



Discussion Paper

Options for the review of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*



Environmental Protection Authority

June 2009

Submissions

The purpose of this document is to invite public comment and discussion on options for the Environmental Protection Authority (EPA) to consider regarding the forthcoming review of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*.

The EPA welcomes your comments. Written submissions should be lodged by Friday 11 September 2009. All submissions will be acknowledged and a summary of submissions will be available from the EPA.

Submissions can be mailed to:

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Or emailed to policy@dec.wa.gov.au and enter "Discussion Paper – Options for the review of the Kwinana Atmospheric Wastes EPP" in the subject line.

This document can also be viewed on the EPA website www.epa.wa.gov.au.

Environmental Protection Policies

An Environmental Protection Policy (EPP) is prepared by the Environmental Protection Authority under Part III of the *Environmental Protection Act 1986* (the Act) and has "the force of law as though it had been enacted as part of this Act", on and from the day on which the policy is published in the *Western Australian Government Gazette*. The Act is binding on the Crown. Accordingly, the wider community as well as all government departments and agencies are required under law to comply with both the Act and EPP's prepared under the Act.

An EPP establishes:

- the basis on which the portion of the environment to which the policy relates to is to be protected; and
- the basis on which pollution of, or environmental harm to, the portion of the environment to which the policy relates to is to be prevented, controlled or abated.

In addition, an EPP may:

- identify the portion of the environment to which the policy applies;
- identify and declare the environmental values of the environment to be protected under the policy;
- specify the environmental quality objectives to be achieved and maintained under the policy;
- set out the indicators, parameters or criteria to be used for measuring environmental quality in the policy area;
- relate to any activity directed towards the protection of the environment, including the discharge of waste;
- create offences and penalty provisions; and
- establish a program for the achievement and maintenance of the environment quality objectives within the policy area and may specify, among other things, measures designed to:
 - i. minimise the possibility of pollution or environmental harm;
 - ii. protect the environment; and
 - iii. achieve the environmental values to be protected.

A diagram outlining the EPP process is provided on the inside back cover of this document. This review is at the stage of 'Scoping by EPA and Discussion Paper'.

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1. SUMMARY

In the late 1970s emissions of sulfur dioxide (SO₂) from Kwinana industries caused significant pollution in nearby residential areas. SO₂ released from the combustion of sulfurous fuels was considered the most significant air pollutant in the Kwinana area at the time and the Environmental Protection Authority (EPA) initiated the development of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992* and associated *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* (the Kwinana Regulations) in order to provide the basis for managing and protecting air quality in the region.

The EPA is legally required to undertake a statutory review of an EPP every seven years. In 1999 the EPA reviewed the Kwinana EPP and reissued it unchanged in content. The name was changed to the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* (the Kwinana EPP). The EPA deferred the 2006 review to await the finalisation of some important projects, and have prepared this paper to consult widely prior to this impending review.

The Kwinana EPP defines three areas (A, B and C) that together make up the policy area, and sets ambient standards and limits for each area increasing in stringency from the industrial (A) to the largely residential (C). A computer model was developed to calculate the maximum permissible quantity of SO₂ that could be emitted in the Kwinana industrial area (KIA) without exceeding the standards and limits set in the Kwinana EPP. Each industry emitting significant amounts of SO₂ were then engaged in discussions to develop individual SO₂ emission limits that collectively would not exceed the maximum permissible quantity and would therefore not exceed the ambient standards and limits. The Kwinana EPP also sets ambient standards and limits for total suspended particulates (TSP) for areas A, B and C. TSP in the Kwinana EPP area comes from both industrial emissions and from 'fugitive' sources such as rural land or bushfires. Emission limits can be set for industrial sources, however management of fugitive sources of dust is more complicated.

Currently the ambient SO₂ levels in the Kwinana EPP areas are well below the standards and limits it sets. The Kwinana EPP has been an effective management tool and may continue to provide assurance that SO₂ levels would not increase again in the future. However, much has changed since the development of the Kwinana EPP, and this review must consider the EPP's role in the future State legislative and policy framework for managing air quality.

A draft *State Environmental (Ambient Air) Policy 2009* (Ambient Air SEP) has been prepared by EPA which adopts a series of national environmental quality criteria (ambient standards) for common air pollutants, to allow ambient standards to be set for other 'local' pollutants, and to provide an overarching policy framework for the management of air quality in Western Australia. Once adopted by Government, it will be the primary air quality management policy for the State, with which all other policies, procedures and projects must be aligned.

The draft Ambient Air SEP is currently undergoing Ministerial consultation until 7 August 2009.

The future role of the Kwinana EPP within this framework is discussed in this paper. The EPA considers there to be three broad options for the review – retain the EPP as is, amend it, or revoke it. Each option has benefits or disadvantages, and your comments are invited. Please see inside front cover for details on how to make a submission.

Please note the Kwinana EPP contains the spelling ‘sulphur’. This paper adopts the more recently agreed spelling ‘sulfur’.

2. BACKGROUND AND HISTORY

2.1 THE SULFUR DIOXIDE ISSUE AT KWINANA

Sulfur dioxide (SO₂) is a colourless, pungent, irritating gas, formed when fuel containing sulfur (such as coal and oil) is burned for power generation and other industrial processes. SO₂ in high concentrations can cause respiratory illness and lung damage. Asthmatics, children and the elderly are generally more sensitive to health effects at lower concentrations. SO₂ emissions can also cause leaf damage to plants, reduced crop productivity, and corrosion of building materials. When SO₂ combines with water it forms sulfuric acid, which is the main component of acid rain, known to be responsible for severe forest damage in North America and Europe.

In the late 1970s emissions of SO₂ from Kwinana industries caused significant pollution in nearby residential areas. SO₂ emissions reduced dramatically when natural gas became available in 1984 and replaced coal as a major fuel source in the Kwinana region. However, EPA initiated the development of an EPP in order to ensure that air quality in the region was protected. The *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992* and associated *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* (Appendix 1 and 2) were developed to provide the basis for managing ambient air quality in the Kwinana industrial area. At the time of the policy development EPA considered sulfur dioxide and particulates to be the priority air quality issues requiring control.

2.2 REVIEW OF THE *ENVIRONMENTAL PROTECTION (KWINANA) (ATMOSPHERIC WASTES) POLICY 1999*

Section 36 (1)(b) of the *Environmental Protection Act 1986* (the Act) requires an EPP to be reviewed within seven years from the date of approval unless the Minister otherwise directs. The purpose of a statutory review is to ensure that the policy is continuing to be an effective means of managing the environmental issue for which it was developed, and to allow for new information or concerns to be considered.

The *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992* was formally reviewed in 1999 and re-issued unchanged, except for the date in the title which was changed to 1999. The associated regulations, the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* were also amended in 1999 to reflect the policy title change, and remain in force.

The Kwinana EPP was again due for review in 2006, however it was deferred by notice in the *Government Gazette* on 27 June 2008. This deferral was necessary to await the completion of the draft *State Environmental (Ambient Air) Policy 2009* (Ambient Air SEP) and the *Review of the Kwinana Air-Quality Buffer* (WAPC et al., 2002), both of which are discussed in more detail in sections 5 and 9. The current deferral is in place until December 2009.

EPA has prepared this paper to encourage discussion on Kwinana air quality issues relating to the Kwinana EPP and Regulations. The public feedback from this discussion paper will inform EPA on the directions it may take when considering the review of the Kwinana EPP and Regulations.

3. THE KWINANA EPP AND REGULATIONS

3.1 PURPOSE OF THE KWINANA EPP

Clause 2 of the Kwinana EPP states the purpose of the policy is:

- a) to provide for ambient air quality standards and ambient air quality limits for the concentration of atmospheric wastes in the relevant portion of the environment; and
- b) to establish a programme which may be used to control the discharge of atmospheric wastes from industrial sources so that those standards and limits can respectively be achieved and complied with.

The objective of the Kwinana EPP is to protect the ‘beneficial uses’ of the environment. These are defined in the EPP as ‘any lawful human activity within the relevant portion of the environment which is conducive to the health, welfare, convenience, comfort or amenity of persons within the relevant portion of the environment’.

3.2 THE AREA TO WHICH THE KWINANA EPP APPLIES

The Kwinana EPP applies to the area comprising the local government districts of Cockburn, Kwinana and Rockingham. This area is divided into three areas (A, B and C).

