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PARLIAMENT OF TASMANIA

**AUDITOR-GENERAL
SPECIAL REPORT NO. 40**

**ENVIRONMENTAL MANAGEMENT
AND
POLLUTION CONTROL**

June 2002

*Presented to both Houses of Parliament in accordance with the provisions of Section 57 of the
Financial Management and Audit Act 1990*

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18 June 2002

President
Legislative Council
HOBART

Speaker
House of Assembly
HOBART

Dear Mr President
Dear Mr Speaker

**PERFORMANCE AUDIT NO. 40
ENVIROMENTAL MANAGEMENT AND POLLUTION CONTROL**

This report has been prepared consequent to examinations conducted under section 44 of the Financial Management and Audit Act 1990, for submission to Parliament under the provisions of section 57 of the Act.

Performance audits seek to provide Parliament with assessments of the effectiveness and efficiency of public sector programs and activities, thereby identifying opportunities for improved performance.

The information provided through this approach will, I am sure, assist Parliament in better evaluating agency performance and enhance Parliamentary decision making to the benefit of all Tasmanians.

Yours sincerely

A handwritten signature in black ink, appearing to read 'A J McHugh'.

A J McHugh
AUDITOR-GENERAL

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Executive summary

EXECUTIVE SUMMARY

In Tasmania, environmental management is the responsibility of the Department of Primary Industries, Water and Environment, specifically its Environment Division. This performance audit was concerned with the Division's handling of its responsibilities under the *Environmental Management and Pollution Control Act 1994*.

Scope

The audit was restricted to the permit system operated for medium to large-scale industries that are classified as level 2 activities by the Act (see Table 1 on page 7). The audit did not assess the appropriateness of the permit conditions imposed by the Division.

Objectives

The objective of the audit was to gauge the effectiveness and efficiency of environmental management and pollution control measures by the department. Six audit criteria were applied, viz,

1 Permitting	Permits are used to effectively control the environmental impact of level 2 activities in Tasmania.
2 Compliance activities	Compliance activities ensure adherence to permit conditions and assist in achieving improvements to the permitting system.
3 Enforcement strategies	There is an appropriate mix of enforcement strategies used to improve compliance with permit conditions, relevant legislation and directions.
4 Pollution reduction	Pollution reduction schemes and/or mechanisms undertaken by level 2 activities successfully reduce the levels of discharge into the air, water or land of substances likely to cause environmental harm.
5 Responses to incidents	Pollution incidents are investigated and investigations result in improvements in controls.
6 Performance monitoring	Targets are used to assess performance.

Audit opinions:

Environment Division is committed to a system of environmental management that delivers continuous improvement through ongoing and dynamic processes. It is responsible for developing environmental quality objectives and establishing policies and guidelines to support them. The permitting system is one part of this responsibility and it moves forward through the refinement of permit conditions that reflect the evolving environmental standards.

Environment Division's effectiveness is compromised by fragmented management information systems that make it difficult to achieve a strategic focus. The existence of

separate databases is inefficient in terms of providing integrated information and the level of resources needed to support them.

Documentation in respect of compliance and enforcement activities is not always adequate to address the requirements of accountability and transparency.

Permitting

Level 2 activities are captured through the State's land use planning system and controlled by permit conditions that substantially reflect environmental best practice. Environment Division has been flexible in working with industry when assessing proposals that entail innovative technologies. However, the effectiveness of management could be improved by developing an integrated database.

Compliance activities

Compliance activities are undertaken and are recorded on files and local databases but there is a lack of integration of the data obtained. If rectified this would facilitate identification of systematic issues. There are no guidelines for the review of monitoring reports and oversight of the function was not evident. Public reporting of compliance activities could be expanded.

Enforcement strategies

Environment Division uses the range of enforcement tools that are available. However, there are no guidelines to aid in the selection of appropriate enforcement strategies. Further, assessing their effectiveness is hampered by the lack of an integrated management information system. Public reporting of enforcement actions could be expanded.

Pollution reduction

Environment Division is achieving and promoting pollution reduction through the permitting system. Additionally, there are programs that are promoted as incentives for industry and that recognise best practice.

Responses to incidents

Sound mechanisms are in place to respond to incidents and complaints. While the current arrangements provide for feedback to the development and review of permit conditions, an integrated management information system would assist in the identification of systemic issues.

Performance monitoring

At the departmental planning level the degree of performance monitoring is satisfactory. However, the Environment Division's business plan does not yet have performance indicators to allow measurement of its effectiveness.

Summary of recommendations

A general finding that affected several audit criteria was Environment Division's lack of an up to date management information system. Separate databases, unsupported by Corporate Information Technology branch, are used throughout the Division sometimes resulting in a

duplication of effort. In the following list, recommendations related to this issue are indicated by an asterisk (*).

We recommend that the Environment Division:

- | | |
|-------------------------------|--|
| Permitting | <ol style="list-style-type: none">1 * Develop a strategic IT plan to guide the integration of existing management information systems2 * Combine the separate systems currently used to record the receipt of monitoring reports in an integrated management information system3 Produce guidelines on the review of monitoring reports, including provision for staff to sign off on them, and for management to conduct sample checks confirming the procedures have been carried out |
| Compliance activities | <ol style="list-style-type: none">4 The current inspection program should be improved to ensure that staff resources are directed to areas of greatest risk5 * Implement a system to allow easy access to assessment data6 Produce standardised procedures to guide staff and ensure that inspections, and attendant reporting, are handled consistently and transparently7 * Create a system to allow systematic tracking of report recommendations8 Report publicly on performance information on compliance activities undertaken by the Division9 * Create a system to allow systemic issues to be easily identified from compliance activities |
| Enforcement strategies | <ol style="list-style-type: none">10 Produce a policy to provide a basis for appropriate and transparent selection of enforcement actions11 Develop guidelines to ensure that particular enforcement actions are correctly and consistently applied12 Keep copies of infringement notices on the relevant premises file to provide a complete picture of enforcement action13 Produce guidelines to ensure that the most effective possible use is made of prosecution14 * Have data on enforcement activities available from one central management information system15 Publicly report information on enforcement actions in enough detail so that the public involvement in environmental management is made easier |
| Responses to incidents | <ol style="list-style-type: none">16 * Create a system to allow systemic issues that arise from incident response to be more easily identified |
| Performance monitoring | <ol style="list-style-type: none">17 * Establish a system to allow performance information to be easily compiled and reviewed. |

MANAGEMENT RESPONSE

I have examined the Performance Report by the Tasmanian Audit Office on the permitting system to manage the pollution impacts of medium to large sized industries administered by my Department.

Overall, I view the report as a valuable review of the systems and procedures that the Environment Division uses to administer the permitting system. It will assist in setting priorities and allocating resources during coming years, and I have no doubt that implementation of the key recommendations will result in an improved management system. I welcome the conclusion that the permitting system substantially reflects environmental best practice.

Many of the recommendations relate to the need for an improved electronic information management system. This is an issue that the Department has identified as a priority and has been progressing over the past three years, together with a large number of other information management needs. The Audit Report's conclusions will be taken into account in allocating future resources to this important project. The Audit Report will be of considerable assistance in reviewing the development specifications and scope of the remainder of the system. I note that the Report recognises that, in many instances, "stand-alone" systems already provide suitable management information and that a new system will improve efficiency rather than provide novel information. In some cases, for example the recommendation relating to identifying systemic issues, I believe that the potential benefits that will arise from a new integrated management system are probably overstated by the Audit Report. However, this does not detract from the overall value that a new integrated system will bring.

A number of the remaining recommendations relate to the production of guidelines to ensure a consistent approach within the Division. I agree that such guidelines will improve the Division's overall performance and should be developed. However, I believe that the Division largely already has in place procedures to deliver the recommendation relating to a systematic inspection program.

A formal enforcement policy (Recommendations 10 and 13) has been identified in the Division's Business Plan forward program for several years, but it has not been possible to progress this due to other priorities for policy development. The Audit Report will provide further impetus for this project.

Recommendations 8 and 15 suggest a greater level of public reporting on compliance and enforcement activities. Information of this nature was formerly included in annual reports, but has been omitted in recent years for pragmatic reasons as the Environment Division has formed part of a very large agency. I support the principle of the recommendation and will investigate an appropriate vehicle for implementing it.

Kim Evans

Secretary

Department of Primary Industry, Water and Environment

LIST OF ACRONYMS AND ABBREVIATIONS

DPEMP	Development Proposal and Environmental Management Plan
DPIWE	Department of Primary Industry, Water and Environment
DPP	Director of Public Prosecutions
EIN	Environmental infringement notice
ELG	Emission limit guidelines
EMP	Environmental management plan
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
EPN	Environmental protection notice
EPP	Environmental protection policy
FTE	Full time employee
NHT	National Heritage Trust
NPI	National pollutant inventory
OECD	Organisation for Economic Cooperation and Development
RMPS	Resource management planning system
WWTP	Waste water treatment plant

Introduction

INTRODUCTION

Industrial permitting

Need for
environmental
permits

In most developed countries, industrial plants and other types of enterprise have to apply to the government for permission to commence, and periodically to continue, their operations. Permitting systems form an essential part of environmental regulation and can contribute to long-term objectives such as sustainable development and resource conservation. By requiring facilities to operate in an environmentally sound manner, permits help prevent pollution and ensure that operators adopt and pay for their own pollution control measures. Permits also address safety issues, particularly the accidental release of harmful substances or other accidents.

Legislation

In Tasmania
Environment
Division = EPA

The mainland states of Australia entrust the role of environmental management and pollution control to Environmental Protection Agencies (EPAs) that exist as statutory bodies in their own right. In Tasmania, the equivalent to an EPA is one of the Divisions, Environment Division, of the Department of Primary Industries, Water and Environment (DPIWE). Throughout this report, we use the name 'Environment Division' to refer to that part of DPIWE because it is responsible for EPA-type functions.

