

Impact Statement

Draft National Environment Protection Measure for the National Pollutant Inventory

Draft as at 12/06/97

EXECUTIVE SUMMARY

Background

The National Environment Protection Council (NEPC) stems from the Special Premiers' Conference held in October 1990. At this conference the Prime Minister, Premiers and Chief Ministers agreed to develop an Intergovernmental Agreement on the Environment (IGAE), which came into effect on 1 May 1992. NEPC was foreshadowed in Schedule 4 of the IGAE and was established by the NEPC Act 1994.

The NEPC has two primary functions:

- to make National Environment Protection Measures (Measures)
- to assess and report on their implementation and effectiveness in participating jurisdictions.

Measures are broad framework-setting statutory instruments defined in NEPC legislation. They outline agreed national objectives for protecting particular aspects of the environment.

Public consultation is an important part of the development of NEPMs. In particular, the NEPC Acts include a two month consultation period. This includes the release of a draft Measure for public comment.

The key role of this impact statement is to assist in the process of public consultation over the proposals contained in the draft Measure for the NPI. This impact statement has been designed to provide a plain-English explanation of the content and intent of the draft Measure, and to explain the anticipated impacts of implementing that Measure. The impact statement provides a clear and easy to follow explanation of the costs and benefits anticipated, noting which sectors of the Australian community will be affected.

National Pollutant Inventory

The objective of the NPI is to provide improved information on emissions entering the Australian environment to assist better environmental management by government, industry and the community. The NPI should detail the types and volumes of pollutants entering different areas of the environment, it should demonstrate trends in these emissions, and it should highlight areas where data gaps currently exist. This improved information will enable attention to be focused on the environmental priorities associated with reducing emissions to the environment, ideally leading to improvements in the Australian environment.

The NPI will:

- provide information to enhance and facilitate policy formulation and decision making for environmental planning and management,
- satisfy community needs by providing publicly accessible and available information on a geographic basis, about specified emissions being released to the environment, especially those of a hazardous nature or involving significant impact, and

- promote and facilitate waste minimisation and cleaner production programmes for industry, government and the community.

Core elements of the NPI considered in the draft Measure to achieve these objectives and desired environmental outcomes include:

- a list of substances or pollutants and a process for amending that list,
- a method for determining when a facility will report directly (a reporting threshold) and, where appropriate, emissions will be estimated by government,
- methods for collecting the data from facilities and for estimating diffuse sources (such as motor vehicles),
- processes to ensure reporting and to identify commercial-in-confidence issues, and
- community access to the information.

The draft Measure

Commencement

The Measure will commence on the date notified in the Government Gazette. The first reporting year is to commence on 1 July after gazettal. Over the first twelve months of the Measure's operation jurisdictions have the option of collecting data from those reporting facilities which are already subject to environmental licensing.

Transitional Provisions

A twelve month phase in period will allow cost-effective systems to be put in place so that industry and government can fulfil their NPI obligations. The draft Measure also proposes a phase in of the reporting list over two years based on the priority ranking of the substance prepared by the Technical Advisory Panel.

Substances and thresholds prescribed for reporting purposes

Substances on which it is proposed to report have been determined through scientific review by a Technical Advisory Panel which was appointed for this task by the NEPC Committee. The Panel has recommended to NEPC a list of substances for which emissions should be reported. The reporting list is not intended to be static, and substances will be added and subtracted as environmental priorities and knowledge change and as resources permit in line with agreed criteria. Agricultural and veterinary chemicals are not included on the reporting list at this stage and this issue will be the subject of further discussion.

Goals

The Goal of the draft Measure states the desired environmental outcomes. The key Goal of the draft Measure is to maintain and improve environmental quality, reduce the release of hazardous wastes to the environment and increase re-use and recycling of resources through the implementation of a NPI.

The Goal anticipates that the NPI will provide information to allow and promote more effective policy development and decision making for environment management and planning.

Protocols

Collection of data from reporting facilities

This protocol creates requirements for:

- facilities to report transfers and emissions of substances at or above the threshold levels nominated in the reporting list, and
- all jurisdictions to ensure that NPI information is collected from reporting facilities.

Developing and implementing systems to collect NPI information will impose different costs in each jurisdiction dependent upon the way that jurisdiction implements reporting and information collection requirements. The Commonwealth will initially bear a significant component of the cost of implementing the programme to ensure that NPI data is able to be collected and validated by all jurisdictions. It is expected that the total reporting costs for all facilities which are required to report under this protocol will be approximately \$5.6 million in the first year and \$5 million in each subsequent year. The collection and collation of information from reporting facilities is expected to cost approximately \$1.3 million per annum.

Discretion of jurisdictions to require other facilities to report

This protocol provides for the acquisition of NPI reports from other non-reporting facilities at a jurisdiction's discretion. The reporting costs will be borne by the facility required to report under this protocol. The nominated agency in each jurisdiction will face higher information collection costs if additional facilities are required to report.

Emission estimation techniques

This protocol will help ensure that estimates of emissions from reporting facilities are either based on an agreed estimation technique or another technique which will provide more accurate estimates. Estimation costs will be borne by reporting facilities. Assistance will be provided through guidance documents which will be developed to help facilities estimate their emissions. Reporting facilities will be encouraged to use the most accurate and appropriate estimation technique possible.

Additional information supplied by jurisdictions

This protocol requires the collection of additional data to ensure complete and accurate information is available on the NPI database. Costs incurred by jurisdictions to collect this data are expected to decrease as expertise is gained and the information set becomes more complete.

Validation of reported data

This protocol ensures that data collected for the NPI database is validated by jurisdictions. A process will be put in place which balances the cost to jurisdictions of the validation exercise while ensuring the accuracy of the database is maintained. Validation obligations

will be shared equitably as far as possible between jurisdictions. Further discussion between jurisdictions is necessary to clarify obligations or necessary requirements for validation of data.

Information from reporting facilities supplied to the Commonwealth

This protocol provides for the transfer of NPI information on reporting facilities from States and Territories to the Commonwealth in an agreed format. Costs associated with information transfer are expected to be minor.

Estimation of aggregated emissions other than from reporting facilities

This protocol requires States and Territories to estimate diffuse or point source emissions of substances that will not be reported to the NPI by reporting facilities. This will provide a better picture of emissions to the environment from all sources. Jurisdictions shall develop or contract out the development of processes which will enable the estimation of substances. It may be that jurisdictions will agree to share reporting tasks by developing national processes for estimating emissions of particular substances.

Estimation is expected to be resource intensive and will be undertaken on a rolling basis as agreed by jurisdictions. Initial estimation costs will be approximately \$1.2 million based upon first being able to apply existing methodologies. Further development of models to produce better estimates will be considered as regions which would substantially benefit from this effort are identified.

Information on aggregated emissions supplied to the Commonwealth

This protocol provides for the transfer of NPI information on aggregated emissions from States and Territories to the Commonwealth in an agreed format by 31 October each year. Costs associated with information transfer are expected to be minor.

Additional information supplied to the Commonwealth

This protocol allows for the voluntary provision of information for inclusion in the NPI which is not actually required under the draft Measure but which States and Territories consider will help the public understand the environmental impacts of emissions. Costs associated with information transfer are expected to be minor.

Guidelines

The NEPC Act outlines a process for amending Measures. The process below provides further guidance relevant to the NPI Measure, such as amending the reporting list.

Amending the reporting list

The reporting list will be reviewed every two years to ensure that it remains up to date with scientific knowledge and environmental concerns. Nominations proposing amendments to the reporting list will be able to be made by any member of the community. The major costs will be borne by NEPC which will fund the review process and any amendment of the Measure necessary to implement the recommendations of the review. Other stakeholders will bear costs in participating in that process.

Confidentiality

This guideline provides some guidance to jurisdictions in addressing claims from facilities that information should be confidential for commercial or national security reasons. National security claims for confidentiality will be assessed by the Commonwealth. This section provides guidance for jurisdictions in applying their own legislative framework for treatment of confidential information.

Enforcement provisions

A range of enforcement options may be adopted by each jurisdiction for non-reporting of information requirements under the NPI. It is envisaged that the most common form of enforcement may be the naming of non-reporting facilities in annual reports regarding the implementation of the Measure. This action is expected to lead to community pressure on those facilities to comply with their reporting requirements.

Over the first twelve months of the Measure's operation, it is envisaged that no penalties are likely to be applied for failure to report or provision of false or misleading information. The issue of enforcement and how it should mesh with other environment protection legislation will benefit from further discussion in the consultation phase.

Legal status of data supplied to the National Pollutant Inventory

This guideline states the intention that data used solely for NPI reporting purposes will not be used as evidence in court of a breach of other environment protection legislation within a jurisdiction.

Security of data

Governments will ensure that the NPI data is managed in a secure fashion so that information is not able to be taken from the NPI database by external parties until the data is in a suitable and non-confidential form.

Access and provision of National Pollutant Inventory data to the public

The Commonwealth will ensure public access to the NPI data. The NPI will influence the way in which the community perceives the environment. Contextual information will help the community assess NPI information in an informed manner.

Guidance for collecting data from reporting facilities

This guideline provides a proforma format as one possible option which States and Territories may be able to adopt to streamline information collection from reporting facilities. This guideline does not preclude the development and use of alternative information collection systems.

Rights of third parties

Third party rights for the National Pollutant Inventory will be subject to regimes existing in participating jurisdictions. This issue will be relevant where a third party wishes to

dispute a decision of the Council or where a third party does not believe that a jurisdiction is requiring reporting from a facility which should be making a report under NPI requirements.

Implementation

A cooperative Commonwealth-State/Territory approach to the NPI is envisaged so that the NPI will be implemented by jurisdictions. It is currently envisaged that all jurisdictions will need to collect and collate data which would be further collated and disseminated by the Commonwealth.

Jurisdictions will need to consider implementation issues associated with both requirements set by the Measure and aspects of the NPI which may fall outside of the ambit of the NEPC process. The NPI will therefore be realised by the combined effect of the requirements set by both the Measure and the inter governmental agreement. In terms of the public interface, there will be no distinction between information provided by the Measure and that provided through external mechanisms.

Options to manage the development of the Measure will be considered and recommendations submitted to NEPC from the Commonwealth-State/Territory Management Options Working Group.

Consultation

The information on requirements and process for the NPI as outlined above is subject to change following further comments from governments, industry, environment organisations and the community.

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1. BACKGROUND

National Environment Protection Council

The National Environment Protection Council (NEPC) stems from the Special Premiers' Conference held in October 1990. At this conference the Prime Minister, Premiers and Chief Ministers agreed to develop an Intergovernmental Agreement on the Environment (IGAE), which came into effect on 1 May 1992.

The IGAE includes provision for the establishment of a national body with responsibility for making environment protection measures (Measures) with the objectives of ensuring:

- a) that the people of Australia enjoy the benefit of equivalent protection from air, water and soil pollution and from noise, wherever they live, and
- b) that decisions by businesses are not distorted and markets are not fragmented by variations between jurisdictions in relation to the adoption or implementation of major Measures.

Complementary legislation establishing this national body, the NEPC, has now been passed in all jurisdictions.

The NEPC is a statutory body with law making powers. Members of Council are Ministers, not necessarily environment Ministers, appointed by first Ministers from each participating jurisdiction (ie. Commonwealth, State or Territory Governments).

The NEPC has two primary functions:

- to make National Environment Protection Measures (Measures)
- to assess and report on their implementation and effectiveness in participating jurisdictions.

The NEPC Committee is the principal advisory body to Council. The Committee comprises the NEPC Executive Officer and one nominee of each Council member. In addition, a non-voting member has been appointed by the President of the Australian Local Government Association.

Council and Council committees are assisted and supported by the NEPC Service Corporation. The Service Corporation is managed by the NEPC Executive Officer.

National Environment Protection Measures

Measures are broad framework-setting statutory instruments defined in NEPC legislation. They outline agreed national objectives for protecting particular aspects of the environment.

Measures may consist of any combination of goals, standards, protocols, and guidelines (See General Information - Definitions). Typically a Measure will contain:

- a goal
- one or more standards
- one or more monitoring and reporting protocols, and
- may also contain guidelines.

A two-thirds majority is required for the Council to pass a Measure. Implementation of Measures is the responsibility of each participating jurisdiction. A Measure will take effect in each participating jurisdiction once it is notified in the Commonwealth of Australia Gazette, but is subject to disallowance by either House of the Commonwealth Parliament.

The NEPC Acts prescribe that Measures may relate to any one or more of the following (Section 14(1)):

- a) *ambient air quality,*
- b) *ambient marine, estuarine and fresh water quality,*
- c) *the protection of amenity in relation to noise (but only if differences in environmental requirements relating to noise would have an adverse effect on national markets for goods and services),*
- d) *general guidelines for the assessment of site contamination,*
- e) *environmental impacts associated with hazardous wastes,*
- f) *the re-use and recycling of used materials.*

Measures may also relate to motor vehicle noise and emissions.

Purpose of Impact Statement

In making Measures, the NEPC must have regard to a number of considerations. These are detailed in section 15 of the *National Environment Protection Council Act, 1994*, and include:

- consistency with the IGAE,
- environmental, economic, and social impacts,
- relevant international agreements, and
- any regional environmental differences.

Prior to making a Measure the Council must prepare a draft of the Measure and an impact statement (section 17 of the NEPC Acts). The impact statement must include the following:

- a) *the desired environmental outcomes,*
- b) *the reason for the proposed measure and the environmental impact of not making the measure,*
- c) *a statement of the alternative methods of achieving the desired environmental outcomes and the reasons why those alternatives have not been adopted,*
- d) *an identification and assessment of the economic and social impact on the community (including industry) of making the proposed measure,*
- e) *a statement of the manner in which any regional environmental differences in Australia have been addressed in the development of the proposed measure,*
- f) *the intended date for making the proposed measure,*
- g) *the timetable (if any) in relation to the proposed measure.*

These impact statement requirements are set out in the legislation which has been passed by all jurisdictions, and reflect the views of the Commonwealth, State and Territory Governments as to the type of assessment needed to evaluate the potential impacts of

adopting a proposed Measure. This impact statement has also been developed keeping in mind the COAG requirements contained in the *Principles and Guidelines for National Standard Setting and Regulatory Action by Ministerial Councils and Standard Setting Bodies*.

The NEPC legislation requires that both the draft Measure and the impact statement be made available for public consultation for a period of at least two months. The Council must also have regard to the impact statement and submissions received during public consultation in deciding whether to adopt a proposed Measure.

The key role of this impact statement is to assist in the process of public consultation over the proposals contained in the draft Measure for the NPI. This impact statement has been designed to provide a plain-English explanation of the content and intent of the draft Measure, and to explain the anticipated impacts of implementing that Measure. The impact statement provides a clear and easy to follow explanation of the costs and benefits anticipated, noting which sectors of the Australian community will be affected. The Impact Statement has been drafted in parallel with the development of the Measure so that the impacts of each element of the Measure can be considered as the proposal is refined. Although consultation to date on the development of the NPI has enabled an informed statement to be drafted, it is anticipated that the statement's release will invite constructive public comment so that impacts can be more completely identified, understood and considered when finalising the Measure.

Under the NEPC Acts, this impact statement reflects the impacts of implementation of the draft Measure at a national level (ie. in all jurisdictions). It should be noted that any supporting regulatory or legislative mechanisms which jurisdictions may choose to develop to assist in implementation of the proposed measure will need to go through appropriate processes in those jurisdictions (eg. a proposed Regulation to require reporting in a particular format will need to be accompanied by a Regulatory Impact Statement in most cases).

Appendix 2 contains a competition policy assessment as required as part of the process of making subordinate legislation under the COAG Competition Principles Agreement (1995).

Key Points:

- The key role of this impact statement is to assist the process of public consultation in the development of a NPI Measure.
- The impact statement fulfils the requirements of the NEPC Acts.

2. NATIONAL POLLUTANT INVENTORY

The proposed Measure

Rationale for the National Pollutant Inventory

Information on emissions of pollutants to air, land and water in Australia is currently limited, inaccessible or unavailable. The National Pollutant Inventory (NPI) will address two main problems associated with this:

- lack of information - the community, policy makers and regulators do not possess the necessary information to assess the effectiveness of existing programmes. Until there is sufficient information, it is difficult to identify areas of market failure. The NPI will assist in providing this information.
- market failure - currently polluters are not fully accountable for the pollution they emit. The NPI will comprehensively collect this information which means that pollution from the community, as well as industry, will be documented. This will encourage all polluters to focus on their waste. By making that information widely available, the NPI will encourage polluters to reduce their waste without specifying how they should do this.

These problems would not be sufficient in themselves to necessitate government action if they could be addressed more simply by other means. However, government action is required in this instance, as information sought under the NPI would not otherwise be collected.

The NPI programme is therefore designed to address the problem of market failure in the provision of information and access to information. This market failure affects:

- businesses which (for various reasons) have insufficient information on their own materials handling and usage characteristics. This lack of information can result in an unnecessary waste of raw materials, and ultimately in inefficiencies in the business. Because the information is not sought by those who could use it, it is not collected, resulting in a form of inefficiency. Consequently the value of the information is never realised;
- governments which are unable to formulate and assess cost-effective environmental management or pollution reduction policies without the appropriate information. This lack of information makes it difficult to determine progress towards environmentally sustainable development; and
- individuals whose property rights are attenuated by externalities arising from emissions of potentially hazardous substances. Deficient information in this context prevents individuals from making informed and therefore efficient decisions.

The same groups which are affected by the market failure problem are the ones likely to be affected by its proposed solution. In all cases, the solution provided will be the provision of information which the groups will be able to use to make more efficient decisions.

Background to the National Pollutant Inventory

The NPI will provide Australians with information on these emissions and provide a comprehensive picture of emissions entering the Australian environment. Information will be collected from both point and diffuse sources of emissions to air, land and water. This information will be collated, presented on a geographic information system and made widely available in electronic and printed form. The NPI will provide environmental information that is presently unavailable to the Australian community and the subsequent range of impacts will be detailed throughout this Impact Statement.

The intention to develop an NPI was first announced in 1992. The announcement was followed by a process of consultation involving release of a discussion paper, workshops in all capital cities and in regional centres, and creation of a reference group of peak bodies to provide comment on issues as they arose. Consultation has been a feature of the programme's development up to the present time and will remain so through the remainder of the Measure development process.

Objectives and desired environmental outcomes

The objective of the NPI is to provide improved information on emissions entering the Australian environment to assist better environmental management by government, industry and the community. The NPI should detail the types and amounts of pollutants entering different areas of the environment, it should demonstrate trends in these emissions, and it should highlight areas where data gaps currently exist. This improved information will enable attention to be focused on the environmental priorities associated with reducing emissions to the environment, ideally leading to improvements in the Australian environment.

The NPI will:

- provide information to enhance and facilitate policy formulation and decision making for environmental planning and management,
- satisfy community needs by providing publicly accessible and available information, on a geographic basis, about specified emissions being released to the environment, especially those of a hazardous nature or involving significant impact, and
- promote and facilitate waste minimisation and cleaner production programmes for industry, government and the community.

The desired environmental outcomes (which relate to Section 14(1) of the NEPC Acts) of providing this information through the NPI Measure are to:

- maintain and improve ambient air quality and ambient water quality,
- reduce the release of hazardous wastes that impact or potentially impact on the environment, and

- expand the re-use and recycling of used materials.

