VICTORIAN GOVERNMENT EMS INITIATIVE

GUIDANCE NOTES

FOR THE PREPARATION OF THE

ENVIRONMENTAL MANAGEMENT SYSTEM

MANUAL

FINAL VERSION 1, MARCH 2003
ACKNOWLEDGMENTS

These Guidance Notes are based on Environment Australia’s Model EMS\(^1\) and has been adapted for use by Victorian Government agencies by Richard Oliver International.

Financial and technical support for the EMS Manual and these associated Guidance Notes was provided by the Environment Protection Authority (EPA Victoria), the Department of Sustainability and Environment (DSE) and EcoRecycle Victoria. Technical support was also provided by the Sustainable Energy Authority of Victoria (SEAV) and the Department of Treasury and Finance (DTF).

HOW TO USE THESE GUIDANCE NOTES

These Guidance Notes are designed to assist Departments in preparing an EMS Manual to meet Victorian Government requirements for the implementation of an EMS to manage office based environmental impacts.

These Notes are accompanied by a Model EMS Manual. It is intended that Departments use the Model EMS Manual as a template for their own Manual. These Notes provide assistance and further information on how to tailor the Model EMS Manual for individual Departments’ use.

The Model EMS Manual has been developed to assist Departments meet the Victorian Government’s commitment that all Departments must implement Environmental Management Systems (EMS) to address their office-based environmental impacts. This Manual is a model document, which individual Victorian Government Departments should adapt to their own specific requirements. Once the Manual is completed, it will form the principal documentation describing the Department’s EMS. The EMS Manual is based on the internationally recognised standard ISO 14001(Environmental management systems – specification with guidance for use.). It is supported by separate EMS Guidance Notes, which provide more context and explanatory information on the individual components of the Manual.

The Manual is provided in electronic form to enable Victorian Government Departments to enter department-specific information. Some Departments may wish to use the EMS Manual as a template EMS, others as a prototype for adaptation to accommodate their existing arrangements and systems. This Manual is provided free of charge to all Victorian Government Departments, and is aimed at saving Departments considerable time and effort and reducing initial implementation costs.

The Model provides the structure for a Department initially developing an EMS. It suggests formats for supporting documentation such as Registers and Forms and all the major documentation of the EMS is written in template format to allow for ease of adoption. It is also quite possible that the degree of detail necessary for an agency to successfully implement the EMS is less than that suggested in the templates.
GLOSSARY

Continual improvement - Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the organisation’s environmental policy.

Environment - Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelations.

Environmental aspect - An element of an organisation’s activities, products or services that can interact with the environment.

Environmental audit - Systematic, documented verification process of objectively obtaining and evaluating evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria.

Environmental management system audit - Systematic and documented verification process of objectively obtaining and evaluating audit evidence to determine whether an organisation’s environmental management system conforms with the environmental management system audit criteria.

Environmental impact – any change to the environment, whether adverse or beneficial, wholly or partially arising from an organisation’s activities, products or services.

Environmental objective - Overall environmental goal, arising from the environmental policy that an organisation sets itself to achieve and which is quantified where practicable.

Environmental target - Detailed performance requirement, quantified where practicable, which are applicable to the organisation or parts thereof.

Environmental performance - Measurable results of the environmental management system, related to an organisation’s control of its environmental aspects, based on environmental policy, objectives and targets.

Environmental policy - Statement by the organisation of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets.

Interested party - Individual or group concerned with or affected by the environmental performance of an organisation.

Organisation - Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.
Table of Contents

1 INTRODUCTION .................................................................................................................. 6

2 ENVIRONMENTAL POLICY .............................................................................................. 11

3 PLANNING .......................................................................................................................... 18

  3.1 Environmental aspects .................................................................................................. 19

  3.2 Legal and Other Requirements .................................................................................... 23

  3.3 Environmental Objectives And Targets ....................................................................... 25

  3.4 Environmental Management Programme ...................................................................... 29

4 IMPLEMENTATION AND OPERATION ............................................................................. 31

  4.1 Structure and Responsibility ....................................................................................... 32

  4.2 Training, Awareness and Competence ........................................................................ 34

  4.3 Communication ........................................................................................................... 38

  4.4 Documentation ............................................................................................................ 39

  4.5 Document Control ...................................................................................................... 40

  4.6 Operational Control ................................................................................................... 43

  4.7 Emergency Preparedness and Response ..................................................................... 47

5 CHECKING AND CORRECTIVE ACTION ......................................................................... 48

  5.1 Environmental Monitoring and Measurement .............................................................. 49

  5.2 Nonconformance, Corrective and Preventive Action .................................................... 53

  5.3 Environmental Records .............................................................................................. 58

  5.4 Environmental Management System Audit ................................................................. 59

6 MANAGEMENT REVIEW ................................................................................................... 60
1 INTRODUCTION

Government policy

In the Government’s 2002 election policy statement *The Sustainable State*, the commitment was made that all Government Departments will

“...develop and implement quality environmental management systems that include: energy consumption, waste production, water use, paper use and transport. From 2003-04, Departments will be required to report annually on their environmental performance and compliance with “green” purchasing policies. This information will be included in annual Departmental reports”.

The Government is introducing the EMS program to achieve a number of objectives, including:

- to contribute to the achievement of environmental outcomes through minimising the release of greenhouse gases, reducing waste and conserving energy, and other resources;
- to drive cultural change across Government in relation to integrating environmental considerations into daily activities;
- to demonstrate the Government’s commitment to leading by example by taking action to reduce environmental impacts associated with its own operations;
- to contribute to the achievement of efficiency gains and resulting financial savings by reducing the use of office-based resources such as paper and electricity; and
- to maintain Victoria’s leadership in transparency and openness in performance reporting by Government.

Each Government Department is required to develop an EMS to reduce its office-based environmental impacts from:

- energy use from buildings and facilities;
- waste production;
- paper consumption;
- transportation; and
- water consumption.

Under the Government EMS program, all Departments will be required to have their EMS audited by an environmental auditor who has been appointed under the *Environment Protection Act* 1970.
Environmental reporting requirements

From 2003-04, Departments will be required to report in their annual reports on their performance in reducing their office-based environmental impacts, including energy use, waste production, paper consumption, transportation and water consumption. They are also required to include a statement on their environmentally responsible purchasing activities. The data for inclusion in annual reports will be derived from the department’s EMS.

What is an EMS?

Environmental management systems are a pro-active approach to environment protection. They are not about after-the-event reaction, but focus on preventative action and the setting of standards which continually improve the environmental performance of an organisation. The main objectives for the implementation of an EMS are to:

- Improve the organisation’s operations so that the actual or potential detriment to the environment is minimised;
- Achieve and maintain compliance with legal requirements and organisational policy; and
- Assist in the move to sustainable development.

To be effective an EMS needs to:

- Address the significant environmental impacts of the organisation; and
- Be integrated with the overall management activity of an organisation.

Almost all EMSs today are based on the Australian and International standard AS/NZS ISO 14001: 1996 Environmental management systems – specification with guidance for use. This standard has five main principles, which are also generally applicable to other management systems such as OH&S and quality systems:

**Principle 1 - Environmental policy.** An organisation should define its environmental policy and ensure its commitment to its environmental performance.

**Principle 2 – Planning.** An organisation should identify its significant environmental risks, its legal and corporate requirements for environmental performance, set performance objectives, and establish an environmental management program to achieve those objectives.

**Principle 3 – Implementation and operation.** For effective implementation, the organisation should establish the capabilities and support mechanisms necessary to achieve its environmental policy, objectives and targets. These capabilities and mechanisms will include defining required roles, responsibilities and authorities, implementing relevant training, establishing internal and external communication mechanisms, establishing control of relevant operations, defining requirements of contractors and suppliers, and developing an appropriate emergency response capability.