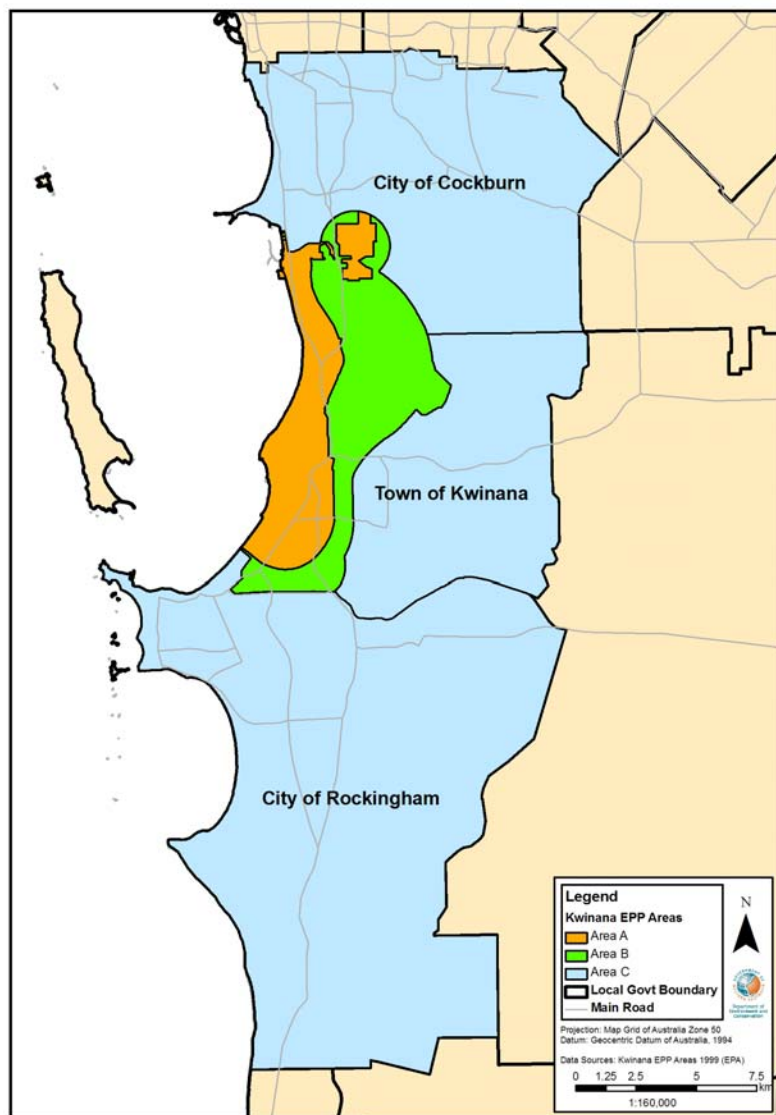


Figure 1: Map of the policy area from Schedule 1 of the Kwinana EPP.

AREA A is the area of land on which heavy industry is located (the KIA);
AREA B is an area surrounding the KIA; and
AREA C is predominantly rural and residentially zoned land located beyond Areas A and B (within the City of Rockingham, Town of Kwinana and City of Cockburn).

3.3 SULFUR DIOXIDE

3.3.1 *Ambient standards and limits*

The Kwinana EPP establishes, through the associated Regulations, ambient air quality standards and limits for SO₂ and for TSP that increase in stringency from Area A to Area

C. A 'standard' is defined as the concentration of an atmospheric waste which it is desirable not to exceed, and a 'limit' is the concentration that should not be exceeded.

Technical Box 1

The standards and limits for SO₂ are 1-hour averages. Achievement of the 'standard' is determined by comparison with the 99.9th percentile, which is the value below which 99.9% of hourly averages fall. In a full year of hourly averaged figures, this would be the 9th highest value. If the ground level concentrations are below the standard for 99.9% of the year, it is unlikely that the limit of the same area has been exceeded. Compliance with the 'limit' can be determined by comparison with the maximum hourly average ground level concentration.

The standards and limits for SO₂ were derived in the early 1990s through consideration of guidelines from the World Health Organisation's (WHO) Air Quality Guidelines for Europe 1987, NHMRC/ANZEC (National Health and Medical Research Council/Australia and New Zealand Environment Council), the Environmental Protection Authority of Victoria (acceptable and detrimental levels), and the United States Environmental Protection Agency primary standard for SO₂. The standards and limits for SO₂ chosen for the Kwinana EPP are listed in Table 1.

Table 1: Sulfur dioxide standards and limits in micrograms per cubic metre (µg/m³), for Areas A, B and C for specified averaging periods.

AREA	1-Hour	24-Hour	Annual
A standard	700	200	60
limit	1400	365	80
B standard	500	150	50
limit	1000	200	60
C standard	350	125	50
limit	700	200	60

3.3.2 Maximum permissible quantities for the Kwinana EPP area.

The Kwinana EPP allows the Department of Environment and Conservation (DEC), as the lead Government agency for managing air quality in Western Australia, to determine the maximum permissible quantities of an atmospheric waste to be discharged from industrial sources, so that the ambient air quality criteria (the standards and limits) specified for each area are met.

The maximum permissible quantities of SO₂ that can be emitted into the Kwinana EPP airshed are determined via the use of a computer model developed by DEC's Air Quality Management Branch (AQMB) with assistance from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine and Atmospheric Research.

3.3.3 *Emission limits for each industry – the ‘relevant determination’*

The Kwinana Industries Council (KIC) was established during the development of the Kwinana EPP to form a single body representing the viewpoint of industry in the area. KIC used the model developed by DEC (described above) during 1991-1992 to test and propose a set of emission limits for each of the eight major SO₂ emitters in Kwinana at the time. These limits were checked and agreed by DEC, and are currently applied as conditions of licence under Part V of the Act (discussed in more detail below). The emission limit for each industrial source is in the form of mass of SO₂ emitted per unit time. The Kwinana EPP defines the list of premises and their respective emission limits for SO₂ as the ‘relevant determination’. Currently the relevant determination includes the following industries:

- Alcoa of Australia Ltd
- Tiwest Joint Venture
- Cockburn Cement Ltd
- BP Refinery (Kwinana) Pty Ltd
- Hismelt Corporation Pty Ltd
- Verve Energy
- BHP Billiton Kwinana Nickel Refinery
- CSBP Ltd

In order for the individual emission limits to be changed, a formal ‘redetermination’ must be carried out, using the same computer modelling procedure. This can involve the reassessment of some or all of the individual emission limits to ensure that the ambient levels will continue to remain below the EPP standards. To date there have been two minor redeterminations. Progress is currently underway towards a third comprehensive redetermination.

3.3.4 *Setting licence conditions*

Premises of the types listed in Schedule 1 of the *Environmental Protection Regulations 1987* (prescribed premises) are required to have a works approval to establish their operations, and a licence to operate once established. Works approvals and licences are issued by DEC under Part V of the Act and may contain specific conditions that the occupier of a premises must comply with. The failure to comply with a condition of a licence is an offence under Part V of the Act and can lead to enforcement procedures and penalties.

When dealing with a situation such as the KIA, with multiple sources of an emission, if an ambient standard or limit was to be exceeded it would be difficult to prove beyond reasonable doubt which source was responsible. For this reason it was decided that the most effective way to ensure that the ambient criteria are met, is to restrict the emissions from each source by way of emission limits. These are developed through the modelling procedure described above and set as licence conditions for each premises. Consequently the enforcement powers and penalties applicable to licence conditions under the Act apply to the Kwinana EPP emission limits.

3.3.5 Monitoring

Industries with SO₂ emission limits determined through the Kwinana EPP procedure, are required to establish and maintain a continuous emissions monitoring system (CEMS) for measuring the quantities of SO₂ being emitted from their premises. In addition to this, each industry is required to monitor the ambient air concentration of SO₂ at specified locations in the Kwinana EPP area. Currently industries fulfil this obligation through KIC. KIC operates three monitoring stations within the Kwinana EPP area.

DEC also maintain and operate an additional two (originally three) monitoring stations in the Kwinana EPP area for monitoring compliance with the ambient air criteria for SO₂.

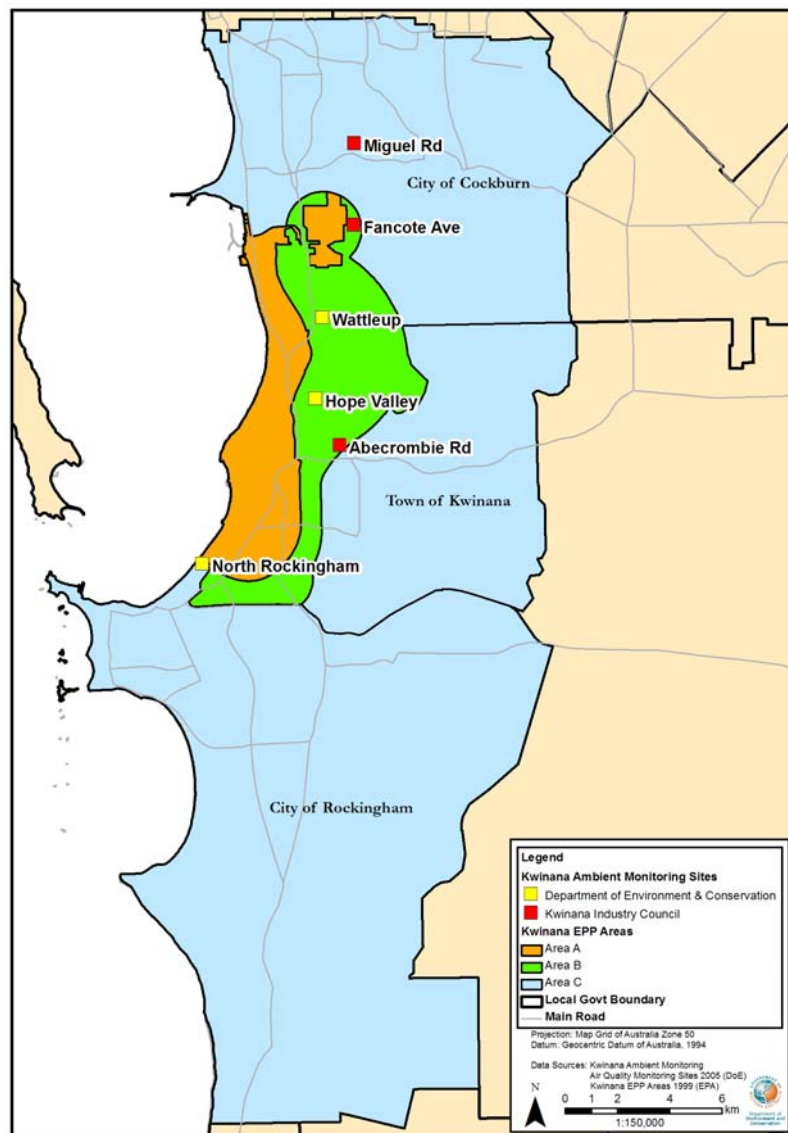


Figure 2: Ambient air monitoring stations in the Kwinana EPP area (Hope Valley currently closed)

Figure 2 displays the ambient air monitoring stations that have existed within the Kwinana EPP area. Table 2 lists each station, who is responsible for operating it, what is being monitored and when the station was operating. KIC operates one station as a moveable station. This was originally located at Rhodes Park, then Henderson Road, Fanstone Avenue and is now at Fancote Avenue. The Hope Valley monitoring site was closed in April 2008 when DEC was informed that the land was to be redeveloped.

