- iii. the emissions and effects on sinks are cumulative, with the result that **a given effect cannot be traced back to a specific project**. [Doelle, 2020, p2]

Doelle, M (2020) Integrating Climate Change into Environmental Impact Assessments: Key Design Elements, <https://ssrn.com/abstract=3273499>

[Also, carbon offsets can take many forms and occur anywhere worldwide (e.g. relative to biodiversity offsets) >>> multi-national company?]

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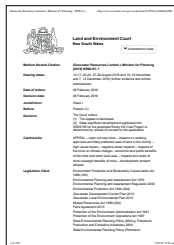
Gloucester Resources Limited v Minister for Planning (NSW)

Both direct and indirect GHG emissions should be considered

- 486 The Rocky Hill Coal Project will result in GHG emissions. The Air Quality and Health Risk Assessment for the amended EIS estimated the Scope 1 and Scope 2 emissions to be about 1.8Mt CO₂-e over the life of the mine and Scope 3 emissions to be at least 38Mt CO₂-e. The estimated scope 3 emissions are limited to the emissions from the combustion of product coal from the Project by end users, such as steel mills and electricity power stations, as the emissions from shipping of product coal were not included. GHG emissions from the combustion of product coal by end users are downstream emissions.
- 487 Although GRL submitted that Scope 3 emissions should not be considered in determining GRL's application for consent for the Rocky Hill Coal Project, I find they are relevant to be considered. [judge finds Scope 3 emissions to be relevant](#)

[NSW perspective]

Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7, <https://www.caselaw.nsw.gov.au/decision/5c59012ce4b02a5a800be47f>



All GHG emissions contribute to climate change

- 514 All of the direct and indirect GHG emissions of the Rocky Hill Coal Project will impact on the environment. All anthropogenic GHG emissions contribute to climate change. As the IPCC found, most of the observed increase in global average temperatures is due to the observed increase in anthropogenic GHG concentrations in the atmosphere. The increased GHG concentrations in the atmosphere have already affected, and will continue to affect, the climate system. The current and future impacts of climate change were summarised by Professor Steffen and have been set out earlier in the judgment.
- 515 The direct and indirect GHG emissions of the Rocky Hill Coal Project will contribute cumulatively to the global total GHG emissions. In aggregate, the Scope 1, 2 and 3 emissions over the life of the Project will be at least 37.8Mt CO₂-e, a sizeable individual source of GHG emissions. It matters not that this aggregate of the Project's GHG emissions may represent a small fraction of the global total of GHG emissions. The global problem of climate change needs to be addressed by multiple local actions to mitigate emissions by sources and remove GHGs by sinks. As Professor Steffen pointed out, "global greenhouse gas emissions are made up of millions, and probably hundreds of millions, of individual emissions around the globe. All emissions are important because cumulatively they constitute the global total of greenhouse gas emissions, which are destabilising the global climate system at a rapid rate. Just as many emitters are contributing to the problem, so many emission reduction activities are required to solve the problem" (Steffen report, [57]). **all mitigation efforts matter**

argument that this project is only small % of global emissions is not relevant

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GHG management plans

- Special GHGMP template plus summary template

Templates

Greenhouse Gas Environmental Management Plan – Summary Plan

Summary Plans should usually be published when Greenhouse Gas Environmental Management Plans (GHG EMPs) (and revisions) are approved, to support transparency and consistency of GHG EMPs. Specific content of Summary Plans may be required by conditions, and Summary Plans should also usually include the content of this template. It is intended that this template is a "living document" that will be periodically updated in response to further feedback and changing expectations.

SECTION 1	
Proposer name	
Proposed description and scope	
Purpose of the GHG EMP summary plan	Including Ministerial Statement condition requirements if relevant
Compliance period	
Emissions estimates and trajectory of emissions reductions	<ul style="list-style-type: none"> Annual and expected life of proposal emission estimates for scope 1, 2 and 3 Trajectory of emissions reductions over the life of proposal for scope 1 and 2 (separately and together), and scope 3 Trajectory of the emissions avoided, reduced or offset for scope 1, 2 and 3 emissions.
Key components in the GHG EMP summary plan	<ul style="list-style-type: none"> Proposed GHG emissions intensity Proposed emissions intensity (baseline and trajectory) benchmarked with comparable projects and technologies with a local and regional context, international and Australian best practice, and other relevant industry and sector standards A summary of emission reduction measures proposed to be undertaken to avoid or reduce GHG emissions, including: <ul style="list-style-type: none"> Best practice design and operational measures adopted to avoid, reduce and offset scope 1 emissions Reasonably practicable measures adopted to avoid, reduce and offset scope 2 emissions Reasonably practicable measures adopted to reduce scope 3 emissions (Where relevant) Trajectory of emissions over the life of proposal for scope 1 and 2 (separately and together) under other statutory decision-making processes or non-statutory GHG reduction instruments Summary of circumstances and timeframes in which offsets are proposed to be used, and summary of likely availability and integrity.
GHG EMP reviews and reporting	

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Templates

Greenhouse Gas Environmental Management Plan

This template has been developed to support transparency and consistency of Greenhouse Gas Environmental Management Plans (GHG EMPs), it is intended that this template is a "living document" that will be periodically updated in response to further feedback and changing expectations.