Core elements of the NPI considered in the draft Measure to achieve these objectives and desired environmental outcomes include:

- a list of substances or pollutants and a process for amending that list,
- a method for determining when a facility will report directly (a reporting threshold) and, where appropriate, emissions will be estimated by government,
- methods for collecting the data from both facilities and estimating diffuse sources (such as motor vehicles),
- processes to ensure reporting and to identify commercial-in-confidence issues, and
- community access to the information.

Key Points:

- Information on emissions of pollutants to air, land and water in Australia is limited, and is often inaccessible or unavailable.
- The objective of the NPI is to provide improved information about these emissions to assist better environmental management by governments, industry and the community.
- The desired environmental outcomes are noted in the draft Measure, which has been designed to help achieve those outcomes.

The international context

Since the late 1980s, Australian governments have been aware of the potential benefits of collecting for public use information on the release of substances which pose a risk to human life and the environment.

The actions of other governments, in particular, the United States (US), Canada, United Kingdom (UK), and the European Union (EU) set up what are known internationally as Pollutant Release and Transfer Registers (PRTRs). These differed in implementation detail but had similar objectives. The US register system, called the Toxic Release Inventory (TRI), was one of the first to be established.

Pollutant inventories are already used in these countries with considerable success. These inventories meet a variety of needs, are efficient tools, and have been used successfully with other management tools to create positive cultural change.

Pollutant inventories have been able to supplement existing environment protection tools, and may contribute to the creation of new environment protection tools and arrangements. Well designed pollutant inventories provide flexibility, allowing a variety of uses to be made of the information, and make information available to many different users efficiently. They can provide relevant information on a national, regional or local level.

Pollutant inventories are primarily information collecting tools, allowing trends in emissions to be elucidated. They can also facilitate or promote cultural change towards environmental improvements. It is expected that the NPI will provide a mechanism to

assist Australia in meeting current or likely international obligations with regard to implementation of cleaner production or chemicals management tools.

Although the lists of chemicals to be reported differ between countries, PRTRs generally include:

- persistent toxics such as mercury, cadmium, lead and other metallic compounds that have the potential to accumulate as a poison in the biosphere,
- carcinogens in the form of volatile organic compounds, including benzene, etc,
- chemicals that can have adverse impacts on waterways, such as cyanides and arsenates.

Considerable international experience has been built up in the design and operation of PRTRs which suggests that these inventories do provide the benefits expected of them¹. This is because:

- the design can target key information,
- designers of new inventories can learn from the experience of the past,
- costs of information processing and distribution have fallen, and
- public awareness and use of new communication channels (for example, the Internet) has increased.

Australian governments have been working with Australian industry and the public to determine whether a PRTR would benefit Australia, and if so how it should be structured for best effect. The proposed NPI Measure is the outcome of that consultative process to date.

The OECD has made a non-binding recommendation encouraging member countries to consider the merits of establishing PRTRs. To assist countries with this, the OECD² has published a guide which governments can follow in setting up a register appropriate for their needs. Examination of this guide shows that the NPI development process accords with those recommended by the OECD.

The policy development process

In November 1996 the National Environment Protection Council resolved to prepare a draft Measure for the NPI. Notice of intent to develop the Measure was advertised in the metropolitan daily press on 18 and 21 December 1996 and the Commonwealth Government Gazette on 19 December 1996.

The Measure development process builds upon an extensive amount of work conducted by the Commonwealth to develop the NPI concept and trial its use in Australia. Prior to 1996/97, the Commonwealth Government invested approximately \$5.9 million in developing the proposed NPI (including the trial NPI and database development). A

¹ Hazen, S. B., Data Use, Paper presented to the Pollutant Release and Transfer Register (PRTR) workshop for Central and Eastern Europe and the New Independent States of the Former Soviet Union, Prague-Pruhonice, Czech Republic, January 15-17 1997

² OECD, Pollutant release and transfer registers (PRTRs) - A tool for environmental policy and sustainable development, Guidance manual for Governments, Paris, 1996

summary of the consultative process which has led to the development of the draft NPI Measure is included in Appendix 3.

The Commonwealth Government is also funding development of the proposed Measure by NEPC. A total of \$1.35 million was allocated for development of the proposed Measure and further development of the NPI trials and database in the 1996/97 budget.

The NEPC Service Corporation received 138 inquiries in response to the notice of intent to make an NPI Measure, and an NPI information bulletin was distributed to interested parties, inviting them to make a written submission by 14 February 1997. Six key submissions were received and subsequent discussions and correspondence allowed consideration of a range of stakeholder views in developing the draft Measure.

It is expected that the entire Measure development process will take about 12 months and approximately \$360,000 to complete. The draft Measure and impact statement were presented to NEPC for consideration at its June 1997 meeting. The draft measure and impact statement have been released for public consultation with the agreement of NEPC. It is expected that NEPC will make its final decision on the NPI Measure by late 1997 or early 1998.

NEPC is required to report on implementation and the effectiveness of the Measure on an annual basis. It is also intended that the Commonwealth will conduct a review of the success of the programme in the third year of the Measure's operation. This review is expected to cost the Commonwealth Government approximately \$0.1 million. As the programme would only have been fully operational from the end of year one, such a review would need to bear in mind that the NPI is expected to evolve as the information base improves and as community and industry awareness of the NPI increases.

A broader review of the NPI programme may also be desirable at a later stage, to consider whether the problem that the NPI was set up to address still exists, whether it is best addressed by the NPI, and whether the NPI is effective in dealing with the problem.

Reasons for the National Pollutant Inventory Measure

The NPI Measure will seek to establish the NPI and provide a basis for its implementation. Information on the emission of pollutants to air, land and water, which is currently unavailable, incomplete or inaccessible, will be collected and provided to governments, industry and the community. Establishing the NPI through the NEPC mechanism will give a national and coordinated picture of these emissions, provide for joint responsibility for the programme and allow effective integration with current environment protection policies and programmes.

Establishing a Measure for the NPI will impose responsibilities on all jurisdictions: in particular, State, Territory and Commonwealth governments will work together to ensure the effective collection, collation and dissemination of NPI data. Government, industry and

the community will also be able to make better informed decisions about their actions that affect the local and national environment.

The Measure development process will consider the impacts of the NPI and any other aspects raised by interested parties during consultation. Development of the NPI Measure will also allow the Commonwealth, States and Territories to evaluate possible mechanisms to implement aspects of the NPI which may fall outside the ambit of the Measure process.

Regional Environmental Differences

Background

In making any Measure, the National Environment Protection Council must have regard to, inter alia, "any regional environmental differences in Australia" (section 15(g) of the *National Environment Protection Council Act 1994* (Commonwealth) and the equivalent provisions in the corresponding Acts of other participating jurisdictions). In addition, section 17(b)(v) of the Act requires that the impact statement to be prepared with the draft Measure include "a statement of the manner in which any regional environmental differences in Australia have been addressed in the development of the proposed Measure".

While the NEPC Acts do not provide any explicit definition of the term "regional environmental differences", its meaning is nonetheless made clear. The legislation, and sections 15 and 17 in particular, provide a clear indication that the term is not intended to encompass regional economic and social differences.

The term "regional environmental differences" is included in the provisions identified above in recognition of the fact that fundamental environmental characteristics of different regions may be very different, and that to apply simplistic uniform standards would not further the desired outcome of equivalent protection espoused in the legislation. For example, the issue of salinity in water bodies would provide a clear example of the need for regional environmental differences to be taken into account.

The draft NPI Measure does not propose to establish ambient environmental quality standards but, rather, a basis for the collection and dissemination of information on the emission of specified substances to air, land and water and transfers of waste. As noted above, the main objectives of the NPI are to:

- provide information to enhance and facilitate policy formulation and decision making for environmental planning and management,
- satisfy community needs by providing publicly accessible and available information, on a geographic basis, about specified emissions being released to the environment, especially those of a hazardous nature or involving significant impact, and
- promote and facilitate waste minimisation and cleaner production programmes for industry, government and the community.

Given that the draft NPI Measure proposes to provide information on emissions and transfers of waste, rather than information about the receiving environment, it may be argued that any regional environmental differences are not relevant to the draft Measure. Nonetheless, the significance and relevance of regional environmental differences to the NPI Measure has been further analysed below by considering in turn each of the issues of:

- the list of substances to be included on the inventory,
- the threshold levels which will determine whether reporting from a facility is required, and
- the collection of information on emissions from smaller, diffuse and mobile sources.

List of substances on the inventory

There are clearly some differences in the ranges of substances which have the potential to impact adversely on the environment in different regions (eg. urban and rural), and on the different media within those regions. These differences are taken into account in the draft Measure by having a reporting list of the draft Measure which encompasses substances with the potential for significant adverse impacts on these diverse environments and media.

Under the draft Measure, it is proposed that there be one national list of substances, to allow users of NPI information to identify and compare the significance of emissions of particular substances on a national jurisdictional, regional or local basis. It is recognised that in some areas of Australia there will be no, or minimal, emissions of particular substances on the list. For instance, in most urban industrial areas we can expect no significant emissions of particular agricultural chemicals. Strictly speaking, this is not a regional environmental difference, as a different profile of emissions does not necessarily translate into a difference in the receiving environment. In any event, under the draft NPI Measure, information on emissions of those substances would not be reported in such cases.

In other areas, there will be emissions of particular substances from facilities that are of no great concern in terms of ambient environmental quality. Nonetheless, it is proposed under the draft Measure that reporting would be required if these facilities meet the threshold levels, as described below. Such reporting would still assist in meeting other objectives of the NPI, such as the facilitation of waste minimisation and the provision of useful information on a local scale.

Threshold levels for facility reporting

The draft NPI Measure specifies threshold levels for each substance on the reporting list. An operator of a facility meeting the threshold levels would be required to report to its relevant jurisdiction the amount of the substance emitted from the facility.

It is not proposed under the draft Measure that for any particular substance there would be different thresholds applying in different locations. Thresholds could not be designed to identify potential threats to ambient environmental quality standards given the many variables involved. Instead, the draft Measure proposes thresholds set at a level where the potential emissions justify the cost of estimating and reporting emissions by facilities.

Even if there is only one facility in a particular region which meets or exceeds the threshold for a substance, the emissions from that facility are still likely to be of interest to local users of the NPI. The thresholds proposed in the draft Measure are approximate in nature, and it is expected that they would be refined over time through amendment to the specification of threshold levels within the Measure as jurisdictions gain further experience as to the actual significance of emissions and the costs associated with estimating the emissions.

Emissions from smaller, diffuse and mobile sources

Under the draft Measure it is proposed that information on the amount of particular substances emitted from smaller, diffuse and mobile sources within agreed regions will be estimated by individual jurisdictions. It can be expected that there will be no significant emissions of particular substances from these sources in some regions. In such cases, while once again such differences are not strictly regional environmental differences, there would be no need for estimation by jurisdictions. In any case, jurisdictions will need to determine the relative priority of estimating emissions for their different regions.

Key Points:

- From the above discussion, it is clear that regional environmental differences can best be taken into account in the NPI as proposed in the draft Measure by ensuring that the list of substances encompasses substances of significance in different environments and media, and that thresholds are set so as to deliver meaningful information regardless of ambient environmental conditions.
- If there are no significant emissions of a particular substance within a region, the thresholds will not be triggered and no reporting or estimation will be required.

Implementation

A cooperative Commonwealth-State/Territory approach to the NPI is envisaged so that the NPI will be implemented collectively by jurisdictions. It is currently envisaged that all jurisdictions will need to collect and collate data which would be further collated and disseminated by the Commonwealth.

Jurisdictions will need to consider implementation issues associated with both requirements set by the Measure and aspects of the NPI, some of which may fall outside of the ambit of the NEPC process. Activities which could be considered in this context include:

All jurisdictions:

- require reporting from facilities within their jurisdiction,
- retain discretion to require reporting from facilities that do not meet reporting thresholds,

- agree on contextual data, emission estimation methodologies for facilities and aggregated emissions, consistency of data, capacity building for providers and users of NPI data, quality control mechanisms, process for consideration of commercial-in-confidence claims,
- report to parliament via the NEPC,
- can nominate amendments to the Measure or programme as a whole,
- provide information on administrative review rights within their jurisdiction, and
- participate in a standing group on implementation of the programme.

States and Territories:

- collect data from facilities required to report, using existing mechanisms where appropriate,
- are responsible for estimating aggregated emissions data, validation of data, assignment of ANZSIC codes and geographic coordinates of a reporting facility, identifying the level of precision required for data, and enforcement of reporting from facilities,
- evaluate commercial-in-confidence claims, and
- provide data to the Commonwealth for inclusion in the NPI database.

The Commonwealth

- maintains the NPI database,
- disseminates NPI data and information to the community,
- drafts contextual data, industry profiles and facility-based emission estimation techniques for jurisdictional agreement,
- publishes or creates reports as requested on a cost recovery basis,
- evaluates any national security claims,
- ensures international obligations are met or are capable of being met where appropriate, and
- evaluates the NPI programme every three years.

Establishment of the NPI programme as a Measure will require an additional agreement of some description to ensure consistency of implementation. The NEPC Acts do not provide implementation mechanisms, leaving these to each jurisdiction, but in the case of the NPI it is essential that there be a nationally consistent approach.

Such an agreement could be in the form of an Intergovernmental Agreement, or a Memorandum of Understanding, and would complement the Measure developed for the NPI. It is expected that the final Measure and agreement will be cross referenced and sit together as the mechanism for implementation of the programme.

The costs of implementing the National Pollutant Inventory and the issue of who pays will be an issue for NEPC Ministers. The Commonwealth has indicated that it will make a significant contribution towards funding implementation of the NPI provided its core objectives are met. It is envisaged that any specific State or Territory needs additional to the national NPI programme requirement would be funded by the individual State or

Territory. This could include modelling of ground level concentrations or collection of additional information for State or Territory purposes.

For further discussion of implementation, see section four of this document.

Key Points:

- A cooperative Commonwealth-State/Territory approach is envisaged to implement the NPI.
- Jurisdictions will need to consider implementation issues associated with requirements set by the Measure and aspects of the NPI which may fall outside the ambit of the NPI.

Alternatives to the proposed Measure

Alternatives to the proposed Measure can be broken down into two main types:

- alternatives canvassed within the body of the draft Measure, and
- alternatives to a National Environment Protection Measure.

Alternative provisions within the body of the proposed Measure are canvassed in Chapter 3 of this impact statement. This section will discuss implementation of an NPI programme outside the NEPC process.

The NPI development process examined various options for a pollutant inventory including the approach taken by the United States Toxics Release Inventory (TRI). The US TRI concentrates on point sources of emissions, reflecting the greater industrial density of the US compared with Australia. If this approach were adopted in Australia, where diffuse emissions are expected to be often more important than point source emissions, overall emissions would be underestimated and the true emissions situation distorted. The US TRI provides extensive penalties for non-compliance or provision of inaccurate data and sets threshold levels based on the number of employees, meaning that most facilities employing more than ten workers need to undertake emissions calculations. A TRI approach was discarded during consultation as it was considered a costly way to implement a pollutant inventory which would not be suited to meeting Australian environmental management needs.

A more comprehensive approach such as a ‘Toxic Use Reduction Model’ was also canvassed during the NPI development process. This model would regulate sale, use and production of substances and their precursors. A model of this type could require emitters to provide plans describing how they will reduce the generation of emissions over a specified period. An inventory of this type would go far beyond providing information on emissions and would provide detailed information on use, circulation, distribution and fate of substances. While encouraging desirable cleaner production outcomes, this approach was also considered to have very high administrative costs, could duplicate some existing processes and would also impose high costs on industry and consumers. A Toxic Use Reduction Model might also threaten the commercial interests of reporting companies

through disclosure of information relating to inputs, use and production of different substances.

There are six main alternatives which could be progressed instead of developing a Measure which must be considered in the light of their ability to achieve the desired environmental outcomes set out in the draft Measure. These are:

1. the Commonwealth enacts legislation to give effect to a national programme,
2. States and Territories enact mirror or complementary legislation to give effect to a national programme,
3. all jurisdictions enter into a formal agreement, such as an Inter Governmental Agreement or a Memorandum of Understanding to give effect to a national programme,
4. States and Territories expand their current data collection and dissemination mechanisms to collect and disseminate NPI type information to give effect to State or Territory based inventories,
5. a voluntary programme is enacted by the Commonwealth or by the States and Territories, or
6. maintaining the status quo.

These options are considered below, but it is worth noting that all but the last of these alternatives require some degree of cooperation between jurisdictions. NPI-type information is increasingly in demand from administering authorities, communities, and industries in all jurisdictions and it is presumed that data collection systems would probably evolve to collect more detailed emissions information in any case.

1. Commonwealth enacts legislation to give effect to an NPI

It is possible that the Commonwealth could enact legislation which would entirely give effect to a National Pollutant Inventory. Such an approach would have the benefit of only one jurisdiction having to enact legislation, would provide for easier administration, and streamline decision making processes. Some environmental groups have supported the need for a unilateral Commonwealth approach.

This approach would not have to exclude the States and Territories as they could act as agents of the Commonwealth under contract to collect data, or the Commonwealth could delegate functions, particularly in relation to the collection of information. Costs to governments would be centralised and relatively easy to determine.

In practice, this approach is not considered feasible. Advice indicates that it may not be possible for the Commonwealth to give legislative effect to all aspects of an NPI given its powers under the Constitution. In addition, the Commonwealth would not be likely to pursue such an approach, given the cooperative approach being taken at present in relation to environmental issues. Unilateral Commonwealth action could very well alienate State and Territory environment agencies. Another key issue is that the Commonwealth is not well placed to take on such a hands-on role in data collection and management of facility based and aggregated data. Also the Commonwealth would need to invest in significant

resources, duplicating those already in place at State and Territory level, in order to administer the programme.

2. States and Territories enact mirror or complementary legislation to give effect to an NPI

This option would, in effect, produce a national pollutant inventory programme, without the Commonwealth enacting legislation as described above. Such an approach would require significant cooperation by States and Territories, and is in some respects similar to the route that has been taken under the NEPC.

It is unlikely that enacting mirror legislation would be acceptable to jurisdictions, given that it would require a lowest common denominator approach and would, in all probability, create significant overlaps (and possibly some contradictions) with existing legislation in most jurisdictions. Mirror legislation would not provide flexibility for jurisdictions to use existing systems. However, mirror legislation would give a distinct identity to the NPI programme and make very clear the scope of the NPI programme, obligations and requirements in one piece of legislation across all jurisdictions.

Enacting complementary legislation would provide jurisdictions with the flexibility to use existing legislation and regulation where possible and ensure uniform outcomes without the need for uniform processes. The NEPC process would actually draw on using complementary legislation to implement the NPI programme. However, implementing complementary legislation does not need to occur under the NEPC umbrella, and could occur as a result of negotiations within or outside existing fora, such as ANZECC.

The outcome of using either of these approaches could be similar to that of implementing a Measure if ongoing cooperation was a feature of the programme, but they would not necessarily provide for nationally agreed implementation or coordination. It could still be the case that, even under mirror or complementary legislation, jurisdictions develop state-based inventory programmes that are administered quite differently and do not offer a consistent basis for data collection, dissemination or economies of scale.

