

GUIDELINES FOR THE PREPARATION OF ENVIRONMENT IMPROVEMENT PLANS

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INTRODUCTION

This document provides general advice about the preparation of Environment Improvement Plans (EIPs). The information contained in this bulletin will assist in developing an EIP by:

- highlighting important issues to consider; and
- providing some suggestions on the contents of the EIP.

As every organisation is different, some parts of this bulletin may be more relevant than others. An EIP should be tailored during its development, to ensure that the particular needs and objectives of the organisation are met.

WHAT IS AN EIP?

An EIP is an effective tool to guide a company's environmental management through a process of continuous improvement. EIPs may be prepared at the initiation of the company, may be required as a licence condition to replace detailed prescriptive conditions in licences or may be directed by EPA to be prepared in accordance with section 31C of the *Environment Protection Act 1970* (the Act).

An EIP enables an organisation to improve environmental performance through a comprehensive approach to environmental management. It includes

an action plan with goals and timelines, together with provision for ongoing monitoring and reporting of environmental performance. An EIP is a company's public commitment to improve performance. Progress against the plan is regularly reviewed and reported to the public.

EPA encourages the development of EIPs that deal with all aspects of a company's environmental performance. In certain circumstances, however, an EIP which focuses on a particular aspect of that performance (for example, noise or waste) may be required under statutory policies or other legislative instruments.

The preparation of an EIP is required as a condition of works approval for new developments and must be completed prior to the commissioning of works. In these cases the contents of an EIP will be tailored to the issues of the particular development and will include an emphasis on site operating conditions.

An EIP can also be an important component of an environmental management system.

WHAT SHOULD AN EIP INCLUDE?

An EIP should be tailored to fit an organisation's needs and is likely to contain the following:

- environmental policy and objectives;
- identification, assessment and evaluation of options for improved performance;
- commitments, targets and contingency arrangements;
- operational arrangements to achieve objectives;
- performance monitoring and reporting;
- auditing and review of the plan;
- endorsement by senior management, EPA and by the affected community.

Section 31C(6) of the Act specifies what an EIP should include. These provisions have been attached to the back of this bulletin (see attachment 2).

WHY DEVELOP AN EIP?

Improved environmental performance, reduced environmental impacts and liabilities, and developing more sustainable practices are increasingly being recognised as key components of sound business management. The development of an EIP is a good start to achieve these outcomes.

Other benefits include:

- Improved financial performance. Some improvements identified through the EIP process can be achieved through the implementation of cleaner production

principles, which can in turn result in cost savings.

- Less prescriptive regulatory requirements from EPA in certain instances. An effective EIP demonstrates the organisation's commitment to environmental responsibility and is a prerequisite for companies seeking to become accredited licensees.
- Improved relations between the community and the organisation through an agreed program of environmental improvement. Enhanced environmental performance can lead to better relationships with the local community. Where EIPs are developed in consultation with the community it provides an opportunity to express any concerns they may have with activities, thereby allowing the organisation to address these issues within a mutually agreed timeframe.

Increasingly, companies are reporting triple bottom line indicators to the community. These provide information on the social, economic, and environmental performance of the company.

Indicators may include a performance assessment of the use of raw materials through to the impact of the final products, packaging and waste outputs.

Overall, producing and implementing an EIP helps an organisation to meet its environmental legal responsibilities, provides evidence of due diligence and will often reduce costs. By helping to improve the organisation's environmental performance, an EIP will lead to a safer and better quality environment for staff, management and the community.

Case study

A small food processing company decided to develop an EIP in August 1996 as a result of public concerns about odour and dust emissions after a major expansion of the complex. The EIP was developed through a community liaison committee (CLC) process over an 18-month period and enabled the company to continue production, with the community experiencing improved air quality and amenity while retaining the social and economic benefits of the operation. Through the EIP process, the company has improved process efficiency and significantly increased product yields. The following tangible results have been achieved:

- less product wasted, saving the company \$125,000 per year;
- one-third less solid waste disposal;
- reduction in wastewater loads, resulting in reduced trade waste charges;
- community complaints reduced by 80 per cent; and
- improved relationship with the community.

