



Environmental Protection Authority

Guidance for the Assessment of Environmental Factors

(in accordance with the
Environmental Protection
Act 1986)

**Implementing Best
Practice in proposals
submitted to the
Environmental Impact
Assessment process**

No. 55

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Western Australia

FOREWORD

The Environmental Protection Authority (EPA) is an independent statutory authority and is the key provider of independent environmental advice to Government. The EPA's objectives are to protect the environment and to prevent, control and abate pollution. The EPA aims to achieve some of this through the development of Guidance Statements for the environmental impact assessment (EIA) of proposals.

This document is one in a series being issued by the EPA to assist proponents, consultants and the public generally to gain additional information about the EPA's thinking in relation to aspects of the EIA process. The series provides the basis for the EPA's evaluation of, and advice on, development proposals subject to EIA. The Guidance Statements are intended to assist proponents to achieve an environmentally acceptable proposal. Consistent with the notion of continuous environmental improvement and adaptive environmental management, the EPA expects proponents to take all reasonable and practicable measures to protect the environment and to view the requirements of this guidance as representing the minimum necessary to achieve an appropriate level of environmental protection.

This document provides guidance on what the EPA means by the term 'best practice' when it is used in the EIA process. It is not intended to be applied to existing facilities not currently involved in the EIA process. This Guidance Statement is part of the EPA's approach to complementing regulation by developing and promoting non-regulatory support tools.

This Guidance Statement has been developed in response to new information that has become available on the potential impacts of pollutants on human health and the environment, and new technologies that have become available to manage wastes and protect the environment. It addresses the new policy principles of environmental protection and approaches to environmental management that have been developed and adopted around the world within the last decade, including sustainability, eco-efficiency and the waste hierarchy to protect the environment, prevent pollution and discourage the over-consumption of resources. The EPA also seeks to integrate environmental management across all media to achieve the best overall environmental outcome. For example, where the control of one waste (such as air emissions) contributes to increasing discharges to other media, such as water or land, the best overall environmental outcome must be sought, at a local, landscape, catchment or regional level.

The thrust of this Guidance Statement is that:

- (a) All relevant environmental quality standards must be met.
- (b) Common pollutants should be controlled by proponents adopting Best Practicable Measures (BPM) to protect the environment.
- (c) Hazardous pollutants (like dioxins) should be controlled to the Maximum Extent Achievable (MEA), which involves the most stringent measures

available. For a small number of very hazardous and toxic pollutants, costs are not taken into account.

- (d) There is a responsibility for proponents not only to minimise adverse impacts, but also to consider improving the environment through rehabilitation and offsets where practicable.

In circumstances where 'best practice' measures are not appropriate in its judgement, the EPA will have the option of recommending approval of other or amended environmental management measures if offsets in an area of environmental concern are proposed by the proponent and if the EPA is convinced these offsets provide the best overall environmental outcome.

This Guidance Statement has the status '**Final**' which means that it has been reviewed by stakeholders and the public. The EPA has signed off on the Guidance Statement and published it.

I am pleased to release this document which now supercedes the draft version.



Walter Cox
CHAIRMAN
ENVIRONMENTAL PROTECTION AUTHORITY

22 December 2003

Copies of this document are available on the EPA's website at www.epa.wa.gov.au under 'Guidance Statements' in the 'Environmental Impact Assessment' section or by phoning Chris Cornish on (08) 9222 7105

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Guidance Statement No. 55

Implementing Best Practice in Proposals submitted to the Environmental Impact Assessment Process

Key Words: best practice, environmental impact assessment, contaminants, pollutants, best practicable measures, maximum extent achievable

1 INTRODUCTION

1.1 Purpose

Guidance Statements generally are developed by the EPA to provide advice to proponents and the public about the minimum requirements for environmental management which the EPA would expect to be met when the Authority considers a proposal during the EIA process. The generic process for developing Guidance Statements is set out in Appendix 1.

This Guidance Statement specifically outlines the EPA's position on what it means by 'best practice' in the context of EIA. It aims to provide to proponents, stakeholders and other participants in the EIA process, including the community, an indication of the EPA's position on the use of best practice to protect the environment, and the approach which the EPA will take when assessing best practice implementation in proposals. While best practice is particularly relevant to industrial process design, and especially the avoidance or minimisation of waste discharges, the principle can also be applied more widely to encompass project site selection, project configuration and technology or procedures for the protection of the environment.