Environment Division's governing legislation is the *Environmental Management and Pollution Control Act 1994 (EMPCA)*, one of several Acts that underpins the Resource Management and Planning System (RMPS). RMPS provides a framework to integrate the land use planning roles of local and State Government bodies.

EMPCA's objectives include the following:

- Protection and enhancement of the environment;
- Prevention of degradation and adverse risks to human and ecosystem health; and
- The regulation, reduction or elimination of the discharge of pollutants and hazardous substances to air, land or water.

Role of the EMPC
Board

Development applications that require formal environmental assessment are forwarded to the Board of Environmental Management and Pollution Control. This Board, set up under *EMPCA*, is the key decision-making body in assessing environmental impacts of development proposals. The Board delegates powers to the Director of Environmental Management who is also the General

Manager – Environment Division at DPIWE. In turn, the General Manager receives professional advice from Divisional staff regarding assessments of:

- Development Proposals and Environmental Management Plans (DPEMPs);
- Development and management of Environmental Improvement Programs;
- Environmental audits of premises;
- Environmental agreements; and
- Reporting of incidents, malfunctions and accidents.

Level 2 Activities

EMPCA provides for assessment and regulation of activities that may cause environmental harm. These are classified in one of three levels according to their nature.

Level 1 covers activities that are viewed as small-scale or low-impact with limited potential to cause environmental harm (in terms of both frequency and magnitude). Local government assesses environmental impacts of level 1 activities although a formal environmental impact statement is not necessarily required. Ongoing regulation does not require a high level of specialist expertise or continual inspection. Nonetheless, the Director has the right to ‘call in’ level 1 projects for assessment by the Board. This is likely to occur if concerns exist, e.g. where a particularly sensitive location is involved and there is a significant risk of environmental harm occurring.

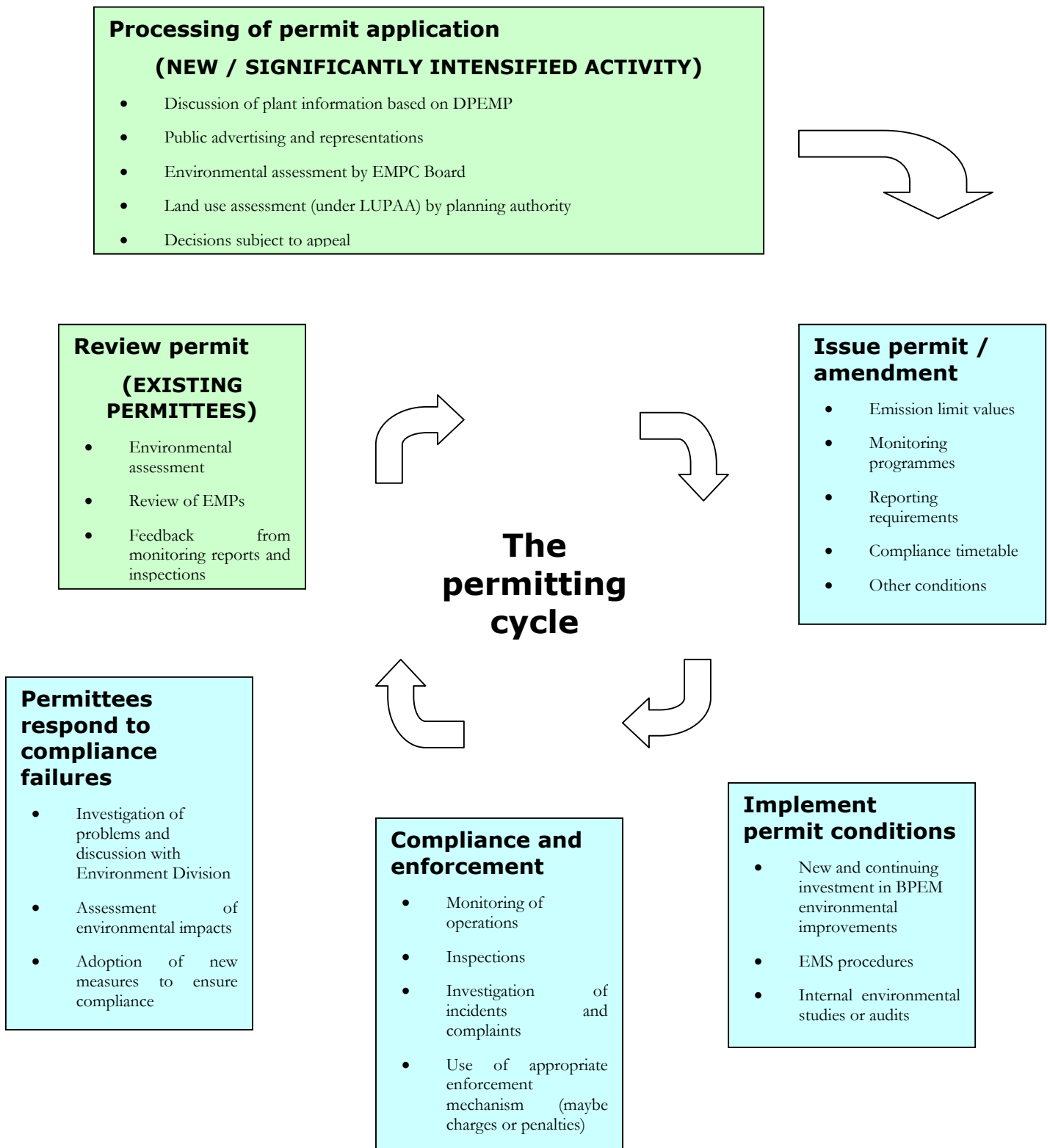
Level 2 activities are scheduled in *EMPCA* according to seven industry sectors viz:

- petroleum and chemical;
- manufacturing and mineral processing;
- waste treatment;
- food production, animal and plant processing;
- extractive industries;
- material handling; and
- other.

Level 2 activities generally involve projects on a medium to large scale. They possess a medium to high degree of complexity with the potential to cause material or serious environmental harm and therefore warrant more detailed environmental impact assessment. This carries over into ongoing regulation at the State Government

Level 2 definitions are in a schedule of *EMPCA*

Figure 1: Environmental permitting cycle for level 2 activities



level (i.e. permits), including regular inspection by specialists. In some cases, there is also periodic formal review of environmental management plans (EMPs).

When making an assessment of a development proposal, the Board may notify the relevant planning authority (the council responsible) to grant a permit or to refuse the application. The Director can charge an assessment fee and level 2 activities are subject to annual fees.

Level 3 activities are Projects of State Significance that fall outside of *EMPCA* and are assessed by a separate statutory body.

Figure 1 outlines the cyclic nature of environmental permitting.

Number of permits

Table 1 has details of the number and type of level 2 activities as at June 2001. During the 2000-2001 period a total of 17 level 2 applications were received.

Table 1: Number and type of Level 2 activities

Activity Category	June 2001	
	Level 2 permits	% of total premises
Petroleum and chemical	14	2.8%
Manufacturing and mineral processing	109	21.5%
Waste treatment	131	25.9%
Food production and animal and plant processing	56	11.1%
Extractive industries	120	23.7%
Material handling	61	12.0%
Other	15	3.0%
TOTAL	506	100

Departmental organisation

DPIWE's Corporate Plan states that one of the desired outcomes for the department is 'a healthy and clean environment'. This is an outcome to which the Environment Division makes a strong contribution. In total, the Division had a budget of \$7 536 million in

2000 – 2001 and a staff of 80.7 FTEs who perform a variety of tasks, e.g.

- Participate in and influence policy development in other agencies and spheres of government; and
- Operational assistance to local government, industry and other agencies.

Approximately 50% of the Division's resources are involved in the permitting process of level 2 activities.

Audit Framework

AUDIT FRAMEWORK

Standards applied

This audit has been performed in accordance with Australian Auditing Standard AUS 806 (*'Performance Auditing'*) which states that:

‘The objective of a performance audit is to enable the auditor to express an opinion whether, in all material respects, all or part of an entity's activities have been carried out economically, and/or efficiently and/or effectively.’

Audit procedures were confined to a review of policies and procedures at Environment Division together with a restricted review of the permitting process from the viewpoint of industry. This provides less evidence than would be available by applying more extensive and comprehensive procedures. The evidence provided by these means is persuasive rather than conclusive in nature.

Objective

The objective of this performance audit was to assess the effectiveness and efficiency of the management processes employed by Environment Division in achieving environmental management and pollution control.

Scope

The scope of the audit encompassed the regulatory framework used by DPIWE's Environment Division for environmental monitoring and pollution control as it related to level 2 activities.

Level 1 activities that are approved by local government were not included in the audit. Also, the audit did not assess the appropriateness of the permit conditions imposed by the department.

This report relates to a performance audit carried out by the Tasmanian Audit Office during the period November 2001 to May 2002.

Criteria used

The following criteria were used in our performance:

- | | |
|--------------|---|
| 1 Permitting | Permits are used to effectively control the environmental impact of level 2 activities in Tasmania. |
|--------------|---|

- | | |
|--------------------------|--|
| 2 Compliance activities | Compliance activities ensure adherence to permit conditions and assist in achieving improvements to the permitting system. |
| 3 Enforcement strategies | There is an appropriate mix of enforcement strategies used to improve compliance with permit conditions, relevant legislation and Environment Division directions. |
| 4 Pollution reduction | Pollution reduction schemes and/or mechanisms undertaken by level 2 activities successfully reduce the levels of discharge into the air, water or land of substances likely to cause environmental harm. |
| 5 Responses to incidents | Environment Division investigates pollution incidents and investigations result in improvements in controls. |
| 6 Performance monitoring | Environment Division uses targets to assess performance. |

Audit methodology

Data was gathered through visits to Environment Division. Documents were examined across industry sectors including those that dealt with corrective action initiated by the department in response to breaches detected or complaints received.