- Executive Summary (Template in Attachment 1)
- Context, scope and purpose (Template for items 2-7 below in Attachment 2)
 - Proposer, proposal description and scope
 - Purpose of GHG EMP
- GHG EMP Components
 - Emissions estimates
 - Trajectory of emissions reductions
 - Mitigation measures adopted to avoid, reduce or offset scope 1 emissions
 - Mitigation measures adopted to avoid, reduce or offset scope 2 emissions
 - Mitigation measures adopted to reduce scope 3 emissions
 - Other statutory decision-making processes which require reduction in GHG emissions
 - Consistency with other GHG reduction tools
 - Offsets
 - Projects operating beyond 2050
- Adaptive management, continuous improvement, and review of the GHG EMP
- Reporting
- Stakeholder consultation
- Changes to GHG EMP (Template in Attachment 3 – if required)

Figures

Glossary (if required)

Schedules (optional)

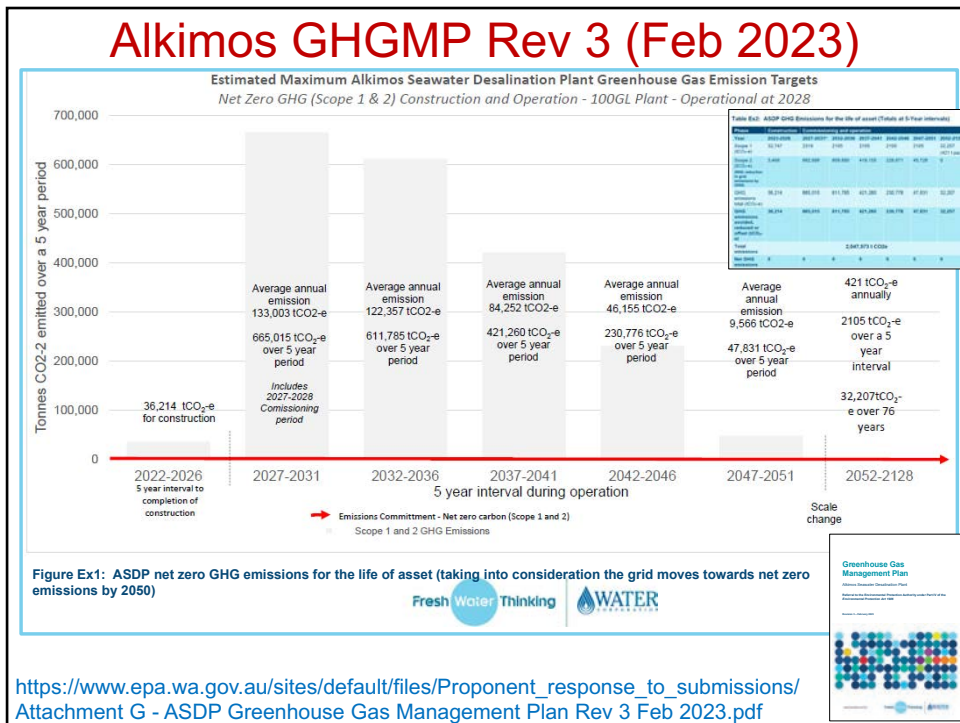
Appendices (if required)

5 | April 2023

[https://www.epa.wa.gov.au/sites/default/files/Forms_and_Templates/Template Greenhouse Gas Environmental Management Plan -Summary Plan April 2023.pdf](https://www.epa.wa.gov.au/sites/default/files/Forms_and_Templates/Template_Greenhouse_Gas_Environmental_Management_Plan_-_Summary_Plan_April_2023.pdf)

[https://www.epa.wa.gov.au/sites/default/files/Forms_and_Templates/GHG EMP TEMPLATE APRIL 2023.pdf](https://www.epa.wa.gov.au/sites/default/files/Forms_and_Templates/GHG_EMP_TEMPLATE_APRIL_2023.pdf)

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Alkimos GHG in Ministerial Conditions

B7 Greenhouse Gas Emissions

- B7-1 The proponent shall take measures to ensure there are zero net scope 1 and 2 GHG emissions from the commencement of operations throughout the life of the proposal.
- B7-2 At least six (6) months prior to commissioning, the proponent shall revise the Greenhouse Gas Management Plan (Revision 3, 2023) and submit to the CEO to:
 - (1) be consistent with the achievement of net zero scope 1 and 2 GHG emissions for the operation of the proposal;
 - (2) update the estimated proposal GHG emissions and emissions intensity for the life of the proposal;
 - (3) include a comparison of the estimated proposal GHG emissions and emissions intensity for the life of the proposal against other comparable facilities;
 - (4) update and revise any measures that the proponent will implement to avoid, reduce and/or offset proposal GHG emissions and/or reduce the emissions intensity of the proposal; and
 - (5) provide a program for the future review of the plan to:

https://www.epa.wa.gov.au/sites/default/files/Ministerial_Statement/1739_Statement_1207_for_publishing_-_Alkimos_Seawater_Desal_Plant.pdf

Published on: 10 August 2023 Statement No. 1207

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)

ALKIMOS SEAWATER DESALINATION PLANT

Proposal:
The construction and operation of a 100 GL per annum seawater desalination plant and a 6 GL per annum groundwater treatment plant at the Alkimos water precinct. The source water for the desalination process will be delivered through the construction of a pipeline directly west of the proposed seawater desalination plant.
By-products of the desalination process will be returned further offshore to the marine environment through a separate pipeline.
In order to distribute the drinking water into Perth's Integrated Water Supply Scheme, the project includes a 32.93 kilometre pipeline from the Alkimos site to the Warneford Reservoir, and other significant distribution points along the pipe route.