3. All jurisdictions enter into an agreement to give effect to an NPI

This option has elements similar to those explored in the complementary legislation model under the previous option, in that an agreement between jurisdictions would give jurisdictions flexibility in how they implement an NPI programme. An overarching agreement would provide for a common starting point for implementing an NPI, say in respect of a common reporting list, and types of data collected, but again could lead to significant differences in how the data collection and dissemination mechanisms are implemented.

The issue of data dissemination could be handled in a number of different ways by an agreement, either roughly in line with the proposed Measure (ie the Commonwealth agreeing to disseminate) or by each State and Territory agreeing to handle this issue within

their jurisdiction in some way. In the latter case, most jurisdictions would need to establish data dissemination mechanisms of the sort currently envisaged under the draft Measure, but there would not necessarily be any uniformity in, or compatibility between, these systems across jurisdictions.

One key difference would be that the NPI programme would not necessarily have any legislative basis. An agreement in the absence of legislation may hold little weight with stakeholders, especially given the ease of withdrawal from an agreement compared to that of repealing legislation.

4. States and territories to collect and publish NPI-type information by expanding their existing systems

States and Territories could provide an increased amount of information to the community by expanding their existing systems. State-based NPI-systems may differ if they were designed to meet the needs of individual jurisdictions. The inventory systems developed in each jurisdiction would be expected to vary to some degree.

This approach has the advantage of being able to tailor a system which specifically meets the needs of the particular jurisdiction, without having to meet obligations of a national programme. The timing of implementation is left up to the jurisdiction concerned. Many existing data collection systems in jurisdictions are set up to obtain information regarding environmental impacts as required, although existing systems to disseminate such data to the community are not so apparent and would need to be developed.

A key disadvantage is that reporting requirements and dissemination of data will be different in each jurisdiction, making cross-jurisdictional comparisons difficult and possibly creating compliance difficulties for firms with operations in more than one jurisdiction. There are also likely to be significant economies of scale in establishing a national system which would not be gained with separate systems being established by each jurisdiction. Confusion could also occur in the case of transfers of waste across jurisdictional borders, or to and from Commonwealth facilities.

The cost of increasing the size of an inventory system to meet the requirements of all jurisdictions would be marginal. Also, since the information would be distributed nationally, all jurisdictions and communities could benefit from the information provided, both at a local level, and at a national level. A national system can confer additional benefits in consistency of outcome, and the benefits of standardisation in this case outweigh the costs of loss of jurisdiction-specific information requirements.

5. A voluntary reporting programme

As regulatory authorities increasingly move away from prescriptive regulatory controls, voluntary arrangements take on a more important role in the achievement of various environmental objectives. In the case of information collection, in particular, voluntary

arrangements are considered to have a lot to contribute and are currently being used by jurisdictions with varying degrees of success.

A voluntary NPI programme would more than likely involve set parameters (ie, a list of substances, emission volumes and locations), as well as a coordinating agency which would notify relevant industries that an emissions inventory of particular substances is being compiled, and request information on a voluntary basis.

A recent study³ found a 13% participation rate in the US EPA 33/50 programme where firms voluntarily undertook to reduce releases of a group of 17 chemicals. This study concluded that participation rates were highest for larger firms, but found that there was evidence that the rates were greater for firms that are better than average in terms of environmental performance.

While this programme was focussed on emissions reduction, it would be safe to assume for a voluntary NPI programme that larger firms already committed to improved environmental performance would report as a matter of course, and those firms with poor environmental performance would be less likely to report. The likely non-reporters are the very firms from which inclusion in an NPI is expected to yield the largest benefits. It is unrealistic to expect that voluntary reporting will achieve anything close to full coverage of all emissions in Australia.

The aggregate costs for industry would be lower for a voluntary programme, however, this reduction in costs would come about largely from the smaller number of firms that are reporting and a less stringent data collection basis. Governments would face higher costs in estimating non-reported emissions, and the data set would be less reliable, making it of lesser value in decision making and planning.

6. Maintaining the status quo

The status quo needs to take into account systems as they would naturally evolve and does not necessarily mean that collection of NPI-type data would not occur at some point. Arguments to maintain the status quo assume that the present level of information collected and disseminated is the most efficient, or that natural evolution of systems would take care of informational requirements anyway.

The following assumptions are integral to arguments which favour the status quo:

- that NPI information will be of no substantial benefit to industry;
- that NPI information will be of no substantial benefit to governments in terms of environmental management; and
- that individuals are either aware of the use of particular substances in their vicinity and the characteristics of those substances, and the extent of the impact that the substances

³ Arora, S. and Cason, T. N., An experiment in voluntary environmental regulation: participation in the EPA's 33/50 program, *Journal of Environmental Economics and Management*, 28; 271-286, 1995

may have on health and enjoyment of property, or else have no use for such information.

Consultation to date strongly indicates that this is not the case.

There are a number of developments in jurisdictions which will result in substantial improvements in the quantity and quality of data being provided to improve environment management and planning. Some of those will result on the collection of some data similar to that which would be collected under the Measure, for example, the load based licensing scheme being developed by the NSW EPA⁴. Western Australia and EPA (Victoria) already have load based licensing systems which requires firms to report on emissions of contaminants they are licensed to discharge.

Other jurisdictions are implementing or have implemented more comprehensive data collection mechanisms to improve their information base and facilitate better management of the environment, or promote cleaner production programmes. Other assessments are conducted through the use of environmental audits and processes such as environment improvement plans.

Under the status quo, it is the individual who bears the primary cost of obtaining information, such as through FOI provisions, and presently, even access through FOI cannot be guaranteed from jurisdiction to jurisdiction.

It is unclear whether environmental management systems would evolve to provide regular community access to data as envisaged under the NPI programme. This is the least likely aspect of the NPI to be picked up naturally as data systems evolve, making community input to environment protection piecemeal and irregular from jurisdiction to jurisdiction. It could be expected that any evolution that did take place would occur at different rates among jurisdictions depending on their environmental management experience and supporting systems already in place. A national picture of emissions to the environment would be less likely to emerge.

Some firms, primarily those which are part of an international network, are already providing some environmental accounting and reporting through their reports, annual or otherwise. To date, such reporting is generally fairly lightweight and tends to gloss over significant issues, but this would be expected to improve over time. The trend of environmental reporting is expected to increase, particularly among larger firms with obligations to shareholders, but is unlikely to make a significant impact among smaller firms or private companies. It would be expected that public reporting of emissions like that for the NPI programme would increase the quantity and quality of environmental reports by firms, given that data on emissions would already be in the public domain.

⁴ EPA (NSW), Environmental Economics Series - Load Based Licensing Scheme - Draft Operational Plan, May 1996

The ‘maintaining the status quo’ alternative would not, however, provide a proactive programme designed to support achievement of the desired environmental outcomes of the draft NPI Measure (see discussion under Goals, below).

Key Points:

- Six key alternatives were considered as a means of implementing a national pollutant inventory programme.
- The alternatives to the development of a Measure presented a number of weaknesses including the lack of a consistent approach in data collection and presentation, restricted public access, or restricted coverage (eg. to a single jurisdiction).
- As a result, while each alternative has the potential to deliver some of the benefits of the proposed Measure, it was considered that the Measure was the most likely to deliver the desired environmental outcomes.
- Development of a Measure was the preferred option, and is being pursued through the release of this impact statement and the draft Measure for public comment.

3. IMPACTS OF THE DRAFT MEASURE

This section provides a discussion of the content of the draft NPI Measure. It focuses on identifying the impacts (including costs and benefits) which are anticipated to arise from adoption of the draft Measure, and identifies those sectors of the community which are expected to be affected by its adoption.

Part 1 - Preliminary

Part 1 of the draft NPI Measure describes the title, commencement and transitional provisions, and definitions used in the draft Measure.

Commencement

The Measure will come into effect on the date notified in the Government Gazette. At this stage, it is anticipated that the Measure will be made in early 1998, so the Gazettal date will follow at some time after that date. It may be that jurisdictions will choose to allow some time to elapse before Gazettal to provide for preparatory work by governments and industry to enable implementation to proceed.

Transitional Provisions

Implementation of the Measure may be phased in over a twelve month period following its commencement. In this period, jurisdictions could:

- have a phase-in period where they gained information from existing licensees in the first instance, or
- commence with gaining information from all facilities that trigger thresholds.

This means that in that twelve month phase in period, participating jurisdictions have the option of collecting data only from those reporting facilities which are already subject to ongoing environmental authorisations or licensing. It follows that if jurisdictions choose to do this, they would not be in breach of their obligations during the phase-in period. The term 'environmental authorisation' has been defined in the draft Measure to include the various licences and authorities issued under the environmental legislation of the States and Territories. Further discussions with Tasmania, which has a more integrated system of development approvals, will occur during the consultation phase.

The twelve month phase in period allows governments to manage the introduction of the NPI in a manner which minimises the impact on firms which have not previously been subject to ongoing environmental controls by allowing a lead-time in which to develop cost-effective systems for complying with NPI processes. This provision also allows an adjustment period for Commonwealth facilities which have not previously been subject to environmental reporting requirements.

The draft Measure also proposes a phase in of the reporting list over two years based on the priority ranking of the substance by the Technical Advisory Panel. It is expected that this will allow for smoother implementation as governments and industry will be able to focus their efforts on a smaller list of higher priority substances in the first instance.

During this period they will be able to put mechanisms in place that will enable them to meet their ongoing obligations under the Measure. It is expected that this phase in approach will help minimise the impact of the Measure on both government and industry. It will also increase the likelihood of government and industry providing high quality data in the first year of operation of the NPI. While the initial data will provide some useful information on emissions and transfers of wastes, it is recognised that the phase-in period will mean that this data will not be able to be used for trend analysis.

Key Points:

- The Measure will come into effect on the date notified in the Government Gazette. It is anticipated that this will occur in early 1998.
- Over the first twelve months of the Measure's operation, jurisdictions have the option of collecting data from those reporting facilities which are already subject to environmental licensing.

Substances and thresholds prescribed for reporting facilities

Schedule B to the draft Measure is referred to throughout the Measure. The reporting list contained in Schedule B consists of two components:

- identification of the substances on which the NPI will report, and
- for each substance a threshold value which triggers an individual requirement for facilities to report.

Substances on which it is proposed to report have been determined through scientific review by a Technical Advisory Panel which was appointed for this task by the NEPC Committee. The Panel has recommended to NEPC a list of substances for which emissions should be reported and this list will be further refined during the consultation period. The reporting list is not intended to be static, and substances will be added and subtracted as environmental priorities and knowledge change and as resources permit in line with agreed criteria.

It is not entirely appropriate to compare the length of the NPI reporting list with the lists of international inventories as inventories are generally tailored to meet the environmental management requirements of an individual country. For example, different industrial bases, substance use, thresholds and years of operation can all influence the length and content of a reporting list.

Appendix 4 to this document is the Executive Summary of the Technical Advisory Panel Report to the Council, and summarises the approach taken by the Panel.

The Panel has also recommended to NEPC threshold values at which a report will need to be made. A threshold value should allow facilities to easily determine whether they need to report or not and provide an indication to jurisdictions of the types of emissions which they will need to estimate to arrive at a better picture of emissions. Most substances initially have simple order of magnitude thresholds which are likely to be refined over time. It would be expected that the amount handled threshold will be revised in future years,

depending on the amounts emitted in relation to expectations and the coverage of emissions and transfers.

The threshold amount will generally be based on the amount handled (including input material, product, intermediate products generated, and waste or emission) on an annual basis. For some substances an alternative threshold based on emissions may be necessary. These thresholds have been designed to ensure fairness and simplicity. The intention is that thresholds are easy for facilities to understand and apply, and that they are set at a level which ensures that only key sources of the substances of concern are required to report. In practical terms, this will mean that larger firms are likely to be reporting facilities, and many smaller firms are unlikely to be required to report.

If a facility meets or exceeds the amount handled and/or amount emitted threshold in a given year, the facility will be required to report on its emissions and waste transfers of that substance. Sales and log-book information collected by the facility to determine whether it is required to report will not be on the Inventory but in some cases may be used by jurisdictions in order to validate emissions or transfer data.

The number of facilities that will be required to report can be estimated as a function of the thresholds applied and to a certain extent the size of the list. It is expected that once a reporting list becomes larger than the 25 to 40 substances commonly used in Australia, then the numbers of returns that could be expected on substances over this number falls dramatically. This is a reflection of the Australian industry base, the types of manufacturing that take place, and the types of substances handled. It is therefore expected that this means that the number of substances on a reporting list beyond 25 to 40 substances will have little additional impact on the total number of facilities required to report but significant impact in relation to the identification of hazardous emissions in local regions.

If there are normally no emissions from a facility (ie. a nil report despite meeting the amount handled thresholds), the facility would still be included on the database, given the potential for accidental emissions.

Substances included on the final reporting list pose a risk to the Australian community i.e the substance is hazardous and there is potential for exposure in the Australian environment.

A substance has been included on the reporting list on the basis that the Australian community will benefit from being informed of its emission. If a substance is emitted or transferred, NPI data will need to be collected according to the content of the reporting list, and the thresholds that are set.

Key Points:

- Schedule B to the draft Measure contains the reporting list for the NPI. This list identifies the substances on which the NPI will report and for

each substance includes a threshold value which triggers an individual requirement for facilities to report.

Part 2 - National Environment Protection Goals

What is a Goal?

A national environment protection goal means a goal:

- that relates to desired environmental outcomes, and
- that guides the formulation of strategies for the management of human activities that may affect the environment.

A Goal may be something desirable in the future and not immediately attainable but should represent the aspiration of the Australian people for environmental quality.

The Goals of the draft NPI Measure

The Goals of the draft NPI Measure link into Section 14 of the NEPC Acts, and focuses on the desired environmental outcomes of:

- maintaining and improving ambient air and water quality,
- reducing the release of hazardous wastes to the environment, and
- expanding the re-use and recycling of materials.

These desired environmental outcomes cover the protection of groundwater quality and the prevention of soil contamination.

A range of environment protection programmes work towards achieving these desired outcomes, and a number of further programmes are under development both under NEPC processes and in individual jurisdictions. The development of a Measure which establishes a NPI is a key step towards achieving these outcomes.

The Goals provide for better management by the community, industry and government of existing and potential impacts of emissions to the environment and the transfer of waste. The Goal of the draft Measure notes that the objectives discussed above can be promoted through a NPI which involves:

- the collection of a broad base of information relating to emissions of substances on the reporting list to the air, land and water, and to transfers of waste, and
- the provision of this information to the community in a clear and easily understood manner which will assist people to assess environmental quality and the environmental impacts of pollutants.

The desired environmental outcomes outlined above will be achieved by the NPI through the collection and provision of information on emissions of pollutants to the environment and the transfer of waste. This information will lead to a better picture of environmental impacts from government, industry and community actions and will include emissions to the environment from:

- diffuse, smaller industry and mobile sources,
- point sources such as larger facilities,

- accidental sources of emissions, and
- transfers of waste offsite for disposal, treatment or reuse.

NPI information is expected to promote effective policy development and decision making for environmental planning and management. The NPI will satisfy community demands for information regarding the environment by the provision of accessible and easily understandable information relating to those substances that are used or produced in Australia which enter the Australian environment and are of a hazardous nature or have the potential for significant impact. The NPI will also assist in the promotion of waste minimisation and cleaner production programmes for industry, governments and the community.

The Goal states that the NPI will be a cooperative programme under which:

- participating States and Territories will estimate and collect data about emissions and transfers of chemicals and substances of concern, and
- the Commonwealth will collate the information provided by States and Territories and disseminate that information to the community.

It is expected that the NPI will also provide significant input into the development and review of other national environmental policies and programmes, particularly State of the Environment (SOE) programmes and other Measures. In the case of State of the Environment programmes, which use a “Pressure-State-Response” model, information that the NPI provides will be useful in considering potential “pressures” on an environment.

The NPI will complement other Measures and provide useful information to assist the NEPC and jurisdictions in their development and implementation. This will be particularly the case with Measures such as the proposed NEPM on ambient air quality, which will establish ambient environmental quality standards and require monitoring to determine whether these standards are being achieved. NPI data will assist jurisdictions in targetting significant sources of emissions of those substances for which standards are set. It should be noted that of the six pollutants for which standards are proposed under the Ambient Air Quality NEPM, five are recommended for inclusion on the NPI reporting list, as are many of the precursors for the sixth (ozone).

The Hazardous Waste NEPM will allow the tracking of individual shipments of waste across State and Territory borders to ensure that such shipments reach an appropriate treatment or disposal facility. By contrast, the NPI will collect annual information on total transfers of hazardous substances in wastes. Correlation of information between the Measures could provide a better picture of the management of hazardous wastes in Australia.

It is also likely that the NPI will provide important information which will assist jurisdictions in reviewing existing environmental programmes, such as licensing schemes, or water quality programmes.

The key impacts anticipated as a result of the public availability of information on the NPI are:

- an improved information base on emissions and their impacts enabling stakeholders to more effectively plan future developments and develop policies for environmental management. This will be of particular benefit to State, Territory and local governments;
- more robust public debate resulting from improved community access to information about influences on the environment, enabling more informed involvement in planning, development and policy debates;
- an improved ability for the community and all governments to identify areas of serious environmental degradation and subsequently develop programmes and strategies to address those problems;
- recognition that such information is an important public good which would not otherwise be publicly available in a comprehensive and integrated fashion that ensures that it is able to be used by all sectors of the community;
- recognition that information has an economic value if it can be applied to improve the outcomes of decisions by reducing the probability of making poor decisions. Information is an economic good and like other goods it is associated with supply and demand. On the supply side there are the costs of collecting, storing and disseminating information. On the demand side there are the benefits that may be derived from information, or more strictly speaking, better information; and
- members of the community (individuals, industry and governments) will have an improved ability to assess the impact which their own activities have on the environment, and promote more careful consideration of the environmental impacts of their actions.

The implications of the range of protocols and guidelines within the draft Measure which will lead to achieving the Goals discussed above are considered in further detail in discussion of parts three and four of the draft Measure.

Key Points:

- The Goal of the draft Measure states the desired environmental outcomes.
- The key Goal of the draft Measure is to maintain and improve environmental quality, reduce the release of hazardous wastes to the environment and increase re-use and recycling of resources through the implementation of a NPI.
- The Goal anticipates that the NPI will provide information to allow and promote more effective policy development and decision making for environment management and planning.

Part 3 - National Environment Protection Protocols

What is a Protocol?

A national environment protection protocol means a protocol that relates to the process to be followed in measuring environmental characteristics to determine:

- whether a particular standard or goal is being met or achieved, or
- the extent of the difference between the measured characteristic of the environment and a particular standard or goal.

The draft Measure does not comprise any national environment protection standards, so the protocols discussed below should be interpreted as tools for meeting or achieving the goals of the draft Measure.

Complexities in the natural environment mean that most scientific measurements only provide partial information. In many cases tests measure only what is defined by the test method rather than directly measuring the health of an element of the environment. A protocol therefore provides a means of assessing and reporting compliance with an agreed approach. The information that the protocol asks jurisdictions to provide will have the effect of ensuring NPI data is collected and collated using consistent and accurate methods, thus enabling sensible trend comparisons to be made both within and between jurisdictions.