Table 2: Ambient air monitoring stations in the Policy area

Station	Operated by	Currently operating	Monitoring
Miguel Road	KIC	Since 1993	SO ₂
Fancote Avenue	KIC	Since 2004	SO ₂ , PM ₁₀
Wattleup	DEC	Since 1990	SO ₂
Hope Valley	DEC	Closed April 2008	SO ₂ , NO ₂
Abercrombie Road	KIC	Since 1993	SO ₂
North Rockingham	DEC	Since 1992	SO ₂ , NO ₂ , O ₃

If the ambient SO₂ concentration measured at any of the KIC monitoring sites exceeds the ambient standard or limit for the area in which it is located, for the averaging period specified in the Kwinana EPP, each industry is required to advise DEC within two working days, and provide a listing of SO₂ emissions from each source listed in the relevant determination for the period over which the exceedance was registered. Similarly, DEC can request monitoring data from the industry if an exceedance is registered at any of the DEC operated ambient monitoring sites. If it is evident that emission limits were exceeded, enforcement procedures can commence or DEC may choose to review the relevant determination.

3.4 TOTAL SUSPENDED PARTICULATES

3.4.1 *Ambient standards and limits*

Although SO₂ was the primary air quality issue in the Kwinana airshed requiring management by way of an EPP, particulates were known to cause occasional dust and amenity issues. Because of this, EPA chose to include ambient standards and limits for TSP in the Kwinana EPP. TSP is made up of all particles with an equivalent aerodynamic diameter of less than 50 micrometres (PM₅₀) and can represent a complex mixture of organic and inorganic substances and particles of a range of sizes.

EPA based the standards and limits on guidelines from the WHO, NHMRC/ANZEC, the EPA of Victoria and the United States Environmental Protection Agency. The Kwinana EPP standards and limits for TSP are shown in Table 3.

Table 3: Total suspended particulates standards and limits in micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) for Areas A, B and C for specified averaging periods.

AREA	15-minute	24-Hour
Policy area limit	1000	-
A standard	-	150
Limit	-	260
B standard	-	90
limit	-	260
C standard	-	90
limit	-	150

3.4.2 Setting licence conditions

The management of SO_2 under the Kwinana EPP has always followed the method it outlines in Clause 7, that is, developing a procedure for determining maximum permissible quantities and setting emissions limits for each industry accordingly. However, management of TSP under the Kwinana EPP has only ever been applied directly through setting emission limits as licence conditions under Part V of the Act. This is because TSP, unlike SO_2 , comes from sources other than industrial stack emissions, such as rural activities, home wood heating and bushfires. It is much more difficult to monitor or model these other ‘fugitive’ sources.

Several industrial premises in the Kwinana EPP area emit TSP from stacks, and these premises have been issued with licences containing emission limits or targets. These limits and targets aim to ensure that ambient levels of TSP in the KIA do not exceed the standards and limits in the Kwinana EPP.

The differences between the SO_2 and TSP management procedures are summarised in Table 4.

Table 4: Summary of differences between SO_2 and TSP management procedures under the Kwinana EPP

Function	SO_2	TSP
Sets ambient standards and limits	Yes	Yes
Allows the use of a model to calculate the maximum permissible quantity of atmospheric waste that can be emitted into the airshed	Yes	No
Engages with industry to develop individual emission limits that will not exceed the ambient standards and limits	Yes	No
Sets emission limits and/or targets as conditions of works approval or licence	Yes	Yes
Continuous ambient monitoring being carried out by KIC or DEC	Yes, both	No, Neither
Continuous ambient monitoring being carried out by individual premises	Yes	Yes
Emissions monitoring being carried out by individual premises	Yes	Yes

3.4.3 Monitoring

A number of industries are required as a condition of their licence, to undertake continuous emissions monitoring or regular stack testing of their TSP emissions. A few are also required to carry out ambient monitoring near their facilities, and report to DEC on the results of this monitoring.

Although there is no continuous ambient monitoring system in place throughout the policy area for TSP (as exists for SO₂) DEC has access to ambient data from industries and from individual monitoring projects carried out when industry data may indicate an issue warranting further investigation.

3.5 WHY AN EPP WAS THE MOST APPROPRIATE MANAGEMENT RESPONSE IN 1992 AND IN 1999

During the development of the Kwinana EPP, EPA consulted with stakeholders regarding possible instruments for managing the issue. Both EPA and the industries in the KIA were supportive of an EPP for a number of reasons:

- the statutory nature of an EPP provides EPA with certainty that the objectives of the policy can be enforced. Emission limits set via the EPP are not appealable, as are emission limits set directly via Part V of the Act;
- the Act requires licence conditions to be consistent with EPPs, and as such, provides guidance for the industry licensing process;
- amending an EPP is a lengthy process prescribed in Part III of the Act. It requires consultation and disallowance in both Houses of Parliament. As such, an EPP gives industry some assurance that once their emission limits are agreed, they cannot be changed easily or often, or without having been consulted;
- in a situation such as Kwinana, where multiple industries in an area emit the same substance, individual emission limits should be set through consideration of the cumulative impacts of those emissions. An EPP provided a mechanism, and the legislative framework for considering multiple emissions, for the purpose of ensuring that the ambient concentrations do not exceed the standards; and
- overall, the prescribed nature of an EPP for identifying a policy area, declaring environmental quality objectives and establishing a program by which those objectives are to be achieved, and the specification of the quality and quantity of any waste permitted to be discharged, suited the situation in Kwinana.

4. ENVIRONMENTAL PERFORMANCE OF THE KWINANA EPP AND REGULATIONS

4.1 SULFUR DIOXIDE

Figure 3 shows monitoring results for SO₂ for each monitoring station. Each of the graphs shows the highest 1-hour (average) measurement for each year and the 9th highest 1-hour

(average) measurement (the 99.9th percentile) for each year that the station was operating. The highest 1-hour average value can be compared to the Kwinana EPP limit, and the 99.9th percentile can be compared with the Kwinana EPP standard (refer Technical Box 1, and as shown on each graph). Figure 3 only shows data compared with the 1-hour averages because this is the most stringent level to meet. Monitoring data shows that if the 1-hour averages are being complied with, there will also be compliance with the 24-hour and 1-year averages.

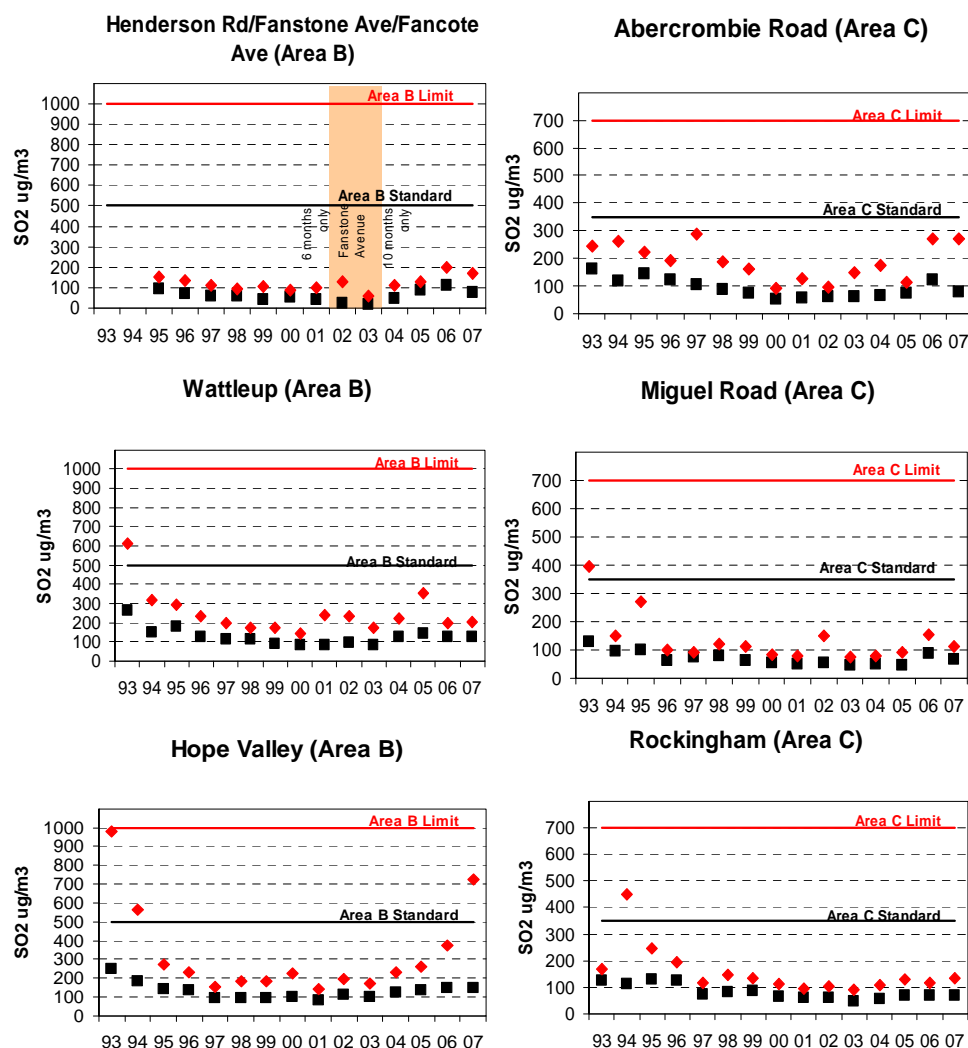


Figure 3: Graphs showing, for each monitoring station in the Kwinana EPP area, the maximum 1-hour average sulfur dioxide concentrations for each year (red diamonds) compared with the Kwinana EPP **limit** (red line), and the 99.9th percentile sulfur dioxide concentrations for each year (black squares) compared with the Kwinana EPP **standard** (black line).