This Guidance Statement is termed 'Final', and thus the EPA expects that proponents will give full attention to the information provided when they submit proposals for assessment.

While guidance is provided specifically in relation to the *Western Australian Environmental Protection Act, 1986*, proponents are reminded to ascertain any responsibilities they may have in regard to this issue under the *Commonwealth Environment Protection and Biodiversity Conservation Act, 1999*.

1.2 Limitations

This Guidance Statement has been prepared by the EPA to assist proponents and the public. The guidance is provided in relation to protection of the environment as defined by the *Environmental Protection Act 1986* (EP Act). Proponents are encouraged to consider their proposals in the light of the guidance given.

The guidance has a particular focus on human health and the environment as affected by, but not confined to, industrial processes. The guidance is not intended to be applied to existing facilities not currently involved in the EIA process. Existing facilities not involved in the EIA process are subject to Section 51 of the EP Act. While this guidance represents the contemporary views of the EPA, each proposal which comes before the EPA for EIA will be judged on its merits. A proponent wishing to deviate from the minimum level of performance set out in this Guidance Statement would be expected to put a well-researched, clear and robust justification for the proposed departure.

2 THE ISSUE

2.1 Overview – Environmental protection and best practice

Western Australians expect the EPA to ensure that the EIA process and the EPA's advice to government is such that a high level of environmental quality will be maintained. New developments should always have sustainability as a key goal. Through the environmental approval process, proponents will be required to demonstrate:

- best practice; and
- that the cumulative impacts on the environment are acceptable (EPA 2002a).

While both of these are necessary conditions and neither one alone is sufficient, this Guidance Statement focuses on the first point above, the concept of 'best practice'.

The EPA's concept of best practice is grounded in the view that Western Australia generally has a high level of environmental quality which should be maintained. Environmental standards are set to protect various environmental values, including human health.

The EPA's concept of best practice applies to each individual development proposal. As such the EPA takes a case-by-case approach. Best practice is founded on the idea that there is no case for unnecessary waste discharges or degradation of the environment, even where an environmental standard is not exceeded. Application of best practice measures in proposals will ensure that existing high levels of environmental quality will not be needlessly compromised. In addition, proponents of new, replacement or upgraded developments should be

encouraged in the EIA process to improve the quality of the environment where this is practicable. It is this maintenance of high environmental quality that the EPA seeks by advocating the use of best practice measures. If best practice measures for environmental management are applied at the design stage of a new proposal, significantly better performance than the applicable environmental standard can often be achieved at little significant cost over the life of the project. In fact it can often result in efficiencies and cost savings in the long term.

The application of best practice to environmental protection is also consistent with the concepts of sustainable use and intergenerational equity, when a project is designed to avoid unnecessary environmental impact, maintain high environmental quality, and thereby maintain the range of environmental values for future generations.

In recent years there have been changes in procedures and technologies that enable appropriately sited and designed industrial activity to occur while a high quality of environmental protection is maintained, through the application of sustainable development, continuous improvement, cleaner production and eco-efficiency principles. In most industrialised nations, new policy principles and approaches to environmental management have been developed and adopted within the last decade. There have been new national and international agreements on policies, practices and requirements in relation to environmental protection. These have often been in response to new information that has become available on potential impacts of pollutants on human health and the environment, and new technologies that have become available to minimise risks, prevent and manage wastes and improve the quality of the environment. Many of these advances have occurred since the EP Act came into effect.

Traditional ‘pollution control’ relied on end-of-pipe solutions requiring the addition of control technology at the point of discharge to reduce the discharge of waste. The principles outlined in the EPA Position Statement No. 3, Principles of Environmental Protection (EPA 2002b), place an increased emphasis on the prevention of pollution by adapting the production process to avoid the unnecessary creation of wastes. Proponents are urged to give attention to these Principles from the earliest stages of project design, so that the necessary information is available for consideration during the EIA process when the environmental impacts of new or amended projects are being assessed.

These developments are in line with changes in corporate philosophy, such as the introduction of environmental management systems, aimed at minimising the environmental impact of company operations and improving environmental quality. These changes have included industry codes of practice emphasising best practice environmental management, and the implementation of environmental management systems and other commitments to continuous improvement in environmental performance using a risk based approach.