The NPI Measure protocols are:

- collection of data from reporting facilities,
- discretion of jurisdictions to require other facilities to report,
- emission estimation techniques,
- additional information supplied by jurisdictions,
- validation of reported data,
- information from reporting facilities supplied to the Commonwealth,
- estimation of aggregated emissions other than from reporting facilities,
- information on aggregated emissions supplied to the Commonwealth, and
- additional information supplied to the Commonwealth.

Collection of data from reporting facilities

This protocol of the draft NPI Measure requires that each participating State and Territory ensure that each ‘reporting facility’ within their jurisdiction provide a range of information to a nominated agency on or before 31 August each year. ‘Facility’ is defined broadly in the draft Measure. A ‘reporting facility’ is defined in the draft Measure as an industrial, governmental or other facility, the activities of which involve the use of a substance listed in the reporting list (Schedule B) for the NPI at or above the threshold level specified in the reporting list for the NPI. It is envisaged that a single report would be required from a facility which is under the occupation or control of a single entity eg. a research institution located on a single site or at contiguous or adjacent sites. In the case of an industrial park, the occupier of each factory would be expected to report separately if they meet the thresholds.

The information which each reporting facility is required to provide is:

- identification and contact information for the facility,
- emissions data for each substance identified in Schedule B to the Measure for which the activities of the facility involve the use of that substance at or above the threshold level. The information required in that case is-
 - substance identity information
 - for each means of emission, an estimate of the amount emitted, emission state (eg. gas, liquid, sludge, solid), emission type (eg. continuous flow, batch, accidental), discharge medium, location of discharge, and the estimation technique used,
- transfer data for each substance identified in Schedule B to the Measure for which the activities of the facility involve the transfer of that substance at or above the threshold level. The information required in that case is-
 - substance identity information
 - for each means of transfer, an estimate of the amount transferred, transfer state (eg. gas, liquid, sludge, solid), location of facility to which transfer was made, and purpose for which the transfer was made.

This protocol creates an obligation on all States and Territories to ensure that this range of information is gathered from all reporting facilities within their jurisdictions. For reporting facilities which operate on Commonwealth Government properties or are owned by the Commonwealth, the Commonwealth is responsible for ensuring that those facilities report this range of information to a nominated agency within the State or Territory within which the facility is located.

These provisions would operate to ensure that all facilities which use a substance at or above the threshold level specified in the reporting list provides information about that use to the appropriate State or Territory Government. This information would allow each State and Territory Government to compile a comprehensive database of major emissions and transfers of the substances identified in the reporting list.

Exemptions from normal reporting requirements would be strictly limited to situations where the emissions data is commercially confidential or would prejudice national security. Granting of in confidence status to a facility for a particular emission would, where possible, lead to a change in the form or level of reporting required. For example, emissions could be reported as a class of substances rather than as a specific chemical (see discussion on the guidelines contained in part 4 of the draft Measure below).

The provision of this information to jurisdictions will be the key cost borne by industry. In some cases, facilities will already have comprehensive monitoring and tracking systems in place as part of their own management processes. In these cases, the cost of the NPI to facilities required to report under NPI should be limited to the administrative costs involved in reporting that information to Government in the appropriate formats.

Large modern firms normally collect a range of information about their use of resources and impacts on the environment as part of their day to day operations. A survey conducted by EPA (Victoria) recently found that most licensed firms would collect most of the

information they are required to collect and report under their licence conditions for their own management purposes. In this context, it is expected that the majority of reporting facilities will have monitoring systems in place for internal management purposes. As a result, these firms noted that the costs of reporting that information to EPA were not significant⁵. The systems many firms have in place for their own monitoring purposes should be able to at least partially provide the information that will be needed to comply with the protocols for information provision under the draft Measure.

Some other firms will need to develop new monitoring and tracking systems to meet their reporting requirements under NPI, or will need to augment existing systems which currently supply only part of the information they would be required to report under the proposed Measure. For these firms, the costs borne may be significant. However, it is also for these firms that it is anticipated that the NPI will provide the most significant gains by providing them with an information base to enable action to be taken to improve efficiencies, and implement cleaner production and continuous improvement strategies. Similarly, NPI information may promote action in terms of identifying and expanding opportunities for the re-use and recycling of materials.

By requiring firms which currently do not, or only partially, collect information to better assess the impact of their operations on the environment, NPI reporting requirements will provide the management of those firms with this new information. It is anticipated that in many cases, production of this new information will provide the management of these firms with a range of new information which will promote the adoption of cleaner production and other mechanisms to reduce their environmental impact.

This should generate significant benefits for those firms which take up the opportunities presented for improved management of their operations. The fact that such information will be publicly available will create a strong incentive to improve management of environmental impacts. This will be particularly the case where adverse community perceptions or media reporting could impact upon a firm's profitability.

The use of NPI information may become a factor in competition between firms in a market. It should be noted that NPI information would be a measure of the environmental pressure that a firm exerts in a particular area. Therefore the data itself would not necessarily be an indicator of environmental performance. Contextual data accompanying the NPI should help avoid the potential for misleading claims about environmental performance. Nonetheless, it could be expected that consumers might respond not only to product price and quality, but also to perceptions of a firm's environmental outcomes. In this type of environment, it is the proactive firms, those looking to exploit new opportunities while identifying and meeting emerging threats to their business from changes in the business environment, that are likely to expand as the use of NPI-type data increases throughout the world.

⁵ EPA (Victoria), Regulatory Impact Statement - Proposed Environment Protection (Scheduled Premises and Exemptions) Regulations, 1996

Another impact on industry may flow from the fact that comprehensive information about environmental performance is in the public domain. This may have implications for the way the firm, governments and the community approach issues such as expansion or modification of the facility (eg. via works approval or land use planning applications). This may be either a positive or negative impact dependent upon the way different sectors of the community perceive the firm's environmental performance on the basis of NPI data. The provision of appropriate contextual data which assists the community in properly interpreting emissions data should ensure that those impacts, whether positive or negative, are at least considered.

Estimating impacts for reporting facilities

The total cost for Australian industry to meet NPI reporting obligations can be estimated using the following steps:

- identify the tasks that facilities would have to perform to comply with reporting requirements,
- determine an average compliance cost per facility, and
- multiply the compliance cost per facility by the number of facilities expected to report each year.

The estimates of the impacts given below are the best estimates available to the Project Team in the time allowed for development of the draft Measure. The costs to and likely number of reporting facilities will be more completely identified during the consultation process. These impacts will be considered in the further development of the draft Measure, and ultimately by NEPC when deciding whether to make the NPI Measure.

Tasks

Facilities in Australia are likely to incur costs in relation to the NPI on the following basis:

- determining whether a facility is required to report against the list of substances (that is applying the thresholds to determine a reporting obligation); and
- estimating facility emissions of substances if the reporting obligation is triggered.

A key assumption in identifying costs to industry is that the determination of a reporting obligation causes minimal impact on those industries. This is based on the design of the thresholds which rely on 'amount handled' or similar easily determined threshold levels. For a more detailed discussion of thresholds and their simplicity of use refer to Chapter 3 of the Technical Report. The Technical Advisory Panel has designed the thresholds to minimise the costs to industry. This is particularly important in view of experience with similar systems overseas, which indicates that poorly designed threshold systems could impose significant burdens on industry.

Using the knowledge of activities and processes undertaken at a facility, an operator would determine whether that facility is obliged to report by asking the following questions:

- has the facility been asked by the nominated agency in their jurisdiction to consider whether they will need to report to the NPI?

- does the facility handle any of the designated hazardous substances on the reporting list?
- does the facility trigger any of the thresholds on the reporting list?

This approach means that the majority of facilities in Australia would not need to consider the reporting list or the thresholds unless they have been asked by the nominated agency in their jurisdiction to do so. Those that have can easily determine their obligation based on amounts handled or the other categories. For these reasons the costs to industry in determining a reporting obligation are assumed to be negligible.

The impact on facilities that must report cannot be similarly considered a low or no impact. A facility operator would be expected to complete the following tasks:

- Familiarise themselves with the NPI and its supporting material;
- Apply emission estimation techniques (see below) for specific substances;
- Complete the reporting form; and
- Maintain records to support estimations and reports submitted..

Further developments will assist industry to minimise costs, including:

- development of emission estimation guidance documents which will be customised for specific industry groups and guide a facility through the process of reporting step by step; and
- to support these guidance documents, government officers could be resourced to assist reporting facilities through on-site visits, to provide advice over the phone and to conduct workshops. Part of this process will mean that nominated agencies in each jurisdiction might write to facilities they believe should report and provide them with support material to help them ascertain their obligations. It is expected that jurisdictions would jointly discuss the details of activities such as these to assist implementation.

The costs below should also be considered in the light of these proposed design features.

Determining time spent or cost of actual reporting

Costings are based on the assumption that the costs to industry participating in the NPI air emission trial can be translated to provide a good approximation of the costs facilities will experience under the NPI. During the air emissions trial 103 facilities in the four trial areas (Newcastle, Dandenong, Port Pirie, and Launceston) were asked to complete a questionnaire on their emissions to air of 26 substances. The questionnaire is provided at Appendix 5.

A total of 87 from the 103 facilities responded to the voluntary questionnaire. Facilities were also asked to identify their costs. Of the respondents, 79 facilities provided estimates of their time spent. More than half of these (44) spent less than 10 hours completing the questionnaire and 60 companies spent no more than 20 hours. The maximum time spent by one company was around 160 hours. In general, large firms were likely to spend more time than small firms.

In their follow-up inquiries, EPA Victoria also asked respondents to provide an updated estimate of their costs in an evaluation survey. The evaluation survey and facilities responses are provided at Appendix 5.

A further 58 facilities provided estimates of total costs. Of these, 36 spent no more than \$1000, 45 spent no more than \$2000 and nearly all (55 out of 58) spent no more than \$5000. Only three facilities spent more than \$10,000. These related to detailed analysis of emissions voluntarily undertaken by large companies in excess of the required information.

On this basis, it is anticipated that reporting costs per facility will average approximately \$2,250 in the first year, and \$2,000 in each subsequent year. The higher costs estimated for the first year reflect the need for firms to spend time and effort to familiarise themselves with the process initially.

Estimation of the number of returns and number of facilities reporting

The expected number of returns from Australian industry have been calculated at around 10,000 reports on individual substances from 2,500 separate facilities filing an average of four returns per facility. These calculations have been derived from three separate and confirming methodologies, as below.

1. The first method applies the following equation for each substance listed on the draft reporting list and then adds the number of returns for each substance to arrive at an annual total of returns⁶

$$\text{No. of Australian returns} = \frac{\text{No. of US returns} \times \text{No. of Australian industries}}{\text{Number of US industries}}$$

When this calculation is applied to the 95 substances on the earlier draft reporting list, the annual number of returns from Australian industry is estimated at 10,000.

2. The number of facilities triggering thresholds during the Dandenong NPI trials is extrapolated to consider the:
 - (a) larger NPI reporting list and
 - (b) the requirement to report releases to all media.

The large uncertainties in this approach are apparent. However, it is reassuring that the estimate on the number of returns using this methodology does reinforce the first calculation, providing a low estimate of 6 700 and a high estimate of 10 980 annual returns. Based on the US and other overseas experience, it can be expected that each facility in Australia required to report will report their emissions of four substances.

⁶ Pacific Air & Noise, Prioritisation of working list, National Pollutant Inventory, 1996

3. A third estimate can be derived by comparing the size of the US economy and the number of reporting facilities with the size of the Australian economy and expected number of returns. In 1994, the US economy, in Gross Domestic Product (GDP) terms, was approximately 13.8 times the size of the Australian economy. In the same year, the USTRI received 22,744 returns. Since this time, the US inventory programme has been extended to include additional industry sectors making it closer to the number of sectors to be included in the NPI. In 1996, with these new sectors added, an additional 6,812 facilities are anticipated to completed reports. This gives total US facilities required to report as around 30,000. Dividing this figure by 13.8, the factor by which the Australian economy is smaller than that of the US, gives 2,173 reporting facilities in the Australian NPI.

On the basis of these three separate models it can be reasonably estimated that around 2500 facilities in Australia will lodge reports annually.

Based on these estimates of average reporting costs and the number of reporting facilities, it is expected that the total annual reporting costs for all facilities which are required to report under this protocol will be approximately \$5.6 million in the first year and \$5 million in subsequent years. While these figures are significant, in terms of the proportion of turnover of each reporting firm it is believed that the reporting requirement will be a negligible cost and is unlikely to impact upon either product cost or the viability of a firm. This is particularly the case given the expectation that the majority of reporting facilities will be larger firms. In addition it should be noted that this is based on the assumption that none of the facilities likely to report are currently collecting information of this kind. Evidence from annual reports and licensing undertaken by States and Territories would suggest otherwise. For this and the other over conservative estimations it means that the estimation of approximately \$5 million dollars is an upper end estimate.

The Measure is likely to impact unevenly across firms and industries with some industries facing higher reporting requirements than others and some firms within an industry facing higher reporting requirements than their direct competitors. As a result, the costs of the data estimation and/or collection can have a differential impact between and within industries.

However, the total cost of producing NPI reports to a firm (as discussed above) is negligible in comparison to total turnover, and is unlikely to have any impact upon product prices. As a result, the cost of information provision under the draft Measure is not expected to cause resource shifts between industry or, of itself, to cause resources to flow from more to less “efficient” firms. Similarly, this minor cost is not expected to have any effect on the balance of imports and exports.

For some reporting facilities the potential exists for beneficial impacts, largely due to cleaner production practices, which appear to develop as a by-product of reporting for an emissions register⁷, although introduction of cleaner production improvements at industrial

⁷ Aquatech, Preliminary regulatory impact statement for the National Pollutant Inventory, Report to the Environment Protection Agency, 1995

facilities is not necessarily the result of an inventory-style programme. Examples of such improvements include:

In the United States:

- 3M reduced solvent and air pollution emissions by over 90% in some of its facilities, saving the company over \$US600 million internationally⁸.
- Dow Chemical between 1984 and 1988 reduced its production of hazardous wastes and wastewater by 93% while at the same time increasing production by 30%. A modification to the companies acid gas absorption system costing \$US250 000 reduced the amount of waste disposed and produced annual savings of \$US2 726 000⁹.

Many of the companies involved in cleaner production investments have attributed the changes to the information generated in reporting to the TRI.

In Canada:

- Numerous examples of mining and smelting industries which under the Canadian Accelerated Reduction/Elimination of Toxic Substances reduced their toxic emissions by 40% between 1993 and 1995, while at the same time increased the value of their production by 35%. Significant reductions were achieved in terms of the emission of arsenic, mercury, zinc, cadmium, lead, nickel and cyanide¹⁰.

In Australia:

- Ford Australia reduced its heating costs and caustic residue disposal costs by \$300 000 per year by changing to a less polluting process for removing paint and sealer build up from car body skids. Although Ford had to invest in new water blast equipment costing \$120 000, it received a direct payback on this investment in less than five months¹¹.
- Cadbury Schweppes produced savings of over \$780 000 per year by adopting cleaner production procedures within 12 areas of its operations. The combined capital costs for these changes amounted to \$1.25 million. There was also a further total saving of \$0.5 million identified from continuing cleaner production changes¹².
- Numerous examples can be found from the Cleaner Production Demonstration Projects¹³, and in the *EnviroNET Australia - Cleaner Production Case Studies Directory*, operated by Environment Australia (on Internet at URL:<http://www.erin.gov.au/net/environet.html>).

⁸ International Program on Chemical Safety, Benefits of pollutant release and transfer registers, 1994

⁹ INFORM, Environmental Dividends: cutting more chemical wastes (MH Dorman, WR Muir, and CG Miller (eds)), New York, 1992

¹⁰ Mining Association of Canada, Voluntary Emissions Reductions, Adhawk Communications, Ottawa, 1996

¹¹ EPA (Victoria), Cleaner Production Demonstration Program, Ford Australia Ltd, 1994

¹² EPA (Victoria), Cleaner Production Demonstration projects, Cadbury Schweppes, 1994

¹³ Hands, P. and Sinanian, A. The Cleaner Production Demonstration Project - Turning growth into ESD economically, Environment Institute of Australia National Conference, 1995

These are examples of environmental management improvements that have been made without the assistance of a PRTR or NPI. This trend could be expected to continue without a NPI being established in Australia. The NPI is expected, however, to be a catalyst for encouraging more rapid and more informed environmental management improvements. NPI information will help facilities identify where to best focus cleaner production efforts. These case studies point to the potential of what could be achieved on a wider scale among a better informed industry.

Estimating impacts for jurisdictions

The costs borne by jurisdictions in developing systems to collect information from reporting facilities will vary between the States and Territories. In some cases there are existing mechanisms for the collection of information (eg. licensing of firms) which a jurisdiction may choose to modify for NPI purposes at fairly low cost. In some other cases, such as in jurisdictions whose environmental management programmes are at an early stage of development, new mechanisms such as legislative amendments or the drafting of special purpose legislation will need to be developed for NPI purposes and this should be recognised in implementation discussions between jurisdictions. As the costs to and likely number of reporting facilities will be more completely identified during the consultation process, the impacts on jurisdictions will also be able to be more completely identified. These impacts will be considered in the further development of the draft Measure, and ultimately by NEPC when deciding whether to make the NPI Measure.

It is likely that most jurisdictions will be able to draw on existing data collection mechanisms, at least in part, to give effect to data collection obligations required under the draft Measure. While none of the existing systems have been established specifically for the purposes of meeting these NPI obligations, most legislation already in place has a degree of flexibility which allows additional information to be collected from those premises requiring environmental authorisations.

Collecting data from those facilities which are not currently subject to environmental authorisations will require most jurisdictions to implement systems to meet Measure obligations. This will impose a significant impact on jurisdictions in determining how to approach those facilities, ensuring they are aware of potential obligations, and in providing some measure of support and capacity building to improve the quality of data. This will involve costs in setting up new systems and building resources within the appropriate agencies.

Jurisdictions may have to develop and introduce legislative or other mechanisms to enable this protocol to be enforced. Jurisdictions will bear the costs of developing and implementing the system they choose to adopt.

It is expected that some costs of these new systems could be taken from seed funding provided by the Commonwealth for the establishment of the programme. As part of the development of systems for information collection, some jurisdictions may delegate information collection powers to local government.

The beneficial impacts of the NPI on governments in Australia are difficult to quantify. However, the NPI offers a means for governments to set environmental priorities and document improvements in environmental quality. The NPI establishes important baseline data in terms of: amounts and types of chemicals released; the distribution of chemical usage and location of emissions; and releases categorised by industry as well as environmental media. This provides for better and more efficient regulation and aids in the process of determining research priorities. In addition, information provided by the NPI could be used to assess the effectiveness and efficiency of government programmes designed to reduce pollutants in the environment, and the impact of negative externalities arising from pollution¹⁴.

Consequently other benefits to governments may include reductions in expected future costs associated with remediating environmental degradation. That is, as more information becomes available, governments will be better equipped to establish rules that minimise the forecasted costs of future damage. Further benefits may also result from improved public health and lower national medical expenses, as well as higher national productivity levels¹⁵.