It can be seen from Figure 3, that none of the 1-hour averages or the 99.9th percentile concentrations exceeded the Kwinana EPP ambient limit or standard since the policy was implemented in 1992. The Kwinana EPP appears to have been successful in managing and

maintaining SO₂ in Kwinana, however, it is recognised that the shift in energy sources from coal to low-sulfur natural gas, the installation of sulfur recovery units at the BP refinery, and the increased use of low sulfur coal, have also contributed to reduced emissions in the area.

4.2 TOTAL SUSPENDED PARTICULATES

Ambient monitoring for TSP was carried out in the KIA by DEC in 1990-1992 when the Kwinana EPP was being developed. The data from this time showed that TSP levels were not of serious immediate concern. DEC monitored TSP from February 2005 to February 2006 at the Hope Valley monitoring site, and for several years in the Munster and Beeliar areas. Recorded levels from these studies were below both the limit and standard specified in the Kwinana EPP.

5. HISTORY OF THE AREA B 'BUFFER' BOUNDARY

The Kwinana EPP area (Figure 1) was first established in Schedule 1 of the EPP in 1992. Area B was designed to provide a buffer zone between industries and residential areas in terms of air quality, and to ensure that residential areas (predominantly Area C) were given the highest level of protection.

In 1993, EPA released Bulletin 723, a Position Paper relating to development in the KIA (EPA, 2003). Bulletin 723 upheld the use of the buffer as a long term planning instrument to maintain a distance between industrial and residential areas. In the years following, Government planning agencies referred to the buffer to guide many land use decisions in the area.

Over time it became apparent that land use separation is more of a planning issue than one of air quality management, and while the Kwinana EPP had served as a de-facto planning tool in maintaining land use separation, it had not been developed through careful consideration of all issues commonly associated with an industrial area (e.g. air pollution, noise, odour or risk from industrial activities). For these reasons, the *Review of Kwinana Air-Quality Buffer* (WAPC et al., 2002) was commenced.

In October 2008, the Western Australian Planning Commission (WAPC), along with the Department for Planning and Infrastructure (DPI), former Department of Industry and Resources (DoIR) and DEC released the *Review of the Kwinana Air Quality Buffer - Position Paper* (WAPC et al., 2008). This Position Paper outlines the Government's current position regarding the buffer, including modifications to six areas. The Position Paper provides guidance for land use planning until further information is available to finalise the buffer.

The Position Paper is currently available on the WAPC website (www.wapc.wa.gov.au).

6. AIR QUALITY IN THE KWINANA INDUSTRIAL AREA

Current knowledge of the air quality in the Kwinana industrial area is based on a number of studies carried out over many years and data from ongoing monitoring programs.

DEC carried out a Baseline Air Toxics Project in 1997 and 1998 to assess the volatile organic compound (VOC) composition of air toxics in Perth's atmosphere. A monitoring site was located at Hope Valley in the KIA. Measured concentrations were compared against guidelines from the WHO, the Swedish Government and the Expert Panel on Air Quality Standards in the United Kingdom. The project found that the concentration of air toxics in Perth's atmosphere are well below accepted international guidelines.

DEC was also involved in a study of personal exposure to benzene, toluene, ethyl benzene, o-xylene, m-xylene and p-xylene (BTEX) from 2000 to 2002. Measured concentrations in Perth were compared with Australian occupational standards and international environmental guidelines, and were considered low (DEH, 2003).

DEC implemented a 12 month Background Air Toxics study in 2005 and 2006 to assess the concentrations of toxic pollutants in the ambient air, and to compare them with the guidelines proposed in the Air Toxics National Environmental Protection Measure (discussed in more detail in section 9). The study included three monitoring sites across the Perth metropolitan area, one of which, Hope Valley, was located in the Kwinana EPP area B. These sites monitored polycyclic aromatic hydrocarbons (PAHs), carbonyls, heavy metals and VOCs.

This study was later extended to include additional monitoring sites at North Rockingham, Kwinana Beach, Challenger, Calista, Medina, Munster, Wattleup, Kwinana and Rockingham. These additional sites monitored VOCs, plus one of more of nitrogen dioxide (NO₂), PM_{2.5} and ammonia. For substances with no NEPM standard or investigation level, a suitable alternative from the national or international air quality community was chosen for comparison. Throughout the study, there were no exceedances of any of the NEPM or alternative standards for any pollutant monitored in the study area. There were a small number of instances where the NEPM PM_{2.5} annual advisory standard was exceeded, however these measurements were not taken from within the Kwinana EPP area.

More recently, DEC ran a study to monitor selected VOCs and ammonia in the Kwinana area from August 2007 to October 2008. Measurements were made at 14 locations from Henderson in the north, south to Benjamin Way (Rockingham) and east to the Kwinana freeway. An initial inspection of the results indicates that concentrations of key VOCs and ammonia were well below applicable air quality criteria (where these exist). This is a provisional finding and full results will be made available in a technical report during 2009.

Further information regarding the Background Air Toxics study or any of the other air quality studies is available on the DEC website (www.dec.wa.gov.au).

7. MANAGEMENT OF AIR QUALITY IN WESTERN AUSTRALIA

The Western Australian Government uses a range of legislative and non-legislative measures to protect human and environmental health from atmospheric pollutants. Air pollutants come from a wide range of sources, and therefore a variety of different instruments needs to be used to help minimise their impact on air quality.

There are a number of legislative instruments under the Act that can be utilised for managing air quality. Some of these instruments control the emission of a particular pollutant, such as SO₂ under the Kwinana EPP or the *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003* (Goldfields EPP) for managing industrial emissions of SO₂ in the Goldfields area.

Part VIII of the Act allows Regulations to be made to address environmental issues such as air quality. Regulations can be made for their own specific purpose or for implementing EPP's (such as for the Kwinana EPP), SEP's, or NEPM's. Regulations have been developed for managing matters such as acceptable fuel quality or the types of home wood-heaters that can be bought and sold. Works approvals and licences are statutory mechanisms as they set enforceable conditions. These are used by the DEC for setting acceptable emission limits for individual industrial premises.

Also a range of non-legislative policies, programs and management plans are being used to help manage air quality. The most significant of these is the thirty-year *Perth Air Quality Management Plan*, which includes strategies and actions to achieve and maintain clean air throughout Perth. The plan includes programs such as the *CleanRun* vehicle emissions reduction program, various research and monitoring programs, and the Smoky Vehicles reporting program. The DEC also runs community education programs such as *AirWatch*.

The DEC or the EPA can establish non-legislative guidelines for the management or assessment of ambient air quality. These may be for guiding DEC procedures, or for guiding proponents regarding matters assessed during the EPA's environmental impact assessment processes.

The DEC currently calculates licence fees for industrial premises based on the quantities of pollutants they emit. This provides an economic incentive to reduce emissions.

The range of statutory and non-statutory measures is outlined in Figure 4.



Figure 4: Schematic representation of the tools available to DEC and EPA for the management of air quality in Western Australia

8. NATIONAL AMBIENT AIR QUALITY STANDARDS

The National Environment Protection Council (NEPC) is a body established by the Commonwealth Government and each State and Territory to help coordinate a nationally consistent approach to protecting or managing particular aspects of the environment such as air quality. This is to ensure that the people of Australia enjoy the benefit of equivalent protection from air, water and soil pollution and from noise wherever they live.

The NEPC has a statutory responsibility for National Environment Protection Measures (NEPM's). NEPM's are developed through public consultation along with each State or Territory and outline goals or standards for environmental quality and protocols for monitoring and reporting on compliance with those standards.

NEPC made the *National Environment Protection (Ambient Air Quality) Measure* (Ambient Air Quality NEPM) in 1998, for the purpose of protecting human health and well-being. The Ambient Air Quality NEPM sets environmental quality criteria in the form of ambient standards for a number of pollutants against which ambient air quality can be assessed, along with monitoring and reporting requirements for each State and Territory. Monitoring requirements apply in areas of more than 25,000 people, although the standards are relevant wherever people live in WA.

The Ambient Air Quality NEPM contains environmental quality criteria for the following six pollutants:

- Nitrogen dioxide (NO₂);
- Ozone (O₃);
- Carbon Monoxide (CO);
- Sulfur dioxide (SO₂);
- Particles (as PM₁₀); and
- Lead (Pb).

An advisory standard for PM_{2.5} particles is also specified to provide guidance while further monitoring is being carried out to advise the NEPC to enable the development of a standard for PM_{2.5} in the future.