2.2 The concept of ‘best practice’

2.2.1 National Environmental Protection Council

The Commonwealth, State and Territory Governments and the Australian Local Government Association developed the Intergovernmental Agreement on the Environment (IGAE) (Commonwealth of Australia 1992). This agreement was followed by the formation of the National Environmental Protection Council and the development of National Environmental Protection Measures, and led to the introduction of new environmental protection policies in Western Australia, based on national environmental policies.

2.2.2 The Western Australian Environmental Protection Authority

Section 15 of the *Environmental Protection Act 1986* requires that the EPA shall use its best endeavours to protect the environment and to prevent, control and abate pollution. When a new proposal is designed, there are clearly opportunities to design and incorporate best practice processes and technologies. Properly designed from the outset, these processes and technologies can often provide much improved environmental protection for little or no extra cost over the life of the project.

It is at the design stage of new proposals that EIA is undertaken. Therefore, the opportunity exists to use EIA, hand in hand with project design, to achieve best practice outcomes for new projects which would not be possible for existing operations. This Guidance Statement is designed to provide advice on how the concept of best practice should be used for a new proposal undergoing EIA.

EPA Principles for environmental protection, natural resource management and sustainability

Best practice is one of the principles for environmental protection, natural resource management and sustainability applied to all major new or amended development proposals by the EPA during the EIA process. These principles are set out in the EPA Position Statement No. 7 (EPA 2002b) under the following headings:

- Environmental, social and economic considerations;
- Precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity;
- Improved valuation, pricing and incentive mechanisms;
- Shared responsibility;
- Product stewardship;

- Eco-efficiency;
- Waste hierarchy;
- Integrated environmental management;
- Best practice;
- Continuous improvement;
- Accountability and transparency; and
- Enforcement.

Waste Hierarchy

The principle of a waste hierarchy is now widely applied in Australia and internationally. The EPA considers that, in the management of wastes, the following hierarchy should be adopted:

1. Avoidance of waste production;
2. Reuse of wastes;
3. Recycling wastes to create useful products;
4. Recovery of energy from wastes;
5. Treatment of wastes to render them benign;
6. Containment of wastes in secure, properly managed structures; and
7. Disposal of waste safely in the long term.

An important principle applied by the EPA, when considering emissions in particular, is to recognise that Western Australia generally enjoys high levels of ambient environmental quality. While standards represent the absolute limit on emissions, the EPA strongly encourages the examination of proposals on a case-by-case basis to achieve the lowest practicable emissions. This approach is consistent with ensuring that cumulative impacts are considered each time a new proposal is examined.

Over time the community's expectations have changed with an increasing desire for good environmental quality and the requirement for tighter environmental standards. In such a setting, it makes sense in new proposals to ensure emission levels are minimised and they do not accumulate unnecessarily up to (or beyond) established standards. Standards are often adopted from other jurisdictions where environmental quality objectives may be lower or the standards may have been developed with a different legislative or management base. While these standards are usually designed to be protective using achievable technology and given the local circumstances, they may not be the best practicable approach. In general, allowable limits within standards have become more stringent over time as more scientific information has accumulated on health and environmental effects and as community expectations have risen.

2.2.3 Victorian EPA

The Victorian EPA's approach to air quality management has recently been revised and is strongly influenced by the US EPA's approach.

The Victorian State Environmental Protection Policy (Air Quality Management) (EPA Victoria 2001a, 2001b) requires generators of emissions to:

- Apply the waste hierarchy and eco-efficient practices and technologies to activities and processes that generate emissions, with the principal aim of preventing the occurrence of the emissions in the first place;
- Minimise emissions that cannot be prevented at each stage of a product's life-cycle; and
- Assess and manage emissions that have been minimised but cannot be completely avoided.

The Victorian EPA requires:

For all new sources, greater emphasis will be placed on requirements for continuous improvement and eco-efficiency ... and the application of best available control technology (BACT).

For specified hazardous pollutants, the principle of reducing emissions to the Maximum Extent Achievable (MEA) has been adopted. This concept incorporates the principles of hazardous waste reduction and cleaner production rather than relying only on end-of-pipe technology. In addition to MEA, an environmental risk assessment may be required.

For new developments (or significant changes) the applicant will be required to demonstrate that the proposal applies eco-efficient practice (including technology), the waste hierarchy and MEA where applicable.

The Victorian EPA will also require that options for reducing emissions of greenhouse gases, enhancing energy efficiency, and implementing product stewardship and life cycle management, have been investigated before choosing control practices and design parameters and making works approval applications.