**Principle 4 – Checking and corrective action.** An organisation should measure, monitor and evaluate its environmental and EMS performance.
**Principle 5 – Management review.** An organisation should review and continually improve its environmental performance by improving its EMS.

The diagram below outlines the key elements of an EMS and their inter relationship.

![Diagram of EMS elements](image)

Departments are NOT required to be independently certified by a third party certification body. However, from 2004, Departmental EMS will be required to be externally audited by an environmental auditor appointed under the *Environment Protection Act* 1970.

**Getting started – appointing an EMS Coordinator and Team**

Developing, implementing and maintaining the EMS will require people with particular responsibilities for the EMS. Departments should identify an EMS Coordinator to have overall responsibility for the EMS. The EMS Coordinator will require support from an EMS team. The EMS Coordinator can be from any part of the Department, but should have a good understanding of the range of activities undertaken across the Department, and how it is managed, and have good access to senior management. The EMS team should represent as wide a cross section of the Department as possible.

The EMS Coordinator and the EMS team members should have the roles and responsibilities included in their individual performance plans.

**Getting started – the initial environmental review**

An initial environmental review is a useful tool for establishing the current environmental position of the department, with particular interest in highlighting deficiencies.

An initial environmental review should:
• List all sites included within the scope of the EMS, and identify the operations carried out at each site. A site inspection of each property (direct inspection and measurement) can assist in the identification of the Agency’s operations. A checklist can be used as a prompt tool during site inspections.

Liaise with the Property Officer of each site or with another person having detailed knowledge of the operations of a site. Interview employees who are involved with the Agency’s operations that have, or have the potential to have, environmental impacts. It is also important to involve key managers (either through interviews or questionnaires).

• Identify the environmental impacts of the various activities and functions that are carried out at each site. Refer to the Environmental Aspects Procedure for assistance in the identification of environmental impacts and to evaluate the significance of each identified impact.

• Identify the legal and other requirements (such as Government policies and initiatives) with which the Department must comply.

• Identify current operational arrangements (which may not be documented) and environmental performance.

Other suggestions include the use of questionnaires and benchmarking, which is a technique for comparing environmental performance against industry performance and Best Practice.

The review can also cover timescales and resources required to develop, implement and manage an environmental management system.

The initial environmental review may be carried out by audit teams, environmental managers, team members, consultants or other suitable persons.

Getting started - other resources

Most of the work of developing and implementing an EMS can, and should, be done in-house by Departmental staff. There are, however, some elements which will be done more effectively with external expert assistance. In addition, the following publications offer other guidance:


.
KEY ELEMENTS OF AN EMS

Activities, products & services of the organisation → Identify ways in which these interact with the environment → Environmental Aspects

Identify the changes to the environment → Environmental Impacts

Assess the significance of the impact → Significant environmental impacts

Technology, Financial, operational, business requirements, Views of interested parties → Significant environmental aspects

The causes of significant environmental impacts are managed through the EMS

Legal and other requirements

Objectives & targets → Environmental Management Program

Environmental Policy → Implementation requirements: communication, resources, training, monitoring, audit

Operational controls

Emergency Response

System procedures

Monitoring and auditing → Records

Review

UNCONTROLLED WHEN PRINTED
2 ENVIRONMENTAL POLICY

The Environmental Policy demonstrates and *drives* the Department’s commitment to continual improvement in environmental performance. It is a statement of actual commitment from Senior Management and will establish an overall sense of direction and set guiding principles for the implementation of the Environmental Management System. The Policy should be capable of being understood by internal and external interested parties, and should be periodically reviewed and revised to reflect changing conditions and information.

**Requirements of ISO 14001**

ISO 14001 requires that senior management defines the organisations’ environmental policy and ensures that it:

1. is appropriate to the nature, scale and environmental impacts of its activities, products or services;
2. includes a commitment to continual improvement and prevention of pollution;
3. includes a commitment to comply with relevant environmental legislation and regulations, and with other requirements to which the organisation subscribes;
4. provides the framework for setting and reviewing environmental objectives and targets;
5. is documented, implemented and maintained and communicated to all employees; and
6. is available to the public.

**Defining the scope of the EMS**

The scope and boundaries of the EMS, that is the location and/or functional unit of a Department to which the EMS applies, should be clearly defined and documented early in the EMS process. It is recommended that the scope of the EMS be defined in a statement within the Environmental Policy. For example EPA’s Environmental Policy states “To deliver its purpose, EPA undertakes a range of office, laboratory and field based activities. EPA aims to provide leadership in managing the impacts of these activities and will continually strive to set an example of best practice environmental management based on sustainable development principles.”

The Victorian Government commitment requires all office based activities and all Departmental locations to be included in the EMS. This will cover all functional areas listed within a Department’s organisational chart, excluding portfolio agencies and statutory authorities, bodies and offices. The requirements will not apply to facilities such as schools, TAFEs, hospitals, police stations, prisons, water authorities, research facilities etc.

**Approaches to drafting the Environmental Policy**

The following guiding principles developed by international bodies cover broad areas of environmental management and may be useful for preparing an environmental policy:
1. **International Chamber of Commerce Business Charter for Sustainable Development;**

and,


Copies of these guiding principles are found in Appendix A of AS/NZS ISO 14004:1996.

The Government has also approved a series of guiding principles to assist Departments in developing environmental policies for their internal office-based operations. These guiding principles are based on ISO14001 and ISO14004 and are provided in the box below.

### Victorian Government EMS Guiding Principles

Departments and agencies will:

- Adopt an effective environmental management system framework that is consistent with international standards;

- Identify significant environmental aspects and impacts of its individual activities and establish objectives and targets to reduce the environmental impacts;

- Adopt a pollution prevention approach to all of its activities;

- Use resources efficiently, and minimise the generation of waste;

- Consider environmental aspects in the purchase of products and services and endeavour to ensure that suppliers, contractors and others acting on its behalf, also meet high standards of environmental performance;

- Ensure that all relevant environmental legislation and regulations are complied with;

- Strive for continual improvement in its environmental performance; and

- Communicate to the Victorian public its environmental performance through annual reports.

The use of the pronoun “We” creates a sense of ownership for all employees, who may then feel a greater sense of involvement and encouragement to participate in achieving EMS goals.

The policy should be as specific as possible so that readers relate the policy directly to the Department.

The Department’s senior management is responsible for defining and documenting the environmental policy. The policy should be signed by senior management and include or be consistent with other polices (e.g. safety and occupational health).

It is useful to review the draft Environmental Policy against the following questions that ISO 14004 suggests should be addressed.
1. Does the Department have an Environmental Policy that is relevant to its activities, products or services?
2. Does the Policy clearly indicate the nature and scale of the department’s activities?
3. Does the Policy reflect the department’s values and guiding principles?
4. Has the Environmental Policy been approved by senior management?
5. Has a responsible officer been identified and given the authority to oversee and implement the Policy?
6. Does the Policy guide the setting of environmental Objectives and Targets?
7. Does the Policy guide the Department towards monitoring appropriate technology and management practices?
8. What commitments are embodied in the Environmental Policy?

**Examples**

The following are examples of policy statements that may assist a Department meet the requirements of the standard. Other examples can be found on many corporate web sites.
Environmental Policy

To deliver its purpose, EPA Victoria undertakes a range of office, laboratory, and field based activities. EPA aims to provide leadership in managing the impacts of these activities and will continually strive to set an example of best practice environmental management based on sustainable development principles.

EPA Victoria’s purpose is to enable the safe clean and sustainable environment that all Victorians seek.

To do this EPA Victoria will:

- adopt a pollution prevention approach to all its activities;
- minimise the consumption of energy, water and other material inputs, and minimise the generation of waste consistent with delivering its mission;
- monitor and assess environmental risks and impacts;
- strive for continual improvement in its environmental performance;
- endeavour to ensure that suppliers, contractors and others acting on its behalf also meet high standards of environmental performance;
- adopt an effective environmental management system at least equivalent to ISO 14001; and
- communicate its environmental performance in its annual report.