Stakeholder input

In line with the Audit Office's established practice for the conduct of performance audits, an advisory committee was convened to reflect stakeholder views. The committee provided input to the audit's methodology and reviewed the draft report upon its completion. The Auditor-General chaired the committee and its members were drawn from the following areas:

- DPIWE;
- University of Tasmania;
- Tasmanian Chamber of Commerce and Industry;
- Department of Premier and Cabinet; and
- Tasmanian Audit Office.

Timing

Planning for the performance audit commenced in July 2001. Field-testing commenced in October and was completed in March 2002 with the report being finalised in May 2002.

Resources

The total cost of the audit excluding report production costs was \$68 500.

Mandate for the audit

Under the provisions of section 44(b) of the Financial Management and Audit Act 1990 the Auditor-General may:

‘carry out examinations of the economy, efficiency and effectiveness of Government departments, public bodies or parts of Government departments or public bodies’.

The conduct of such audits is often referred to as performance auditing.

Reviews and audits in other jurisdictions

In April 2001, the Auditor-General of New South Wales tabled a report titled ‘*Environmental Protection Agency: Controlling and Reducing Pollution from Industry*’. This audit focused on whether the Agency:

- Controlled industrial the environmental impact of industry;
- Achieved high rates of compliance through its compliance and enforcement activities; and
- Had systems in place to support decisions on regulatory intervention and ensure that resources were matched to areas of greatest need.

The report made a number of recommendations including an expanded role for compliance activities, introduction of PIs to measure the EPA’s overall effectiveness, improvements in information systems and a more formalised approach to assessing licensee performance.

Permitting

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This section of the report deals with our findings, conclusions and recommendations made in relation to the audit criteria.

1 PERMITTING

Permits are used to effectively control the environmental impact of level 2 activities

1.1 - BEST PRACTICE FRAMEWORK

Sourced from
OECD

For purposes of this performance audit, international best practice in industrial permitting was identified from a 1999 report published by the Organisation for Economic Cooperation and Development (OECD) of which Australia is a member. The report made three principal recommendations for strengthening permitting systems, viz.,

- Extending their scope;
- Developing indicators and instruments to foster technological innovation; and
- Encouraging closer public involvement.

1.1.1 *Improving permitting systems by extending their scope*

To improve permitting systems the OECD suggested a number of specific actions and these are commented on in the following paragraphs.

Typically, Environment Division has used a two-pronged approach to achieve improvements. Prescriptive regulation is a technique that is no longer favoured. At the general or overarching level, the Division uses policy drivers. Legislation provides a broad framework as an outline. At the specific or enterprise level, incremental improvement is sought through permit conditions that can be tied to a range of mechanisms such as guidelines and codes of practice. These tools have the advantage that they are more easily updated than statutory provisions.

Integrated cross-media permits

Tasmanian permit conditions are cross-media (i.e. covering water, air, ground) in their scope. One set of conditions issued by the Board of Environmental Management and Pollution Control covers all environmental impacts of a development.

Permits integrated with other policy instruments (voluntary environmental agreements, economic instruments such as eco-taxes)

Integration of permits with other policy instruments does occur (as for instance with the State Policy on Water Quality Management).

Ultimately, objectives from the Water Policy will be used as the basis for data that will feed back to permit conditions.

However, Environment Division's options are limited by its powers under *EMPCA*, for instance eco-taxes fall outside the scope of the Act. However, it provides for Environmental Agreements although to date demand has been limited.

Environmentally-oriented cost accounting systems

The OECD found that cleaner technologies were often viewed by industry as more costly than end-of-pipe devices. Nevertheless, there is evidence that there may be a very large unexploited potential for cost savings through environmental protection measures at the enterprise level. Current cost accounting systems need to be modified to provide public authorities and industry with reliable economic indicators on environmental costs related to the different stages of the production process.

National initiatives
needed

Momentum to progress this kind of far-reaching initiative is beyond the scope of permitting systems and is coming from the national level. The Environmental Protection and Heritage Council is presently working towards the establishment of a Business Sustainability Framework. Within this framework, Governments will work with business to explore collaborative activities such as promotion of eco-efficiency.

Long-term goals linked to permit schemes at plant level

As an outcome of the review of *EMPCA* under national competition principles, Environment Division was exploring options for a load-based licensing component of its fee structure in line with the practice in some other jurisdictions. At present, there are opportunities for fee reductions for companies that discharge wastes to sewer and for environmental agreements.

As a basis for achieving environmental objectives work was being done that will help define and attain long-term goals. For example, Environment Division was drafting new policies for air and noise that will reflect environmental values and objectives. This marks a shift in approach from the prescriptive end-of-pipe regulations that were

previously in force to a model based on ambient environmental conditions.

Adaptation of permits to small / medium facilities and diffuse sources

Problem of diffuse sources

Pollutants may originate from point sources - such as industrial plants - or 'diffuse sources' a common example is run-off whether it be from agricultural, industrial or other activities. Many of the diffuse sources are outside of the existing regulatory framework and current controls for level 2 (or even level 1) activities are ineffective as a means of managing this type of pollution. Environment Division pointed out that good environmental practice (e.g. sound catchment management processes) is required to address some of these issues.

1.1.2 Developing indicators and instruments to foster technological innovation

Environment Division develops environmental policies and guidelines that determine environmental objectives. The way that industry chooses to respond to the objectives is open so that innovative technologies are not discouraged.

1.1.3 Encouraging closer public involvement

Consultative approach to developing policies

EMPCA has statutory requirements for public notification and appeal rights (including the Resource Management Planning Appeals Tribunal). In addition, there are non-statutory initiatives to assist stakeholders. Input is invited in environmental policy development and the emission limit guideline development process exemplified the methods used in the Division. Public input was also evident in the case of environmental protection policies (EPPs) that are being developed for air and noise - in line with section 96 of *EMPCA*. Project business plans for both EPPs show that stakeholder groups were convened for both projects. Moreover, the draft EPPs were made available for public comment.

Further examples of Environment Division's willingness to involve stakeholders are:

- Public scoping of guidelines for large projects;
- Draft EMPs for development proposals may be submitted for review prior to final advertisement; and
- Discussions with objectors (where appropriate).

Environment Division has a policy for making permit conditions available on request and a public register of environmental protection

notices. Company monitoring data can be obtained under FOI legislation.

Satisfactory
evidence of
best practice

The framework in place at Environment Division satisfactorily encompassed elements of best practice.

1.2 - PERMITTING - COVERAGE OF LEVEL 2

Environmental
permits integrated
with land use
planning

Tasmania's RMPS regulatory framework links planning proposals, planning authorities and environmental management. As a statutory process, its requirements are obligatory and are understood by councils since they are designated as planning authorities. Due to the linkage between land use planning and industrial permitting, the necessity for level 2 activities to obtain *EMPCA* permits would be hard to overlook. DPIWE has various information packages available that outline the workings of *EMPCA* to cover those situations where proponents approach the department directly.

Alternatively, developers or investors may use the Department of State Development (DSD) as their first point of contact. DSD has a system in place to provide enquirers with information about licences, permits and compulsory codes of conduct that apply to those industry sectors classified as level 2 by *EMPCA*.

For some of the level 2 activities defined in *EMPCA*'s schedule 2 threshold quantities for capacity are specified e.g. woodchip mills with an annual production capacity greater than 1 000 tonnes are level 2 while those below are level 1. Sometimes operations that are marginally level 2 (i.e. the scale of production is barely greater than the thresholds specified by the Act) can drop below the level 2 limit. An example of this situation is where small sawmills or quarries reduce their output because of a downturn in trade. The Board has developed a fee reduction policy for these kinds of instances or when scheduled amounts are not achieved.

The reverse situation can also occur when a level 1 facility (e.g. sawmill or small fish-processor) may temporarily exceed the threshold and become a level 2 due to a peak in orders. The likelihood of a level 1 business becoming a level 2 by stealth is unlikely to be detected by councils. If the permitted conditions are adhered to, there should be no additional risk to the environment by the temporary change of the level.

Tasmania's RMPS provides an effective mechanism to ensure that level 2 activities are covered by permits.

1.3 - DEVELOPMENT AND REVIEW OF PERMITS

1.3.1 Development

Environment Division has a set of model conditions, vetted by the Solicitor-General, that forms the backbone of all permits that are issued. A broad range of topics is covered, including *inter alia* the following environmental issues:

- Air;
- Sediments;
- General;
- Hazardous wastes;
- Monitoring (frequency and parameters);
- Noise;
- Rehabilitation;
- Vegetation; and
- Water

Each of the above categories has several standard conditions that can be attached to any individual business depending on its nature and scale as outlined in the original development proposal's EMP. The same method of developing conditions is used with businesses transporting controlled wastes. There, however, permit conditions are attached to an environmental protection notice rather than a permit. However, such conditions mirror those applied in other jurisdictions, an important consideration since controlled wastes are often sent from one state to another and consistency of conditions is desirable.

To frame environmental operating conditions for a new business, Environment Division usually refers to other permits in force for similar existing businesses. The procedure of aligning model permit conditions to the planned operations of a new industry relies on the development proposal's EMP submitted under *EMPCA*. Where innovative technologies or industrial processes are planned, new conditions are established based on those used by Environmental Protection Agencies of other jurisdictions or other OECD member countries.