The Victorian EPA is therefore strengthening its integrated pollution prevention approach and requiring the application of best available control technology for new sources of common pollutants, and the principle of reducing emissions to the maximum extent achievable for specified hazardous pollutants.

2.2.4 US EPA

The US EPA has an array of pollution prevention requirements that relate to preventing or reducing discharges to the environment depending on local environmental quality, the environmental properties of contaminant discharges, economic circumstances and the capabilities of available pollution prevention technologies. The US approach acknowledges that a combination of ambient environmental standards and technological pollution prevention standards is required to ensure adequate environmental protection.

Amendments to the *US Clean Air Act* in 1977 changed the basic mission of that Act from being solely related to protecting health and welfare to minimising emissions and impacts. Thus, protecting the environment involves the principle of emission minimisation.

Best available control technology

Even in areas where the air is cleaner than the US National Ambient Air Quality Standards (NAAQS), new or modified major sources must install Best Available Control Technology (BACT) which is a technology-based standard that is part of a program called the Prevention of Significant Deterioration of Air Quality. Major sources are required to use BACT, unless it can be demonstrated that it not feasible for energy, environmental, or economic reasons.

In determining BACT, the USEPA uses a ‘top-down’ approach which ranks all available control technologies in order of effectiveness. The most effective technology is considered as BACT unless the applicant can demonstrate that it is not achievable on the grounds of technical considerations, energy, environmental or economic impacts, in which case the next most effective technology is considered, and so on.

Lowest achievable emission rates and offsets

In areas where the US NAAQSs are not being met, new emission sources must provide emission offsets in other areas of the plant or in other plants in the vicinity and these offsets are intended to more than compensate for the proposed emission increases. Furthermore, plant design must be aimed at the Lowest Achievable Emission Rate (LAER).

LAER is defined as:

For any source, that rate of emissions which reflects:

A. the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or

B. the most stringent emissions limitation which is achieved in practice for such class or source category of source,

whichever is the most stringent. In no event shall the application of this term permit a proposed new or modified source to emit any

pollutant in excess of the amount allowable under the applicable new source standards of performance.

LAER does not take into account cost and energy issues.

2.2.5 Policies in OECD countries

Most member countries of the Organization for Economic Cooperation and Development (OECD) use a combination of BAT (Best Available Technology), EQO (Environmental Quality Objective) and EQS (Environmental Quality Standard) to arrive at an emission limit stipulated by a licence (OECD 1996). BAT-based approaches appear to be the driving force for setting emission standards and licence requirements but EQOs and EQSs ensure that long term environmental objectives are met.

A major conclusion of a workshop (OECD, 1996) was:

There is clear evidence that the relationship between BAT and EQOs has evolved significantly over the past few years. Recognising the complexity of defining the right balance between economic and ecological needs, a political consensus has emerged regarding the combined use of technology-based and ecology-based instruments in setting far-sighted environmental standards and permit requirements. It is increasingly recognised that the optimal definition of performance levels must be based on the combined assessment of local environmental goals and state-of-the-art technology for reducing harmful releases. Indeed, the examination of country practices leads to the conclusion that a permit cannot be optimally effective if it does not achieve a good balance between the precautionary approach (through technology-based requirements) and tailored, site-specific parameters based on environmental quality. If EQSs are exceeded, to attain acceptable environmental quality levels, requirements for control technologies and techniques must go beyond BAT, and should be set more stringently.

The consensus of opinion is that the EQO/EQS or BAT approaches, used in isolation, have weaknesses and that they should be considered as complementary and mutually reinforcing.

3 THE GUIDANCE

3.1 The EPA approach to ‘best practice’ in the Environmental Impact Assessment process

The EPA has an objective of protecting the environment, including protection from the effects of pollution, waste discharges and deposits. One mechanism the EPA uses is the EIA process.

The EPA’s approach to the application of ‘best practice’ in the environmental impact assessment of new proposals or significant expansions of existing projects is:

1. A proposal should not cause an exceedence of any recognised environmental protection standards (for instance National Environmental Protection Measures, hazard and risk guidelines, standards in Environmental Protection Policies etc.). For new sources or significant extensions to existing sources that come to the EPA for assessment, issues of cost will not be considered where pollution reduction or other environmental management measures are needed in order to comply with recognised environmental standards.
2. Where a proposal complies with environmental protection standards, best practicable measures for prevention or minimisation of adverse environmental impacts and encouragement of practices beneficial to the environment would be sought in line with the:
 - statutory requirement under the EP Act for the EPA to use its best endeavours to protect the environment and to prevent, control and abate pollution;
 - encouragement of eco-efficient practices and technologies;
 - encouragement of implementation of the waste hierarchy; and,
 - encouragement of continuous improvement in environmental performance.
3. With regard to discharges, the EPA makes a distinction between common pollutants (sometimes called criteria pollutants), such as sulphur dioxide and nitrous oxides, and hazardous pollutants, such as asbestos, dioxins, PCBs, beryllium, cadmium and mercury.