OTHER ENVIRONMENT MANAGEMENT TOOLS

Many organisations already have existing environmental management documents such as waste management plans, and environmental management plans. These may be part of the organisation's environment management system (EMS) or in response to regulatory requirements. Some companies may have more targeted plans, such as EIPs for a specific environmental segment. In some cases these plans may even be only recently completed. Each of these tools has a slightly different emphasis in the organisation in which it is used.

In instances where a company has already developed an EMS, an EIP may provide additional detail on specific operational matters for individual sites and include information on community consultation.

It is not intended that a separate document be prepared to satisfy each regulatory requirement, rather that an integrated approach be developed. For this reason, EPA has decided to use the term EIP to encompass all of the above tools and encourage their development either within the framework of an EMS or as a stand-alone document.

PREPARING AN EIP

Ensure sufficient consultation

Producing an EIP involves research, liaison, decision-making and writing. It is important that there is input from senior technical, operational and managerial staff, and that sufficient internal consultation takes place during development to ensure broad acceptance of the plan. Where appropriate, the EIP should also be developed with community input. A list of publications, which may be useful in this process, is given at the end of this bulletin.

The style of an EIP should suit its audience

An EIP should be a document that management, staff and the community (as appropriate) can use as a guide for future environmental improvement. It should be written in plain and relevant language, should be easy to follow and understood by the audience and should not be too long. It should also be consistent with existing management documents of the organisation.

Environmental Issues

Ideally an EIP should address all environmental and resource issues relevant to the company. In some circumstances, EPA guidelines covering management of specific environmental problems, may require the development of an issue specific EIP. For example, the notifiable chemicals Order for polychlorinated biphenyls (PCBs) requires users of PCBs to prepare an EIP. In these circumstances, there will usually be specific guidance on the preparation and content of the EIP.

The organisation may also choose to prepare an EIP that will focus on a particular environmental impact. For example, if the organisation's activities result in highly odorous air emissions the EIP may focus on odour reduction. In the spirit of continuous improvement, organisations are encouraged to expand the scope of their EIPs over time to include other environmental issues.

Case study

An example of an EIP focusing on a particular environmental issue: A manufacturer of medical goods licensed by EPA to discharge a restricted volume of waste solvents to atmosphere prepared a waste management plan (WMP) (targeted EIP) to address its solvent discharges. The WMP identified significant waste reduction options, including the installation of a solvent recovery system that was designed to reduce solvent emissions by 95 per cent. The recovered solvent was then reused. The advantages that resulted included improved environmental performance and cost savings (as a direct result of reduced solvent wastage).

Environmental audit

Environmental auditing is a systematic method of assessing the many factors, which affect a facility's environmental performance, and of identifying opportunities for improving performance.

An audit involves analysis, testing and confirmation of procedures and practices at a facility. It may also include the collection of raw data (that is, taking samples for analysis). An environmental audit may be used to assist in the development of an EIP, to assess the progress of the implementation of an EIP, or to review and update an EIP.

An EPA appointed environmental auditor is able to add value to this process.

Integration of existing systems

Some companies have developed standard operating procedures, for housekeeping or particular pieces of machinery or activities. These may include maintenance or operational procedures, and include responsibilities of staff and reporting requirements. In addition a company may have developed a system to methodically manage these procedures, such as ISO 14000.

An EIP should incorporate or reference all existing systems or procedures that have been developed by a company to ensure that an integrated approach to environmental management is developed.

Suggested contents in an EIP

The EIP should be a useful working document, so its layout and scope should be tailored to suit the needs and circumstances of the company. Factors that may influence the type of EIP produced include the size of the organisation, the nature of its operations and the characteristics of its operating environment.

The following points suggest a framework for an EIP, including the types of issues that should be considered. Note that this framework focuses mainly on industrial application and should be modified to suit the particular organisation (whether it is industrial or not). If an organisation is producing an EIP as part of an EPA licence or notice, it should discuss its development with EPA.

1. Endorsement of the EIP

The EIP should be endorsed at senior management level to demonstrate and ensure organisational commitment. The senior site manager should be one of the signatories.

2. Statement of environmental policy

If the organisation has an environmental policy, include it at the beginning of the EIP. A corporate environmental commitment is a strong starting point for an EIP and for continuous improvement in environmental performance.