Permit conditions based on development proposal and environmental management plan

1.3.2 Review of permit conditions

When it comes to reviewing permit conditions, Environment Division does not have a formal procedure or set periods or timetables. Instead, a more flexible approach is taken that nonetheless reflects the principles of continuous improvement. Changes may be triggered by:

- Updates to technical standards or legislation;
- Developments in best available technology; and
- Breaches detected through monitoring, incidents or complaints.

Environment Division's preparation of waste regulations and emission limit guidelines exemplifies the application of continually evolving standards. Normally however, the Division reviews all licences / permits progressively. A regular and ongoing cyclic review is built into each individual permit (i.e. permit conditions are re-assessed as part of EMP review).

Electronic Legislation Management System (ELMS)

The principal data recording system for environmental management is ELMS, a database that was created around 1991. Originally, ELMS was devised to reinforce the processes required by the previous legislation in this area. The system ensured that staff followed the correct sequence of administration actions in developing licences (the forerunners of present day permits).

System has limited data and reporting is limited

Nowadays, ELMS has been used to record partial details of permits and environmental protection notices. The system has many fields that allow much of the detail of individual permits to be recorded, but this is not without its complications. For instance, the full text of permit conditions can be read on screen. However, it is not unusual for permits to have twenty conditions, amounting to more than fifteen pages. Such a level of detail restricts reporting due to the large amount of data held in individual fields. Not all permit conditions have been input, thus it is not possible to order, sort or extract this kind of information. Consequently, there is no easy way to systematically review conditions for all permits issued.

Further, ELMS does not have information on environmental infringement notices (EINs), environmental improvement programs, environmental agreements or prosecutions. Instead, these and other items are available from stand-alone databases maintained by a number of staff in the Division. Similarly, ELMS is not used to record the receipt of monitoring reports supplied by industry. Officers responsible for a particular company or industrial sector manage this function separately in predominantly paper-based systems.

ELMS needs replacement

In line with the Division's 2000 - 2001 business plan, a new system was implemented by DPIWE's Corporate Information Technology Branch to facilitate control of waste transport businesses. Environment Division intended this to be the first stage of a process that would see ELMS replaced gradually as extra modules were added to the new system.

Strategic focus
lacking

However, before further IT resources can be assigned to it, the project must be scoped and put before the departmental executive management group. At that stage, it will be evaluated against competing projects from other divisions in DPIWE. It seems that issues around ELMS will not be progressed until Environment Division produces a plan to detail its strategic management information needs.

Although Environment Division has procedures to guide in the development of permits, further improvements could be gained through the integration of existing management information systems.

Recommendation 1

Environment Division should develop a strategic IT plan to guide the integration of existing management information systems.

1.4 - PERMIT REQUIREMENTS FOR MONITORING AND REPORTING

Monitoring
requirements
contained in
permits

Permits include an 'M' category of conditions ('Monitoring - frequency and parameters') that specify permittees' obligations to undertake monitoring and submit reports. The range of obligations imposed varies according to factors such as operational complexity, volume and toxicity of pollutants, sensitivity of the receiving environment, etc.

At one end of the scale, minimal reporting may be adequate while at the other end reporting may be very extensive. Permits contained:

- Details of pollutants or wastes to be monitored;
- Applicable standards; and
- Sampling frequency and site locations.

The requirement for samples to be tested by accredited facilities was a customary condition.

Operators
environmental
plans regularly
reviewed

Additionally, level 2 operators are routinely required to produce EMPs and these usually involve a review of the company's first year of operation. Triennial reviews of EMPs are a further requirement of Environment Division's general permit conditions.

At the time of the audit, Environment Division was implementing a separate database that would, amongst other things, record the receipt of monitoring reports from industrial facilities. Prior to the database's introduction, an informal system was used to follow up monitoring reports. Non-receipt of reports was normally resolved at a relatively low level with letters being used when other methods failed.

However, it had not been necessary to issue any EINs in the previous year in respect of this matter.

A different system was used for monitoring reports from waste water treatment plants (WWTPs). Moreover, Environment Division had devised a computer system to compare reported data against permitted levels.

Recommendation 2

The separate systems currently used to record the receipt of monitoring reports should be combined in an integrated management information system.

Environment Division staff check monitoring reports from industrial facilities against permit conditions held on premises files. Reports from some industries included notification that 'No permit conditions have been breached' or some other form of exception reporting. Generally, monitoring reports were signed or otherwise noted by Environment Division officers as evidence of review, although this was not a formal process.

Management had not provided guidelines on how monitoring reports are to be reviewed and evidenced. There was some evidence that checks were undertaken by management but sign-off was not apparent in all cases. Transparency and accountability should be strengthened through improved data systems and guidelines to support staff.

No guidelines on review of monitoring reports

Recommendation 3

Guidelines should be available on the review of monitoring reports, including provision for staff to sign off on them, and for management to conduct sample checks confirming the procedures have been carried out.

Compliance activities

2 COMPLIANCE ACTIVITIES

Compliance activities ensure adherence to permit conditions and assist in achieving improvements to the permitting system.

2.1 - INDUSTRY SELECTION

Large workload for inspectors

All level 2 activities are subject to inspection by Environment Division officers and in 2000 – 2001 a total of 258 inspections were completed (at the time of the audit, there were 506 permits in force). However, the scheduling of inspections has been done on an informal basis, partly because of resource constraints. As an example, included in the total number are more than 180 pits and quarries, an industry sector that is the responsibility of just two people. On the basis of one annual inspection per facility, level 2 pits and quarries across the state would require two visits per week per environment officer. In the period 2000 – 2001 the Division was unable to fully staff this area and actually inspected 50 pits and quarries.

Other conflicting work load priorities that impact on inspection schedules are:

- Assessments, whether for new activities or for changed, expanded or modified processes;
- Review of environmental management plans either yearly or triennially; and
- Incidents or complaints.

Due to their urgency, it is the latter category that takes precedence.

Integrated data on inspections is lacking

Monitoring of compliance activities is hampered by the lack of a centralised records management information system. ELMS is not able to provide the sort of management data to give an overview of inspection activity. For example, it cannot provide information on when the last assessment was done, what its results were, recent complaints etc.

Although regular informal reports are made to management about level 2 activities currently being assessed, the method used to produce this information could be streamlined. Notes have been made on premises files and, at the time of the audit, a separate database system was being developed to track compliance activities.

As noted previously (refer to section 1.4), preliminary work had been done to implement a more systematic approach through the development of a local database. Although this was a workable solution, an integrated approach to managing data created by or flowing into the Division would be preferable. Amongst other

benefits that such a system would confer, the management of inspections could be simplified.

Recommendations made in inspection reports are not available centrally and would need to be collated from premises files.

Recommendation 4

The current inspection program should be improved to ensure that staff resources are directed to areas of greatest risk.

Recommendation 5

An integrated management information system should be implemented that would allow easy access to assessment data.

2.2 - CONDUCTING AUDITS AND INSPECTIONS

Guidelines on inspections and subsequent reports are lacking

Environment Division lacks procedures to guide staff in how inspections are to be approached or subsequent reports written up. The permit conditions (that are derived from standards) have been relied on to steer the actions of inspectors and minimise the discretionary aspect of their inspections.

When Environment Division recruits new environmental officers, they initially work with more experienced officers and learn on-the-job in a mentoring environment. However, there is no formal protocol to guide staff in reporting findings and recommendations. Usually, issues arising from field visits are resolved at the lowest practicable level. More serious action is taken if there is a lack of response from the permittee or if some other difficulty exists in complying with Environment Division's recommendations.

Another factor that influenced the way in which inspections are handled was the reason that triggered the inspection. Where an inspection arises from a complaint or incident it is usual that a report with recommendations will be sent to the permittee requiring some kind of response. The cause of the incident also impacts on the reporting. For example, those that are caused by permittee negligence are viewed differently to those caused by some other factor beyond their control (actions by third parties, extreme weather events, etc).

The results of inspections carried out for routine purposes, or as a result of assessments, may not have been directly communicated to the permittee. Inspections were normally evidenced by notes on the premises file. They could also be incorporated in revised permit conditions, either site-specifically or if warranted in a generic update of a standard permit condition.

Formal follow up system for recommendations needed

Recommendation 6

Standardised procedures should be produced to guide staff and ensure that inspections (and the attendant reporting) are handled consistently and transparently.

Environment Division lacked a formal recording system for the follow up of recommendations from compliance activities. Rather, it has relied on the initiative of the inspector using techniques such as re-submit dates on premises files or diary entries. However, circumstances (such as competing work priorities, absences or turn over of staff) have sometimes arisen that have hindered the follow up of implementation of recommendations. At present, the only way to retrieve data on recommendations that have been accepted and implemented is by reviewing premises files individually.

Recommendation 7

As recommended previously, an integrated management information system should be created that would allow systematic tracking of report recommendations.

The OECD regards public involvement as critical and has reported that permitting systems should be as transparent as possible. The organisation urges member countries to employ democratic processes incorporating the notion that present and future environmental quality is a public good.

Public information on compliance activities is scant

Aside from the total number of inspections, there is no further detail of compliance activities published in DPIWE's annual report. The view of Environment Division is that the information is available to the public through freedom of information legislation. More detail as to what is inspected, how often and with what results (e.g. degree of compliance with permit conditions) would lead to a better informed public.

Recommendation 8

Consistent with the notion of public involvement, performance information on compliance activities undertaken by the Division should be publicly reported.

Procedures currently in place for conducting inspections need to be improved to ensure consistency and transparency. More detailed public reporting would address issues around accountability.

2.3 - SYSTEMIC ISSUES

Systemic issues cannot easily be addressed

The small scale of industrialisation in Tasmania limits the extent to which inspection findings in one premise are applicable to permit conditions generally. Although permit conditions are taken from a model listing, frequently they are tailored to become site-specific. Where this occurs, issues that arise from compliance activities may not have wider ramifications and could just concern the subject premises. In such instances, the implications for similar permit conditions for other businesses would be restricted. Nonetheless, while the Environment Division lacks an integrated management information system identification of systemic issues that may emerge from compliance activities is unlikely.

