

Peer Review and Quality Assurance

Introduction

A project proponent is responsible for ensuring their EES is of sufficient quality and adequate for exhibition.

The EES documentation needs to adequately address the matters set out in the scoping requirements. The EES documentation also needs to include technical studies that sufficiently examine and clearly document the potential environmental impacts and risks of the proposal.

Quality assurance and **peer review** both play vital roles in helping ensure adequacy of the EES main report and technical studies (i.e. appendices).

What does it mean if an EES is required?

The Minister will specify the procedures and requirements for an EES including:

- Matters that should be subject to in-depth investigation as part of the EES
- Scoping procedures that are to apply
- *Quality assurance procedures to be adopted, including the need for expert peer review of any matter*

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What is the difference between quality assurance procedures and peer review?

Quality assurance (QA) reviews differ from peer reviews in that the focus of QA reviews is on the clarity and content of the report, while peer reviews focus on ensuring the study method and analysis is appropriate and that the stated conclusions are supported by the work.

QA is conducted within an organisation, in-line with procedures typically documented in a system (possibly an accredited quality management system) to ensure that the output is of a suitable quality for issue.

As a guide, a QA review should check for:

- consistency – consistent units of measurement or terminology throughout;
- correctness – correct data, formulae, conversions, or test methods;
- coherence – assumptions clearly stated and conclusions follow from the data presented;
- clarity – written for a broad audience; and
- conformance – method follows scope or problems/limitations discussed.

A **peer review** is undertaken by reviewers external to an organisation to verify that investigation and assessment methods are suitable and meet best practice environmental assessment and are consistent with the body of technical knowledge in the subject area. In the context of an EES, a peer review typically verifies that work is technically sound, conclusions are supported and clearly covers the relevant matters identified in scoping requirements and Ministerial Guidelines. This will include reviewing whether it is based upon appropriate data, has adopted suitable methods for assessment and that conclusions are supported by the work presented.

The EES documentation is expected to include a list of technical reports or outputs that have been peer reviewed, noting the names and affiliations of peer reviewers.

Which technical reports should be peer reviewed?

The proponent may choose, or the department may direct, that some technical studies are subject to peer review. Peer review is likely to be required for those studies of complex or uncertain processes or those that may give rise to contentious conclusions, viz.:

- studies that rely on mathematical modelling to assess impacts;

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- studies that relate to non-quantifiable impacts, such as visual impact;
- studies that relate to new or emerging topics as key environmental issues (e.g. arboriculture for infrastructure projects);
- studies that relate to an environmental asset or value central to the assessment of environmental effects of the project (i.e. the issue that might constitute a "fatal flaw");
- studies relating to an environmental asset or factor that has proved problematic in comparable EESs.

Scoping requirements set an expectation that proponents will commission peer review of key technical studies. Proponents will prepare a list of technical studies to be peer reviewed for consideration by the technical reference group (TRG).

The TRG, based on its collective experience, may also assist in identifying studies that would benefit from peer review.

It may be prudent for a proponent to initiate expert peer reviews of EES studies on technically or scientifically complex matters where they may be range of expert views

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Who commissions the peer reviewers?

Typically, the proponent is responsible for engaging all experts and ensuring appropriate quality assurance and peer reviews.

However, in special circumstances, *the Minister may direct the department to appoint expert peer reviewers to provide advice during the development of critical studies. The final written advice of expert peer reviewers appointed by the department will be made available during the exhibition of the EES and will be provided to an inquiry, if one is appointed (pg. 21, EES Ministerial Guidelines).*

In some cases, the scoping requirements or Minister's procedures and requirements issued for an EES could specify the studies that require peer review. The department would then appoint peer reviewers in consultation with the TRG, to review and provide expert

advice to the department, proponent and TRG on the specific study/matter(s).

Appointment of these peer reviewers would typically occur early in the EES process, which enables the department's peer reviewer to also advise on relevant methodologies and data collection, as well as potentially on the scope of the EES developed by the department.

How is the information from the peer review managed?

A peer reviewer is not expected to be more expert than a study's author. In most cases, there is no expectation that the author will "take direction" from a peer review. Residual areas of disagreement may remain, particularly in areas that are non-quantifiable or emerging. This should not be viewed as a negative outcome but simply reflects the robust and scientific debate that is common within assessment of some environmental effects that are more uncertain or complex. In such circumstances, the peer reviewer would indicate any outstanding issues, and whether, in their opinion, they are material to the technical integrity of the report and its conclusions.

It would be prudent (or required in some cases) for the advice from proponent led peer reviews, to be provided to the TRG and department for consideration, together with a revised technical report that responds to the review.

It is expected that the report by the peer reviewer be published as an appendix to the study. The peer reviewer's report must therefore be publicly available when the EES is exhibited to provide evidence of transparency and identify any issues that were not resolved.

The peer reviewer may be required to attend the EES inquiry hearing to respond to specific questions and articulate his/her findings.

Where have peer reviews been undertaken in EESs?

Transport project – peer reviews of the noise, vibration and groundwater studies were published within the EES to provide a greater level of certainty to the public and key stakeholders regarding risks and proposed mitigation measures.

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Harbour development – a review of the palaeontological and geological studies, consistent with the scope set by the department with advice from the TRG.

Wind farm – a review of the studies prepared on the Southern Bent Wing Bat, in accordance with advice from the Commonwealth and TRG.

Marine projects – a group of independent experts was established by the department to review and advise on key studies, as well as respond to specific questions from the public inquiry panel.

Open cut mining project – a review of an air quality study given the risk to air quality and consequently public health.

Mineral sands mine – reviews of studies relating to air quality, site rehabilitation, hydrology and water quality.

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