JUNE 2002
ENVIRONMENT AUSTRALIA

The Commonwealth Department of the Environment has responsibility for advising on and implementing government policies relating to

- the protection and conservation of the environment while ensuring its use is ecologically sustainable;
- the administration of the Australian Antarctic Territory and the Territory of Heard and McDonald Islands, enhancement of Australia’s role in the Antarctic Treaty System, the conduct of and support for strategic research, and the protection of the Antarctic environment;
- meteorological and related monitoring and research, and the provision of weather and climate services for the Australian Community.)

This policy covers the office-based operations of the Departments’ Canberra Offices.

Environment Australia aims to minimise the use of non-renewable resources. A significant means by which this is to be achieved is through using recycled paper products for all work activities, purchasing energy saving devices and purchasing energy efficient office equipment.

Environment Australia will comply with all relevant government policy and environmental legislation, in particular government initiatives such as the Greenhouse Challenge and the National Packaging Covenant.

We will annually, or when required, review environmental management action plans and assess whether the objectives and targets are being met.

The Environmental Management System will be made available to all Agency employees through the Intranet, and employees will be encouraged to work closely with each other, with employees from other Departments, Contractors, Unions, clients, suppliers and other interested parties to continually refine our work practices to reach best practice standards.
THE BIG CHEESE PTY LTD
DAIRY PRODUCTS MANUFACTURER
ENVIRONMENTAL POLICY STATEMENT

The Big Cheese Pty Ltd is one of Australia’s major dairy producers. The company strives to be environmentally aware and actively supports programmes that minimise negative impacts on the environment.

We are committed to comply with relevant legislation and requirements to prevent pollution. We seek to understand the effects our activities have on the environment and to continually improve its environmental performance by supporting initiatives such as:-

- Waste minimisation
- Recycling of natural resources
- Reduction of material and energy consumption
- Actions to prevent accidental pollution

The Big Cheese Pty Ltd seeks to ensure that its Environmental plans, objectives and progress against these plans are made available to all interested parties and are relevant to its activities. We will ensure that this policy and all procedures relating to it are understood, implemented and maintained.

Our belief is that this policy can only be successfully achieved with the support and commitment of all employees at The Big Cheese.

NICK WALLACE  OPERATIONS MANAGER  DATE: 01/2/95
AUSTRALIA POST

ENVIRONMENTAL POLICY

Australia Post is committed to the protection of the environment in the course of providing high quality mail, financial, fulfilment and retail services. Through the commitment and involvement of its staff it will maintain an environmental management system appropriate to the environmental impacts of its activities, products or services.

In order to achieve its environmental objectives, Australia Post will commit to the following actions and practices –

a) Maintain an Environmental Management System to ensure all operations are managed in accordance with Federal and State legislative requirements, local by-laws and formal Government policies and to demonstrate due diligence.

b) Environmental considerations will be taken into account in investment and corporate strategies and in the purchase of goods and services.

c) All staff and contractors will be made aware of the environment policy and an appropriate level of training will be provided. The policy will be made publicly available.

d) Australia Post will adopt a self-regulatory approach, incorporating in-house and external environmental reviews to identify, evaluate, manage and report on environmental risks and environmental programs.

e) Practical and cost effective initiatives will be pursued to minimise adverse environmental effects.
3 PLANNING

The planning elements of THE DEPARTMENT's EMS describe the procedures for:

- systematically reviewing all our activities to identify those activities which have a significant impact on our office based environmental performance;
- identifying, and staying current on, the legal and other requirements with which THE DEPARTMENT must comply;
- setting environmental performance objectives; and
- identifying the requirements to meet those environmental objectives.

The following diagram outlines the planning requirements:
3.1 ENVIRONMENTAL ASPECTS

Identification of the environmental aspects of an organisation's activities, products and services, and of the significant impacts, link the EMS task of setting corporate policy with that of setting objectives and targets. The purpose of identifying the environmental aspects of an organisation is to establish a basis that can be used by the organisation to set appropriate performance requirements and management arrangements.

This is a decision making process – which of these Departmental activities must be managed to improve the environmental performance? In order to make these decisions, the relative importance or significance of the activities needs to be assessed.

ISO 14001 defines an environmental aspect as an:

“element of an organisation’s activities, products or services that can interact with the environment”.

An environmental aspect is something that can be managed by the organisation. Proper identification of (significant) environmental aspects is important to an effective EMS, as it is environmental aspects which are managed by the system.

The evaluation of the environmental impacts associated with the identified aspects allows the setting of priorities, where effort should be made to improve an organisation's environmental performance.

The standard requires management of significant environmental aspects in several elements. An environmental aspect must pass two tests to be assessed as a significant environmental aspect:

- It must be under the control or influence of the organisation; and
- It must be associated with a significant environmental impact.

Selection of the extent of activities to be evaluated for significant environmental aspects sets the scope or boundaries of the EMS. The Victorian Government EMS commitment requires Departmental EMSs to cover all office based activities which contribute to:

- Energy use;
- Waste generation;
- Paper consumption;
- Transportation; and
- Water consumption.

There are activities which may have other environmental impacts, such as planned or accidental discharges to the environment. These activities include office cleaning, and storage of dangerous and hazardous materials (eg fuel for back up generators, oils in electricity transformers, or fire suppression chemicals such as halons). The selection of
activities for inclusion in the EMS will depend on the extent of control or influence the Department has over these activities. This will vary according to the nature of the tenancy arrangements (eg whether the Department is owner and occupier, a sole tenant, or one of several tenants). The EMS should initially be scoped as broadly as possible and the environmental aspects and impacts identified. Then these can be assessed to identify the extent of control and influence of the Department.

Identification of significant environmental aspects

The process of identifying the significant environmental aspects of an organisation is an environmental risk identification and assessment process. The following steps outline the overall process for the identification, and assessment of significant environmental aspects:

1. Identify the activities, products or services that the organisation can control, or over which it can be expected to have an influence. These activities may be cast in a number of ways, such as ‘holding meetings’, report preparation, operating computers, kitchen operations etc.

2. Identify the environmental aspects of each of the activities, products or services. Environmental aspects are those elements of the activities identified above which can interact with the environment. For example, for the activity ‘kitchen operation’ there are environmental aspects of ‘organic waste generation and disposal’, ‘water consumption’ and ‘electricity consumption’.

3. Identify the environmental impacts of each environmental aspect. These should be a ‘change to the environment’, and could include ‘use of natural resources (eg. water)’, air quality changes (greenhouse gases), or ‘public health impacts’.

4. Use a risk assessment system to determine the significance of the impacts. Generally the risk assessment process uses an approach which uses a likelihood x consequence analysis. The consequences should be environmental consequences (not legal, financial or reputational). Rating scales are often used to allow the comparison of different environmental impacts.

An environmental aspect is significant by association with a significant environmental impact. As the Victorian Government has defined some environmental issues as priorities for Departments, they must be the subject of the EMS. Accordingly the assessment should aim to establish which Departmental environmental aspects are significant contributors to these priority issues (waste generation, paper use, energy use, water consumption and transport issues).

The rating scales suggested for use for Departmental EMS are outlined below

**Likelihood - Frequency / probability**

1. Very unlikely / infrequent / less than once a year
2. Possible / happens occasionally / 2-3 times a year
3. Reasonably likely / occurs often / monthly
4. Definite occurrence / frequent / weekly
5. Certainty / continuous / daily or more
Consequence (severity) – as a contribution to annual waste generation / energy use / water consumption / paper use / transport impacts

1. Very minor contribution (< 0.01%)
2. Some contribution (0.01% - 0.10%)
3. Limited contribution (0.10% - 1.00%)
4. Major contribution (1.00 % - 10%)
5. Significant contribution (>10%)

The overall significance, or importance, of the impact is assessed by multiplying the frequency score by the consequence score. Using the scales above, this generates possible scores from 1 – 25.