Feedback to management from inspections lacked a formal structure, in common with other compliance activities, and relies on the efficiency and initiative of individual officers to succeed.

Recommendation 9

As recommended above, an integrated management information system should be created to capture data from compliance activities to allow systemic issues to be easily identified.

Case study 1 shows how the approach that was applied to the situation where modern environmental standards confront limited technologies.

Case study 1 – Reconciling contemporary environmental standards with site specifics: Boyer paper mill.

Background

Australia's largest manufacturer of newsprint, the Boyer mill was constructed by Australian Newsprint Mills in 1941. It is currently owned and operated by the Norwegian global company Norske Skog.

Boyer's paper making process uses a combination of hardwood and softwood pulp requiring large amounts of fresh water in processing (55 MI/day) – to put this in perspective, the Derwent's mean annual flow is 7 800 MI/day. Previous owners upgraded processing plant at the mill although effluent treatment remained quite basic until 1989 when primary treatment was introduced. Prior to discharge into the Derwent River, waste water is free of most solids but still contains considerable organic matter and resin acids.

Current environment standards

The mill's effluent discharge limits, as governed by permit conditions are not consistent with Accepted Modern Technology (AMT) discharge limits. A possible solution that has been discussed is secondary treatment but it would impose a cost burden of approximately \$30 million, an investment that may be uneconomic.

To cover the situation where established industries can gain time to make the transition to new standards of environmental performance *EMPCA* provides for environmental improvement programs (EIPs). These programs specify the objectives to be achieved and a timeframe for achieving them, however, an EIP cannot extend beyond 3 years.

Given the size of the investment and the scale of works required to provide secondary treatment at Boyer, a three-year time-frame would not provide sufficient lead time. There are also some doubts about the benefits that secondary treatment would provide in improving the receiving water conditions in the Estuary. To clarify the level of environmental risk posed by its effluent, which would help determine the urgency for further treatment, Boyer undertook an ecological risk assessment (ERA). The ERA was a major scientific study that was conducted between 1999 and 2001. The purpose of the ERA was to determine whether the discharge of the mill's Combined Effluent Stream (CES) represented a risk of:

- serious environmental harm;
- material environmental harm; or
- an environmental nuisance.

The company undertook a series of peer reviewed scientific studies that included dynamic modelling. As a result of the ERA's findings, the Board of Environmental Management and Pollution Control determined in July 2001 that there was a relatively low risk of environmental harm. Nevertheless, the biochemical oxygen load remains above levels that could be achieved by AMT. The State Policy on Water Quality Management requires that activities in operation at the time that the Policy came into force (1997) work towards achieving AMT discharge levels in a time-frame that takes account of the environmental risk posed by the discharge and the practicality of achieving these levels. In light of this, the Board subsequently agreed to allow the mill until December 2006 to comply with AMT discharge limits on condition that the company:

- Undertake an aggressive program to reduce the emission of key pollutants and toxicity in the CES. [Key pollutants include particulate organic carbon and resin acids. The former impacts by settling in the riverbed and

consuming dissolved oxygen from the overlying water. Resin acids are a primary source of toxicity to aquatic organisms]; and

- Provides an annual presentation to the Board detailing improvements in line with Best Practice Environmental Management.

Discussion

To balance environmental, social and economic factors it is sometimes necessary to allow existing permittees an interim period before complying with contemporary standards. The approach taken by the Board in dealing with Boyer has been innovative for Tasmania and is significant nationally. The company's ERA has provided a sophisticated model of the receiving environment that allows environmental management to be tailored to the specifics of the Derwent Estuary. During the time until the end of 2006, the company has the flexibility to make environmental investment decisions that align with the financial cycle of the mill. However, the challenge for the Board of Environmental Management and Pollution Control lies in setting the optimal deadline. In other words, the company needs adequate time to identify innovative and affordable processes while not having excessive time that would confer a right to pollute beyond what can practically be achieved.

Enforcement strategies

3 ENFORCEMENT STRATEGIES

There is an appropriate mix of enforcement strategies used to improve compliance with permit conditions, relevant legislation and Environment Division directions.

3.1 - TRIGGERS FOR ENFORCEMENT ACTION

EMPCA provide the legislative basis for enforcement action through the following options:

- Environmental Protection Notices;
- Environmental Infringement Notices;
- Civil enforcement; and
- Prosecution.

No policy on selection of enforcement actions

Under this framework Environment Division has the capacity to respond flexibly depending on the circumstances surrounding a particular issue. However, Environment Division does not have a written enforcement policy to guide the selection of a particular course of action nor has it formally identified triggers that will lead to enforcement action. Management has identified the need for an enforcement policy while noting from interstate experience that such a policy cannot be prescriptive nor limit its powers under the Act.

Our view is that a written policy would assume that triggers result in high-level consideration of the need for enforcement rather than an automatic response.

Recommendation 10

A policy should be produced to provide a basis for appropriate and transparent selection of enforcement actions.

Recommendation 11

Guidelines should also be developed to ensure that particular enforcement actions are correctly and consistently applied.

3.2 - DETERMINING EFFECTIVE RESPONSE

As stated above, there are no formal guidelines for determining the most effective strategic response. Rather, the response is guided by the convention that Environment Division determines the response after considering the nature of the breach as well as the previous history of the permittee. Premises files are used to record enforcement action with file notes and correspondence providing an overview of the breach/incident.

Incomplete record of enforcement activity on premises files

Where an infringement notice was issued, generally a copy of the form was not held on the premises file. Verification of an infringement notice required reference to the separate database maintained for these notices by Environment Division's Executive Officer. To ensure that inspecting officers are fully informed all decisions relating to enforcement actions should be available on file. If an integrated management information system were implemented a full enforcement history would be available on line.

Recommendation 12

Copies of infringement notices issued should be kept on the relevant premises file to provide a complete picture of enforcement action.

3.2.1 Analysis of environmental protection notices issued

Despite the inference that can be drawn from the name, environmental protection notices (EPNs) are not always applied punitively. For instance, EPNs can be used to vary the conditions of a permit (whether the change is initiated by the Division or the permittee) and they are *de facto* permits in regulating controlled waste businesses.

Environment Division issued 40 environmental protection notices during 2001 but 17 were issued to non-level 2 activities and as such fall outside the scope of the audit. Of the 23 EPNs that were issued to level 2 premises 7 were in relation to environmental harm and these are listed in table 2 below.

Table 2: Environmental Protection Notices issued in 2001 - EMPCA sec 44(1a & b)

Issued to	Date	Industry	Grounds
Sec 44(1a) 'environmental harm is being caused or is likely to be caused'			
King Island Council	15/01/01	Quarry	To wind up activity ASAP
Oceania Tas	19/03/01	Mining	Acid drainage
Duke Energy (Tas) Holdings	21/08/01	Gas pipeline	Sec 27 requirement for EPN
Seabrook Holdings	21/08/01	Waste depot	Possible env. harm
King Island Council	15/10/01	Quarry	Amended mining plan
M F Best	30/10/01	Wood preservation	Possible env. harm

Issued to	Date	Industry	Grounds
Sec 44(1b) 'environmental harm has occurred and remediation ... is required'			
Neale Edwards Trading	6/03/01	Skin drying	Soil contamination

The remaining 16 EPNs came under section 44(1d) - i.e. 'desirable to alter the conditions of a permit' – and were mainly triggered by changes in the way that operators conducted the activity. These EPNs imposed a total of 87 new permit conditions while varying 91 existing permit conditions.

3.2.2 Analysis of environmental infringement notices (EINs) issued

Regulations empower the Environment Division to issue EINs for a range of offences up to a maximum of \$1 000. During 2001, Environment Division issued 12 EINs to level 2 premises for offences committed during that year. Details are provided below in Table 3.

Table 3: Environmental Infringement Notices issued in 2001

Issued to	Date	Industry	Grounds	Fine
Toll Transport Pty Ltd	22-Feb-01	Transport	Contravening a requirement of an EPN	\$500
Dorset Council	2-Mar-01	WWTP	Nuisance - emit solid, liquid or gaseous pollutant	\$500
Circular Head Council	14-Mar-01	WWTP	Nuisance - emit pollutant in water	\$500
NW Rendering P/L	21-Mar-01	Rendering works	Nuisance - emit solid, liquid or gaseous pollutant	\$500
Peter Johnson Earthmoving P/L	30-Apr-01	Earthmoving	Contravening a requirement of an EPN	\$500
King Island Council	17-May-01	Quarry	Contravening a requirement of an EPN	\$500
Classic Foods Pty Ltd	31-May-01	Food Processor	Fail to notify Director of emergency, accident etc.	\$1,000
Classic Foods Pty Ltd	31-May-01	Food Processor	Nuisance - emit solid, liquid or gaseous pollutant	\$500
Classic Foods Pty Ltd	31-May-01	Food Processor	Fail to notify Director of emergency, accident etc.	\$1,000
Classic Foods Pty Ltd	31-May-01	Food Processor	Nuisance - emit solid, liquid or gaseous pollutant	\$500
Gunns Ltd	5-Jul-01	Timber processor	Contravening a requirement of an EPN	\$500
Simplot Australia P/L	5-Oct-01	Food Processor	Nuisance - emit solid, liquid or gaseous pollutant	\$500

3.3 - PROSECUTIONS

No guidelines on prosecutions

Environment Division has no written guidelines as to how prosecution should be used as an enforcement strategy. Instead, it maintains the view that cases tend to self-select when assessed against the particulars of the breach. To date, the major determinant has been the degree of environmental harm or risk associated with the breach. As an example, the sulphur tri-oxide emission from Pasminco in 1997 - that received considerable media coverage - was on a large scale and had the potential to affect a substantial residential area and appeared to clearly merit prosecution.