In 2004 NEPC made the *National Environment Protection (Air Toxics) Measure* (Air Toxics NEPM) for the management of Air Toxics. The Air Toxics NEPM provides a framework for monitoring, assessing and reporting on ambient levels of five air toxics:

- Benzene;
- Formaldehyde;
- Toluene;
- Xylenes; and
- Polycyclic aromatic hydrocarbons.

This monitoring and reporting may also lead to the development of NEPM standards for air toxics in the future.

A NEPM, once made, obliges each jurisdiction to implement it by such laws and other arrangements as are necessary. Since 1998, the Western Australian Government has been fulfilling its monitoring obligations under the Ambient Air Quality NEPM. In order for WA to more formally adopt the NEPM, the EPA has finalised a draft *State Environmental (Ambient Air) Policy 2009* (Ambient Air SEP) that has been developed through public consultation. See section 9 for more information.

9. DRAFT STATE ENVIRONMENTAL (AMBIENT AIR) POLICY 2009

9.1 PURPOSE OF THE DRAFT STATE ENVIRONMENTAL (AMBIENT AIR) POLICY 2009

A State Environmental Policy (SEP) is a non-statutory Government policy position on a particular aspect of the environment, drafted by EPA through public consultation and ending by Cabinet adopting it as a whole-of-Government policy. Implementation of a SEP is primarily through the existing powers of the *Environmental Protection Act 1986*. Further information regarding SEP's can be found in Appendix 3.

The Ambient Air SEP facilitates WA's obligation to adopt the Ambient Air Quality NEPM. The goal of the draft Ambient Air SEP as currently drafted, is to provide all Western Australians with air quality that is protective of human and environmental health and amenity. It aims to achieve this goal through providing a comprehensive management framework for coordinating the management of ambient air quality. The management framework includes both statutory and non-statutory measures that can be used to address the broad range of activities and sources of air pollutants across WA, such as mobile sources (cars etc), waste burning, solid fuel heaters, prescribed burning, and stationary sources (such as industrial premises).

The Ambient Air SEP also includes a mechanism whereby the Government can establish ambient standards for 'local' pollutants not already listed in an adopted NEPM. This mechanism gives the Ambient Air SEP the potential to provide guidance on acceptable ambient standards for a wide range of pollutants in the future.

As the Ambient Air SEP is to be the primary air quality policy in Western Australia, it is important that all other air quality policies, guidelines and procedures are or will be consistent with it (refer to Figure 4). The draft Ambient Air SEP is currently undergoing Ministerial consultation until 7 August 2009. Copies of the draft Ambient Air SEP and Explanatory Document are available on the EPA website www.epa.wa.gov.au.

9.2 AREA TO WHICH THE DRAFT *STATE ENVIRONMENTAL (AMBIENT AIR) POLICY 2009* WILL APPLY

The NEPM standards contained in the draft Ambient Air SEP apply to the whole of Western Australia, except for in a number of circumstances set out in the draft Ambient Air SEP:

- within the boundary of an industrial premises;
- within industrial buffer areas that are ‘residence free’;
- where there are no ‘sensitive receptors’; or
- where an EPP exists that sets environmental quality criteria.

Therefore the NEPM standards for SO₂ do not apply in the Kwinana EPP area (Figure 1), as the EPP already specifies standards for managing SO₂. With regards to TSP, there currently is no NEPM standard, and so the TSP ambient standards in the Kwinana EPP would apply right across the EPP areas.

10. INTERACTION BETWEEN THE KWINANA EPP AND THE AMBIENT AIR SEP

The management framework diagram in Figure 4 shows how the Kwinana EPP is a statutory mechanism for managing a particular air pollution source (industrial) of a particular pollutant (SO₂) in a particular area (Kwinana, Cockburn and Rockingham). Similarly, the Goldfields EPP manages industrial emissions of SO₂ in the Goldfields residential area. These policies are just part of the overall management framework outlined in the draft Ambient Air SEP. However, if the Kwinana EPP is to be retained and managed in this way, it must be consistent with the Ambient Air SEP. If there are any inconsistencies of consequence, they may be resolved by amending the EPP as part of this review.

As discussed above, the Kwinana EPP currently manages industrial emissions of SO₂ in the Kwinana EPP area, while the NEPM standards for pollutants other than SO₂ would apply. It follows that the SO₂ standards should be similarly stringent; however, the NEPM and Kwinana EPP standards for SO₂ are expressed differently and are not easily compared. For details see Technical Box 2.

Technical Box 2

The NEPM standard for SO₂ is 570 µg/m³ or 0.2 parts per million (ppm) 1-hour average, not to be exceeded on more than 1 calendar day per calendar year. This means that the second highest measured clock-hour average must be below the standard. Under the NEPM standards, more than one hour in a day can exceed the standard, however this will only be counted as one exceedance. The Kwinana EPP Area C standard is 350 µg/m³, 9th highest 1-hour average in a consecutive 12 month period, and each exceedance is counted, even if more than one is on the same day.

Technical Box 3

The Kwinana EPP model uses a 9th highest 1-hour standard (the 99.9th percentile). The Ambient Air Quality NEPM uses the highest or second-highest 1-hour average. Model estimates of 9th highest 1-hour averages are known to be more reliable for modelling purposes.

Analyses have been carried out to compare the Kwinana EPP standards and the NEPM standards. Appendix 4 contains charts from this analysis. It is evident from these charts that for Area C, the Kwinana EPP standard for SO₂ is a bit more stringent than the NEPM, whereas for Area B, the NEPM standard is more stringent than the standard set in the EPP.

In reality, this would not present a problem so long as SO₂ concentrations in the Kwinana EPP areas remain well below the NEPM standards, as historically they have done. If it appears that SO₂ levels in the Kwinana EPP area are likely to remain low into the future, the inconsistency may not be deemed to be an issue, and the EPP could potentially be retained with no amendments. However, if the apparent inconsistency is deemed of consequence, then it could be resolved in one of two ways:-

- amend the Kwinana EPP to adopt the NEPM SO₂ ambient standard for both Areas B and C. Ambient monitoring data would be checked against the NEPM ambient standard (rather than the EPP standard) for compliance. The current EPP standards could be retained for use in the modelling due to reasons discussed in Technical Box 3, though they may need to be refined to ensure consistency with the NEPM standard. A review of these figures would determine if this was necessary; or
- revoke the Kwinana EPP (along with the ambient standards it sets). The NEPM standards would then apply where there are 'sensitive receptors' in the EPP area. Removing the Kwinana EPP may allow the NEPM standards to be applied in theory, however the Kwinana EPP is an emissions management tool, and removing it would create the need to develop or adopt other effective emissions management procedures to ensure that the air quality in the area is maintained.

Benefits and disadvantages of these options are highlighted in more detail in section 12.

11. FUTURE OF THE KWINANA EPP

11.1 DOES SO₂ OR TSP REQUIRE ONGOING MANAGEMENT IN THE KWINANA INDUSTRIAL AREA?

The ambient concentrations of SO₂ in Areas B and C of the Kwinana EPP area are currently well below the EPP limit and standard, and have been for some time. The levels are also well below the NEPM ambient standard for SO₂. However, emissions of SO₂ could potentially increase if industries reverted to the use of high-sulfur fuels or coal in

the future. This could be a reality if gas supply costs were to increase significantly in the future.

The ongoing management of industrial emissions of SO₂ and other pollutants is important for maintaining air quality, particularly in a heavy industrial area such as the KIA.

11.2 IS AN EPP STILL THE MOST APPROPRIATE TOOL FOR MANAGING SO₂ AND TSP?

The development of an EPP for managing the air quality issues in the Kwinana industrial area was an appropriate and effective management response to the issue at the time. It allowed DEC to specify a management area, establish a modelling program and engage with industry to develop individual emission limits. The EPP deals effectively with cumulative emissions of SO₂ in a heavy industrial area, and its legal nature means that agreed emission limits are not appealable and can only be changed through a formal redetermination process.

However, a comprehensive review must consider whether the EPP continues to have an important role in air quality management. Changes to the Act since the Kwinana EPP was first Gazetted in 1992, have incorporated many of the powers the EPP established, such as the provision for establishing a procedure for determining maximum permissible quantities. It is possible for DEC to regulate industrial emissions for all prescribed premises through the use of licence conditions.

WA also now has a more comprehensive legislative and policy framework for managing air quality. Parts of the framework shown in Figure 4 did not exist in 1992. It remains to be seen whether this framework would be adequate for controlling industrial emissions adequately in place of an EPP.

The use of an EPP for prescribing ambient standards for TSP however, may no longer be appropriate. The TSP ambient standards may be better prescribed in the draft Ambient Air SEP as a 'Local' pollutant, if deemed necessary.

Your comments and observations regarding these questions are welcome.

12. OPTIONS FOR THE REVIEW

12.1 OPTION A – NO AMENDMENTS

Discussion

The 1999 statutory review of the Kwinana EPP recommended that the 1992 EPP be re-issued unchanged. It is possible to repeat this if no amendments are considered necessary.

Benefits

Management of industrial emissions of SO₂ under the Kwinana EPP would continue unchanged. It would be likely that ambient levels would remain below the EPP ambient standards.

Disadvantages

The Kwinana EPP and the Ambient Air SEP would operate alongside each other without further consideration of the slight inconsistency between their ambient SO₂ standards (discussed in Section 10).

Statutory reviews occur every seven years (unless deferred) for the purpose of considering new knowledge or data and to allow for any amendments deemed necessary.