A cut-off score is determined above which issues are considered significant, and therefore must be managed within the EMS. The actual score is arbitrary, and should be based on some assessment of the number of issues which the Department can manage at one time. Once these issues have been managed, then the score can be lowered, and other issues rated as significant. Following the example in the Register, the Department may initially select a cut-off score of 15, so issues rating 15 or greater must be managed.

Environmental aspects and impacts are generally recorded in a Register such as the one attached. A number of example environmental aspects and impacts have been included to provide guidance on how to complete this Register.
## ENVIRONMENTAL ASPECTS AND IMPACTS REGISTER

### Activity - Kitchen operation

<table>
<thead>
<tr>
<th>Environmental Aspect</th>
<th>Environmental impact</th>
<th>Likelihood (L)</th>
<th>Consequence (C)</th>
<th>Significance (LxC)</th>
<th>EMP / procedure reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fridge operation</td>
<td>Energy use</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Washing dishes</td>
<td>Water consumption</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy use</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste generation (detergent containers, dish rags etc)</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Preparation of hot drinks</td>
<td>Energy use (kettle)</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Waste generation</td>
<td>5</td>
<td>4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water consumption</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table continues with additional rows for other activities and environmental aspects, but they are not shown here. The table uses a Likelihood (L) from 1 to 5, where 5 is the highest likelihood, and a Consequence (C) from 1 to 5, where 5 is the highest consequence. The Significance (LxC) is calculated by multiplying the Likelihood by the Consequence.
3.2 LEGAL AND OTHER REQUIREMENTS

Compliance with legal requirements and Government policies is a fundamental driver for the EMS. Legal and other requirements relating to environmental performance must be identified, and kept up to date. Compliance with these requirements must be built in to the EMS.

Subscription to a commercial environmental compliance service may be useful to the EMS Coordinator to ensure compliance with environmental legislation, and to keep the Legal and Other Requirements Register up to date. Current environmental legislation and policy initiatives impose a number of requirements upon organisations. Training should incorporate an acknowledgment and an explanation of the contents of the Register appropriate to the activities of employees and contractors.

A Register of Legal and Other Requirements is useful to maintain a record of the compliance requirements of the Department. The Register should cover:

- The title of the legislation or other commitment;
- A brief description of the compliance requirement(s); and
- A cross reference to the EMS elements which manage compliance.

The Departmental Register must include at least the environmental performance objectives and reporting requirements of Government policy. An example Register of Legal and Other Requirements is provided on the following page.
### MODEL LEGAL AND OTHER COMPLIANCE REGISTER

<table>
<thead>
<tr>
<th>TITLE</th>
<th>COMPLIANCE REQUIREMENT</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vic. Government environmental performance reporting requirements</td>
<td>Must annually report on waste generated, energy consumption, paper use, water use and transport issues</td>
<td>Monitoring and reporting procedure</td>
</tr>
<tr>
<td>Victorian Greenhouse Strategy and Energy Efficient Government Buildings program</td>
<td>• 15% reduction in energy consumption by 2005/2006 financial year (using 1999/2000 as the base year); and&lt;br&gt;• Increase purchase of Green Power to 10% of total electricity purchased on every new electricity contract from 2002 onwards, with Green Power comprising 10% of all electricity purchased by 1st November 2005.</td>
<td>EMP (no. XX)</td>
</tr>
<tr>
<td>Accredited Waste Wise Office under EcoRecycle Victoria</td>
<td>• Complete a waste audit&lt;br&gt;• Develop an action plan with KPIs to assess progress&lt;br&gt;• Report back annually on department achievements&lt;br&gt;• Complete an updated action plan for the next year.</td>
<td>Monitoring &amp; Reporting procedure&lt;br&gt;EMP (No.YY)</td>
</tr>
<tr>
<td>Vic. Govt. Purchasing Board. Environmental Purchasing</td>
<td>Incorporate environmental purchasing into procurement planning &amp; tender procedure. Environmental impact considered in selection of goods and services.</td>
<td>Purchasing Procedure</td>
</tr>
</tbody>
</table>
3.3 ENVIRONMENTAL OBJECTIVES AND TARGETS

Each relevant structural group, division, section, or unit, within the Department or site should establish environmental performance objectives and targets. The organisation must determine how specific and detailed the objectives and targets need to be. The objectives and targets must be consistent with the environmental policy and should be measurable, where possible.

In general environmental objectives will relate to the entire department. They should be measurable (preferable quantitative) and relate directly to environmental performance. Environmental targets are steps to meeting an overall objective and could relate to part of the Department, or to interim time-based targets.

Some objectives have already been set by Government. For example, policies such as the Victorian Greenhouse Strategy and Growing Victoria Together commit the Government to objectives of reducing energy consumption in Government buildings by 15% by June 2006 and purchasing 5% of the Government’s electricity requirements in the form of Green Power (and increasing the purchase of Green Power to 10% of total electricity purchased on every new electricity contract from 2002 onwards, with Green Power comprising 10% of all electricity purchased by 1st November 2005). The Victorian Greenhouse Strategy also commits the Government to a reduction of 10% in greenhouse gas emissions from the Government’s vehicle fleet.

When establishing additional objectives and targets the Department should consider:

- significant environmental aspects and impacts;
- legal and other requirements;
- options for meeting the objectives;
- financial, operational and business, and considerations; and
- the interest of stakeholders including staff

Environmental objectives should relate to an environmental goal, and should be quantitative wherever possible. If the current environmental performance is known, a numerical improvement can be defined. For example, a paper use objective could be “reduction of paper use by 3 reams per employee per year, by 2005”. Where a Department does not know its current performance against an objective, a percentage improvement can be used.

Objective should be SMART:
S - Stretching
M - Manageable
A - Achievable
R - Realistic
T - Timeframed

The environmental objectives and targets can be documented in a Register of Environmental Objectives and Targets. An example of such a Register is provided on the following page. It should be noted that in the following example, the energy use objectives are the mandated requirements under the Victorian Greenhouse Strategy. All other targets provided in the Register are examples. It is up to individual Departments to establish their own targets, but they must keep in mind the EMS principle of continual improvement.
REGISTER OF ENVIRONMENTAL OBJECTIVES AND TARGETS

1. Energy Use

1.1 Reduce energy consumption per square metre by a minimum of 15% of 1999/2000 consumption by July 2006. (Note: Mandatory objective)

Targets: (Note: interim targets suggested by SEAV)

- 3% reduction in energy use by year 1 (end financial year 2001/2002)
- 6% reduction in energy use by year 2 (end financial year 2002/2003)
- 9% reduction in energy use by year 3 (end financial year 2003/2004)
- 12% reduction in energy use by year 4 (end financial year 2004/2005)
- 15% reduction in energy use by year 5 (end financial year 2005/2006)

1.2 Increase purchase of Green Power to 10% of total electricity purchased on every new electricity contract from 2002 onwards, with Green Power comprising 10% of all electricity purchased by 1\textsuperscript{st} November 2005. (Note: Mandatory objective)

Targets: (Note: interim targets suggested by SEAV)

- 10% Green Power in THE DEPARTMENT’s A electricity contract by 1\textsuperscript{st} July 2003.
- 10% Green Power in THE DEPARTMENT’s B electricity contract by 1\textsuperscript{st} March 2004.

2. Waste production

Reduce total solid waste generation per employee by X% of 2002/2003 generation by July 2004.

Target 1: Building A reduction by Y%

Target 2: Building B reduction by Z%.

3. Paper use

Reduce paper use per employee by X% of 2002/2003 consumption by July 2004.

OR

Reduce paper use per employee to Y reams per year.

4. Water consumption

Reduce water consumption per employee by X% of 2002/2003 consumption by July 2004.