Other factors that influenced the decision to prosecute were actions of the permittee in the time:

- Leading up to the breach (e.g. negligence or disregard); and
- After the breach occurred and how it was subsequently handled (whether quickly reported, ignored or concealed).

Difficulties of prosecutions

Although prosecution appears to be the *ne plus ultra* of enforcement tools available to the Division it does add complications. There are three factors that detract from its effectiveness - relatively lenient judgments, delays in the legal process and resourcing issues in the Division.

First, from Table 4 it can be noted that all cases pursued by Environment Division were successful - at least in the sense that the court upheld the prosecutions. However, in terms of the potential penalties available under *EMPCA* the sentences awarded to date have been at the lower end of the scale and could appear lenient when compared to the maxima prescribed.

Possible offences under *EMPCA*

This apparent leniency of the courts can in part be traced to *EMPCA* itself. An uncertainty that the Environment Division faces in deciding to prosecute is that offenders can be charged either under sections 50, 51 or 53 of the Act. Sections 50 and 51 relate to serious or material environmental harm respectively. Section 53 covers the lesser offence of environmental nuisance. The penalties for the sections 50 and 51 are much higher (for corporate bodies \$1 000 000 / \$250 000) but the burden of proof is commensurately more difficult. Section 53 carries a maximum penalty of \$10 000. The decision as to which section of the Act is more appropriate lies with the Director of Public Prosecutions. The Director's deliberations are influenced by the circumstances of the case with particular emphasis on the evidence that the Division could present. In imposing sentences, courts are obliged to take many factors into consideration, including precedents, and the defendant's previous offences.

Table 4: Prosecutions under *Environmental Management and Pollution Control Act 1994*

Offender	Offence	Nature of offence	Date of Offence	Plea	Court Date	Days elapsed	Penalty
Break O'Day Council	Causing material harm & failure to notify (Sec 51(1) and 33(1))	Discharge from WWTP	23-May-96	Guilty	19-Aug-97	453	\$30 000 plus \$8 300 costs
Private citizen	Environmental nuisance (Sec 53(2))	Dump waste oil on reserve	31-Jan-98	Guilty	08-Jul-98	158	\$2 500
Tasmania Mines Ltd	Causing environmental nuisance & failure to notify (Sec 53(2) and 32(2))	Discharge from ponds into river	06-Dec-97	Guilty	28-Apr-99	508	\$3 500 and \$1 000
Toll Transport P/L	Causing material harm (Sec 51(2))	Release of chlorine gas	08-May-98	Guilty	19-Nov-99	560	\$12 000
Pasminco Australia Ltd	Unlawfully cause environmental nuisance (Sec 53(2))	Release of sulphur tri-oxide gas	19-May-97	Not guilty	30-Jun-00	1138	\$3 000
Starwood Australia P/L	Unlawfully cause environmental nuisance (Sec 53(2))	Emit wood fibre dust	08-Jul-00	Guilty	10-Sep-01	429	\$3 500

Long lead times

A second disincentive to prosecution is the delay in the legal process. From Table 3 it can be noted that for each case where there was a plea of guilty on average almost 14 months transpired from the date of the offence until a sentence was handed down. For the single 'not guilty' case the time span exceeded three years. The more time that passes between the incident and the imposition of a sentence the less the impact of the punishment.

Finally, the level of resources that are required to mount a prosecution is another disincentive for the Environment Division. Gathering

Competing calls on resources

physical evidence, arranging tests or analyses, obtaining statements from witnesses, etc. are activities that tie up staff and divert them from their usual tasks. Consequently, there are backlogs or bottlenecks in the day-to-day functions associated with environmental management and pollution control. The only costs that are recoverable from offenders are those connected with taking samples or conducting analyses. Administrative costs have to be carried by the Division and these can be considerable. A conservative estimate of the cost of 'lost time' connected with the first case prosecuted was approximately \$43 000. In addition to the administrative time consumed by prosecutions there is the added burden of legal costs through engaging counsel.

Incidents have occurred where there is pressure for the Environment Division to prosecute offenders for causing environmental harm or nuisance. However, lenient judgments, court delays and conflicting calls on resource utilisation limit the Division's choice in using prosecution as an enforcement tool.

Recommendation 13

Guidelines should be produced to ensure that the most effective possible use is made of prosecution.

Case study 2 illustrates the way in which Environment Division handles prosecutions.

Case study 2 – Prosecution - Starwood Australia Pty Ltd: George Town fibreboard plant

Background

Starwood Australia operates a medium density fibreboard plant at Bell Bay. Medium density fibreboard is manufactured from refined pine and/or eucalypt chips blended with synthetic resins. At the time of the incident the company held an environmental permit that had been modified by two subsequent environmental protection notices.

Early in the morning of 8 July 2000 a plant malfunction caused approximately 1.5 tonnes of wood fibres to be discharged into the atmosphere. Consequently, the material settled onto roads, gardens, houses and vehicles within a 1.2 kilometre radius in the township of George Town. Residents made complaints to Starwood and the Environment Division indicating a high level of public concern.

Investigation

Starwood advised Environment Division of the incident by telephone almost 5 hours afterwards – claiming not to be aware of the emission for some time itself – and followed up with a faxed incident report that same day. Officers later visited the plant to investigate, with emphasis on the chemical content of the resin used in binding the fibres, and a preliminary field report was prepared. Part of the report was a prosecution analysis that evaluated the consequence of breaches against the relevant section of *EMPCA* or permit conditions.

Conceivably, other enforcement tools could have been used at this point, for instance an environmental infringement notice could have been issued quite quickly, (although evidentiary standards would still have applied). Impetus to pursue the case came from the fact that two environmental infringement notices had been served on the company after the incident for other breaches.

In August, contact was made with the Director Of Public Prosecutions (DPP) to examine options for charges to be laid. The DPP advised what documentation would be needed to prepare a prosecution brief, necessitating a return visit to Starwood in October to interview staff and gather statements. The completed brief was returned to the DPP in late January 2001.

Prosecution case

Through the course of compiling the brief, Environment Division obtained expert evidence that concluded the nature and magnitude of the emission would not result in any acute or long-term health impact upon nearby residents. After reviewing this evidence, the DPP advised the Division in March that it could not be established beyond reasonable doubt that the emission had caused ‘serious environmental harm’ or even ‘material environmental harm’, offences that carry very high maximum penalties (\$1 million and \$250 000 respectively).

Accordingly, the only remaining option under the Act was ‘environmental nuisance’, an offence with a maximum penalty of \$10 000.

This situation illustrates one of the difficulties of pursuing a prosecution. Environment Division must commit substantial resources up front to subsequently discover that prosecution of the lesser offence is the only option and may not justify the resources already invested.

In March, the decision was made to proceed with the case and the extra evidence was forwarded to the DPP for prosecution. The case came to court in August and was adjourned. It was finally heard in the Launceston Court of Petty Sessions in September 2001 with the

company entering a plea of guilty. A fine of \$3 500 was imposed by the magistrate.

Discussion

The total elapsed time from the incident to the court hearing was over 14 months. It may have been possible to reduce this time through better management of the case but this would not have changed the result. Although there was no formal record of the amount of time that officers had expended investigating the incident and preparing a brief during that period, it was clearly a costly exercise. The maximum fine was \$10 000 but the DPP viewed the \$3 500 penalty as appropriate given that the defendant had no prior convictions.

It is possible to view prosecutions in purely financial terms but this would be misleading as they have effects that go beyond the level of the fine imposed. For a company there is the bad publicity and embarrassment of being convicted. In addition to the punitive aspect, there is a measure of deterrence through demonstrating to all permittees that a breach of permit conditions will be treated seriously. Finally, the use of prosecution shows Environment Division's willingness to apply stern measures to protect the environment from polluting activities.

Prosecution is not without its problems even in apparently straight-forward incidents. Despite this, there are cases where there is no alternative and broader outcomes – beyond a conviction and a fine – can be achieved.

3.4 - DOCUMENTATION OF ENFORCEMENT MEASURES TAKEN

No mechanism to measure effectiveness of various enforcement tools

Data on the success or otherwise of enforcement strategies was available but not from a single centralised source. In addition to the documents kept on premises files, separate databases exist for environmental infringement notices, environmental protection notices and controlled waste transport. Prosecutions are also treated separately. The lack of an integrated data management system (i.e. use of separate premises files) makes it difficult to measure the effectiveness of the enforcement strategies used by the Division. There was no evidence that the various strategies were compared or systematically reviewed to ascertain their effectiveness

Recommendation 14

As recommended previously, data on enforcement activities should be available from one central management information system.

3.5 - PUBLICATION OF ENFORCEMENT MEASURES TAKEN

As mentioned previously in this report, the OECD view is that an otherwise sound permitting system will be inefficient if it lacks public involvement. Currently, the DPIWE annual report only gives very brief details of enforcement activities during the preceding year. Table 5 is reproduced from the DPIWE 2000 - 2001 Annual Report and shows the limited detail currently published.

Table 5: Environmental Management Effort 2000–01 (extracted from DPIWE Annual Report)

No of environment protection notices issued	59
No of environmental management plans reviewed	47
No of permits reviewed	47
No of complaints dealt with	1100
No of incidents attended	191
No of inspections undertaken.	258
No of prosecutions	1
No of infringement notices issued	26

Public information on enforcement activities is scant

The Division's viewpoint is that information on enforcement activities is available to the public through freedom of information (FOI). While this is true it does amount to filtering information that is in the public domain since FOI applications take time and money. The paucity of information has been criticised as noted by the following article that appeared in the trade journal *'Environmental Manager: The independent, weekly newsletter on industry and the environment'* in issue number 327, in January 2001.