The thrust of this Guidance Statement is that:

- a) All relevant environmental quality standards must be met.

- b) Common pollutants should be controlled by proponents adopting Best Practicable Measures (BPM) to protect the environment (see 3.2 Guidance on application).
- c) Hazardous pollutants (like dioxins) should be controlled to the Maximum Extent Achievable (MEA), which involves the most stringent measures available. For a small number of very hazardous and toxic pollutants, costs are not taken into account (see 3.2 Guidance on application).
- d) There is a responsibility for proponents not only to minimise adverse impacts, but also to consider improving the environment through rehabilitation and offsets where practicable.

The EPA will always encourage proponents to achieve best practice. In general, a proposal which embraces best practice, meets appropriate standards and EPA objectives would be recommended for approval.

3.2 Guidance on the application of ‘best practice’ in the Environmental Impact Assessment process

The EPA’s guidelines for management of new or significantly expanded proposals in relation to the implementation of best practice is set out below. Guidance is provided on the general case of applying BPM to common pollutants as well as the specific case of applying MEA requirements to hazardous pollutants. In delivering Best Practicable Measures and Maximum Extent Achievable measures proponents are encouraged to develop the arguments for their proposal based on a risk-based approach relevant to the circumstances of their particular case.

1. Best Practicable Measures (BPM)

For the general case, Best Practicable Measures should be applied to the management of environmental issues. Best Practicable Measures incorporates technology and environmental management procedures which are practicable, having regard to, among other things, local conditions and circumstances, including costs, and to the current state of technical knowledge, including the availability of reliable, proven technology.

Best practice involves the prevention of environmental impact, or, if this is not practicable, minimising the environmental impact, and also minimising the risk of environmental impact, through the incorporation of Best Practicable Measures. No significant residual impact should accrue as a result of a proposal.

2. Maximum Extent Achievable (MEA)

MEA requirements apply where hazardous pollutants are involved,

regardless of their pathway into the environment. Hazardous pollutants are to be controlled to the Maximum Extent Achievable, irrespective of location. Maximum Extent Achievable requirements incorporate technology and environmental management procedures which are the most stringent measures available and achievable, at a scale relevant to the proposal, to control the level of risk imposed by the hazardous pollutants being considered. Hazardous pollutants are those other than common pollutants which may reasonably be anticipated when present at low concentrations to have characteristics such as toxicity or persistence so as to be hazardous to human, plant or animal life. These hazardous pollutants have been identified as known or suspected carcinogens, mutagens, teratogens, highly toxic or highly persistent substances and consequently require special attention. They may include substances such as arsenic, asbestos, benzene, dioxins, PAHs, PCBs, beryllium and cadmium.

Maximum Extent Achievable measures are only intended to cover hazardous pollutants as described above and set out in the schedule of Class 3 substances attached to the Victorian EPA's Environment Protection Policy for Air Quality Management (EPA Victoria 2001c). They are not intended to apply at pollutant levels which do not pose a credible risk.

The EPA would retain the option of recommending against the approval of such emissions if, in its judgement, there was a significant risk to human health or the environment. The proponent should undertake an assessment of health risk where appropriate, in support of their proposed approach.

There may be circumstances where the EPA accepts that the adoption of best practice is not essential or not even appropriate. Here, the EPA will have the option of recommending approval of other or amended environmental management measures if offsets in an area of environmental concern are proposed by the proponent and if the EPA is convinced these offsets provide the best overall environmental outcome.

In the implementation of these best practice guidelines, the EPA's decision-making will be guided by careful case-by-case evaluation to avoid serious or irreversible damage to the environment wherever possible and an assessment of the risk-weighted consequences of the options. The EPA considers that the environmental practices and procedures adopted should be in proportion to the significance of the environmental issues being addressed in each case.