Proponent:
Water Corporation
Australian Business Number 28 003 434 917

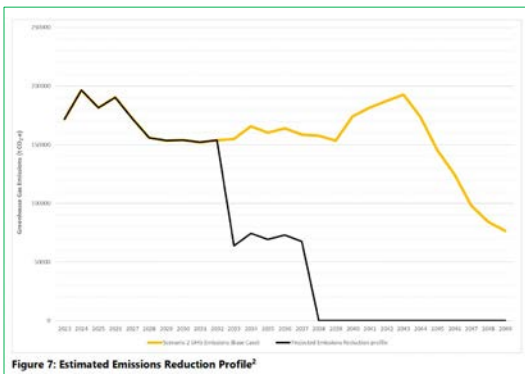
Proponent address:
620 Newcastle Street
Leederville WA 6007

Assessment number:
2210

Report of the Environmental Protection Authority: 1739

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GHG case study: West Musgrave (i)



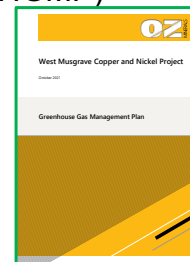
How?

- Additional Renewable Electricity infrastructure
- Electrification of the Mining Fleet
- Use of Ammonia as Fuel, Including Hydrogen Storage Infrastructure

(Outlined in GHGMP)

Emissions reduction profile from p34 of revised GHGMP (Oct 21) – exceeding EPA expectations

https://www.epa.wa.gov.au/sites/default/files/Proponent_response_to_submissions/3_Greenhouse_Gas_Management_Plan.pdf



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GHG case study: West Musgrave (ii)

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)

WEST MUSGRAVE COPPER AND NICKEL PROJECT

5 Greenhouse Gas Management

5-1 The proponent shall take measures to ensure that **net greenhouse gas (GHG) emissions** do not exceed:

- (1) 915,000 t CO₂-e for the period between project commencement and 30 June 2028;
- (2) 780,000 t CO₂-e for the period between 1 July 2028 and 30 June 2033;
- (3) 378,000 t CO₂-e for the period between 1 July 2033 and 30 June 2038;
- (4) zero (0) t CO₂-e per annum for every five (5) year period from 1 July 2038 onwards.

5-2 The proponent shall submit a report to the CEO each year by 31 March, commencing on the first 31 March after the date of this Statement specifying for the previous financial year:

- (1) the quantity of **proposal GHG emissions** and copper and nickel concentrates produced; and
- (2) the **emissions intensity** for the proposal.

5-3 The proponent shall submit to the CEO by 31 March 2029, and every fifth 31 March thereafter:

Page 6 of 19

5-6 The proponent:

- (1) may revise a **greenhouse gas management plan** at any time;
- (2) must revise the **greenhouse gas management plan** if there is a change to the proposal which means there is a material risk that condition 5-1 will not be achieved;
- (3) must revise the **greenhouse gas management plan** at least every five (5) years to align with the five (5) yearly reporting requirements specified in condition 5-3; and
- (4) must revise a **greenhouse gas management plan** if directed to by the CEO, within the time specified by the CEO.

5-7 The proponent shall ensure any revised **greenhouse gas management plan**:

- (1) is consistent with the achievement of the emission limits in condition 5-1 (or achievement of emission reductions beyond those required by the emission limits);
- (2) specifies the estimated **proposal GHG emissions, net GHG emissions** and total **GHG emissions intensity** for the remainder of the life of the proposal;
- (3) includes comparison of each of the estimated emissions and **emissions intensity** figures referred to in condition 5-7(2) for the remainder of the life of the proposal against other comparable projects;
- (4) identifies and describes any measures that the proponent will implement to avoid, reduce and/or offset **proposal GHG emissions**, or reduce the total **GHG emissions intensity** of the proposal;
- (5) specifies interim and long-term targets for avoiding, reducing and/or offsetting **proposal GHG emissions**; and
- (6) provides for a program for the future review of the plan to:
 - (a) assess the effectiveness of measures referred to in condition 5-7(4); and

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Some GHG challenges... (there are many!)

- Assessing impact - cannot directly connect and emission with an impact (climate change impacts are cumulative)
- Technical knowledge required to review GHGMPs
- Determining an appropriate baseline (from which emissions are to be reduced)
- Existing operations (s46 inquiries)
- Integrity of carbon offsets

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