5. Transportation

5.1 Reduce fuel consumption per employee by X% of 2002/2003 consumption by July 2004.
5.2 Reduce passenger vehicle trip kilometres by Y% of 2002/2003 level by July 2004.

5.3 Increase per cent of employees regularly using public transport, cycling, walking, car sharing to and from work or telecommuting by X% of 2002/2003 level by July 2004.
3.4 ENVIRONMENTAL MANAGEMENT PROGRAMME

An environmental management programme (EMP) establishes the methods or means by which the organisation achieves its documented objectives and targets.

The programme should outline:

- means
- responsibilities
- time-frames

for achieving the objectives and targets.

It should mesh as far as possible with existing business management arrangements, such as business and budget planning processes. The EMP should be integrated when ever appropriate into the corporate or strategic plan of the Department. This will assist in establishing environmental management as an integral part of the Department's activities.

Programmes should be dynamic, rather than static, and be revised on a regular basis.

There may be one EMP, many action items integrated into another Departmental planning process, or a number of separate EMPs relating to individual environmental objectives.

The development of an EMP requires some knowledge of the current arrangements of the Department. Information gained during the initial environmental review, can provide useful input to an EMP.

Ideas for EMP actions relating to the Government environmental performance reporting commitments can be found at:

- Paper consumption - EcoRecycle Victoria - www.ecorecycle.vic.gov.au
- Transportation TravelSmart – www.travelsmart.vic.gov.au
  - Greenfleet at http://www.greenfleet.com.au
  - Greener Motoring - www.greenermotoring.com.au

An example of some parts of an EMP are given below.
<table>
<thead>
<tr>
<th>ACTION</th>
<th>RESPONSIBILITY</th>
<th>EST. COST</th>
<th>EST. SAVING</th>
<th>FINISH DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVE: Reduce solid waste generation by 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undertake waste assessment</td>
<td>EMS Coord.</td>
<td>$15,000</td>
<td>NA</td>
<td>12/03</td>
</tr>
<tr>
<td>Engage recycling contractor for Woop Woop office</td>
<td>Woop Woop office manager</td>
<td>$10,000 pa</td>
<td>$25,000 pa</td>
<td>10/03</td>
</tr>
<tr>
<td>Buy ceramic mugs for all offices</td>
<td>EMS Coord.</td>
<td>$5,000 once off</td>
<td>$10,00 pa</td>
<td>3/04</td>
</tr>
<tr>
<td>etc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OBJECTIVE: Reduce paper use by 10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness program on double sided printing</td>
<td>EMS Coord.</td>
<td>Staff time</td>
<td></td>
<td>Round 1 – 12/03</td>
</tr>
<tr>
<td>Establish tray for reusing single sided paper</td>
<td>EMS Coord.</td>
<td>Staff time</td>
<td>20% paper costs</td>
<td>6/03</td>
</tr>
<tr>
<td>OBJECTIVE: Reduce energy consumption by 15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrate specific statement on energy in Environmental Policy</td>
<td>EMS Coord</td>
<td>NA</td>
<td>NA</td>
<td>Oct 2003</td>
</tr>
<tr>
<td>Install movement sensitive switches for lights in meeting rooms</td>
<td>Property Group</td>
<td>$8,000</td>
<td>15% electricity costs</td>
<td>Dec 2003</td>
</tr>
<tr>
<td>etc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4 IMPLEMENTATION AND OPERATION

The Implementation and Operation elements define the required support and infrastructure to enable effective environmental management. These are:

- defining required roles, responsibilities and authorities;
- implementing relevant training;
- establishing internal and external communication and feedback mechanisms;
- ensuring that environmental management documentation is accessible and current;
- establishing control of relevant operations, defining requirements of contractors and suppliers; and
- developing an appropriate emergency response capability.
4.1 STRUCTURE AND RESPONSIBILITY

In this element the roles, responsibilities and authorities for environmental management are defined.

Roles, Responsibility and Authority:

The successful implementation of an environmental management system requires the commitment, participation and involvement of all employees. Environmental responsibilities fall across the entire organisation, including operational areas as well as those directly responsible for environmental issues. These roles, responsibilities and authorities should be integrated into the existing personnel structures and organisational framework of the organisation.

Existing Position Descriptions and individual staff performance plans can be revised to reflect specific and generic environmental management responsibilities. Consultation with the Department’s Human Resources unit will need to occur for position descriptions to be revised.

It is essential to ensure that roles and responsibilities are well defined and communicated to relevant personnel. This can be achieved by operational managers or other responsible personnel in the organisation who have a key role in designating the work of others. Employees at all levels should be accountable, within the scope of their responsibilities, for environmental performance.

Resources

Commitment begins at the highest level with top management defining the environmental policy and ensuring the system is implemented. This includes the provision of appropriate resources.

The provision of resources could include:

- Sufficient human resources to implement and maintain the EMS;
- Sufficient specialised skills, either on recruitment or developed by the organisation during training;
- Adequate or appropriate technology to ensure the policy, objectives, targets and programmes are met;
- Sufficient or appropriately directed financial resources to ensure the effective operation of the EMS, and
- Effective resources for review and improvement strategies.

Management Representative:

As part of this commitment a specific management representative should be appointed. In large and complex organisations more than one representative may be appropriate and if this is the case, a central corporate responsibility is usual. This representative must have overall responsibility and authority for:

- Establishing the EMS;
• Implementing and maintaining the EMS;

• Review and improvement strategies and

• Reporting on the environmental performance of the EMS to top management and to Government.

Accountability and responsibility for the overall effectiveness of the EMS should be assigned to a senior person or function(s) with sufficient authority, competence and resources, preferably with Secretary level reporting.

It is essential for the successful implementation of this EMS that senior management be committed to the EMS and offer full support. This commitment can be evidenced through active participation, allocation of sufficient resources (staff, technological and financial) to develop and implement the EMS, and by having the policy signed by senior management.
4.2 TRAINING, AWARENESS AND COMPETENCE

The contents of training programs should include:

- A training needs analysis for the staff;
- Training plans with time-lines and outline of programs;
- Documents which allow for sign-off for staff at the conclusion of each training program;
- Reference materials for staff, available on THE DEPARTMENT’s intranet or elsewhere as appropriate;
- Content of the training program;
- Records of training undertaken;
- Evaluation of the training course or program; and
- Review of training procedures.

There are typically three types of training required within an EMS.

**General EMS and environmental awareness training**

All staff and some contractors (depending on their activities) will require training in the EMS and some general information on why the Department has an EMS. This training material should cover:

- Information on the environmental impacts of energy use, waste disposal, paper use, water consumption and transport options.
- A discussion on the Department’s Environmental Policy and objectives, and current performance. A copy of the Policy should be provided for the attendees.
- An outline of the EMS and its key requirements.

Once the EMS is implemented, and all staff have attended one general awareness training session, the training will need to be maintained. Apart from specific training, other methods may include:

- making EMS awareness a part of induction training;
- presentation of a policy statement and environmental reports to each employee;
- internal seminars, workshops, talks and lectures;
- video presentations;
- external conferences;
- (electronic) journals, newsletters and circulars;
• meetings, briefings and presentations;
• written guidance to staff and suppliers;
• notice boards and posters;
• staff suggestion schemes; and
• e-mails, intranets and the Internet.

Procedures training
Staff whose responsibilities include specific requirements (generally responsibilities under an EMS procedure or SOP) will need to be trained in those requirements. Training should include:
• The detailed requirements of each procedure. For example, show how the waste segregation facilities operate, which recyclable material goes in which bin, or how the printer(s) and photocopier(s) can be used for double sided operation..
• Explain how these procedures will reduce environmental impacts by reducing waste disposal, increasing recycling, or reducing transport related impacts.

Specific competency training
Specific training may be required for people with responsibilities such as purchasing staff, who will need to be aware of energy rating requirements for the purchase of energy efficient electrical equipment, and packaging requirements to minimise the use of natural resources and waste generation.