3. Description of operation and operating environment

Briefly describe the organisation's operations including:

- the site;
- major plant and equipment;
- processes;
- operating hours;
- transport methods and volumes;
- material inputs and outputs;
- energy consumption;
- water consumption;
- the types, volumes and management of wastes (a waste audit may be required); and
- costs of waste production, handling and disposal.

It may be helpful to include photographs and a process flow chart. Include a plan of the premises and surroundings, showing the location of waste

treatment facilities, waste generation points, discharge points to the environment, chemical storage areas, any sensitive environments and other relevant information.

The description of operations should nominate sensitive environments. It might discuss, for example, the condition of the waterway into which the stormwater runs, whether the soil on the premises is particularly prone to erosion, the planning zones in the area and whether there is a residential area close to the premises.

4. Site management arrangements

Identify who, within the organisation, is responsible for what, and include an organisational chart. Also identify and briefly describe any management systems that may have a direct link to the EIP.

5. Description of environmental impacts and risks

Think carefully about how the activities described impact, or could impact, on the environment, paying attention to the sensitive environmental elements identified in section 3. Relevant issues may include:

- emissions to air;
- dust;
- noise;
- litter;
- odour;
- surface runoff;
- land contamination;
- wastewater;
- groundwater contamination;

- waste production, including packaging;
- any aspects of the operation which have generated public complaints;
- water consumption;
- energy consumption;
- resource use; or
- greenhouse gas emissions.

Include any other environmental issues that may be considered important.

The EIP should not be confined to normal operational conditions – risks associated with atypical circumstances should also be considered. For example, it is important to assess the likelihood that an accident may occur, including spills or leaks, and consider the extent, severity and duration of any environmental impacts.

6. Waste minimisation options

A waste assessment can be a particularly useful tool for describing the operating environment and identifying environmental impacts and risks. A waste assessment is the systematic collection of information to identify options for reducing or eliminating waste.

A waste assessment should:

- identify and quantify all waste streams (for example, solids, liquids and gases);
- establish how and why each waste stream is generated;
- establish the cost and liability associated with each waste stream; and

- identify options for waste minimisation through (in order of priority) the avoidance, reduction, reuse and recycling of that waste

7. Environmental objectives

Devise measurable objectives relating to the environmental impacts and risks identified in section 5. Priorities, in order, should be to:

1. eliminate impacts and risks;
2. reduce impacts and risks; and
3. control impacts and risks.

It is necessary to meet all legal requirements. All relevant environmental controls, including those in EPA policies and other statutory tools and local government planning permits, should be identified. An EIP should also extend beyond compliance with legal requirements and include objectives for improving the efficiency and financial performance of operations through avoidance, reduction, reuse and recycling of waste generated. Minimising the generation of waste may not only present a financial benefit but may also reduce the risk of environmental impacts. Other EPA guidance and industry codes of practice should also be considered.

Examples of appropriate objectives are:

- Ensure no offensive odours are discharged beyond the boundaries of the premises.
- Establish programs to measure performance against objectives defined in State environment protection policies and industrial waste management policies.
- Reduce the volume of sludge wastes by 20 per cent within the next two years.

- Reduce the volume of water consumption per production unit by 5 per cent each year.
- Identify and implement opportunities for cost-effective improvements in energy consumption.

As some environmental objectives may need to be implemented over a period of time, this section should prioritise actions to improve environmental performance. These could include waste minimisation measures, plant upgrades or changing process, or substitution of raw materials. Time lines for achieving all of the operating conditions should also be prepared and included with the EIP.

8. Operating conditions

This section describes the operating conditions necessary to ensure the environmental objectives are met. Operating manuals may be referenced as well as any industry standards or codes of practice (it is not necessary to include full copies of these references with the EIP).

A typical entry in the EIP may read:

'the ... will be operated in accordance with operating manual ...'

A description of the management systems that ensure these documents are complied with should also be included.

A high level of assurance should be sought by engaging an environmental auditor to check that the operating conditions will achieve the environmental objectives stated within the EIP.

The documents referenced in the EIP should provide specific details, not generalities. Responsible persons, scheduling, resource arrangements and how

staff will be informed about any new arrangements should be specified. Aspects of the operation that will need to be considered include:

- equipment operating specifications;
- control equipment;
- operating hours;
- training;
- housekeeping and maintenance schedules;
- arrangements to transport, store and handle chemicals and hazardous materials;
- waste avoidance reuse, recycling and disposal;
- litter control measures; and
- site drainage (trade waste and stormwater).