To implement the NPI, governments will need to collect information from reporting facilities, estimate diffuse emissions, process and store data, disseminate and promote the data to users, and evaluate the effectiveness of the NPI programme. The exact level of support and resources to be provided by each level of government is yet to be finalised although the Commonwealth has funded the development of the NPI to date and has indicated its willingness to fund the implementation (to the initial limits identified in Table 5.3) of the core of the NPI programme provided the key objectives of the programme are met. Opportunities also exist for States and Territories to provide support in kind by providing advanced modelling of the emissions data, thereby increasing the overall value of the NPI.

Elements of these costs to jurisdictions, which reflect existing funding allocations made by the Commonwealth, fall into two categories:

- payments by the Commonwealth to manage components of the programme associated with storage, provision, promotion, evaluation and administration, and
- payments by the Commonwealth to States and Territories for the purposes of information collection, validation and compliance.

Based on the estimate that 2,500 facilities will need to report and the experience of the NPI trials, it is estimated that management of information provided by reporting facilities will cost approximately \$1.3 million per annum. The Commonwealth will initially bear a significant component of the cost of implementing the programme to ensure that NPI data is able to be collected and validated by all jurisdictions.

¹⁴ Aquatech, Preliminary regulatory impact statement for the National Pollutant Inventory, Report to the Environment Protection Agency, 1995

¹⁵ Aquatech, Preliminary regulatory impact statement for the National Pollutant Inventory, Report to the Environment Protection Agency, 1995

Key Points:

- This protocol creates a requirement for facilities to report transfers and emissions of substances at or above the threshold levels nominated in the reporting list.
- It is expected that the total reporting costs for all facilities which are required to report under this protocol will be approximately \$5.6 million in the first year and \$5 million in each subsequent year.
- Further costs will be borne by facilities who need to assess whether or not they are required to report. These costs are expected to be small in the majority of cases.
- This protocol creates a requirement for all jurisdictions to ensure that NPI information is collected from reporting facilities. Developing and implementing systems to collect NPI information will impose different costs in each jurisdiction dependent upon the way that jurisdiction implements reporting and information collection requirements.
- The Commonwealth will initially bear a significant component of the cost of implementing the programme to ensure that NPI data is able to be collected and validated by all jurisdictions.
- The collection and collation of information from reporting facilities is expected to cost approximately \$1.3 million per annum.

Discretion of jurisdictions to require additional reporting

This protocol notes that participating jurisdictions may require a facility which is not a reporting facility under the draft Measure to provide emissions data and/or transfer data as identified in Schedule B to the draft Measure. This protocol also gives nominated agencies of individual jurisdictions the flexibility to require more comprehensive reporting on substances identified within Schedule B for their own jurisdiction if they wish.

For example, jurisdictions may apply this protocol to require reports from facilities where:

- they are located in an environmentally sensitive area,
- there is a change in the understanding of the impacts of a particular substance, or
- if the facility is believed to be a very poor operator which has a (perceived or real) environmental impact beyond that which would be expected from such a facility.

The costs of administering any such additional reporting requirements will be borne by firms which State and Territory Government require to report under this NPI protocol. The nature of the costs borne by these firms will be similar to those discussed above for reporting facilities. It could be expected that such a firm will have a poor environmental management and monitoring systems in place and will not be able to draw upon their existing systems to fulfil NPI requirements. Jurisdictions may need to invest some resources in assisting firms to fulfil these requirements (eg. provision of information regarding NPI requirements, assistance in meeting reporting requirements, etc.).

At this stage, it is not known whether any jurisdictions intend to require such further reporting. Any further reporting required would lead to an increase in the total cost to

facilities of producing and providing reports to the nominated agency of that jurisdiction. In making a decision as to whether to require such additional reporting, the jurisdiction would need to consider whether the additional costs imposed are justified by the better information resulting from such reporting.

Key Points:

- This protocol provides for the acquisition of NPI reports from facilities at a jurisdiction's discretion.
- The reporting costs will be borne by the facility required to report under this protocol.
- The nominated agency in each jurisdiction will face higher information collection costs if additional facilities are required to report.

Emission estimation techniques

This protocol requires each jurisdiction to ensure in estimating the amount of a substance emitted or transferred, reporting facilities should:

- either use the most accurate emission estimation technique available from those techniques agreed by participating jurisdictions, or use any other estimation technique which can be demonstrated as likely to provide more accurate data than the agreed techniques,
- document the estimation techniques used, and
- retain any data which may be necessary to validate the estimate and provides that data as required.

This protocol is aimed at ensuring that estimates of emissions from reporting facilities are based upon one of a set of agreed estimation techniques. It is expected that the most accurate of the available estimation techniques would be used within the constraints of the information and resources available to the reporting facility. Some flexibility to vary the estimation techniques to produce improved accuracy is also allowed. This protocol may mean in some cases that estimation techniques which are more expensive than those which would otherwise be used by the firm are required. The likely additional cost could be expected to vary depending on the actual technique used and the experience and expertise of the facility. However the benefits flowing from the improved reliability of the resulting estimates, the better information on which to make operational improvements, and any subsequent efficiency savings, will balance this cost impost. The use of agreed estimation techniques will improve the comparability of NPI data between firms, ensure that data quality is consistent between jurisdictions and that the data is useful to the Australian community.

While it would be undesirable to prescribe emission estimation techniques which should be used, it would be advantageous to provide some guidance to facilities as capacity building is likely to be required. It is intended to provide some guidance documents which will detail various methodologies which could be used given various available data, and the relative accuracy of those methodologies. It is important that both users of the methodologies and

users of the data have access to information regarding the limitations and variability which might be expected from using one methodology rather than another.

Such guidance methodologies will be updated as new information becomes available. Examples of emission estimation include mass-balance techniques, calculations from continuous or non-continuous monitoring data, and the use of emission factors. The costs of developing and updating emission estimation guidance documents will be borne by Governments.

Emitters will be able to use their own emission estimation techniques or draw on direct measurements if they exist, provided these techniques are likely to be more accurate than those contained in the guidance documents. It is intended that guidance documents will represent a minimum position. Emitters will be encouraged to use more accurate estimations or measurement where they exist.

As discussed above, the costs of estimating and reporting will be borne by the reporting facility. It is expected that firms which are familiar with systems for such monitoring and estimation will face lower costs than firms which have not previously undertaken such activities. Firms producing estimates for the first time are likely to face high costs in the first year as systems are developed to fulfil this NPI requirement. As noted above, the intention is that the first twelve months of operation of the Measure will allow time for such firms to develop appropriate systems at minimum cost.

Validation of data submitted from facilities will largely rely on cooperation by facilities in providing calculations, and by jurisdictions in both establishing some general guidelines for validation and for ongoing review of data received. Under this protocol, actions for ongoing validation could include immediate follow-up calls, cross checks with similar operations, and questioning of specific submissions at the time data is submitted by facilities. This validation will be carried out by States and Territories

This protocol is closely related to that for 'validation of emissions data', which is discussed below.

Key Points:

- This protocol will help ensure that estimates of emissions from reporting facilities are either based on an agreed estimation technique or another technique which will provide more accurate estimates.
- Estimation costs will be borne by reporting facilities.
- Assistance will be provided through guidance documents which will be developed to help facilities estimate their emissions.
- Reporting facilities will be encouraged to use the most accurate and appropriate estimation technique possible.

Additional information supplied by jurisdictions

This protocol requires the State and Territory Governments receiving data from reporting facilities to compile additional data for use within the NPI database. This information is:

- the relevant Australian and New Zealand Standard Industrial Classification (ANZSIC) code and industrial operations code for the facility (where available), and
- the geographic coordinates of the facility,

It also requires State and Territory Governments to:

- undertake actions they consider necessary to ensure that the information provided by particular reporting facilities is valid, and
- identify the level of accuracy, as per a scale to be agreed between jurisdictions, of the facility operator's estimate of its emissions and/or transfers of substances specified in Schedule B.

This protocol will impose some costs upon the Government agency collecting information from the reporting facilities within each jurisdiction. Some of these costs will be one-off administrative costs (eg. to identify the geographic coordinates accurately) which will be fairly minor. The costs involved in ensuring the validity of information provided and identifying the accuracy of the operator's estimates will vary depending upon the amount of effort invested by each jurisdiction in this type of data validation and assessment. It is envisaged that the processes to be followed for validation exercises will be the subject of discussion and agreement between jurisdictions. The costs incurred could be expected to decrease as expertise is gained within each jurisdiction, although validation results could also point to areas in which existing methodologies need to be refined. This would impose further costs on jurisdictions and would need to be the subject of discussion and agreement between jurisdictions.

Key Points:

- This protocol requires the collection of additional data, according to processes to be agreed between jurisdictions, to ensure complete and accurate information is available on the NPI database.
- Costs incurred by jurisdictions to collect this data are expected to decrease as expertise is gained and the information set becomes more complete.

Validation of reported data

Each jurisdiction is required to ensure that the information provided by an agreed number of reporting facilities within that jurisdiction is subject to validation. Firms subject to such validation will be chosen at random, and the validation will be conducted using an approach agreed by jurisdictions.

Such validations will impose costs on the Government agencies undertaking those validations. The extent of these costs is currently unknown, and is subject to decisions as to the number of validations to be undertaken and the techniques to be adopted in carrying out such validations. To a smaller extent, costs will also be imposed on the firms whose

information is being validated, particularly where further information is required in order to conduct the validation, or where a re-estimation is required because the validation shows inaccuracies in the information provided.

At this stage the number of reporting facilities subject to validation on a random basis is yet to be decided. It is intended that a process will be put in place to ensure that the number of reporting facilities subject to validation balances the competing demands of (i) the desire to minimise the cost to Governments and reporting facilities of conducting validations, and (ii) the desire to ensure that the information provided for the NPI database is as accurate as possible. This process will also ensure that the agreed obligations for validation will be equitably shared between jurisdictions. In practical terms this means that jurisdictions with higher numbers of reporting facilities will perform more validations than jurisdictions with fewer reporting facilities.

Validation of data supplied by Commonwealth facilities would also be subject to this process, although it would not apply in cases where exemptions have been granted for national security, such as in the case of some defence facilities. It could also reasonably be expected, that in cases in which defence facilities do supply NPI data, access by validation personnel may be constrained by national security considerations not directly connected to NPI reporting requirements.

Key Points:

- This protocol ensures that data collected for the NPI database is validated by jurisdictions.
- A process will be put in place which balances the cost to jurisdictions of the validation exercise while ensuring that the accuracy of the database is maintained.
- Validation obligations will be shared equitably between jurisdictions.

Information from reporting facilities supplied to the Commonwealth

Each participating State and Territory is required to submit the information provided by reporting facilities (see discussion under ‘Collection of data from reporting facilities’, above) and the additional information it is required to supply (see discussion under ‘Additional information provided by jurisdictions’, above) to the Commonwealth on or before 31 October each year. This information is required to be submitted in an agreed format.

The costs involved in this requirement will be minor, being simply information transfer costs borne by the State and Territories to ensure that the information gathered is accurately submitted to the Commonwealth in the appropriate formats.

Key Points:

- This protocol provides for the transfer of NPI information on reporting facilities from States and Territories to the Commonwealth in an agreed format.

- Costs associated with information transfer are expected to be minor.

Estimation of aggregated emissions other than from reporting facilities

This protocol requires each State and Territory to develop (either directly or by contract with an external supplier) estimates of emissions of substances listed in Schedule B to the draft Measure which are from:

- facilities which are not reporting facilities,
- mobile sources (eg. motor vehicles), and
- diffuse sources (eg. contaminants in stormwater discharges).

Estimation of diffuse sources of emissions will be costly and resource intensive. Therefore, it is expected that jurisdictions will agree to estimate diffuse sources from time to time, such as once every 3 years on a rolling basis. Jurisdictions will also need to agree to the most relevant regions on which to do this estimation. It is expected that efforts would initially focus on estimating data on substances that are of highest priority to a region. As the database develops, it could therefore expect to expand to encompass a broader range of substances of which emissions are relevant to a region.

For example, information could be obtained through the development of air emission inventories of urban regions or models for domestic landfill sites. Limited occasional surveys, already undertaken by the Australian Bureau of Statistics, could be augmented to provide information on domestic emissions. Likely sources of information to generate aggregated data include wholesalers, industry associations and other government bodies and departments (such as the Australian Bureau of Statistics or transport authorities).

The draft Measure states that each participating State and Territory should ensure that it can gain the information necessary for the development of these estimates of emissions from sources other than reporting facilities by legislative mechanisms or by other arrangements. This allows each jurisdiction flexibility in the approach adopted to information gathering for these estimation exercises.

The inclusion of estimates of emissions from sources other than reporting facilities is crucial to the integrity and effectiveness of the proposed NPI. To maximise the benefits of the NPI, data coverage needs to be complete in terms of all sources of emissions. There are two key reasons for this:

1. including all emissions means that the NPI is more accurately able to reflect environmental pressures at any given site. Inclusion of point sources alone would mean that a large number of sources, and in many cases the main contributors of pollutants are ignored.
2. the inclusion of all emissions means that policy development and environmental planning will be able to take place within the context of a knowledge of the total emissions to the environment and the relative significance of each source. This will enable the relative impacts of different sources to be considered in context by both decision makers, planners and the community at large.

A more indirect benefit that could result, especially in respect of mobile and diffuse sources, is that some product innovation could be induced through clearly identifying the contribution of these (often overlooked) sources to total emissions.

A number of existing models of discharges from point sources (ie. facilities), mobile sources and diffuse sources already exist. For example a number of major Australian cities have air-shed models and emissions inventories as part of their air-shed management systems. Similar systems exist for a number of water catchments to assist in managing the impacts of a range of activities within those catchments on water quality. Many of these existing inventories and models will be able to input to the NPI.

The additional costs of modelling to be faced by Governments are uncertain. Where models already exist, it is expected that only small marginal costs will be involved in making these suitable for the NPI. For the NPI trials, EPA (Victoria) noted that "Additional minor costs were associated with data collection for diffuse source estimation and modelling"¹⁶. This report also noted that methodologies for diffuse source emissions estimation are most suited to large metropolitan regions and are more accurate at these broad scales.

Given this experience, both the coverage of the estimation that is required and the methods that are chosen will have a significant impact on the costs of including these sources. In the large metropolitan regions the marginal costs are expected to be relatively small. If included, the cost of estimating emissions from diffuse sources in the agricultural sector have the potential to be quite high. The costs of developing models of any diffuse sources will need to be balanced against the benefits these models will generate for the NPI.

The cost of estimating diffuse emissions is unlikely to be proportional to the population of each jurisdiction. Jurisdictions with existing inventories will be able to produce suitable estimates for the NPI at a significantly lower cost than those without. For example, the cost of estimating motor vehicle emissions in Sydney and Melbourne may be significantly less than that for smaller cities.

It is currently estimated that estimation of emissions from sources other than reporting facilities will initially cost approximately \$1.2 million per annum. It is intended that the Commonwealth Government will provide funding to the States and Territories to enable this modelling to occur. Because this estimation is required to be undertaken on a three year rolling basis, this cost will be spread out over the three year period (with the spread dependent on the approach State and Territory Governments take to fulfilling this requirement).

The estimated cost of conducting diffuse and mobile source modelling is based on the following assumptions:

- estimating diffuse emissions to air would cost \$0.85m. This is based on a comparison of work performed by Dames & Moore and the Victorian EPA in the air emissions trial

¹⁶ EPA (Victoria), Report on the Air Emissions Trials for the National Pollutant Inventory, 1996

and covers modelling of 14 key urban regions, based on population, which could be initially subjected to modelling.

- for emissions to water, estimates will initially rely on existing catchment modelling and the inclusion of existing or proposed water quality monitoring data (in particular for the Murray-Darling system), sewage treatment plants and urban run-off monitoring. This area of emissions estimation is currently costed at \$0.175 million.
- for releases to land, the ANZECC Australian Waste Database, will progressively capture transfers to landfill and this will supplement information provided to the NPI through direct reporting. This area of emissions estimation is currently costed at \$0.175 million.

These estimated costs for modelling mobile and diffuse sources of emissions are based upon applying the existing modelling methodologies and transferring the results of those models to the NPI system. In the future, it is expected that areas will be identified where further development of models will produce substantial benefits, and that further investment will be made in developing or improving models to produce these estimates.

Key Points:

- This protocol requires States and Territories to estimate emissions of substances that will not be reported to the NPI by reporting facilities. This will provide a better picture of emissions to the environment from all sources.
- Jurisdictions shall develop or contract out the development of processes which will enable the estimation of substances.
- Estimation is expected to be resource intensive and will be undertaken on a three year rolling basis. Initial estimation costs will be approximately \$1.2 million based upon first being able to apply existing methodologies.
- Further development of models to produce better estimates will be considered as areas which would substantially benefit from this effort are identified.

Information on aggregated emissions supplied to the Commonwealth

This protocol simply notes that on or before 31 October each year, each State and Territory must submit to the Commonwealth the estimates developed for non-reporting facilities and mobile and diffuse sources of emissions. These estimates are to be provided in an agreed format.

This protocol will have only minor cost implications for the State and Territory Governments, with the cost of information transfer being very low.

Key Points:

- This protocol provides for the transfer of NPI information on aggregated emissions from States and Territories to the Commonwealth in an agreed format.

- Costs associated with information transfer are expected to be minor.

Additional information supplied to the Commonwealth

This protocol notes that jurisdictions are not prevented from submitting other information to the Commonwealth for inclusion in the NPI where this information will assist in public understanding of environmental impacts related to the emission or transfer of substances identified in Schedule B to the draft Measure. An example of such additional information is information relating to ambient concentrations of specified substances for a particular region.

Because of its voluntary additional nature, this protocol does not impose any costs on State and Territory Governments in respect of implementing the Measure. Where Governments choose to supply additional information there may be some marginal additional costs for data verification, transfer and administrative costs. Similarly, the costs to the Commonwealth of accepting, collating and disseminating this extra information are expected to be minor.

Key Points:

- This protocol allows for the voluntary provision of information for inclusion in the NPI which is not actually required under the draft Measure but which States and Territories consider will help the public understand the environmental impacts of emissions.
- Costs associated with information transfer are expected to be minor.

Part 4 - National Environment Protection Guidelines

What is a Guideline?

National Environment Protection Guidelines provide guidance on:

- how standards or goals may be achieved (eg. nutrient management strategies), or
- how specified environmental problems can be addressed (eg. contaminated sites).

They:

- are not mandatory
- provide a basis for harmonised approaches, and
- may stand alone or be part of another NEPM

Guidelines can be used in a number of ways. They can be part of a full NEPM and set out the preferred approach to achieving or maintaining an environmental standard. This has advantages including the sharing of resources in the development of management strategies, eg. in the control of motor vehicle emissions. But since guidelines are not mandatory they allow jurisdictions to experiment with other approaches or for small jurisdictions to take a lower cost but, in their terms, equally effective route.

Guidelines can also be issued as stand alone measures. For example, guidelines agreed by the Australia and New Zealand Environment and Conservation Council (ANZECC) and the

National Health and Medical Research Council (NHMRC) for Contaminated Sites could be established as a NEPM, thus giving them clear statutory status.