12.2 OPTION B – AMEND

Discussion

Since the Kwinana EPP was Gazetted in 1992 and 1999 there have been changes to the Act, the adoption of the Ambient Air Quality NEPM in WA and a draft State Environmental (Ambient Air) Policy progressed by EPA. Amendments to the Kwinana EPP may be necessary to ensure it remains consistent with these changes.

Possible amendments to the Kwinana EPP could include (but are not limited to) any or all of the following:

- replacing the Kwinana EPP reference to ‘beneficial uses’ with the more contemporary concept of ‘environmental values’ in order to be consistent with the Act and the draft Ambient Air SEP. The term ‘environmental values’ was incorporated into the Act in 2003 and includes beneficial uses and also ecosystem health condition;
- updating the references made to parts of the Act that no longer exist or have been changed;
- modifying or refining the Kwinana EPP standards and limits to ensure consistency with the NEPM criteria for SO₂;
- modifying the objectives of the Kwinana EPP to state that its purpose is for ensuring air quality in the Kwinana industrial area is within the NEPM standards (of the Ambient Air SEP);
- amending the Kwinana EPP to adopt the NEPM SO₂ ambient standards for both Areas B and C. The current Kwinana EPP standards would be retained for use in the modelling due to reasons discussed in Technical Box 3, though they may need to be refined to ensure consistency with the NEPM standard; or
- removing the air quality criteria for TSP from the Kwinana Regulations, given that they may be more appropriately implemented as a ‘local pollutant’ in the Ambient Air SEP.

Other amendments may also be considered if deemed appropriate or necessary.

Benefits

Amendments such as those above, could allow the Kwinana EPP to retain its functional role of managing industrial emission of SO₂ in the KIA, while allowing for the inclusion of other current desired objectives or purposes.

Disadvantages

Disadvantages of amending the Kwinana EPP would depend on the amendments being considered.

12.3 OPTION C – REVOKE

Discussion

The review should revisit the need for an EPP for managing the issue for which it was originally intended.

Some issues that influence this consideration are:

- there is evidence to suggest that SO₂ emissions are not currently a significant issue in the KIA (partly due to the existence of the EPP);
- the Ambient Air SEP and the Kwinana EPP both specify ambient standards of air quality that are currently slightly inconsistent;
- the Kwinana EPP is largely restricted to the management of SO₂, which can be managed via emission limits the same as other pollutants;
- the Kwinana EPP is enforced through Part V licence conditions of the Act, which can be seen as a double up of powers. Emission limits are set in the Kwinana industrial area for pollutants other than SO₂ without the need for an EPP, though this process may need to be examined in more detail to ensure its effectiveness;
- the Kwinana EPP is no longer legally necessary for the Government to be able to develop a modelling procedure for determining emission limits. This can be done through the powers of the Act, and is now outlined in the draft Ambient Air SEP. The legal status of the Kwinana EPP, however ensures that emission limits set through the EPP process are not open to appeal; and
- in considering revoking the Kwinana EPP, it would be important to ensure that an equally effective emissions management process was in place before revoking the EPP.

Benefits

Revoking the Kwinana EPP would remove the slight inconsistency between the standards of the Kwinana EPP and Ambient Air SEP. The people living in Area B of the Kwinana EPP would then be protected to the same ambient standard for SO₂ as the rest of Western Australia.

Revocation of the Kwinana EPP would mean that all industrial emissions in the KIA were managed in the same way, through licence conditions set directly via Part V of the Act. If these methods are not considered robust enough, alternatives could be considered. Environmental quality criteria as they are developed could be incorporated into management processes more readily.

Disadvantages

The Kwinana EPP process controls the setting of emission limits and ensures that cumulative effects of SO₂ emissions are taken into account. Without it, or a suitably rigorous alternative, there may be a risk that over time, emission limits will be set that are not stringent enough for ensuring compliance with the NEPM in an area with multiple emitters of a pollutant. This would result in a loss of confidence of industry and the community.

The Kwinana EPP provides a legal framework that assures industry that their emissions allocations cannot be changed easily or often, or without their consultation. Revocation of the EPP would remove this certainty for industry.

13. THE NEXT STEPS

This paper explores some of the issues raised to date and provides a number of options for potential amendments to the Kwinana EPP and associated Regulations. Comments are invited on any of the issues raised and any of the options discussed. Feedback received will be used to inform EPA about the need to amend any aspects of the Kwinana EPP, and the future of the policy in general.

Once public comments have been received an analysis of submissions will be prepared and considered. A new draft policy will be prepared, if appropriate, and will be made available for further comment as required under Section 36 of the Act.

Consultation on the new draft will again be followed by analysis and consideration of comments received, and a new revised draft will be prepared and submitted to the Minister for Environment for consideration. The Minister will then decide whether or not to approve a revised EPP.

14. REFERENCES

Department of Environment (2006), *Air Quality Modelling Guidance Notes*, Government of Western Australia, Perth, Western Australia.

Department of Environmental Protection (2000), *Perth Air Quality Management Plan*, Government of Western Australia, Perth, Western Australia.

Department of the Environment and Heritage (2003), *Technical Report No. 6: BTEX Personal Exposure Monitoring in Four Australian Cities*, Environment Australia, Canberra, ACT.

Environmental Protection Act 1986 (WA)

Environmental Protection Regulations 1987 (WA)

Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999 (WA)

Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992 (WA)

Environmental Protection Authority (1992), *Development of an Environmental Protection Policy for Air Quality at Kwinana*, Bulletin 644, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority (1993), *Sustainable development and the Kwinana Industrial Area : Position Paper*, Bulletin 723, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority (1999), *Review of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992*, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority (1999), *Revised Draft Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999 ; Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992 : Report to the Minister for the Environment*, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority (2006), *Report on the Deferral of the Statutory Review of the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999 and Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority (2007), *State of the Environment Report: Western Australia 2007*, Department of Environment and Conservation, Perth, Western Australia.

Government of Western Australia (2009), *State Environmental (Ambient Air) Policy 2009: Draft Explanatory Document for public and stakeholder comment*, Government of Western Australia, Perth, Western Australia.

Government of Western Australia (2009), *State Environmental (Ambient Air) Policy 2009: Draft Policy for public and stakeholder comment*, Government of Western Australia, Perth, Western Australia.

Western Australian Planning Commission, Department of Environmental Protection, Waters and Rivers Commission and the Department of Minerals and Petroleum Resources (2002), *Review of Kwinana Air-Quality Buffer*. Western Australian Planning Commission, Perth, Western Australia.

Western Australian Planning Commission, Department for Planning and Infrastructure, Department of Environment and Conservation and the Department of Industry and Resources (2008) *Review of the Kwinana Air Quality Buffer – Position Paper*. Western Australian Planning Commission, Perth, Western Australia.

15. DEFINITIONS AND ACRONYMS

The Act

The *Environmental Protection Act 1986*.

Airshed

An area in which air quality is subject to common influences from meteorology, topography and emissions.

Air Toxics

Airborne components which may have an adverse effect on human health even when present in small amounts. Includes compounds such as benzene and formaldehyde.

Ambient air

Air outside buildings and structures. Excludes indoor air.

Ambient Air Quality NEPM

National Environmental Protection Measure for Ambient Air Quality (26 June, 1998).

Ambient standard

See ‘standard’.

Atmospheric waste

As defined in the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*.

- a) a gaseous substance of a kind prescribed by the regulations
- b) a particulate substance of a kind prescribed by the regulations; or
- c) a combination of substances referred to in paragraphs a) and b).

Carbonyls

Polar volatile organic compounds (see VOCs).

DEC

Western Australian Department of Environment and Conservation.

Emissions

Gases, particles or liquids being released into the environment by natural or human means.

Environmental quality criteria

As defined in the draft *State Environmental (Ambient Air) Policy 2009*.

‘The numerical values or narrative statements (standards, guidelines and/or guideline values) that serve as benchmarks of environmental quality. They may lead to a more detailed assessment of environmental quality and/or a management response to achieve the environmental quality objective’.

Equivalent aerodynamic diameter

The diameter of a spherical particle of density 1000kg/m³ that exhibits the same aerodynamic behaviour as the particle in question.

Fugitive emission

Fugitive emission as opposed to a ‘stack emission’. Dust or similar pollutant that does not come from a stack, chimney, vent or equivalent. Notoriously difficult to monitor and model, and therefore difficult also to regulate.

Guidelines

Non-regulatory principles and procedures.

KIA

Kwinana Industrial Area.

KIC

Kwinana Industries Council.

Licence

A statutory document, issued by an environmental agency, permitting an organisation to discharge, emit or deposit wastes into the environment subject to certain conditions. Conditions may relate to control measures, monitoring requirements, volume, timing, nature and composition of the waste. Breaches of licence conditions may result in prosecution.

Limit

As defined in the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*.

‘The ambient concentration of an atmospheric waste which it is *not to be exceeded*’.

Local Pollutants

As defined in the draft *State Environmental (Ambient Air) Policy 2009*.

Pollutants for which air quality standards have not been set in an ambient air related National Environmental Protection Measure (NEPM).

µg/m³

Micrograms per cubic metre. The concentration of an atmospheric waste in micrograms per cubic metre of dry air at 0 degrees Celsius and one atmosphere pressure.

Monitoring

Periodic or continuous testing to determine pollutant levels.

NEPC

National Environment Protection Council. A Ministerial Council with statutory powers to make national environment protection measures.

NEPM

National Environment Protection Measure. A legal instrument which sets agreed national objectives for protecting particular aspects of the environment.