All training records of staff (and other stakeholders) should be documented and maintained in a Training Register. An example of a partially completed Training Register is provided on the following page.
### ENVIRONMENTAL TRAINING MATRIX

<table>
<thead>
<tr>
<th>Required training</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induction training – general awareness, environmental policy EMS</td>
<td>All staff</td>
</tr>
<tr>
<td></td>
<td>All new staff</td>
</tr>
<tr>
<td></td>
<td>All contractors working at Departmental premises.</td>
</tr>
<tr>
<td>Environmental purchasing procedure</td>
<td>Purchasing officers</td>
</tr>
<tr>
<td>Waste segregation procedure</td>
<td>All staff</td>
</tr>
<tr>
<td>Waste monitoring procedure</td>
<td>EMS team</td>
</tr>
<tr>
<td>EMS auditing</td>
<td>EMS team</td>
</tr>
<tr>
<td>Attendee</td>
<td>Signature</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>A. Blake</td>
<td></td>
</tr>
<tr>
<td>B. Condon</td>
<td></td>
</tr>
<tr>
<td>C. Dean</td>
<td></td>
</tr>
<tr>
<td>D. Eng</td>
<td></td>
</tr>
<tr>
<td>E. Flower</td>
<td></td>
</tr>
</tbody>
</table>
4.3 COMMUNICATION

Communication to all relevant internal and external stakeholders of the environmental aspects and impacts and the environmental management system of the organisation is essential. This ensures that there is commitment and support for the process. This should be a two way flow of information with opportunities for staff or other stakeholders being provided the opening to express concerns, new concepts and trouble shooting.

The communication is at two levels – both internal and external.

**Internal communication** should:

- Raise general awareness and understanding of the system;
- Clearly state management commitment to the EMS;
- Allow for a two way flow of information;
- Provide the opportunity for staff to explore new ideas and possible improvements to the EMS;
- Provide results from monitoring and audits of the EMS to staff responsible for the performance of the EMS.

**External Communication**

There are two processes for external communication:

**Responding to communication**

The most essential aspect of external communication is the need to maintain records of receiving, documenting and responding to relevant communication from external interested parties. At the least, a Department should have processes for responding to complaints about its environmental performance.

**Proactive communication**

The Department may choose to pro-actively communicate about its environmental aspects and performance. Government policy requires reporting of environmental performance on selected indicators in the annual report from 2003/2004. Other avenues for communication may include: regulatory submissions, public government records, industry association publications, the media and various reports.

**Records of Communication**

Copies of all environmental communication should be kept on a dedicated Environmental Communications file.
4.4 DOCUMENTATION

An EMS should be documented – either on paper or electronically. The information documented should reflect the complexity of the EMS and describe the core elements of the system and their interaction. The system should be integrated into the organisation’s overall management system for easy use and may be part of the on-line/intranet system of the organisation.

The documentation should be clear enough that someone unfamiliar with the EMS (such as new staff, or an auditor) can readily navigate and understand the system. EMS documentation typically includes:

- the environmental policy
- the EMS system procedures;
- key records such as Register of Environmental Aspects and Impacts, the Register of Legal and other Requirements, and the Department’s Environmental Objectives and targets
- Work Instructions (Standard Operational Procedures - SOP); and
- Records such as training, audit and monitoring records.

The EMS documentation should provide cross-references to other related documentation and records.
4.5 DOCUMENT CONTROL

Controlling EMS documentation ensures that properly review and authorised documentation is used, that documentation can be located, and, that the current version is used and obsolete versions removed.

The easiest way to manage EMS documentation is electronically, either on an intranet site, or a network directory. Password-protected access prevents unauthorised changing or moving of files.

A Master Document Register should be developed and maintained which lists:

- the EMS documents;
- the current version number;
- responsibility for revision and authorisation; and
- the location of each document.

All documentation should be clearly identified.

Only the current version of an EMS document should be used. Obsolete documents should be withdrawn, and filed. An Obsolete Documents Register can be used to record withdrawn documents.
## DOCUMENT CONTROL REGISTER

<table>
<thead>
<tr>
<th>TITLE</th>
<th>VERSION NO.</th>
<th>ISSUE DATE</th>
<th>LOCATION (of hard copy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Manual</td>
<td>1</td>
<td>February 2003</td>
<td>Intranet only</td>
</tr>
<tr>
<td>Environmental Purchasing</td>
<td>2</td>
<td>July 2003</td>
<td>Intranet only</td>
</tr>
</tbody>
</table>
## OBSOLETE DOCUMENT REGISTER

<table>
<thead>
<tr>
<th>TITLE</th>
<th>VERSION NO.</th>
<th>WITHDRAWAL DATE</th>
<th>RETENTION PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Manual</td>
<td>1</td>
<td>February 2003</td>
<td>3 years</td>
</tr>
<tr>
<td>EMS SOP 1. Printer and photocopier operation</td>
<td>1</td>
<td>June 2003</td>
<td>3 years</td>
</tr>
</tbody>
</table>

G:\Web\Projects\Victorian Government EMS\Vic Gov't EMS  Guidance Notes Final ver 1.doc

UNCONTROLLED WHEN PRINTED
4.6 OPERATIONAL CONTROL

Those operations and activities which are associated with the identified significant environmental aspects of the organisation should be controlled to minimise those environmental impacts.

Therefore, in relation to the significant aspects, objectives and targets an organisation should:

- Establish and maintain documented procedures particularly in situations of greater risk where their absence could lead to a divergence from the objectives and targets of the organisation;
- Clearly identify and describe the work procedures for all operational activities;
- Set performance criteria for essential activities;
- Communicate relevant procedures and requirements to suppliers and contractors

SOPs can be written, like the procedures in the model EMS Manual, or pictorial. An example of an SOP is given below.

Examples of SOPs for some office based operations can be found at EcoRecycle Victoria. A CD which includes some office based SOPs is available from EcoRecycle Victoria by calling 9639 3322.

All SOPs should be listed on a register (see example over page) which should record the most recent version.
## SOP REGISTER

<table>
<thead>
<tr>
<th>SOP No.</th>
<th>Title</th>
<th>Version</th>
<th>Issue date</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS SOP 001</td>
<td>Printer and photocopier operation</td>
<td>2</td>
<td>Feb 2003</td>
</tr>
<tr>
<td>EMS SOP 002</td>
<td>Waste segregation and recycling</td>
<td>3</td>
<td>June 2002</td>
</tr>
<tr>
<td>EMS SOP 003</td>
<td>Use of departmental vehicles</td>
<td>4</td>
<td>June 2002</td>
</tr>
<tr>
<td>EMS SOP 004</td>
<td>Purchasing of paper using equipment</td>
<td>1</td>
<td>July 2003</td>
</tr>
<tr>
<td>EMS SOP 005</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SOP – WASTE SEGREGATION

Background

This procedure manages waste streams within the office to maximise the recycling of waste.

Actions

1. Each waste stream is collected in a separate bin with clear signs and colour coding.
   (For a list of waste contractors to assist in organising the office waste program, refer to the Yellow Pages under Waste Contractors. The EcoRecycle web site has a range of suitable images available for download. See http://www.ecorecycle.vic.gov.au/index.asp and follow the links to the image library.)

2. Adequate bins shall be positioned around the office. Bins are located at:
   - [insert location of bins in office]
   - ...

3. Limited general waste bins will be placed in the office, not at each employee's desk.

4. Each employee shall have a tray for paper waste on their.

Responsibilities and Authorities

The designated EMS Coordinator is responsible for ensuring all staff are aware of this procedure and that appropriate recycling infrastructure is placed around the office.