The NPI Measure guidelines are:

- amending the reporting list,
- confidentiality,
- enforcement provisions,
- legal status of data supplied to the National Pollutant Inventory,
- security of data,
- access and provision of National Pollutant Inventory data to the public,
- guidance for collecting data from reporting facilities, and
- rights of third parties.

Amending the reporting list

The reporting list set out at Schedule B of the draft NPI Measure lists the substances which are proposed to be included on the inventory and specifies a threshold level for each substance. If the activities of a facility involve the use of a substance on the list at or above the threshold level specified for that substance, it is proposed that the facility will be required to report on all emissions or transfers of that substance (as discussed above).

The list of substances and related threshold levels in the reporting list are based on work done by a Technical Advisory Panel established by NEPC Committee to assist in the development of the draft NPI Measure. For further discussion on this issue, see Appendix 3.

It is envisaged that over time there will need to be substances added and removed from the reporting list as scientific knowledge increases or environmental priorities change. Similarly, further refinement of the associated thresholds will be possible as jurisdictions gain experience as to the actual significance of emissions and the costs associated with estimating the emissions. In light of this, transparent and rigorous mechanisms are required to amend the reporting list or the associated thresholds.

As the reporting list forms part of the draft Measure, amendments to the reporting list and associated thresholds will be subject to the process for varying NEPMs set out in the NEPC legislations, including the requirement for an Impact Statement to be prepared. This process provides transparency, guarantees opportunities for public input, and balances jurisdictional concerns with the need for national consistency.

These clauses of the draft Measure provide guidance to jurisdictions and other stakeholders on further elements envisaged by the NEPC for this amendment process in addition to those requirements set out in the NEPC legislation. NEPC envisages that there will be a transparent process agreed between jurisdictions which allows any member of the public to nominate a substance for inclusion on, or deletion from, the reporting list.

Nominations would need to be justified and may, if it is found necessary, be subject to a screening process agreed by all jurisdictions to ensure that proper scrutiny is given to those nominations which deserve it, and that resources are not wasted on the assessment of nominations which are clearly frivolous or vexatious. Nominations would not require payment of a fee. However individuals and organisations making nominations for changes to the reporting list would be expected to bear the costs (such as their time) associated with preparing their submissions and justifying their nominations.

Under the guideline, NEPC envisages there will be regular review of the reporting list and associated thresholds, in light of the public nominations and experience in implementing the NPI Measure, by NEPC every two years. All nominations will be assessed against agreed selection criteria. The guideline sets out the intention of NEPC that these reviews will be based on sound science and informed by the advice of a panel of technical experts representing an appropriate range of relevant scientific expertise and by any relevant information which can be gained from other assessment process.

Longer or shorter periods between reviews were considered in developing the draft Measure. A review every two years was selected as an appropriate balance between the competing demands of the cost and uncertainty involved in very regular reviews of the reporting list and the rigidity of a system with reviews only every three or more years.

The major costs in reviewing and amending the reporting list will be borne by the Commonwealth, State and Territory Governments through their funding of NEPC. Other options, such as using existing assessment processes such as the National Industrial Chemical Notification and Assessment Scheme (NICNAS) could also be explored to carry out some of this work. NEPC will pay for the process of reviewing the reporting list each two years. Where changes to the reporting list are recommended, NEPC will also fund the process of amending the Measure to take account of those recommendations.

Key Points:

- The reporting list will be reviewed every two years to ensure that it remains up to date with scientific knowledge and environmental concerns.
- Nominations proposing amendments to the reporting list will be able to be made by any member of the community.
- The major costs will be borne by NEPC which will fund the review process and any amendment of the Measure necessary to take the recommendations of the review into account. Other stakeholders will bear costs in participating in that process.

Confidentiality

A concern that has been expressed by some stakeholders is that data proposed to be disseminated under the draft NPI Measure may in some instances either prejudice national security or provide competitors with commercially sensitive information leading to an unfair commercial advantage. The concern, in more specific terms, is that emissions data

from a particular facility may allow someone with the requisite technical expertise to determine what, and how much of it, is being produced at that facility. In the case of, say, a defence establishment this information alone may be sufficiently confidential to warrant protection. In the case of a commercial facility, the information may allow derivation of information on a particular firm's market share or the particular production process used, which may not be generally available and may have some commercial sensitivity.

Given that the vast majority of emissions data proposed to be disseminated under the draft NPI will be approximate in nature, it is not expected that there will be many cases where such sensitive information would be able to be derived. Experience with similar inventories in other countries suggests that there will be few valid claims. Nonetheless, some protection is required for those exceptional cases.

Under the draft Measure it is proposed that data from reporting facilities will be collected through the legislative mechanisms of individual jurisdictions. Most jurisdictions have legislative provisions which prevent the release of any confidential information and trade secrets which is gained by environment protection agencies. Any confidential data supplied by reporting facilities under the draft Measure would be protected by these provisions. In consultation to date the Australian Bureau of Statistics (ABS) has shown an interest in accessing these data on a confidential basis. While there may be constraints in existing legislation, jurisdictions are encouraged to look at avenues for making these data available to the ABS for statistical purposes.

Claims of commercial confidentiality would therefore be assessed by the agency of the participating State or Territory nominated to collect and compile the NPI information in accordance with the legislative framework existing in that jurisdiction, including Freedom of Information legislation where applicable. The courts of the relevant jurisdiction would, if necessary, be the ultimate arbiter of disputes. Claims of confidentiality on the basis of national security would need to be assessed by the appropriate Commonwealth authority, such as the Department of Defence, within the legislative framework existing in the Commonwealth.

This guideline clause of the draft Measure sets out the principles which NEPC envisages that jurisdictions will apply in assessing such claims in order to balance the need to achieve the objectives of the NPI with the need to prevent the release of truly confidential information. Under this guideline, it is proposed that the onus will be placed on reporting facilities to substantiate claims that data are confidential and that the relevant jurisdiction will weigh this evidence against the public interest in the disclosure of the data to determine whether dissemination occurs. The guideline will ensure that there is some national consistency in the assessment of claims for confidentiality despite the differing legislative provisions for dealing with confidential information in each jurisdiction.

The guideline sets out in some detail the factors which should be considered by jurisdictions in making this assessment. If data are found to be confidential, it is proposed that more generic data which are not confidential will be disseminated where possible. Under the draft Measure, it is envisaged that further details of the assessment process will

be specified in an agreement between all jurisdiction. These will include a requirement that successful claims will remain valid for a specific number of reporting years before being reviewed by the relevant jurisdiction to determine whether the grounds for the claim are still valid.

Facilities applying to have their NPI information treated confidentially will bear the costs of making an application to the appropriate jurisdiction's agency. Similarly, jurisdictions will bear costs of assessing the validity of these applications. These costs will be balanced by the benefits of making sure that there is a mechanism for protecting genuine cases of commercial confidentiality or national security concerns. As noted above, the number of applications which will be received is unknown, but it is anticipated that it will be fairly small based on the number of such claims received under similar systems in other countries and, as a result, the costs associated should be minor.

Key Points:

- This guideline provides some guidance to jurisdictions as to how to treat claims from facilities that information should be confidential for commercial or national security reasons.
- This provides guidance for jurisdictions in applying their own legislative framework for treatment of confidential information.

Enforcement provisions

There may be occasions when a reporting facility does not provide the data which would be required under the draft NPI Measure or provides data which is false or otherwise misleading. In order to meet the objectives of the draft NPI Measure, some deterrent to this type of behaviour is required. Under the draft Measure, it is proposed that data from reporting facilities will be collected through the legislative mechanisms of individual jurisdictions. Failure to provide data or provision of false or misleading data would therefore potentially be subject to the penalties prescribed by those mechanisms. However, the relevant prosecutorial agency has a range of enforcement options to choose from at its discretion.

The draft guideline provides a nationally consistent framework within which those agencies would exercise that discretion. In recognition of the co-operative nature of the NPI programme, the primary enforcement mechanism will be through naming of facilities that have not met their reporting obligations in the annual reports on implementation of the Measure which jurisdictions are required to provide to the Council under the NEPC legislation. The public naming provision is accompanied by due process guarantees to ensure facilities believed to be in breach of their obligations have an opportunity to offer any explanations and to be heard impartially prior to further action being taken.

Public naming reports, and an overall assessment of the implementation and effectiveness of the Measure will be tabled in the Parliaments of all participating jurisdictions, as required under the legislation, and should serve to generate sufficient adverse publicity for

the facilities concerned to provide an effective deterrent against non-compliance with reporting obligations.

While more punitive enforcement options, including prosecution, may be available, under the draft guideline it is not envisaged that jurisdictions will resort to these options, unless there are exceptional circumstances. Such circumstances might include repeated breaches of these or other environmental requirements or actual dishonesty on the part of the facility operator.

The use of enforcement actions against non-reporting firms will have some minor administrative costs for jurisdictions. However, the key impact anticipated is the implication for the firm against which the enforcement action is taken. While it is difficult to anticipate the implications which naming of a non-reporting firm may have, it is expected that there could be significant media and consumer responses in cases of non-reporting of NPI information requirements.

A one year period of mandatory reporting without the imposition of penalties is proposed to allow time for both industry and governments to understand and implement their commitments and obligations under the programme.

Key Points:

- A range of enforcement options may be adopted by each jurisdiction for non-reporting of information requirements under the NPI.
- It is envisaged that the most common form of enforcement will be the naming of non-reporting facilities in annual reports regarding the implementation of the Measure. This action is expected to lead to community pressure on those facilities to comply with their reporting requirements.

Legal status of data supplied to the National Pollutant Inventory

This guideline explains that it is not intended that information provided to the National Pollutant Inventory would be used as evidence in court proceedings against the facility operator, except for proceedings which may be instituted for non-compliance with the obligations proposed under the draft Measure (such as prosecution for false or misleading reporting). This reflects the fact that the draft NPI Measure is primarily intended to be a tool for gathering and disseminating data on emissions to the environment. The NPI is not intended to be a tool for auditing compliance with regulatory requirements.

The clause also indicates that participating jurisdictions recognise that data provided by reporting facilities will, by and large, be derived from estimation. In general, these data, apart from those obtained by direct measurement, would not carry sufficient weight to be used as persuasive evidence in court proceedings such as for breach of discharge limits specified in a facility's discharge licence. However, some data that is provided by jurisdictions to the NPI may derive from information collected through existing enforcement systems. As such, it is possible that jurisdictions would already be using such data as part of evidence for a prosecution.

This guideline is intended to reinforce the fact that the NPI is an information tool, and will not be used by Governments as a tool for enforcing other environment protection requirements imposed by individual jurisdictions. NPI information may help Governments identify problem areas where attention to the environmental effects of a facility is required. However, assessing compliance with other environment protection requirements will be undertaken through the specific mechanisms developed for those purposes and only on that basis is enforcement action envisaged. It is hoped that by reinforcing this fact in the guideline, any remaining industry concerns regarding the way in which Governments intend to use the NPI will be allayed.

In some cases, members of the community may wish to see the NPI information used as a basis for enforcement action against facilities under the environment protection legislation within each jurisdiction. However the clear intention is that such enforcement should only be taken where there is more conclusive and defensible evidence of breaches of environmental protection requirements.

Key Points:

- This guideline clearly states the intention that NPI data will not be used as evidence of a breach of environment protection legislation within a jurisdiction and will not be used for enforcement of such legislation.
- Over the first twelve months of operation of the Measure, no penalties will be applied for failure to report or provision of false or misleading information.
- The twelve month phase-in period will allow systems to be put in place so that industry and government can fulfil their NPI obligations.

Security of data

These clauses provide guidance to participating jurisdictions on the need for secure storage of data to prevent premature release or NPI information or tampering with the database. Data from reporting facilities should not be released prior to validation, unless a government is legally compelled to do so, as these data may be incorrect. Both these data and those from estimations of emissions from smaller facilities, and diffuse and mobile sources are likely to be misunderstood unless relevant contextual information is provided.

Secure storage of data will be particularly important where claims of confidentiality have been successful or where such claims have been made and are being assessed by the relevant jurisdiction. It will also be important where data are supplied in confidence to jurisdictions to enable the estimation of emissions from smaller facilities, and diffuse and mobile sources (eg. data on sales of a particular volatile solvent). The lack of secure storage may prejudice the availability of such data.

This guideline will require governments (State, Territory and Commonwealth) to ensure that the data management systems established incorporate appropriate security measures.

This will involve only a small marginal cost in addition to the costs of establishing a data management system appropriate for implementation of the NPI.

Reassurance that appropriate data security measures will be implemented is a key component in achieving the cooperation of reporting facilities, and will assist in the successful implementation of the NPI. The fact that these security measures will ensure that the NPI information can only be viewed along-side appropriate contextual information is an important component of this.

Key Points:

- Governments will ensure that the NPI data is managed in a secure fashion so that information is not able to be taken from the NPI data base by external parties, until it is in a suitable form.

Access and provision of National Pollutant Inventory data to the public

These clauses of the draft NPI measure outline the means by which Council envisages that the data collected under the programme will be disseminated to the public. It is proposed that the Commonwealth will be largely responsible for ensuring public access to the data through the following mechanisms:

- Internet access to the database,
- production of annual CD ROMs to be circulated to local libraries, universities and educational institutions, and State and local governments, and
- publication of reports summarising NPI information.

Council also envisages that NPI data will be appended to the report on the implementation and effectiveness of the NPI Measure which, under NEPC legislation, must be prepared annually and tabled in the Parliaments of all participating jurisdictions.

The guidelines provide further detail on the appropriate methods and conditions under which Council envisages the Commonwealth will meet in its obligations for dissemination of the NPI information. In particular Council envisages that NPI information will be written in plain language and simply laid out, and include contextual information to assist in interpretation. This will be necessary to ensure that the NPI contributes to improved public understanding of environmental issues and allows users of NPI information to make informed decisions based on relevant data.

The sorts of contextual data that should be provided to achieve these objectives could include:

- information on the reportable substances included on the National Pollutant Inventory, such as identification, intrinsic properties, sources, uses, existing standards, background levels of the substances, health and environmental effects and likely fate of the substances in the environment,
- references to further sources of information about the reportable substances,
- in the case of internet access, links to other home pages which may be of interest,

- description of industry types and how particular industries use reportable substances,
- emissions estimation techniques used to collect data and the level of accuracy about these techniques, and
- ambient concentration data or relevant monitoring data, if jurisdictions are able or interested to provide this.

Council envisages that NPI information will be nationally available free of charge, in line with the principle of guaranteed community access. There may be some opportunities for the Commonwealth to recover some of these data development costs through the sale of more detailed analysis of the data than that produced for community availability. The revenue from any such activity is likely to be small. Multiple copies of reports or CDs required may also incur a cost recovery charge.

It is envisaged that the internet and CD ROM platforms will include a geographic information system. This will allow information to be viewed by locality, substance, facility, activity or any combination of these factors. Internet links and references will be included to direct users to further information or databases. This will create a “tiered” effect, with simple access and manipulation, while still allowing users to access more detailed information if desired.

Two particular issues will be flagged in the database in order to avoid misunderstanding. These are:

- where transfers of waste from a facility to a waste disposal, treatment or reuse operation occurs (so as to avoid “double counting” of these wastes), and
- data quality levels, specifically in relation to accuracy and precision of emissions and transfer data.

The key impact of the provision of NPI data will be the cost implications in designing the information presentation systems for the NPI. The Commonwealth government is responsible for ensuring that the information is made available to the community in the methods described above and will bear these costs.

The costs of developing the ‘front-end’ of the information provision systems are difficult to estimate, but are significant. A substantial investment has already been made through the development of presentation systems for the NPI trials. Further development to allow access to this type of information over the internet is currently under way. The time by which information provided by the States is disseminated by the Commonwealth will depend largely on technical issues such as the format in which data is received. It may be appropriate for NEPC to set a time limit for this task as these technical issues are resolved.

It is currently estimated that information storage and the ongoing investment in maintaining the NPI database would cost the Commonwealth \$0.3 million a year for the first two years of operation of the NPI and then \$0.2 million a year for each subsequent year. This expenditure will assure:

- appropriate information technology support to NPI data collection officers,
- ongoing database expansion and updating,

- subscription fees for the identification of geographical coordinates of reporting facilities (ie. latitude and longitude), and
- regular and independent audits of the information collected. Audits will assist public confidence in the database's quality, data accuracy and data coverage.

It is expected that costs associated with information storage would decline in subsequent years as the NPI becomes established. It is also expected that auditing would become less necessary and collection procedures are improved. Fees associated with identifying geographical coordinates would also reduce as all industries reporting are identified.

It is currently estimated that it would cost the Commonwealth \$0.5 million a year to support the provision and promotion of NPI information to the public. This funding would support:

- an annual media campaign to promote awareness of the NPI,
- production of CD-ROMs presenting information from current and previous years for dissemination to public libraries, universities and other educational facilities, etc,
- internet capability and maintenance,
- targeted information provision campaigns for industry, and
- updating of contextual information explaining substances on the reporting list and the processes used to arrive at the NPI information.

Depending upon the exact strategies adopted to make the NPI available to the community, there may be some cost implications for community libraries and other public facilities where the database may be made available. Any costs to such organisations will need to be negotiated with the Commonwealth Government when decisions are being made as to the most appropriate placement of the NPI database for community access.

There will also be some costs to the community in terms of learning to access and effectively use the NPI. It is hoped that these costs will be minimised through the design of easily accessible and understandable systems, and these costs will be massively outweighed by the value of the information provided to the community. The Victorian trial showed that users of the database found the NPI information useful, interesting and understandable¹⁷. Many users found the system easy to use and others who encountered difficulties have provided feedback which has enabled improvements in the presentation of the system.

It is anticipated that the information will be used by the community for a wide range of purposes including:

- | | |
|-----------------------------------|------------------------|
| • comparisons for permits | • marketing studies |
| • preparation of company profiles | • educate citizens |
| • pressure facilities for change | • assess existing laws |
| • emergency planning | • identify 'hotspots' |

¹⁷ EPA (Victoria), Report on the Air Emissions Trials for the National Pollutant Inventory, 1996

- epidemiological studies
- develop policy or legislative proposals
- compare point, diffuse and mobile sources
- screen for socially responsible investment
- spur direct citizen/industry dialogue
- inform workers
- estimate risks in local areas
- promote use of cleaner technology
- estimate releases from non-point sources

The NPI will clearly influence the way in which the community perceives the environment and the relative significance of various impacts upon environmental quality. From the perspective of a particular reporting facility, this may have either positive or negative implications, dependent upon the types of impacts that facility has on the environment and the contribution it makes to the total environmental impact in the region. For a facility which effectively manages its environmental impacts, comparisons with similar facilities through the NPI may lead to an improved public profile and increased consumer support for their products. The opposite effect could also be expected by a facility which is a poor manager of its environmental impact.

Another likely implication for industry is that community perception may be changed when the community is able to assess the relative contribution of the facility when compared to other sources (mobile and diffuse sources in particular). In many cases, it is expected that this information will enable the community to identify the major contributors to environmental problems, which in many cases are diffuse and mobile sources (and for which the community is likely to have a direct responsibility) rather than major industrial sources.

The NPI will also create an opportunity for industry to engage in dialogue with the community on an equal footing, with the same information available to all. There is some potential that the NPI information will be misinterpreted by some stakeholder groups, but that likelihood is significantly diminished by ensuring equal access to the information by all members of the community.