'TAS REPORT SILENT ON ENFORCEMENT

Anyone looking for information on enforcement activity in Tasmania in 1999 - 2000 won't find it in the agency's annual report. The only performance indicator in the 'environmental management and pollution control' section is median time taken to complete environmental assessments - which blew out from 64 days to 100. There is no reference to the two prosecutions completed (the \$12 000 penalty imposed on Toll Transport and Pasmenco's \$3 000 fine. Nor is there

any reference to the seven environmental infringement notices issued during the year (four of them to councils).'

As noted in Case Study 2, it is useful to publicise enforcement action to maximise its effectiveness. Negative publicity is a deterrent to repeat offenders as well as signalling to all permittees Environment Division's preparedness to use its powers.

Recommendation 15

Information in relation to enforcement actions should be publicly reported in enough detail so that the public involvement in environmental management is made easier.

Pollution reduction

4 POLLUTION REDUCTION

Pollution reduction schemes and/or mechanisms undertaken by level 2 activities successfully reduce the levels of discharge into the air, water or land of substances likely to cause environmental harm.

4.1 - TYPES OF SCHEMES

What schemes can offer to business

Permitting systems exist to ensure that pollution from industrial facilities is kept to the lowest practicable levels. However, permits are just one approach to the problem and the Environment Division has other schemes that target pollution reduction outside the permitting framework. This section of the report examines these other schemes.

Generally, the participation of companies in pollution reduction schemes outside the permitting system is voluntary and the Environment Division's role is to facilitate or supply information. As well as providing a marketing edge by promoting an environmentally responsible image, other benefits make these schemes attractive to companies. Cost savings are a frequent benefit and participation in pollution reduction schemes can help by minimising wastes, reducing raw material and lowering energy costs.

Frequently, schemes target waste reduction and reflect the Government's commitment to reduce wastes going to landfill by 50% (based on 1990 levels) by the year 2005. Strategies for waste management are ranked in the following hierarchy:

- Waste avoidance;
- Waste re-use;
- Recycling/reclamation;
- Waste treatment to reduce potentially degrading impact; and
- Waste disposal.

Schemes identified to reduce pollution (that are not directly related to industrial permitting) include the following:

- 1 Tasmanian Waste Exchange (TWEX) is an on-line catalogue of 'available' and 'wanted' waste materials. It works on the principle that an unwanted waste from one business may be a raw material for another. Successes have been achieved through TWEX and these are reported on the website.
- 2 Cleaner Production, a concept from the United Nations Environment Program, is a preventive strategy that aims to increase overall industrial efficiency and reduce risks to the

environment. To date, one major industry has achieved a notable success although Environment Division regards the program as being in its infancy. There are plans to extend this program in the 2002 - 2003 business plan.

- 3 Re-use of waste water from waste water treatment plants lowers the demand on drinking water and also reduces discharges to rivers and streams. Environment categorises the water according to the level of treatment that has been used. At the bottom of the scale, class 'C' is suitable for agricultural uses in the non-human food chain (e.g. forestry), while 'A' is safe to irrigate crops consumed raw.

4.2 - COVERAGE

The Environment Division has ensured that pollutants from level 2 activities are captured by permit conditions or other pollution reduction mechanisms. It has used a risk-based approach to determine where to place the emphasis in pollution reduction activities. This concentrated on the major problem areas while also considering the sensitivity of the receiving environment.

4.3 - EFFECTIVENESS OF SCHEMES

The effectiveness of non-permit related pollution reduction schemes/mechanisms is gauged by a comparative 'before and after' appraisal. For schemes that aim to reduce wastes, the amount of wastes or pollutants that are diverted from disposal can be measured or estimated. For other schemes like cleaner production savings of raw materials, energy or pollutants are likewise assessed, usually by the company. One such example is Comalco's initiative with a conversion from a wet- to a dry-scrubbing process where the benefits were clearly identified.

TWEX

TWEX is controlled and coordinated by Environment Division so that data is collected during the process of bringing interested parties together. A database was used to manage waste exchanges from which performance information was obtained to measure the effectiveness of the system. Successful exchanges are listed on the web site. Resourcing issues have held TWEX back but these have been partially addressed.

Cleaner Production

Case-by-case assessment is available under this program. For instance, the amount of pollution reduced in the example referred to above is available from Environment Australia's web site where

specific case studies highlight the benefits obtained. To date, however, this program has had limited up take in Tasmania.

Emission Limit Guidelines

The emission limit guidelines for abattoirs and slaughterhouses have led to a marked improvement in terms of pollutants from this sector. According to the principles of accepted modern technology, the acceptable discharge of effluents was zero. Businesses now re-cycle their wastes or discharge them to waste water treatment plants in accordance with permitted levels. Environment Division regularly reviews data from WWTPs against pre-determined standards to allow for consistent measurement of pollutants discharged.

Derwent Estuary Program

In 1999, the Derwent Estuary Program (DEP) was established as a joint State, Local and Commonwealth Government initiative to restore and protect the Derwent Estuary. Stakeholders share a collective responsibility for the sustainable management of the Derwent Estuary. These stakeholders include state and local government as well as commerce, industry, other river users and the community. In consultation with this group the State Government and Councils have agreed to develop and implement an integrated EMP for the estuary, to plan, manage and maintain its intrinsic values and public uses. The program has a robust management structure that features vertical and horizontal integration built on the stakeholder linkages.

Recreational water quality in the Derwent has improved markedly since 1973 when monitoring was initiated. The DEP is building on this momentum through significant projects such as:

- Pasminco landfill secured and capped to prevent run-off - completed;
- Browns River restoration - completed;
- Councils' upgrading the WWTPs around the estuary – ongoing; and
- 35 community action groups that are involved in environmental projects (e.g. remediation and revegetation) around the estuary – ongoing.

4.4 - MONITORING AND REPORTING OUTCOMES

Public information regarding TWEX and Cleaner Production is available from DPIWE's web site directly or by links to related sites such as the Federal Government's 'Environment Australia'. However,

the information is somewhat limited and it was clear that there were more successes with TWEX than were reported on the web site. Environment Division produces coordinates an annual newsletter to report progress on the Derwent Estuary Program and it is available to the public.

Public access to individual monitoring results for permitted activities is available but only on request. Data at the enterprise-level is not routinely advised in public forums.

Tasmania, with other States and the Commonwealth, is a signatory to the National Environment Protection Measure to implement the National Pollutant Inventory (NPI). The NPI defines key pollutants in terms of environmental risk, and collects and publishes annually, information on the emission of these pollutants from both industrial and non-industrial sources.

Currently, Environment Division coordinates reporting data from Tasmanian industry on 36 pollutants, a range that will be expanded to 90 in July 2002. Reporting thresholds are set nationally for each NPI substance and an audit trail exists within Environment Division to confirm returns from industry. This validation process also enables the most recent return to be compared with NPI data advised in previous reporting periods.

NPI's website offers flexible reporting at State or enterprise level. Details of individual substances, – with background information, quantities and estimation techniques – are available for the most recent reporting year as well as previous years.

Responses to pollution incidents

5 RESPONSES TO POLLUTION INCIDENTS

Environment Division investigates pollution incidents and investigations result in improvements in controls.

5.1 - NOTIFICATION AND INVESTIGATION OF INCIDENTS

The general ('G') set of conditions that is included in all permits contains a section dealing with the notification of incidents. This defines what an incident is and states that:

- immediate action must be taken to minimise effects of the incident;
- the Director must be notified within 24 hours (using the 24-hour 1-800 number); and
- details of the incident are to be provided to the Director within 24 hours outlining the circumstances of the incident and action taken to deal with it.

To support a 24-hour contact for industry or members of the public a 1-800 telephone number has been set up. During business hours, this is switched to the Division and out-of-hours the calls are attended to by an Environment Division officer.

Mechanism to log incidents and complaints

The Environment Division has had a document to guide staff in the handling of incidents since 1997. The procedures that are used to manage and record pollution incidents were formulated on the basis that the records are subject to subpoena and could be used in prosecutions under *EMPCA*. Similarly, records could be obtained under FOI or be requested by the Ombudsman. Complaints and incidents are given a high priority and new staff are briefed on procedures. All complaints/incidents are logged into a separate database that allows flexible reporting including the tracking of individual incidents or monitoring of permittees.

Where permittees notify incidents they must be followed up by a report as stipulated by the permit conditions. For complaints or notifications from other sources the level of response is determined by the nature and seriousness of the incident.

Some incidents have the potential to be a hazard to human health and in such cases Environment Division relies on an incident communications protocol issued in July 2001. This document details the aim, scope and response procedures to be followed in notifying local government, Department of Health and Human Services or other DPIWE staff when these incidents occur.

The Environment Division has shown itself to be responsive to incidents. However, satisfactory outcomes are not always easy to achieve and issues that surround incidents and complaints can sometimes make solutions difficult. Case study 3 outlines one such example.

Case study 3 – Complaint - Blue Ribbon Meat Products: Launceston rendering plant

Background

The proximity of the rendering plant to residential areas appeared to be a major element of the complaint history. Many of the complaints received by Environment Division had first been made to the Launceston City Council but as the business is scheduled as a level 2 under *EMPCA* they were referred on to DPIWE. The majority of complainants lived to the south of the site in a part of the suburb of Norwood that was settled well after the factory was established. Slightly elevated and projecting out into the river, the area is especially vulnerable to odours borne by winds blown from the direction of the Killafaddy works. The situation was exacerbated by the topography of the surrounding countryside that consists of hills and ridges that tend to direct breezes downstream and prevent them from dissipating.