NO₂

Nitrogen dioxide. The product of combustion and a contributor to the formation of ozone.

NO_x

Oxides of nitrogen. The product of combustion and a contributor to the formation of ozone.

O₃

Ozone. Found in the stratosphere in a protective layer shielding the earth from ultraviolet radiation. Also found in the troposphere as a major component of photochemical smog, which is formed through complex chemical reactions of nitrogen oxides and hydrocarbons in the presence of sunlight.

PM₁₀

Particulate matter with an equivalent aerodynamic diameter of less than 10 micrometres (µm).

PM_{2.5}

Particulate matter with an equivalent aerodynamic diameter of less than 2.5 micrometres (µm).

ppb

Parts per billion by volume.

ppm

Parts per million by volume.

Photochemical smog

Formed in the troposphere (up to 15kms from the earth's surface) through complex chemical reactions involving ozone, oxides of nitrogen and hydrocarbons in the presence of sunlight.

PAHs

Polycyclic Aromatic Hydrocarbons.

Point source emission

An emission from a stack, chimney, vent or equivalent.

Relevant determination

The current list of emission limits for SO₂ for each of the industries to whom the Kwinana EPP applies.

Sensitive receptor

As defined in the draft *State Environmental (Ambient Air) Policy 2009*

‘A location where humans are likely to reside; this may include a dwelling, school, hospital, nursing homes, child care facilities or public recreation areas that exist now and in the future. Locations of cultural or environmental significance and ‘environmentally sensitive areas’ (as declared under Section 51B of the Act) may also be identified as sensitive receptors with respect to air quality’.

Stack emission

An emission from a stack, chimney, vent or equivalent. Also referred to as ‘point source’ emissions.

Standard

Legally prescribed limit of pollution established under statutory authority.

As defined in the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*.

‘The ambient concentration of an atmospheric waste which it is *desirable* not to exceed’.

As defined in the draft *State Environmental (Ambient Air) Policy 2009*

‘The numerical value of an ambient concentration that serves as a benchmark of environmental quality’.

Total suspended particulates (TSP)

Inert particles that have an equivalent aerodynamic diameter of less than 50 micrometres (µm). Sometimes referred to as ‘inhalable particles’ or ‘nuisance dust’.

Toxic pollutants

Materials that can cause death, disease or birth defects in organisms that ingest or absorb them.

Volatile

Any substance that evaporates readily.

Volatile organic compound (VOC)

Carbon containing compounds that participate in atmospheric photochemical reactions. They are produced from combustion and are emitted from motor vehicles and a variety of industrial and domestic sources. VOCs are a subset of ‘Air Toxics’.

APPENDIX 1

Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999

ENVIRONMENTAL PROTECTION

EP301*

Environmental Protection Act 1986

**Environmental Protection (Kwinana)
(Atmospheric Wastes) Policy Approval
Order 1999**

Made by the Minister under section 31(d).

1. Citation

This order may be cited as the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999*.

2. Commencement

This order comes into operation on the day on which it is published in the *Gazette*.

3. Approval of environmental protection policy

The environmental protection policy set out in Schedule 1 is approved.

4. Revocation

The *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1992* is revoked.

**Schedule 1 — Environmental Protection (Kwinana)
(Atmospheric Wastes) Policy 1999**

[cl. 3]

*Environmental Protection Act 1986***Environmental Protection (Kwinana) (Atmospheric Wastes)
Policy 1999**

Approved by the Minister under section 31(d).

1. Citation

This policy may be cited as the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999*.

2. Purposes of policy

The purposes of this policy are —

- (a) to provide for ambient air quality standards and ambient air quality limits for the concentration of atmospheric wastes in the relevant portion of the environment; and
- (b) to establish a programme which may be used to control the discharge of atmospheric wastes from industrial sources so that those ambient air quality standards and ambient air quality limits can respectively be achieved and complied with.

3. Interpretation

- (1) In this policy, unless the contrary intention appears —

“atmospheric waste” means —

- (a) a gaseous substance of a kind prescribed by the regulations;
- (b) a particulate substance of a kind prescribed by the regulations; or
- (c) a combination of substances referred to in paragraphs (a) and (b);

“DEP map” means Department of Environmental Protection Map 990902 —

- (a) a representation of which is set out in Schedule 2; and
- (b) a copy of which is available for inspection at the head office of the Department in Perth;

“determination” means a determination under clause 7(3);

“industrial source” means a point or area within industrial premises in the Policy Area from which an atmospheric waste is discharged into the air environment;

“limit” means the concentration of an atmospheric waste which is not to be exceeded;

“plan” means Department of Land Administration Miscellaneous Plan 1705 —

- (a) a representation of which is set out in Schedule 1; and
- (b) a copy of which is available for inspection at the head office of the Department in Perth;

“Policy Area” means the area described in clause 4(a);

“redetermination” means a redetermination under clause 12(1) or 13(2);

“relevant determination”, in relation to an atmospheric waste, means the determination or redetermination, as the case requires, that provides for the maximum permissible quantities of that waste to be discharged from significant industrial sources;

“relevant portion of the environment” means the portion of the environment referred to in clause 4(b);

“significant industrial source” means an industrial source from which the discharge of an atmospheric waste is, in the opinion of

the Chief Executive Officer, such as to affect or to be likely to affect the relevant portion of the environment;

“standard” means the concentration of an atmospheric waste which it is desirable not to exceed;

“the regulations” means the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992*.

(2) A reference in this policy to —

- (a) Area A, is a reference to those portions of the Policy Area that are coloured pink on the plan;
- (b) Area B, is a reference to those portions of the Policy Area that are —
 - (i) located within the red border depicted on the plan but not located within Area A; or
 - (ii) located outside the red border depicted on the plan and zoned for industrial purposes from time to time under —
 - (I) the Metropolitan Region Scheme within the meaning of the *Metropolitan Region Town Planning Scheme Act 1959*; or
 - (II) a town planning scheme under the *Town Planning and Development Act 1928*;
- (c) Area C, is a reference to those portions of the Policy Area not located within Area A or Area B.

4. Application

This policy applies to —

- (a) the area comprising the local government districts of Cockburn, Kwinana and Rockingham, as delineated and shown bordered in red on the DEP map; and
- (b) that portion of the environment comprising a layer of air 5 metres thick —
 - (i) immediately above, and immediately surrounding, the external surfaces of any residential premises situated within Area B or Area C; or
 - (ii) otherwise immediately above the surface of the Policy Area.

5. Beneficial use to be protected

Any lawful human activity within the relevant portion of the environment which is conducive to the health, welfare, convenience, comfort or amenity of persons within the relevant portion of the environment is declared to be a beneficial use to be protected under this policy.

6. Ambient air quality standards and ambient air quality limits for atmospheric wastes

- (1) Subject to subclause (2), the ambient air quality standards and ambient air quality limits for the concentration of an atmospheric waste in the relevant portion of the environment that are intended to

provide an acceptable level of protection for the beneficial use identified and declared under clause 5 are the standards and limits specified from time to time in respect of that atmospheric waste in the regulations.

- (2) Within the boundaries of industrial premises in respect of which a licence is in force, the concentration of an atmospheric waste shall, for the purposes of this policy, be taken to exclude the contribution to that concentration made by the discharge, if any, of that atmospheric waste from industrial sources located within those boundaries.

7. Determination of maximum permissible quantities of atmospheric wastes to be discharged

- (1) Subject to clause 6(2), the Chief Executive Officer may, in respect of each atmospheric waste, develop a procedure for determining the maximum permissible quantities of that waste to be discharged from industrial sources so that the ambient air quality standards and ambient air quality limits specified in respect of that waste under clause 6 can, in the opinion of the Chief Executive Officer, be achieved and complied with.
- (2) Without limiting the generality of subclause (1), in developing a procedure under that subclause the Chief Executive Officer may make allowance for any additional quantities of an atmospheric waste that may in the future be discharged from industrial sources.
- (3) The Chief Executive Officer may, subject to subclause (4), determine the maximum permissible quantities of an atmospheric waste to be discharged from significant industrial sources in accordance with the procedure developed in respect of that waste under subclause (1).
- (4) Before making a determination, the Chief Executive Officer shall —
 - (a) consult with persons representing such industries or industrial premises as the Chief Executive Officer considers may be affected by the determination; and
 - (b) take into account any views expressed by persons so consulted.
- (5) A determination may provide for —
 - (a) maximum permissible quantities expressed as a discharge rate (in units of mass per unit of time) or as a discharge concentration (in units of mass per unit of volume at specified reference conditions);
 - (b) maximum permissible quantities that —
 - (i) are constant;
 - (ii) vary in a specified manner under specified conditions;
 - (iii) are expressed on a statistical basis;and
 - (c) more than one set of maximum permissible quantities, but in such a case shall also specify —
 - (i) the set of maximum permissible quantities that is for the time being in force; and

- (ii) the circumstances in which, and the method by which, a different set of maximum permissible quantities may be brought into force,

for the purposes of this policy.

- (6) The Chief Executive Officer shall cause notice in writing of a determination to be served on each occupier of industrial premises in the Policy Area affected by the determination.

8. Achievement of standards and compliance with limits

Without limiting the powers of the Chief Executive Officer under the Act in relation to the prevention, control or abatement of pollution, achievement of the ambient air quality standards and compliance with the ambient air quality limits specified in respect of an atmospheric waste under clause 6 may be brought about by requiring occupiers of industrial premises in the Policy Area to comply with the relevant determination.