Case-by-case assessment is an important principle of environmental impact assessment in Western Australia. The EPA recognises that some projects are assessed at a conceptual design or pre-feasibility stage, when precise details of process engineering and waste management reduction technologies are not available. Other projects are assessed at a stage when a proponent has well-defined technology and the means to proceed with development as soon as environmental approvals are in place.

In the former case, it is unlikely that the EPA will be able to ascertain whether best practice requirements have been met and the Authority may need to recommend the application of Environmental Conditions for further detailed examination of the issue prior to the licensing stage. Considerable time may be required to demonstrate compliance with such Conditions, sometimes at the point where a proponent is on a critical path to commence construction.

In the latter case the EPA would expect the proponent to demonstrate, using the relevant Best Practicable Measures or Maximum Extent Achievable case, whether best practice has been applied to the protection of the environment in the proposal. In such a case, it is likely that the EPA could be satisfied that best practice is in place without the addition of extra, complex Environmental Conditions, and clarity and certainty can be provided.

In many cases, provided environmental standards are met, it is likely that proponents of small proposals could demonstrate to the EPA that, in their particular circumstances, what might otherwise be regarded as Best Practicable Measures are not practicable because of reasons such as energy efficiency, small quantity of discharge, cost, minor degree of impact on the environment and, in general, a risk weighted consideration of consequences. Provided environmental standards are met, the EPA would not wish to impose approval processes that would unreasonably deter proponents of projects involving small sources of impacts where the proponent has made reasonable endeavours to meet the principles of best practice in good faith.

3.3 Management system

The achievement of best practice will be greatly facilitated if a proponent has an environmental management system in place, particularly if it is consistent with an international standard such as ISO 14001. Where appropriate, the proponent should demonstrate that an environmental management system is in place and includes the following elements:

- a) An environmental policy and corporate commitment to it;
- b) Mechanisms and processes to ensure:
 - i) planning to meet environmental requirements;
 - ii) implementation and operation of actions to meet environmental requirements; and
 - iii) measurement and evaluation of environmental performance; and
- c) Review and improvement of environmental outcomes.

4 APPLICATION

4.1 Area

This Guidance Statement applies to all proposals subject to environmental impact assessment throughout the State of Western Australia.

4.2 Duration and review

The duration of this Guidance Statement is for five years unless some unforeseen circumstances or major advances in knowledge require it to be reviewed earlier.

5 RESPONSIBILITIES

5.1 Environmental Protection Authority responsibilities

The EPA will apply this Guidance Statement during the assessment of proposals under Part IV of the EP Act.

5.2 Department of Environment responsibilities

The DoE will assist the EPA in applying this Guidance Statement in environmental impact assessment under Part IV of the EP Act.

5.3 Proponent responsibilities

Where proponents demonstrate to the EPA that the requirements of this Guidance Statement are incorporated into proposals, in a manner which ensures that they are enforced and audited, the assessment of such proposals is likely to be assisted.

6 DEFINITIONS

Best practicable measures (BPM)

Best Practicable Measures incorporate technology and environmental management procedures which are practicable having regard to, among other things, local conditions and circumstances (including costs), and to the current state of technical knowledge, including the availability of reliable, proven technology.

Best Available Technology (BAT)

Narrowly defined, Best Available Technology is the best technology available at a scale relevant to the proposal. As defined here it is relevant to the definition of Maximum Extent Achievable below and, as such, it does not include consideration of costs or other matters. This definition of Best Available Technology is deliberately distinct from the definition of Best Practicable Measures in this document, which does consider other matters, including costs.

Common pollutants

These pollutants are common, ubiquitous or widespread in occurrence. They are emitted or discharged from numerous widely distributed sources or formed as secondary pollutants in the environment.

Hazardous pollutants

These are present at low concentration with characteristics such as toxicity or persistence so as to be hazardous to humans, plant or animal life. These hazardous pollutants have been identified and known or suspected to be carcinogenic, mutagenic, teratogenic, highly toxic or highly persistent substances, and consequently require special attention.

Eco-efficiency

Producers of goods and services should produce competitively priced goods and services that satisfy human needs and improve quality of life, while progressively reducing ecological degradation and resource intensity throughout the full life-cycle to a level consistent with the sustainability of biodiversity and ecological systems.