Contextual information will also assist the community to assess the NPI information in an informed manner, and in an ‘information environment’ which should reduce the likelihood of misinterpretation of that information.

Key Points:

- The Commonwealth will ensure public access to the NPI data.
- The NPI will influence the way in which the community perceives the environment. Contextual information will help the community assess NPI information in an informed manner.

Guidance for collecting data from reporting facilities

This clause and the associated Schedule (Schedule C to the draft Measure) provide guidance on the data to be collected from reporting facilities by States and Territories. In order for the data to be easily transferred to the NPI database it needs to reflect the fields and other

characteristics of the database. The Schedule provides a pro forma which could be incorporated by jurisdictions into existing data collection mechanisms, especially where licences are already issued, or could be used as it stands, either as an attachment to existing reporting forms, or as a stand alone document. This might be the case where a facility has no other reporting obligations except those under the NPI.

The provision of this pro forma gives the States and Territories who choose to use it an easily used and understood format for the collection of information under the NPI programme. The use of this pro forma will facilitate the information collection process. In some cases, jurisdictions may choose to develop other systems for this information collection which could minimise the costs of that information collection. One possibility is the development of a system to allow electronic transfer of all reportable information rather than handling of paper returns.

Key Points:

- This guideline provides one possible option which States and Territories may be able to adopt to streamline information collection from reporting facilities.
- This guideline does not preclude the development and use of alternative information collection systems.

Rights of third parties

Third party rights for the National Pollutant Inventory would be subject to regimes existing in participating jurisdictions. There are two circumstances in which third party rights may be relevant.

Firstly, a third party may dispute a decision of Council in relation to addition or deletion of a substance on the reporting list or variation to an associated threshold. As the Council is established subject to Commonwealth administrative law, merits review of such decisions would be available in the Commonwealth Administrative Appeals Tribunal.

Secondly, a third party may believe that a participating State or Territory is not enforcing the reporting obligations of a facility. As the legislative mechanisms of the States and Territories will be used to impose these obligations, the relevant jurisdiction's administrative law regime would apply.

The issue of third party rights and how to achieve a greater commonality of approach will be the subject of consultations among jurisdictions on implementation of the Measure.

While the details of implementation will rest with individual jurisdictions, it is expected that the first recourse for an individual or organisation who considers that a facility has failed to report, or has submitted a false or misleading report will be to take up the issue with the relevant jurisdiction. If an individual or organisation considers that a jurisdiction has failed to meet its obligations in respect of collecting or disseminating data and

information, administrative law or injunctive remedies may be sought, although these will vary from jurisdiction to jurisdiction.

As jurisdictions introduce further administrative law or injunctive remedies, it is expected that these will be applied as appropriate to the NPI, so that over time, there develops a degree of consistency in the application of administrative law to the programme.

This guideline clause simply reinforces the fact that administrative law or injunctive remedies are available under existing mechanisms.

Key Points:

- Third party rights for the National Pollutant Inventory will be subject to regimes existing in participating jurisdictions.
- This issue will be relevant where a third party wishes to dispute a decision of the Council or where a third party does not believe that a jurisdiction is requiring reporting from a facility which should be making a report under NPI requirements.

4. IMPLEMENTATION

As noted earlier, establishment of the NPI programme under the framework proposed in the draft Measure will require an additional agreement of some description to ensure consistent implementation. The intention is to develop an approach which allows each jurisdiction to build upon their existing environment protection and reporting systems in an integrated and cost-effective manner while achieving a consistent outcome in delivery of the NPI programme. The NEPC Acts do not prescribe implementation mechanisms, but leave the development and adoption of these to individual jurisdictions. In the case of the NPI, the proposed agreement in conjunction with the Measure will promote a nationally consistent approach.

Such an agreement could be in the form of an inter governmental agreement, or a Memorandum of Understanding, and would complement the proposed NPI Measure. It is expected that the final Measure and agreement will be mutually supportive, providing the mechanism for implementation of the programme. The NPI will therefore be realised by the combined effect of the requirements set by both the Measure and the inter governmental agreement. In terms of the public interface, there will be no distinction between information provided by the Measure and that provided through external mechanisms.

An agreement outside of the NEPC process would also be desirable from a practical perspective as elements associated with implementation could be expected to vary from time to time. The NPI is to be an evolving programme so improvements in information mean that improvements to estimation techniques, for example, are likely. The Measure therefore sets up a requirement for certain aspects of the NPI, such as emission estimation principles and contextual information, and the agreement could then elaborate the practicalities of providing this information. If the contextual information provided is not answering the questions raised by the community, flexibility is necessary so that improvements can be made relatively easily. An agreement would also provide the scope for amendments and improvements to be made without the lengthy processes needed to change legislation.

It is expected that an agreement will be discussed jointly among jurisdictions - NEPC has agreed to the formation of an inter-jurisdictional management options working group to examine issues relating to the NPI which will also assist implementation.

It is also expected that these discussions would take into account the desirability of minimising the burden on smaller jurisdictions, especially those in which infrastructure and environment protection programmes are at an early stage of development. These jurisdictions, which may require capacity building, would particularly benefit from the improved information base that the NPI will provide.

As noted under the protocol on the collection of data from reporting facilities, implementation of the Measure may require legislative amendments or specific NPI legislation, if jurisdictions consider existing mechanisms are not appropriate for

implementation. The associated impacts would depend on the decision made by jurisdictions and the extent of the changes that would need to be made.

This impact statement has described the draft Measure and considered the potential implications of its adoption. A more comprehensive assessment of the impacts associated with the implementation of the programme will only be able to be identified when jurisdictions decide on the processes to be adopted in implementation. The following points can be considered in relation to some specific provisions of the draft Measure as well as how they relate to the proposed Measure as a whole. These points would be discussed at length between jurisdictions in developing the agreement.

Collection of data from reporting facilities

Gaining data from reporting facilities could be complicated by the fact that:

- not all facilities required to report will be currently subject to environmental authorisation or discharge licensing, and
- licence renewals and associated reporting often occur throughout the year and may not easily coincide with NPI reporting time frames.

In cases where reporting facilities do not currently require environmental authorisations, jurisdictions will need to consider how they intend to gain data from these facilities. Jurisdictions will need to alert facilities of the NPI requirements, and will need to consider whether existing mechanisms are sufficient to guarantee provision of data from these facilities. The draft Measure allows for staggered implementation should jurisdictions need to develop new mechanisms.

The issue of timing of licence renewals and reporting could potentially create a situation where information from facilities could come to the NPI in a staggered manner. One option to address this could be to renew licences or authorisations as necessary, but require a separate submission of NPI data by the date specified in the Measure. Another alternative for some jurisdictions may be the modification of time-tables for licence renewal and reporting. It would be expected that where possible, jurisdictions would aim to avoid or minimise duplication of reporting requirements.

Estimation of aggregated emissions of substances

Jurisdictions will need to ensure that there is some consistency in the estimation of aggregated emissions data (from small point sources, mobile sources and diffuse sources) provided to the NPI. This could be complicated by the fact that some jurisdictions or consultants have already developed some methodologies which would be suitable, but these could be subject to intellectual property rights.

Jurisdictions will need to consider, agree or negotiate how to ensure some consistency of information obtained from aggregated sources and supplied to the NPI.

A key issue here is that some smaller jurisdictions are likely to have limited capacity to undertake such estimations in house. The Measure provides flexibility, in that each jurisdiction is responsible for providing the data, but can obtain that data in a number of ways, including in-house development or via contract with another jurisdiction or private service providers. Jurisdictions may therefore choose to either use funding provided to build up or maintain an internal skill base, or to purchase emissions aggregation and estimation services from an external source.

It is likely that not all jurisdictions would want to estimate aggregated data for all substances throughout the whole of that jurisdiction. Some substances would not usually be emitted from diffuse, mobile or smaller facilities, or some jurisdictions would consider a particular region to have a higher priority than others. Jurisdictions will need to consider how they intend to approach this issue, both individually, and as a whole. Some jurisdictions may wish to consider obtaining aggregated data for a region that spans more than one jurisdiction (eg. the Murray Darling Basin).

Jurisdictions will need to consider how they intend to obtain some of the raw data required for making estimations of aggregated emissions. Some of this data may be commercial-in-confidence to a private company, held by industry associations, or collected through other mechanisms.

Information supplied to the Commonwealth

Both reporting facility data and aggregated data will need to be provided to the Commonwealth in a format that allows for easy collation and transfer for public dissemination.

This could occur in a number of ways, and jurisdictions may wish to pursue different ways of providing this data, given their information technology capabilities. This will need to be considered in light of the database being developed at present by the Commonwealth and possible means of data transfer.

Amending the reporting list

Jurisdictions will need to consider processes to amend the reporting list for the NPI, subject to NEPC agreement, specifically the establishment of a nominations process, a screening process and a technical advisory panel to provide advice to the NEPC.

Confidentiality

Claims for confidential information will be assessed by jurisdictions where the claims are relevant, in accordance with guidelines or procedures agreed by all jurisdictions.

Jurisdictions will need to establish assessment procedures in accordance with the Measure and could make reference to the Worksafe policy on assessing information claimed as commercially-in-confidence. In the case of claims made in the interests of national security,

the Commonwealth would need to assess these alone, but in accordance with procedures agreed by all jurisdictions.

Jurisdictions may wish to jointly consider minimum security practices in cases where in-confidence claims have been granted or are being assessed. This issue may also be relevant for information obtained for the purposes of calculating aggregated emissions.

Rights of third parties

Each jurisdiction should document the administrative law provisions available in its jurisdiction which are relevant to decisions made under the Measure. This issue will be relevant where a third party wishes to dispute a decision of the Council or where a third party does not believe that a jurisdiction is requiring reporting from a facility which should be making a report under NPI requirements.

Quality of data from reporting facilities

It is likely that most emissions and transfer data collected from facilities, at least in the first instance, will be the result of estimations rather than direct measurements. While it is desirable to obtain the highest quality emissions data, it is likely that no additional monitoring requirements should be imposed on facilities for the purposes of providing data to the NPI. The accuracy of data supplied will vary with the estimation technique used, and jurisdictions will need to agree on a "scale" of some description which identifies the level of accuracy and precision in order to aid a proper understanding of the limitations of the data by users of the NPI.

While it would be undesirable to prescribe emission estimation techniques which should be used, it would be advantageous to provide some guidance to facilities as capacity building is likely to be required. It is intended that guidance documents which detail various methodologies be developed and provided to reporting facilities to assist them meet their reporting obligations.

Guidance methodologies will need to be updated as new information becomes available. Examples of emission estimation include mass-balance techniques, calculations from continuous or non-continuous monitoring data, and the use of emission factors.

Jurisdictions will need to agree on such guidance methodologies to ensure some consistency in data provided, and also agree on mechanisms to amend and update such methodologies.

Validation of emissions data

The Measure requires jurisdictions to conduct validation of a number of reporting facilities selected at random. Jurisdictions will need to agree on the number of facilities validated in each jurisdiction. A consistent validation process will also have to be agreed and implemented.

Contextual information

Jurisdictions will need to agree on the range and type of contextual data which should be included in the NPI to assist general understanding of the data provided.

The sorts of contextual data which could be developed include:

- information on the reportable substances included on the National Pollutant Inventory, such as identification, intrinsic properties, sources, uses, existing standards, background levels of the substances, health and environmental effects and likely fate of the substances in the environment;
- references to further sources of information (including internet sites) about the reportable substances;
- description of industry types and how industries use reportable substances;
- information on emissions estimation techniques used to collect data and the level of accuracy about these techniques; and
- ambient concentration data or relevant monitoring data, where available.

Ownership of information

As jurisdictions will be using their existing mechanisms or establishing new mechanisms for data collection, they will have ownership of data collected or collated until it is provided to the Commonwealth for the purposes of the NPI.

The Commonwealth would retain the rights to information disseminated under the NPI programme, but would ensure that the minimum set of information identified in the Measure was freely and generally available.

The Commonwealth reserves the right to assert intellectual property rights where particular data sets have commercial value. Specific reports requiring some manipulation of the data will be subject to cost recovery operations. Multiple copies of reports or CDs required will also incur a cost recovery charge.

Jurisdictions may wish to canvass particular scenarios and issues related to ownership and use of NPI information.

Groups established to assist in implementation of the NPI

It is likely that a standing group of representatives from all jurisdictions will need to be established to monitor implementation and running of the NPI programme, following on from the work of the inter-jurisdictional management options working group. It is expected that such a group would meet frequently in the early stages, and that they would need to refer specific issues to experts in their jurisdictions.

A technical advisory panel will need to be established when the NEPC reviews the reporting list, associated thresholds, or selection criteria. Other groups may need to be established to assist the NEPC in its deliberations on amending the NPI Measure.

Evaluation of the NEPM and the NPI

Under the NEPC Acts, each member of the NEPC must prepare an annual report on the implementation of Measures by his/her jurisdiction and the effectiveness of those Measures. That report will be submitted to Council.

In addition, the Council must prepare a report of its operations to the year ending 30 June, which includes copies of reports made by members and an overall assessment of the implementation and effectiveness of Measures. This report must be laid before the Parliament of each jurisdiction.

In the case of the National Pollutant Inventory, the Commonwealth would also prepare a report every three years to assess the effectiveness of the programme as a whole as part of its budgetary process.

Jurisdictions could consider the need for consistent reporting to the NEPC, given the national nature of the programme, and if necessary, prepare a guidance document for reporting, for example, the issue of naming facilities which did not report, despite their obligations. Jurisdictions could also consider issues which should be canvassed in the more detailed evaluation proposed to be carried out by the Commonwealth.

Costs of additional programme development

It is envisaged that any funding for specific State or Territory needs additional to the national NPI programme requirement would be funded by the individual State or Territory. This could include modelling of data to arrive at ground level concentrations or collection of additional information for State or Territory purposes. Jurisdictions may wish to jointly consider additional requirements.

Key Points:

- The NEPC Acts do not prescribe implementation mechanisms but leave development and adoption of these to individual jurisdictions.
- Jurisdictions may need to jointly consider an additional agreement to ensure consistent implementation of the NPI.
- Jurisdictions may wish to jointly consider the following issues in such an agreement: data collection, estimation of aggregated emissions, amending the reporting list, confidentiality, third party rights, data quality, contextual information, ownership of information, groups established to assist in implementation of the NPI, evaluation of the NEPM and NPI, and costs of additional programme development.

5. SUMMARY OF IMPACTS

This section summarises the key impacts identified in the above discussion as flowing out of the adoption of the proposed NPI Measure.

The key benefits anticipated relate to the fact that implementation of the proposed NPI programme will be a key factor in achieving the Goals outlined in the draft Measure. The key benefits anticipated are outlined in Table 5.1. The key costs anticipated are outlined in Table 5.2. Tables 5.3 and 5.4 identify estimated financial impacts on governments and reporting facilities (respectively).

Table 5.1
Key benefits anticipated from implementation of the draft Measure

- The Measure will play an important role in meeting the Goals of maintaining and, where appropriate, improving ambient air and water quality, reducing the release of hazardous wastes to the environment and expanding the re-use and recycling of materials.
- NPI will provide an improved information base of emissions and their impacts, enabling stakeholders to more effectively plan future developments and develop policies for environmental management.
- NPI will allow more robust public debate resulting from improved community access to information about influences on the environment, enabling more informed involvement in planning, development and policy debates.
- NPI will provide an improved ability for the community and all governments to identify areas of serious environmental degradation and subsequently develop programmes and strategies to address those problems.
- The NPI programme involves a recognition that such information is an important public good which would not otherwise be publicly available in a comprehensive and integrated fashion that ensures that it is able to be used by all sectors of the community.
- Members of the community (individuals, industry and governments) will have an improved ability to assess the impact which their own activities have on the environment, and promote more careful consideration of the environmental impacts of their actions.
- NPI will provide improved information to the community about the sources and effects of substances on the environment. This should lead to a number of changes in behaviour and markets as the community is able to assess the true impact of particular activities and the consumption of particular goods and services.
- NPI will empower members of the community to reward firms which are good environmental performers, and identify firms which are poor environmental performers. This will lead to improved economic and environmental outcomes.

Table 5.2
Key costs anticipated from implementation of the draft Measure

- The estimated financial impacts imposed on governments and reporting facilities are identified in tables 5.3 and 5.4 respectively.
- Costs faced by governments (and included in the financial estimates in table 5.3) include administering the collection of information from reporting facilities, estimation of aggregated emissions (from sources other than reporting facilities), verification of data provided, development of the information presentation systems, and provision of the NPI to the community.
- Some facilities will face costs to assess whether reporting is required under the Measure. The extent of these costs is unknown, but is expected to be small in the vast majority of cases.
- Reporting facilities may face additional costs as part of the process of verification of data provided to jurisdictions. Although a process for verification is yet to be determined, it is anticipated that these costs would be minor except in cases where facility reports are found to be inadequate or misleading.
- Jurisdictional governments will face additional costs if they choose to provide further information to the NPI database. Such information could include ambient monitoring information and more sophisticated modelling of aggregate emissions.
- Stakeholders will incur some costs in nominating and justifying nominations for amendments to the reporting list contained in the Measure. These costs are expected to be small.
- Where variation of the Measure's reporting list are recommended, governments will face costs through the funding of the NEPC process to vary the Measure.
- Stakeholders will incur some costs in applying to have their reports treated confidentially. Jurisdictions will face costs in assessing such claims.

Table 5.3
Summary of estimated implementation costs to Governments
(figures based on funding estimates identified by Commonwealth in 1996/97 budget for development and implementation of the NPI)

Elements	1997/98 \$ million	1998/99 \$ million	1999/00 \$ million
Information collection-			
Reporting facilities	1.3	1.3	1.3
Estimation of emissions from aggregate sources	1.2	1.2	1.2
Information storage	0.3	0.3	0.2
Information provision/promotion	0.5	0.5	0.5
Administrative costs (NPI programme development and maintenance)	0.7	0.7	0.7
Programme review and evaluation	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>
TOTAL	4.0	4.0	4.0

Notes: Table may not add due to rounding. This table excludes costs which will be faced by government owned reporting facilities, those reporting costs are included in table 5.4.

Table 5.4

Summary of estimated annual implementation costs to reporting facilities

- It is anticipated that a total of 2,500 facilities will be required to report under the proposed Measure.
- The average reporting cost per facility will be approximately \$2,250 in the first year and \$2,000 in each subsequent year.
- The total annual cost to reporting facilities is therefore estimated at \$5.6 million in the first year and \$5 million in each subsequent year.

APPENDIX 1: GLOSSARY OF ACRONYMS

ABS.....	Australian Bureau of Statistics
ANZECC.....	Australian and New Zealand Environment and Conservation Council
ANZSIC.....	Australian and New Zealand Standard Industrial Classification
COAG.....	Council of Australian Governments
Council.....	National Environment Protection Council
EPA.....	Environment Protection Authority
FOI.....	Freedom of Information
GDP.....	Gross Domestic Product
IGAE.....	Intergovernmental Agreement on the Environment
Measure.....	National Environment Protection Measure
NEPC.....	National Environment Protection Council
NEPM.....	National Environment Protection Measure
NGO.....	Non-Government Organisation
NHMRC.....	National Health and Medical Research Council
NICNAS.....	National Industrial Chemical Notification and Assessment Scheme
NPI.....	National Pollutant Inventory
Panel.....	Technical Advisory Panel
PRTR.....	Pollutant Release and Transfer Register
SOE.....	State of the Environment
TRI.....	Toxics Release Inventory
US.....	United States

APPENDIX 2: COMPETITION POLICY ASSESSMENT

Under the COAG Competition Principles Agreement (1995), an assessment of competitive implications is required as part of the process for making subordinate legislation. If approved by NEPC, the proposed Measure will be adopted as subordinate legislation within most jurisdictions (under the processes for adoption of Measures set out in the NEPC Act passed by each jurisdiction).