Associated Documents

Confidential Paper Separation - Standard Operating Procedure

Worm Farm - Standard Operating Procedure
WASTE SEGREGATION

PAPER IN THE GREEN BIN

RECYCLABLE CONTAINERS IN THE BLUE BIN

GARBAGE IN THE BLACK BIN

SOP EMS 003

Ver 2, June 2003
4.7 EMERGENCY PREPAREDNESS AND RESPONSE

There are unlikely to be many emergency or incident situations which will affect office based environmental performance. However, those that may arise should be identified and the environmental impacts associated with the potential incident, and any response, should be minimised.

Emergency or incident situations may include:

- A public transport strike which may affect the Department’s transport related performance;
- A spill of dangerous or hazardous materials (e.g. some cleaning chemicals) where they can discharge to the environment; and
- A building fire which may lead to contaminated fire water discharging to the environment.

Potential emergency and incident situations should be identified and assessed as part of the identification and assessment of the Department’s significant environmental aspects. The extent to which the Department has control and/or influence over the activities including the response to an incident will dictate whether potential incidents should be included in the EMS.
5 CHECKING AND CORRECTIVE ACTION

The Checking and Corrective Action elements address the feedback requirements of an effective EMS. These elements are:

- Monitoring and measurement;
- A process for managing nonconformance with planned arrangement;
- Maintenance of appropriate records; and
- EMS audits.
5.1 ENVIRONMENTAL MONITORING AND MEASUREMENT

This element ensures the Department is monitoring and measuring characteristics of operations and activities that have significant impact on the environment, and its progress towards meeting its objectives and targets, and legal obligations.

There are three broad categories of environmental indicators which Departments may wish to monitor:

Management performance indicators, which include indicators tracking:

- Implementation of policies and programs (e.g. number of achieved objectives, number of pollution prevention initiatives implemented, number of employees with environmental training, number of environmental improvement suggestions from employees, and number of contractors with implemented EMS);
- Conformance (e.g. extent of legal compliance, costs attributable to fines and penalties, audits, and number of emergency drills conducted);
- Financial performance (e.g. costs associated with environmental performance, savings from improved environmental performance, and environmental liabilities); and
- Community relations (e.g. number of complaint or enquiries, resources applied to community environmental programs, number of educational programs, and ratings from community surveys).

Operational performance indicators, which generally track inputs, processes and outputs relevant to the organisation. These include:

- Materials (e.g. quantity of raw materials, water, and packaging materials);
- Energy (i.e. units of energy used per employee, per unit of office space, total energy usage and associated greenhouse gas emissions, actions taken during the year to reduce energy use in buildings, information on the purchase of Green Power, including annual cost to the Department);
- Services (e.g. amount of recycled materials, cleaning services, and wastes generated by contractors);
- Physical facilities and equipment (e.g. total land area used, and average fuel consumption for a fleet);
- Supply and delivery measures;
- Products;
- Services provided; and
- Wastes generated; emissions inventories
Environmental condition indicators. These are generally not relevant to most Departments. They may relate to any aspect of the environment, and be measured locally, regionally, nationally or globally.

Documentation is required to be maintained to:

- Identify the performance indicators and measurements to be taken;
- Establish accurate quality control procedures and maintenance of equipment.
- Establish accurate record keeping procedures to ensure close monitoring processes
- Provide evidence of data handling and interpretation
- Evaluate the validity of the data interpretation processes.
- The organisation must ensure that any equipment used in data gathering is calibrated and records of calibration are maintained.
- Legal, regulatory and other code requirements are regularly checked and updated.

Mandatory reporting

The Government’s Environmental Reporting Framework for Departments requires that from 2003/04, Departments report in their annual reports on their performance in reducing their office-based environmental impacts. In addition, Departments will also be required to provide information on baseline environmental performance data and proposed targets to the Department of Treasury and Finance by September 2003. Performance measures have been set for each environmental aspect (attached table). Departments are also required to include in their annual report a statement on the Departments’ environmentally responsible purchasing activities in support of the objectives of the Government’s Environmental Purchasing Policy.

Assistance with monitoring and reporting required for annual environmental performance reporting is available as follows:

Energy – The following information management, tracking and reporting tools are available for energy:

- Energy Data Gathering and Reporting (EDGAR) tool
  
  EDGAR, is the energy reporting system that enables you to enter and submit data online. The Department of Industry Tourism and Resources has developed EDGAR with support from the Australian Greenhouse Office. It is located at www.edgar.gov.au

- GEMTool (Government Energy Management Tool)
  
  GEMTool is used for tracking, managing and reporting energy use. It allows users to readily enter and edit energy data for various facilities. GEMTool or another similar tool may be used in the future for tracking, managing and reporting other environmental aspects such as waste, transport, water and paper consumption.
Waste generation and recycling – contact EcoRecycle Victoria on www.ecorecycle.vic.gov.au or 9639 3322

Transport – Monitoring data on transport can usually be obtained from the Department’s Fleet Manager (if it manages its own fleet), or from VicFleet. Staff travel behaviour data can be obtained through participating in a TravelSmart survey, or carrying out the department's own survey of staff travel.

Water and paper consumption - Monitoring data on water and paper consumption can usually be obtained from the Purchasing Branch (or equivalent). They should have the invoices from the local water authority, and the paper supplier, which should include details of the amounts consumed.

Staff numbers – The Government reporting requirements involve indicators which use Departmental staff numbers. The Human Resources Division should have data on total FTE for the Department.

Environmental Purchasing – The Purchasing Branch will have records of environmentally responsibly purchasing activities.
## REQUIRED PERFORMANCE MONITORING

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Performance Categories (Annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy use(^2) (including electricity, natural gas, LPG and other types of energy)</td>
<td>Quantitative measures&lt;br&gt;Units of energy (megajoules) used per employee(^3)&lt;br&gt;Units of energy used per unit area of office space (MJ per m(^2))&lt;br&gt;Total energy usage (gigajoules) and associated greenhouse gas emissions (tonnes of CO(_2) equivalent)(^4)&lt;br&gt;Other information&lt;br&gt;Actions taken during the year to reduce energy use in buildings&lt;br&gt;Information on the purchase of Green Power, including annual cost to the Department</td>
</tr>
<tr>
<td>Waste production</td>
<td>Units of waste produced per employee (kg per employee)&lt;br&gt;Total units of waste recycled (kg)</td>
</tr>
<tr>
<td>Paper use</td>
<td>Units of paper used per employee (reams per employee)&lt;br&gt;Total units of paper used (reams)</td>
</tr>
<tr>
<td>Water consumption</td>
<td>Units of water consumed per employee (litres per employee)&lt;br&gt;Total units of water (litres)</td>
</tr>
<tr>
<td>Transportation(^5) (including diesel, petrol, LPG, CNG, hybrid vehicles)</td>
<td>Quantitative measures&lt;br&gt;Fuel consumption (gigajoules) and associated greenhouse gas emissions from passenger vehicle use (tonnes of CO(_2) equivalent) – total and per employee&lt;br&gt;Passenger vehicle trip kilometres associated with Departmental operations – total and per employee&lt;br&gt;Percentage of employees regularly (&gt;75% of time) using public transport, cycling, or walking to and from work&lt;br&gt;Other information&lt;br&gt;Actions taken during the year to reduce energy use in the Department's vehicle fleet.</td>
</tr>
</tbody>
</table>

Departmental reports must also include information on actions taken and a statement on the Departments’ environmentally responsible purchasing activities in support of the objectives of the Government's Environmental Purchasing Policy.

In their annual reports, Departments may wish to consider including qualitative information regarding their EMS activities such as:

- A statement of the Department’s intentions and principles in relation to its environmental performance.
- A description of the environmental awareness-raising techniques, incentive schemes and other promotional activities the Department utilised in implementing its EMS program.

---

\(^2\) The requirements for this performance category are identical to those required by the Sustainable Energy Authority Victoria to meet commitments under Growing Victoria Together and the Victorian Greenhouse Strategy (VGS).

\(^3\) “Employee” means one FTE. One FTE equals the equivalent of one person working full time for one financial year. FTE personnel include temporary, part time and full time staff, current vacancies as well as private consultants and contractors.