Maximum extent achievable (MEA)

The maximum extent achievable is the degree of reduction in the emission of wastes which is equivalent to or greater than that which can be achieved by the application of best available technology or practices. In some circumstances it may require the application of new, original or innovative control technology or practices to a particular source (EPA Victoria 2001a) and must be effective and consistent with the level of risk that exists, without undue regard to costs. Maximum Extent Achievable measures are only intended to apply to hazardous pollutants as described above and set out in the Victorian EPA's State Environment Protection Policy for Air Quality Management (EPA Victoria 2001c). Nor are they intended to apply at pollutant concentrations that do not pose a creditable risk.

Practicable

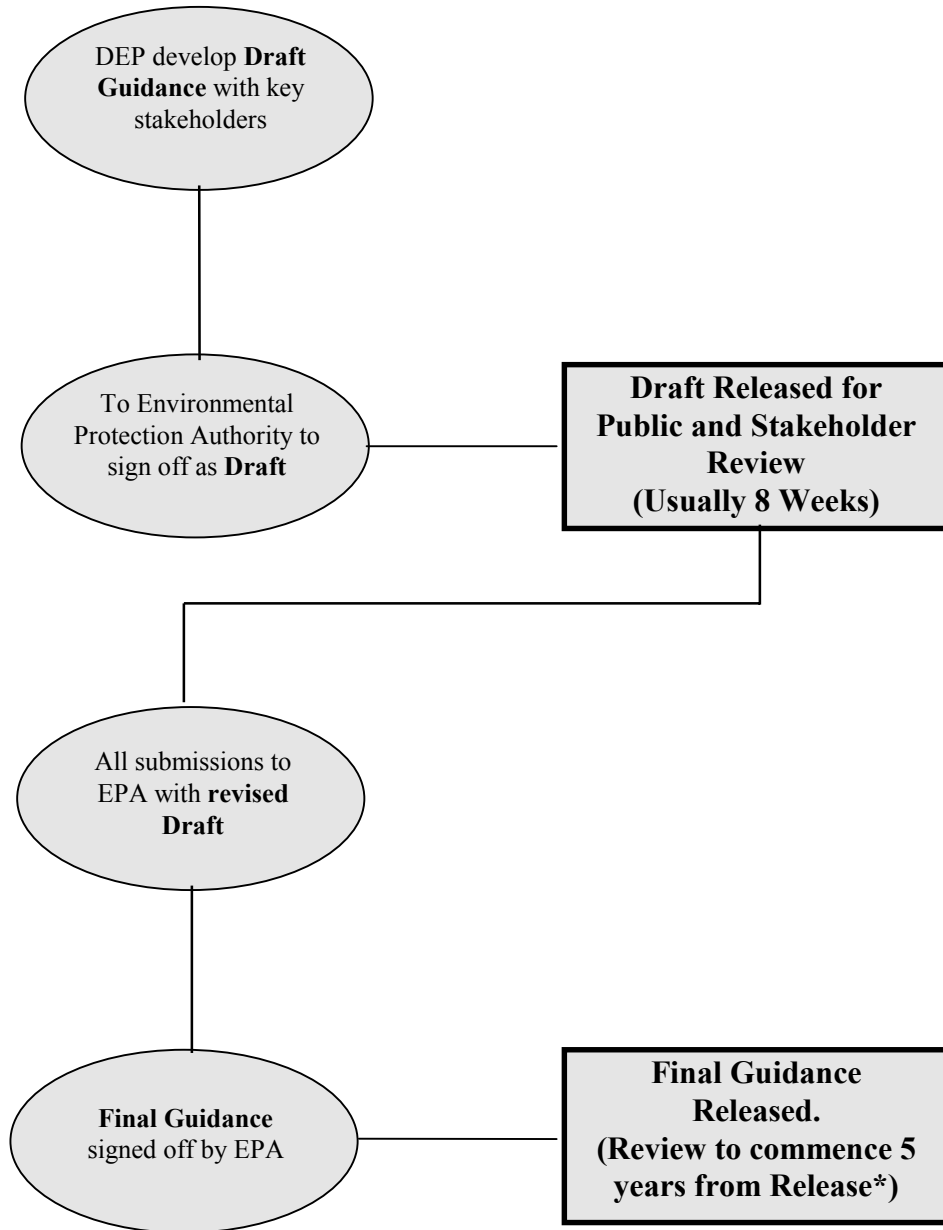
Practicable means having regard to, among other things, local conditions and circumstances (including costs) and to the current state of technical knowledge.

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APPENDIX 1

Generic Flow Diagram for the Guidance Statement Process



* Guidance may be reviewed earlier if circumstances require it.