As an example, an entry within an operating manual might read:

- The temperature of the afterburner must be kept at 760°C while the varnishing line is in operation. The temperature recorder is to be maintained weekly and temperature records kept in the shift supervisor's folder marked 'afterburner records'.
- Operators of the cleaning equipment will be trained in good house keeping practices in accordance with procedure 2.22.
- The rock crushing plant will only be operated between 8.30am and 6pm on weekdays.
- The day shift supervisor will conduct a daily check of all perimeter pipelines for leaks and spills.

9. Complaint response

State how the organisation will deal with complaints from the public. It is usually best to create a tracking record for each complaint showing:

- date received;
- details of complaint and complainant;
- person responsible for responding;
- response time and date and actions taken; and
- details of follow-up with complainant.

Public complaints can be a valuable tool in the identification of significant issues and corrective actions should be incorporated into the EIP to prevent their recurrence.

10. Contingency arrangements

List possible events that could cause environmental impacts. These may include control equipment or power failure, spills, leaks, fire or flood. For each of these, describe:

- the actions to be taken to minimise the risk of an incident;
- how an incident is detected;
- arrangements, procedures, responsibilities and schedules in relation to detected incidents – including key contact names and phone numbers;
- arrangements and responsibilities for periodic testing of these procedures;
- remedial actions which will be taken after an incident; and
- incident reporting arrangements.

This part of the plan should be reproduced and distributed separately so it is readily accessible to staff in the event of a problem. Alternatively, many larger facilities already have emergency response procedures, and these may be referenced in the EIP.

11. Assessment and monitoring

Work out a program for assessing environmental performance. Select critical aspects of the environmental objectives and operating conditions, and state for each item:

- the standard to be maintained;
- the frequency and type of inspection or monitoring required;
- the person responsible for ensuring the inspection or monitoring is carried out;
- quality assurance for data reliability;
- procedures for ensuring data is assessed and responded to; and
- the actions to be taken if the required standard has not been maintained.

Daily and/or weekly inspections may be required – it is useful to prepare checklists for this purpose (include a copy in the EIP). Senior staff should sign off checklists and other monitoring records. The EIP should also state where these records are to be kept and who is responsible for keeping them up to date. Environmental monitoring should be carried out in accordance with EPA requirements and guidelines.

12. Review, reporting and updating

Having produced an EIP it should be borne in mind that this is only the first step. An EIP is a dynamic document that should be integrated into a company's day to day operations.

The EIP should provide for periodic (usually annual) review of assessment and monitoring data, and overall environmental performance. A brief report should follow, covering:

- a summary of complaints and follow-up actions;
- data on the performance in meeting the objectives and targets;
- an account of the causes and effects of any failings, and actions taken to remedy them;
- an overall assessment of the environmental performance;
- an assessment of opportunities to improve the environmental performance; and
- changes to the EIP suggested as a result of the review.

Holding an EPA licence will normally require annual reporting to EPA. The reporting required by EPA should form part of this section of the EIP.

Communicating progress on developments (both internally with staff and externally with the wider community) and a method for doing so should be considered.

The EIP should state what the review report will address and who will see it. This should include senior management, staff, shareholders, EPA and the public.

13. Auditing the EIP

Finally, a description of the procedures to be used for updating the EIP itself following the review report need to be considered. These could include provision for engaging an EPA appointed environmental auditor or other appropriately qualified independent expert to conduct an audit of the EIP. Auditing the EIP should focus on determining whether the EIP has been adequately implemented and is operating properly to manage environmental performance, rather than assessing the actual environmental performance of an organisation (through environmental monitoring).

Any significant changes to the operation or government requirements of the operation need to be reflected in the new version. The updated EIP should be signed off in the same way as the original.

Community involvement

Community involvement is an important element of an EIP and works best where organisations base their EIPs development on 'community right to know' principles. The community involvement process may vary depending on the nature and location of the site and the objectives of the EIP. It can include:

- Public commitment to the EIP, ensuring that a copy is available to the public.