The draft Measure and the anticipated implications of its adoption are explained in detail in the impact statement (above). The draft Measure's potential impacts on the operation of markets relate to the provision of information which may influence the behaviour of buyers and sellers within a market.

Market failure

As discussed in the analysis of the draft Measure (see section 3 of the impact statement above), the NPI programme is intended to deliver a range of information to the community relating to sources and effects of a range of substances of concern in environment protection. This programme is seen as providing important information to the community, which is currently incomplete or unavailable, to enable more effective decision making.

Markets can be distorted by the fact that full information is not available to buyers and sellers within that market. This can often occur where information relating to the external environmental effects of the production and/or consumption of a particular good or service is not easily available to buyers and sellers of goods and services. This situation is often described as 'market failure', where the activities of buyers and sellers are distorted by the lack of information which could influence decisions to buy or sell.

NPI information may enable consumers to:

- identify negative environmental impacts (externalities) arising from the production of a good or service, and may lead to a reduced demand for products or services whose manufacture leads to those external effects,
- compare the environmental performance (in terms of emissions of substances of key concern) of a number of firms producing the same products or services, and may lead to a shift in demand between firms towards those firms with a smaller environmental impact (this may even occur where the price of the good manufactured by the good environmental performer is higher than a similar good manufactured by a poor environmental performer), or
- assess the relative environmental implications of a range of substitutable products (eg. private transport in a car vs. public transport in a train), and factor the environmental impacts of those alternatives into their decision.

In each of the situations described above, the information provided may influence a decision made by a consumer. The NPI may also influence the behaviour of manufacturers, particularly where the NPI allows them to compare their environmental impacts with those of other producers of similar products or services. In response to this information, a

producer may examine ways to reduce their environmental impact to that of competing firms.

Each of the potential market impacts described above will have a positive impact on the operation of the markets in question. Any changes in behaviour will arise in response to better information which enables more informed judgements about the implications of particular decisions within a market. The market implications of providing NPI information to the community are expected to assist in overcoming market distortions which arise from a lack of information regarding environmental impacts.

Any changes in behaviour which result from the provision of this information will help to optimise economic efficiency by ensuring that environmental externalities are taken into account in some situations where they are currently not able to be because of a lack of relevant information. As a result, the NPI programme is expected to have positive effects on the operation of markets and on economic efficiency.

Barriers to market entry

As discussed above, the NPI programme will require reporting from facilities which handle substances at or above the thresholds identified in that list. As a result, reporting requirements will apply to a range of different activities, and will impose additional costs to fulfil the NPI reporting requirements.

The costs of reporting under NPI are, however, expected to be minor. It is anticipated that reporting costs per facility will be in the order of \$2,250 in the first reporting year and \$2,000 in each subsequent year.

The very small marginal cost expected to be borne by firms in the first year of reporting (as they become familiar with the NPI reporting requirements and system) will not present a barrier to market entry. New entrants to a market will face only a very minor additional first year reporting cost (approximately \$250) in comparison to firms which are already operating in the market.

Competition between market incumbents

All firms will be treated in the same manner under the NPI programme, regardless of their form of ownership (ie. private vs. public firms and Australian- vs. foreign-owned firms).

Because of the use of thresholds to determine reporting requirements, the NPI programme will lead to a situation where, for some industries, small firms falling below the reporting thresholds will not be required to report while larger firms above the thresholds are required to report.

This distinction between firms within the same market has the potential to create a market distortion with the larger firms facing compliance costs and leading to increases in their product costs. This issue is particularly of concern where firms just above and just below the reporting thresholds are competing suppliers of a good or service.

The use of a threshold level was considered necessary to ensure that the costs of reporting are not imposed on small firms which have a commensurately small potential for adverse environmental impact. Without threshold levels all firms using reportable substances would face the reporting costs, and (despite the fact that annual reporting costs are expected to be small) this could potentially impose a 'material' cost on very small firms. The use of a threshold therefore allows the NPI programme to address market failure by generating information about environmental impacts without necessitating reporting by all firms.

Even in situations where there are firms handling amounts of substances just below and just above the reporting thresholds, the anticipated annual reporting cost of \$2,000 per firm is unlikely to have a material impact on the cost of the goods and services being produced. As a result, only very slight adverse competitive impacts are expected, and are ones that can be justified by the creation of information through the NPI.

APPENDIX 3: CONSULTATION PROCESS

The Commonwealth announced in 1992 its intention to establish the National Pollutant Inventory (NPI), in cooperation with State and Territory Governments and provided \$5.9 million over four years ending 1995/96. The development phase has included extensive consultation with a wide range of interested parties and a series of inventory trials,

Initial consultation

A discussion paper released in 1994 proposing an inventory model for Australia was accompanied by capital city workshops to facilitate and focus views on key issues. Further non-metropolitan workshops during 1995 supplemented the results from the earlier workshops.

The consultation resulted in proposals that the NPI design should include estimated diffuse emissions as well as industry point source emissions to ensure a complete and accurate picture of nominated emissions.

NPI Reference Group

The Reference Group was established in November 1994 as a consultative forum of major stakeholders, including governments, industries, unions and organisations concerned with the environment and public health. The Reference Group has provided a considered and consultative response to issues relating to NPI development and has now disbanded. The Group's summary report has been submitted to the NEPC.

ANZECC NPI Task Force

The Australian and New Zealand Environment and Conservation Council (ANZECC) established an NPI Task Force in 1992 comprising representatives from all State and Territory government environment organisations. Task Force members were active in a number of studies initiated by the Commonwealth, especially those on existing information for possible use in the Inventory, emissions estimation techniques for calculating emission volumes, and possible legislative models for the NPI.

ANZECC agreed that implementation of the NPI should be pursued with urgency and that the NEPC would be the most appropriate avenue for early implementation. ANZECC further agreed that:

"The Commonwealth and the States and Territories will pursue key principles relating to:

- nationally consistent data collection, effective enforcement and compliance
- public and transparent nomination of chemicals to be reported
- community access to all information
- appropriate funding for implementation."

Trials of the NPI

The Environment Protection Authority (Victoria), in conjunction with counterparts in New South Wales, Tasmania and South Australia, conducted a series of comprehensive regional air emission trials in these four States to test practical and policy issues related to industry reporting, emission estimation, data management, community interface and data dissemination.

This project included significant consultation with industry associations, companies, community and environment groups, and local and State governments. The project was guided by a steering committee including various stakeholders.

The Queensland Department of Environment and Heritage undertook a project to identify draft selection criteria and an initial emissions list for the NPI. The Department consulted with Reference Group and Task Force members on the methodology and included local and regional organisations in a series of workshops to review the methodology and interim outcomes. The final results of this project were the subject of further discussion with State environment agencies.

The Western Australian (WA) Departments of Environmental Protection and Agriculture conducted a scoping study examining the collection, storage and dissemination of agricultural emission information in the south-west high rainfall region of WA. The scoping study recommends actions for planning and implementing further trials to continue this work and to address emission estimation techniques relevant to agricultural production.

Studies to progress the development of the NPI

- Environmental consultants Dames & Moore conducted a review which confirmed that existing datasets could not meet the data needs of the NPI. The review included consultation with State environment agencies on datasets already held and their potential application to the Inventory, other State and Commonwealth organisations, industry associations, environment organisations and local government. Dames & Moore also reviewed possible emissions estimation techniques for diffuse and point sources of emissions, contacting organisations throughout Australia, in Europe and the United States.
- A report canvassing a number of legislative models for the NPI was prepared by legal consultants Minter Ellison. As part of this process, Minter Ellison had detailed discussions on the best legislative mechanism for the Inventory with key government, environment and industry associations. This consultation resulted in significant variations to the models initially proposed for the NPI.
- The North Coast Environment Council investigated issues associated with the delivery of data by the NPI to satisfy community information needs. The report concludes that it is essential that the NPI provides contextual data including health effects of a substance, standards or acceptable levels of a substance, data gaps and limits, and where possible, provides information relevant to that region or local council area.

International Workshops on Pollutant Release and Transfer Registers

Australia's NPI is based on a concept known internationally as a Pollutant Release and Transfer Register (PRTR). In partnership with the OECD, Australia held a workshop on PRTRs for countries in the Asia-Pacific region in June 1996. The workshop was considered an important step in the international development of PRTRs and several countries in the region are currently seeking assistance to implement PRTRs as a result.

The Australian PRTR Workshop was based on the OECD Guidance Manual for Governments. This OECD manual was developed as a result of the outcomes of five international workshops at which Australia was an active participant.

Development of the NPI Measure

The process to develop an NPI Measure was set in train by a decision of the NEPC at its meeting in November 1996. A "Protocol for Consultation by NEPC" has been developed. The overall aims of consultation are:

- to canvass the range of views on key issues and determine areas of agreement and disagreement among stakeholders, and
- to ensure that all views are taken into consideration in framing recommendations and reports to NEPC on the NPI Measure.

Two distinct phases are planned in the development of the NPI Measure. In the first phase, a draft Measure and impact statement will be developed through a process of consultation which focuses on issues such as the formation of a reporting list, methods of collecting information and community access to information. In the second phase, the draft Measure and an Impact Statement will be released for comment and wide ranging consultation over a minimum period of two months. During both phases, interested parties have the opportunity to provide written comment through various teams or working groups which have been established to assist in this development process.

The NPI Project Team

Development of the Measure is being carried out by a project manager and a small project team. The team can be assisted by consultants with expertise in specific aspects of the project where relevant.

The NPI Project Team is chaired by Mr Roger Beale, Environment Australia and comprises:

- Ms Annie Gabriel (Environment Australia)
- Mr John Woodland (Queensland, Department of Environment)
- Mr Anthony Burnell (EPA Victoria)
- Mr Kelvyn Steer, (Office of the Environment Protection, Department of Environment and Natural Resources, South Australia)
- Ms Mary Mertin, Project Manager, NEPC Service Corporation

The role of the team is to draft a Measure and Impact Statement on the NPI; initiate and manage consultancies as appropriate; interact and seek advice from the NGO Advisory Group, the Jurisdiction Reference Network and other interested parties; monitor progress on consultation; undertake consultation on technical issues, as appropriate; and ensure that the project is carried out in accordance with the NEPC legislation and the directions of the National Environment Protection Council and the NEPC Committee.

NPI Jurisdictional Reference Network

A Jurisdictional Reference Network with representation from each member jurisdiction has been established to advise the project team.

The Jurisdictional Reference Group will assist the Project Team in the development of a Measure and Impact Statement for the establishment of an NPI in accordance with the proposal approved by National Environment Protection Council. Members of the Jurisdictional Reference Group will, with their respective NEPC Committee members, obtain whole of Government views, and whole of government approvals, for their respective jurisdiction. Members will convey these views to the Project Team to ensure that they are aware of the concerns of all jurisdictions, including any sensitivities on the part of stakeholders, during the development of the Measure and associated Impact Statement. The Members of this group are:

Dr Tony Hodgson, ACT
Mr Mark Hyman, Commonwealth
Ms Helen Hofman/Ms Jill Pattison, New South Wales
Mr Andrew Buick, Northern Territory
Mr Scott McDowall, Queensland
Mr Wil Van Deur, South Australia
Mr Warren Jones, Tasmania
Mr Terry A'Hearn/Mr Wayne Robins, Victoria
Mr Andrew Baker, Western Australia

Consultation within the individual jurisdictions is the responsibility of the Jurisdictional Reference Network and mechanisms which could be used include workshops, meetings, focus groups and the taking of submissions.

Non-Government Organisation Advisory Group

To facilitate consultation among stakeholders, the formation of a Non-Government Organisations (NGO) advisory group was agreed to at the February NEPC Committee meeting. NGO Advisory Group members, and who they represent, are as follows:

Mr Craig Brock, Avcare Limited
Ms Mariann Grinter, National Environment Consultative Forum
Mr Volker Maier, National Pollutant Inventory Industry Network
Ms Susan Pennicuik, Australian Council of Trade Unions
Mr Matt Pollard, Minerals Council of Australia

Ms Anita Roper, National Pollutant Inventory Industry Network
Mr Matt Ruchel, National Environment Consultative Forum
Mr J. C. (Jim) Starkey, Australian Institute of Petroleum
Mr James Whelan, National Environment Consultative Forum

Technical Advisory Panel

The formation of a Technical Advisory Panel was agreed at the February 1997 NEPC Committee Meeting. The Panel will provide advice on technical issues regarding:

- the formation of a list of substances or pollutants on which information should be collected,
- at what threshold(s) facilities have to report their emissions of the listed substances or pollutants, and
- a process for amending the list of substances or pollutants and accepting nominations for amendment.

These must be addressed on the basis of credible, defensible and transparent processes. Panel members are as follows:

Chair:

Professor Ian Rae - Deputy Vice Chancellor - Victoria University of Technology

Members:

Dr Peter Glazebrook - Senior Environmental Scientist, CRA ATD

Prof Barry Hart - Director - Water Studies Centre Monash University

Dr Jozef Latten - Senior Environmental Officer - Department of Environment (Qld)

Dr Greg Miller - Director - Envirotest

Dr Brian Priestly - Scientific Director - Therapeutic Goods Administration

Dr Susanne Tepe - National Safety Health & Environment Manager - ICI Dulux

Associate Professor Chris Winder - Dept of Safety Science - UNSW

APPENDIX 4: EXECUTIVE SUMMARY OF TECHNICAL ADVISORY PANEL REPORT

Introduction

The Technical Advisory Panel to the National Pollutant Inventory was formed in March 1997 to recommend substances for inclusion on the National Pollutant Inventory.

The Panel met nine times during March and April 1997 and has produced a report. The Panel provides this report for consideration but expects that the Panel will be able to fine tune various aspects of the report during May, and also be given the opportunity to revisit the report after it has been considered during public consultation. Some cautions on the use of this report are provided in certain sections of the report.

Criteria for substance selection

Consistent with its terms of reference at Appendix I, the Panel has developed criteria for selecting comprehensive substances to the reporting list.

The criteria are detailed in Chapter 2 but can be summarised as:

- Environment effects - evaluating acute toxicity, chronic toxicity, persistence, and bioaccumulation of a given substance to arrive at a score on its effect on the environment;
- Human health effects - evaluating acute toxicity, chronic toxicity, carcinogenicity, and reproductive toxicity of a given substance to arrive at a score on its effect on human health; and
- Exposure - evaluating the potential release in Australia (both from point and diffuse sources) and the bioavailability of a given substance to arrive at a score for exposure.

A detailed approach integrating these three sets of criteria has been developed by the panel, and then applied to a comparative assessment of risks to Australia posed by substances under consideration.

Substances

The Panel has considered a wide range of substances during its deliberations.

The Panel excluded substances on which extensive action was already underway:

- banned in Australia or scheduled for phase-out. However, the Panel sounds a note of caution that should the withdrawal of any such substance be delayed or should a

substance still be suspected of use despite withdrawal, then it should be included in the master list of substances. For this reason the Panel has left many of these substances in the list so that their relative ranking is clear. In general, these are substances which have been comparatively recently withdrawn or are still being phased out. They are italicised in Appendix III;

- ozone depletors; and
- greenhouse gases.

At the direction of the National Environment Protection Council Committee, the Panel has considered agricultural and veterinary substances. Only 20 such substances have so far been included in the comprehensive list (these were drawn from the EC source list). The Panel believes that the scoring system developed for the master list does not always translate well to agricultural and veterinary substances and needs further consideration. These and other issues associated with agricultural and veterinary substances will be discussed in more detail in Chapter 4.

Overall the Panel has considered 420 substances against its criteria so far. This comprehensive list of substances and their assessment are appended to this report at Appendix III. Due to the deletion of duplications etc there is now 396 substances on the comprehensive list

A Reporting List

The panel recommends to the National Environment Protection Council that the substances listed at Appendix II comprise the initial reporting list for the National Pollutant Inventory.

All substances on the master list were scored against each criterion described above and then these scores were used to generate a number which approximated the risk that substance poses in Australia. This risk is expressed as:

$$\text{Risk} = \text{Hazard (Environment + Health)} \times \text{Exposure}$$

Hazard identification of nominated substances was the first step in the risk assessment process undertaken by the Panel. Through the application of the above paradigm to all substances on the master list, the Panel derived an estimate of risk under identified exposure scenarios. This paradigm for risk assessment is based on accepted scientific principles and is recognised and used by, among others, Standards Australia, the US National Research Council, and the European Community.

In the risk assessment undertaken, the Panel considered and weighed all the relevant and available evidence, acknowledged the assumptions and uncertainties inherent in the process, and presents the results in a clear, transparent, and usable format.

The risk scores thus generated were used to rank the substances. The Panel then applied its professional judgement and expertise, and recommends inclusion in the reporting list of those substances which scored 3 or higher. In doing so the Panel recognises that there is no firm technical basis for drawing the line at that score rather than another; the NEPC may choose to issue a shorter or longer list. Nevertheless, the Panel considers that cutting off at that point captures those substances released in Australia which represent real risks to human health or the environment.

The Panel cautions that these scores should be considered only in the context of generating the NPI reporting list. They are not to be applied in other contexts. Further, the Panel has provided a detailed and transparent breakdown of the methodology used so that others using differing methodologies can compile their own list if they so choose.

More detail on how this final list was arrived at is provided in Chapter 2, which deals with rankings of the substances. Details of each substance's hazard and risk can be viewed at [Appendix III](#), for which explanatory notes are provided.

Thresholds

The Panel has recommended threshold quantities for reporting based on amounts of substances handled, rather than amounts of substance released or number of employees as a trigger for reporting. Quantity handled thus serves as a proxy for an amount released. The Panel has drawn heavily on the overseas experience. Both the US and Canadian emission inventories, which have been in operation for some years, have similar threshold systems to the one proposed by the Panel.

Recommendations

The Panel recommends that the Committee:

1. accept the risk based criteria developed by the Panel, detailed in Chapter 1;
2. accept the list of substances, provided at [Appendix II](#), as the draft reporting list to be released as part of the draft National Environment Protection Measure for the National Pollutant Inventory;
3. note the inherent limitations of any system which attempts to accurately characterise risk in a simple uni-dimensional 'score';
4. acknowledge the timing and information constraints under which the Panel laboured and agree that the Panel should further refine the scores allocated and also revisit the report after it has been scrutinised by the community; and
5. release the master list at [Appendix III](#) as part of the public consultation process.

Note:

Refer to complete Technical Advisory Panel report for the above appendices. Appendix II of the Technical Advisory Panel Report is the NPI reporting list and is Schedule B of the Measure

APPENDIX 5: AIR EMISSIONS TRIAL QUESTIONNAIRE AND SURVEY RESULTS