\(^4\) Coefficients to be used to convert energy usage to greenhouse gas emissions to be provided by the Greenhouse Policy Unit, Department of Sustainability and Environment.

\(^5\) Measures under this category will assist Departments in meeting the requirement under the VGS to report annually on greenhouse gas emissions from motor vehicle use.
5.2 NONCONFORMANCE, CORRECTIVE AND PREVENTIVE ACTION

Action to correct failures in procedure should be taken as quickly as possible. Assigned responsibilities for action and schedules should be clear. It is not essential for the organisation to take corrective or preventive action on all non-conformances – this will need to be assessed according to the magnitude of the non-conformance in relation to the level of environmental impact generated by the problem.

Non-conformances may be identified through:

- Audits of the EMS;
- Environmental incidents and accidents
- Employees in the organisation may recognise the need for preventive or corrective action and provide good ideas for solving problems.

It is important to determine whether a nonconformance is temporary or due to some flaw in the procedures or controls.

The process of implementing and maintaining procedures for addressing non-conformance should consider:

- Clearly identifying the cause and possible re-occurrence;
- Assessing the potential risks and magnitude of the non-conformance;
- Implementing the changes necessary to avoid repeating the non-conformance. This may be:
  - Corrective action, which fixes an identified problem. For example, a nonconformance noted relating to a printer being set to print single-sided when the SOP requires the default setting to be double-sided. Corrective action is re-setting the default. or
  - Preventive action, which implements actions to prevent a recurrence of an identified nonconformance. In the example above, preventive action may include additional training for staff to ensure they understand the SOP and the reason for it, amending the SOP, and/or buying a new printer.

- That the corrective or preventive action be appropriate to the magnitude of the problem and commensurate with the environmental impact encountered;
- Recording required changes to written procedures resulting from corrective action;
- Which controls need to be in place that ensure that the agreed actions are undertaken and effective.

An example of a Nonconformance Report and NCR Register follows.
NONCONFORMANCE AND CORRECTIVE ACTION REPORT

RETURN TO: THE DEPARTMENT, EMS Coordinator

Address: 
Telephone: 
Email 

1. Any person involved in observing a nonconformance is to complete the Nonconformance and Corrective Action Report.
2. Return the completed Report immediately to EMS Coordinator, THE DEPARTMENT.
3. Maintain a copy in your own records.

NCR No. 2003/034

Site Address:

Woop Woop office

123 Government Road, Victoriaville

SITE CONTACT PERSON: T CHAMPION

Telephone: (    )

Location of Nonconformance within site: 3rd floor printer

Nonconformance Reported by: J. Bloggs

Position: Manager, Operations

Date: 14 / 8 / 2003    Time: 10.30 am

Section 1 - Nonconformance

Nonconformance Details:
Describe clearly the nonconformance.

The printer at the north end of the 3rd floor was observed to be set to print single sided. This is in nonconformance with EMS SOP 002

Cause of Nonconformance:

Describe clearly the circumstances leading to the nonconformance. As far as possible, verify the facts recorded and identify witnesses.

The floor Administration Officer advised that the printer had been set for single-sided printing for a Ministerial briefing and had not been returned to the required double-sided default after the print job was finished.

Immediate Action Taken (if any):

Printer was reset to double-sided default.

Officer Responsible for Action: T Champion  
Date: 14/8/2003

Is further Corrective and/or Preventive Action Required? Yes

If Yes, complete the Corrective and/or Preventive Action Section below.
If No, close this NCR in the Nonconformance and Corrective Action Register.

Section 2 – Corrective Action and/or Preventive Action

Required Corrective and/or Preventive Action:

Describe clearly the Corrective and/or Preventive Action required.

1. Post a sign over the printer outlining the SOP requirements.
2. Undertake refresher training on SOPs with floor staff.

Officer Responsible for Corrective Action: T. Champion Date: 15/8/2003

Changes required to EMS Procedures/Documents? No

Section 3 - Verification/Closure

Environmental Coordinator to Review Effectiveness by: Date: 14/10/2003

Effectiveness Satisfactory? Yes

Environmental Coordinator (Signature): Date: 15/10/2003

If Yes, close this NCR in the Nonconformance and Corrective Action Register.

If No, further action is detailed on NCR No.

NCR Closure Date: 15/10/2003
## NONCONFORMANCE REPORT REGISTER

<table>
<thead>
<tr>
<th>Date Reported</th>
<th>NCR No.</th>
<th>Site</th>
<th>Officer Responsible</th>
<th>Date Action Completed</th>
<th>Corrective Action Date Completed</th>
<th>NCR Closure Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/7/2003</td>
<td>2003/032</td>
<td>Z Division, Level 9</td>
<td>EMS Coordinator</td>
<td>14/7/2003</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.3 ENVIRONMENTAL RECORDS

Records provide the evidence that the EMS is functioning. Records can be maintained in paper or electronic form, and should be identified so that it is clear to which activity (e.g. training, monitoring or audit) they relate.

Records must be stored and maintained so that they are easily accessed and protected from damage or loss, with retention times clearly determined and recorded. Records provide a direct and effective proof of the level of performance and the operational activities of an organisation, as well as the conformance to the environmental policy, objectives and targets.

Most Departments will already have a filing and records management system in place. This should be used to manage environmental records.

Environmental records can include any record which shows that an EMS procedure or SOP has been implemented, such as:

- Monitoring records;
- Audit reports
- NCRs
- Training attendance records
- Purchasing records (Purchase orders and invoices)
- Water authority invoices
- Electricity invoices
- Waste disposal information
- The various EMS registers, such as the Register of Environment Aspects and Impacts, and the Register of Legal and Other Obligations
5.4 ENVIRONMENTAL MANAGEMENT SYSTEM AUDIT

EMS audits are necessary to determine whether the Department’s activities and functions conform with the Environmental Policy and the required elements of the EMS have been implemented and maintained. An ongoing programme of environmental audits is based on the relative environmental impact of the different activities together with outcomes and recommendations from previous audits.

EMS audits should be conducted on a regular basis to ensure that the EMS is functioning adequately and to identify any deficiencies.

Under the Government’s EMS commitment, Departmental EMSs will also be subject to external audits undertaken by an environmental auditor appointed under the Environment Protection Act 1970. EPA Victoria will be able to provide more guidance on these audits (www.epa.vic.gov.au).

ISO 19011 (Guidelines for quality and/or environmental management systems audit) provides a framework for the planning and implementation of an EMS audit program.

The audit process should be structured, although individual audits do not need to take a long time. Typically the audit process will include:

1. establishing an annual audit schedule to ensure that all the elements of the EMS are audited, and that those parts which are important to the Departments environmental performance have a higher priority.

2. preparing for each audit by developing checklists for the elements and/or SOPs to be audited. Checklists list the requirements of each procedure and prompt the auditor to collect sufficient audit evidence of the effective implementation of that procedure.

3. undertaking the audit, including collection of audit evidence. This will involve reviewing environmental records, observing activities, and interviewing relevant staff. Audit evidence should be documented.

4. preparing an audit report, and any NCRs.

Internal EMS auditors should be appropriately qualified, and may need to undertake audit training.

Auditors should be independent of the activities they are auditing.
6 MANAGEMENT REVIEW

Periodic reviews of the Department’s EMS are required to assess the ongoing suitability and effectiveness of the EMS in achieving continuous environmental improvement.

These reviews should be undertaken by senior (executive) management. A review of the EMS should address the possible need to change policy, objectives and targets.

The scope of the review must be comprehensive, though not all elements of the EMS need to be reviewed at once. The complete review may take place over a period of time.

The review should consider:

- the results of EMS audits
- the extent to which objectives and targets have been achieved
- the relevance of the EMS in changing conditions (eg changing legal or policy requirements)
- feedback from relevant stakeholders
- any additional information which may assist management in its review.