Where there is little public interest in, or concern with, activities, then simply informing the community of the EIP and making it available may be all that is required.

- Full public involvement through community consultation in the development and review of the EIP.

Where an EIP has been required under section 31C of the *Environment Protection Act 1970*, the EIP must include 'provision for the participation of the community in the evaluation of the performance in meeting objectives under the EIP'. Likewise, if a voluntary EIP is undertaken to address community concerns, then substantial community involvement is recommended.

The community involvement process is supported by:

- adoption of an 'open door' policy – so that the organisation welcomes approaches by the community;
- provision of accurate and timely responses to community requests or complaints; and
- provision of advice and information on operations and plans.

Full community participation is highly recommended by EPA, however, this may be undertaken in a staged process. The community may not need to be involved in the initial stages of EIP development (for example, when documenting and standardising operating procedures), however, the organisation may choose to make provision for including community involvement within the EIP at a later stage (for example, when setting objectives and targets).

Refer to EPA Publications 520 and 740 for further information about community involvement processes.

EIP ENDORSEMENT

Once drafting of an EIP has been completed, it is important that the EIP gains formal endorsement by the parties involved in its preparation and to whom commitments are being made via the improvement targets. As a minimum this needs to be the company's executive and EPA.

Where the community has assisted in the formulation of the EIP, and the company makes commitments to the local community, a community representative(s) should also endorse the EIP. Revisions to performance improvement targets also need to be endorsed by the relevant parties. It is recommended that in addition to the annual review of performance and targets, a complete review and re-authorisation of the EIP should be undertaken at an agreed frequency (for example, three-yearly).

VERIFICATION OF EIPS

In some instances EPA may require that an EIP prepared in response to a licence condition or an enforcement notice be verified by an EPA appointed environmental auditor prior to submission. The verification should focus on the content of the EIP satisfying the requirements of the licence or notice, its consistency with this bulletin, and its contribution to improved environmental performance.

ATTACHMENT 1 – EIP CHECKLIST

Content	Yes/No	Comment
<p>Endorsement by senior management</p> <p>Statement of environmental policy</p> <p>Description of operation</p> <p>Site management arrangements</p> <p>Description of environmental impacts (list main issues)</p> <ul style="list-style-type: none"> • • • <p>Waste minimisation options for solid, liquid, and air emissions (including green house gas emissions)</p> <p>Environmental objectives (list specific targets)</p> <ul style="list-style-type: none"> • • • <p>Operating conditions</p> <p>Complaint response system</p> <p>Contingency arrangements</p> <p>Assessment and monitoring</p> <p>Review, reporting, updating (including review and endorsement by:</p> <ul style="list-style-type: none"> - EPA - community <p>Audit of EIP</p>		

ATTACHMENT 2 – STATUTORY EIP

Section 31C(6) of the *Environment Protection Act 1970* specifies that an EIP should include:

- a) a requirement that any relevant State environment protection policy, industrial waste management policy, regulations and licence conditions must be complied with;
- b) emission and waste production standards for the industry;
- c) requirements for the monitoring of compliance with the environment improvement plan;
- d) provision for the participation of the community in the evaluation of the performance in meeting objectives under the environment improvement plan;
- e) provision for the upgrading of plant and equipment to meet objectives under the environment improvement plan;
- f) provision for the assessment of new or emerging technology in the industry or in pollution control; and
- g) provision for contingency or emergency plans.

These provisions are for EIPs required to be prepared under the Act. Where an EIP is voluntary it is possible to vary its contents to suit the particular situation

RELATED PUBLICATIONS

Waste Management Plans

Guidelines for Preparation of Waste Management Plans (EPA Publication 383).

Guidelines for Waste Assessments (EPA Publication 277).

Waste Minimisation – Opportunities and Assessments (EPA Publication 351).

Environment Management Systems

Guidelines for Environmental Management System Certification (EPA Publication 619).

AS/NZS ISO 14000 series 1-12 1996, Standards Australia.

Environmental audit

Environmental Audits – Industrial Facilities (EPA Publication 91/08).

Community involvement

Guidelines for Establishing and Running a Community Liaison Committee (EPA Publication 740).

Ten Steps to Successful Community/Industry Consultation (EPA Publication 520).

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