In addition to the abattoirs and rendering works the Killafaddy site also contains an area of paddocks where livestock have traditionally been held prior to slaughtering and processing. An accumulation of animal faeces in the paddocks further contributes to the melange of unwholesome odours.

Complaints

From the incidents database a detailed record of complaints/incidents from July 1995 until March 2001 was reviewed in respect of Blue Ribbon Meat Products' rendering plant in the Launceston suburbs. During that period 54 records were noted with 49 of them relating to odours emanating from the plant. Over a three-year period from March 1998 complaints were received from 15 residents (three people accounting for 24 separate complaints) in the vicinity. Environment Division staff acted on these complaints as can be confirmed from notes contained in the printout extracted from the database.

Not all complaints could be satisfactorily resolved and some were noted in the database with comments such as 'source of the odour was not established'. On at least one occasion it was possible that another explanation existed, e.g. problems with the Hoblers Bridge sewage

treatment plant. Contact between Environment Division staff and the company showed that there was sometimes no explanation to be found in the plant's operations since there seemed to be no correlation of complaint times and cooking activities at the factory. Frequently, changes in wind direction or force were cited as possible reasons for the disturbance to residents. Rather than causing the problem, the changes in weather conditions seem to have just aggravated the existing situation. It seems clear that what the plant's technical staff regarded as 'general operating odours' were responsible for the residents' complaints.

During this period (i.e. early 1999), Environment Division was seeking a systemic improvement in the plant's performance and the company was undertaking an EMP review. One of the aims of the review was remediating the odour problem that had become well documented at this stage. The daily scheduling of the company's operations formed part of the review as this was a factor that could worsen the situation for complainants.

Discussion

The problems posed by Blue Ribbon Meat Products illustrate the difficulties of balancing industrial development and economic wellbeing with environmental management. It is a case that is complicated by significant factors and these have to be taken into account when considering Environment Division's performance in handling the complaints caused by this level 2 activity.

The facility is located close by residential areas and it is likely that under the present day RMPS such a level 2 activity would only be approved with stricter permit conditions than those that were currently applied. It appeared that the company was in a period of decline for some time and its financial position restricted its ability to fund re-engineered processes let alone upgraded technology. The economics of the situation also have a political dimension or at least potentially. The sustainable development objectives of *EMPCA* oblige the Division to consider the social and economic ramifications of its actions. The fall-out that would result from Environment Division pressing its powers under the Act and compelling a company to spend money that resulted in job losses or plant closure effectively restricts its room to move.

Nonetheless, Environment Division responded to the complaints of residents and reported back to them regarding information obtained following inquiries. Ongoing improvement was pursued through revised EMPs that were backed by changed permit conditions. However, the pace of technological upgrading was limited by the company's financial position. It was likely that future gains in

environmental performance would be on a ‘diminishing returns’ basis, so that increasingly large sums would need to be expended to secure decreasing benefits. As to whether these measures made the situation of the residents any less stressful is open to conjecture.

At the time of preparing this report, the plant was closed due to the business going into receivership. It may well be re-started by a new operator in which event the difficulties faced by residents of Norwood could flare up again, at least until tighter permit conditions could be agreed between Environment Division and the new management.

5.2 - SYSTEMIC CHANGE

The remedial action that Environment Division requires as a result of incident investigations is influenced by the permit conditions applied to the permittee’s operations. Depending on the circumstances involved (i.e. whether permit conditions need to be modified) investigation of incidents could trigger changes to the permits of similar businesses.

Lack of integrated database

However, Environment Division’s ability to review permits systemically is made difficult by the previously cited lack of an integrated data management system. Information is confined to the premises file rather than being available from an integrated database. Ready access to the permits for an industry sector would improve the likelihood of implementing systemic change where it appears necessary.

Recommendation 16

As recommended above, an integrated management information system should be created to capture data about incident responses to allow systemic issues to be more easily identified.

Performance monitoring

6 PERFORMANCE MONITORING

Environment Division uses targets to assess performance.

6.1 - CORPORATE PLAN

The DPIWE Corporate Plan for 2000 – 2003 was examined so far as it related to activities affecting Environment Division. Improvements or further program developments were established in five key areas, namely:

- Water;
- Air;
- Waste management;
- Improved environmental management; and
- Greenhouse strategy.

Targets defined

Within each of these targeted areas individual activities or items were listed that were quantifiable and lent themselves to straightforward evaluation. For example, numbers were specified for sewage treatment lagoons that would meet the Department's standards or for percentage reductions in the volume of waste going into landfills.

Not all priorities were capable of numeric assessment and functions such as 'review', 'develop and implement' and 'progress and promote' were more open-ended. However, even with these more abstract activities there were methods of determining the extent to which they are fulfilled.

In early January 2002, as part of a regular cycle of evaluation, a status report on plan activities in the preceding period was requested by DPIWE's corporate planning section. The various objectives in the plan had been assigned differing dates of effect so that not all of them fell due in any particular reporting period.

We made an assessment of the corporate plan against the checklist provided by Treasury in its guideline on '*Performance Information for Management and Accountability*' (see Table 5 below).

DPIWE's corporate planning process met Treasury requirements for performance information.

Table 5: Evaluation of Environment Division's corporate plan against Treasury guidelines

Criteria	Finding
Are the measures useable?	The measures were clearly defined and actively sponsored by executive management. They appeared to be a cost-effective and feasible.
Is there a basis of comparison for each measure?	Using the plan it is possible to determine the extent to which the agency achieves its strategic targets over time.
Are the measures of the appropriate quality?	The measures appear to flow logically from the stated priorities.
Are the Output measures adequate?	The agency can monitor the provision of the Output at each level of decision-making and account for what has been achieved. Also, the measures provide information for identifying where improvements can be made.

6.2 - ENVIRONMENT DIVISION - BUSINESS PLAN

Like the other divisions of DPIWE, Environment Division produces an annual business plan. As with the corporate plan we sought to ascertain the extent to which performance indicators (PIs) formed part of that process.

The business plan had an action list that spanned Environment Division's entire range of operations not just those activities covered by the corporate plan. Different objectives appeared on the list because it covered not just new or developmental work. In addition to these functions, there was ongoing work such as monitoring reports from industry, assessing EMPs and administrative functions.

Although the level of detail in the business plan was impressive (some 77 items across 8 action lists) the amount of time that staff actually dedicate to one task or another was not recorded or reported by an activity-based accounting system. Rather, the action list was used as a resource-estimating tool that formalised Environment Division's forward work program for each of its sections.

Measurement of activities not coordinated

Performance measures not developed

Performance measures were discussed in the business plan and 10 were put forward with the notation that 'the Division will consider developing systems to internally assess performance'. However, an obstacle to the implementation of these PIs was the problem of collating the requisite data.

As mentioned previously in this report, ELMS is not adequate for the task and although the raw data is available from a variety of sources in the Division, it is not an easy matter to bring it together.

Management acknowledged that the small stand-alone systems improvised by staff do have a down side even though they meet an otherwise unfulfilled need. One problem is that the department's Corporate Information Technology branch will not support these systems because they were developed without its input. A related issue is the lack of systems documentation that makes such programs vulnerable to the loss of their developers who possess vital knowledge.

In the absence of an integrated management information system, the Division's performance is assessed by informal verbal reports that are communicated to management through a number of tiered regular meetings. The GM participates in the Executive Management Group and passes information back down the line to branch heads in a forum known as EPEX. These managers in turn convey relevant matters from the GM while also getting performance information from section heads who manage their respective units. At the bottom level sectional heads meet with their staff, giving and receiving information.

Although corporate goals are managed through the business plan (with regular updates on performance fed back to the corporate area), day-to-day functions are reported informally with very limited use of PIs.

Recommendation 17

An integrated management information system should be established to allow performance information to be easily compiled to aid management of the Division's activities.

Audit opinion

AUDIT OPINION

Environment Division is committed to a system of environmental management that delivers continuous improvement through ongoing and dynamic processes. It is responsible for developing environmental quality objectives and establishing policies and guidelines to support them. The permitting system is one part of this responsibility and it moves forward through the refinement of permit conditions that reflect the evolving environmental standards.

Environment Division's effectiveness is compromised by fragmented management information systems that make it difficult to achieve a strategic focus. The existence of separate databases is inefficient in terms of providing integrated information and the level of resources needed to support them.

Documentation in respect of compliance and enforcement activities is not always adequate to address the requirements of accountability and transparency.

Permitting

Level 2 activities are captured through the State's land use planning system and controlled by permit conditions that substantially reflect environmental best practice. Environment Division has been flexible in working with industry when assessing proposals that entail innovative technologies. However, the effectiveness of management could be improved by developing an integrated database.

Compliance activities

Compliance activities are undertaken and are recorded on files and local databases but there is a lack of integration of the data obtained. If rectified this would facilitate identification of systematic issues. There are no guidelines for the review of monitoring reports and oversight of the function was not evident. Public reporting of compliance activities could be expanded.

Enforcement strategies

Environment Division uses the range of enforcement tools that are available. However, there are no guidelines to aid in the selection of appropriate enforcement strategies. Further, assessing their effectiveness is hampered by the lack of an integrated management information system. Public reporting of enforcement actions could be expanded.

Pollution reduction

Environment Division is achieving and promoting pollution reduction through the permitting system. Additionally, there are programs that are promoted as incentives for industry and that recognise best practice.

Responses to incidents

Sound mechanisms are in place to respond to incidents and complaints. While the current arrangements provide for feedback to the development and review of permit conditions, an integrated management information system would assist in the identification of systemic issues.

Performance monitoring

At the departmental planning level the degree of performance monitoring is satisfactory. However, the Environment Division's business plan does not yet have performance indicators to allow measurement of its effectiveness.

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