9. Requirement for compliance with relevant determination in pollution abatement notice or licence

- (1) For the purposes of clause 8, in addition to any other requirements or conditions imposed by the Chief Executive Officer under the Act, the Chief Executive Officer may require —

- (a) under a pollution abatement notice; or
- (b) as a condition of a licence prescribed under section 62(1)(h) of the Act,

an occupier of industrial premises in the Policy Area to control the discharge of a specified atmospheric waste from specified industrial sources within those premises so as to ensure that the quantities of the waste so discharged comply with the relevant determination.

- (2) In subclause (1) —

“specified” means specified in the pollution abatement notice or licence concerned.

10. Time may be allowed for compliance with relevant determination

- (1) If the Chief Executive Officer is satisfied that it is not practicable for an occupier of industrial premises in the Policy Area to control the discharge of an atmospheric waste from industrial sources within those premises so as to comply immediately with the relevant determination, the Chief Executive Officer may —

- (a) after consultation with the occupier, determine the period within which, and the manner in which, compliance with the relevant determination is to be achieved; and
- (b) in addition to any other requirements or conditions imposed by the Chief Executive Officer under the Act, require the occupier under a pollution abatement notice or as a condition of a licence prescribed under section 62(1)(h) of the Act —
 - (i) to control the discharge of the atmospheric waste from those industrial sources so as to achieve compliance with the relevant determination within a

specified period and in accordance with a specified compliance programme;

- (ii) to take such other measures (including the undertaking of monitoring and the installation of equipment) as are specified for the purpose of achieving, or monitoring the extent of, compliance with the relevant determination; and
 - (iii) to furnish to the Chief Executive Officer, at such intervals of time as are specified, a report on the progress being made towards compliance with the relevant determination.
- (2) If the Minister is satisfied that it is not practicable for an occupier of industrial premises in the Policy Area to control the discharge of an atmospheric waste from industrial sources within those premises so as to comply immediately with the relevant determination, the Minister may direct the Chief Executive Officer to exercise, in respect of that occupier, the powers conferred by subclause (1)(a) and (b) to the satisfaction of the Minister.
- (3) In subclause (1) —
“specified” means specified in the pollution abatement notice or licence concerned.

11. Occupiers to undertake monitoring

- (1) Where significant industrial sources are located within particular industrial premises in the Policy Area, the Chief Executive Officer may, as a condition of a licence under section 62(1)(e) of the Act, require the occupier of those premises to carry out a specified monitoring programme to monitor —
- (a) the quantity (expressed as a discharge rate (in units of mass per unit of time) or as a discharge concentration (in units of mass per unit of volume at specified reference conditions)) of an atmospheric waste discharged from such of those sources, together with such other characteristics of that discharge, as are specified, and the volume and effects of that discharge; and
 - (b) the concentration of an atmospheric waste at specified locations in the relevant portion of the environment.
- (2) In subclause (1) —
“specified” means specified in the licence concerned.

12. Redetermination of maximum permissible quantities

- (1) The Chief Executive Officer may, with the approval of the Minister, and shall, if the Minister so directs, redetermine the maximum permissible quantities of an atmospheric waste to be discharged from significant industrial sources in accordance with —
- (a) the procedure developed in respect of the atmospheric waste under clause 7(1); or
 - (b) where that procedure has been modified under subclause (3), the procedure as so modified.

- (2) Before approving or directing a redetermination under subclause (1), the Minister shall —
 - (a) consult with persons representing such industries or industrial premises as the Minister considers may be affected by the redetermination; and
 - (b) take into account any views expressed by persons so consulted.
 - (3) Before making a redetermination under subclause (1), the Chief Executive Officer may modify the procedure developed in respect of the atmospheric waste under clause 7(1) and for that purpose has the same powers and is subject to the same requirements as applied in relation to the development of the procedure.
 - (4) Clause 7(4), (5) and (6) apply to and in relation to a redetermination under subclause (1) as if that redetermination were a determination.
- 13. Review where standards or limits are exceeded**
 - (1) The Chief Executive Officer may, if the ambient air quality standards, and shall, if the ambient air quality limits, specified in respect of an atmospheric waste under clause 6 are exceeded at any location in the relevant portion of the environment, review the relevant determination.
 - (2) As a result of a review conducted under subclause (1), the Chief Executive Officer may redetermine the maximum permissible quantities of the atmospheric waste to be discharged from significant industrial sources in accordance with —
 - (a) the procedure developed in respect of the atmospheric waste under clause 7(1); or
 - (b) where that procedure has been modified under subclause (3), the procedure as so modified.
 - (3) Before making a redetermination under subclause (1), the Chief Executive Officer may modify the procedure developed in respect of the atmospheric waste under clause 7(1) and for that purpose has the same powers and is subject to the same requirements as applied in relation to the development of the procedure.
 - (4) Clause 7(4), (5) and (6) apply to and in relation to a redetermination under subclause (2) as if that redetermination were a determination.
- 14. Information to be made available**

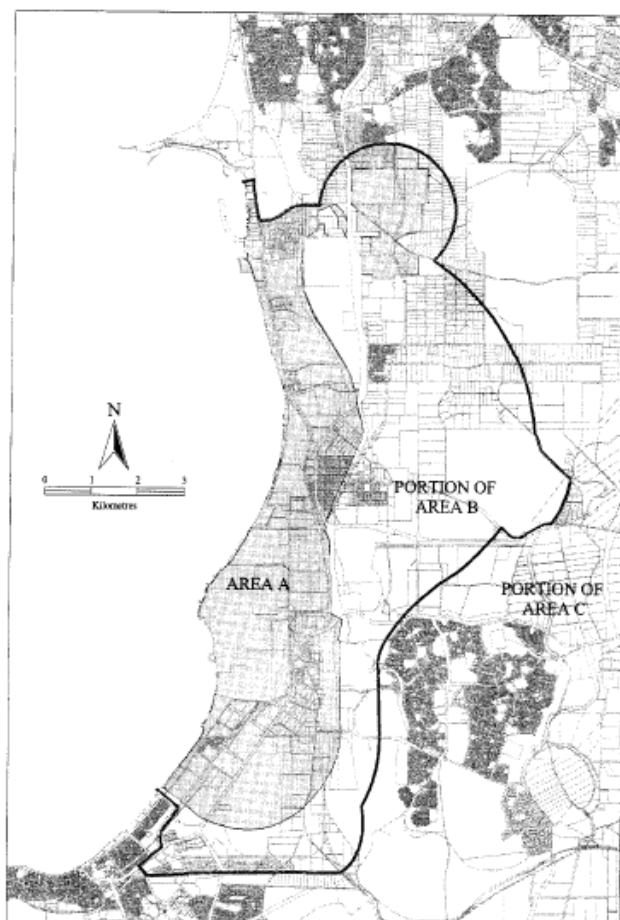
The Chief Executive Officer shall make available for public inspection at the head office of the Department in Perth the following information —

 - (a) details of procedures developed under clause 7(1) (including any modifications under clause 12(3) or 13(3));
 - (b) details of determinations and redeterminations;
 - (c) details of determinations under clause 10(1)(a);
 - (d) copies of reports furnished under clause 10(1)(b)(iii);
 - (e) results of monitoring required under clause 11(1)(b);

- (f) details of the ambient concentration of an atmospheric waste within the relevant portion of the environment in every case giving rise to a review under clause 13(1).

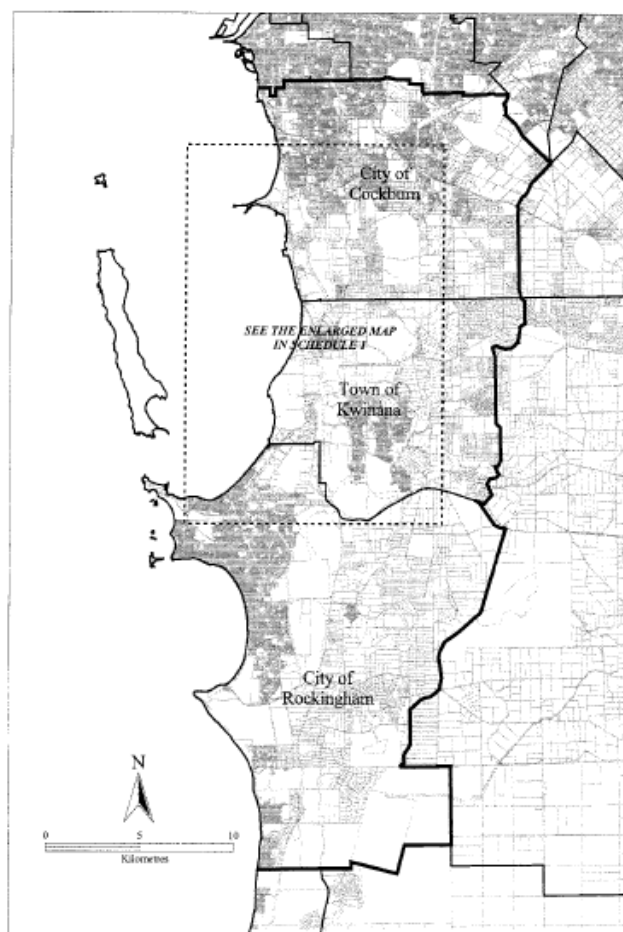
Schedule 1 — Representation of the plan

[cl. 3(1)]



Schedule 2 — Representation of the DEP map

[cl. 3(1)]



CHERYL EDWARDES, Minister for the Environment.

APPENDIX 2

Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992



Western Australia

Environmental Protection Act 1986

**Environmental Protection (Kwinana)
(Atmospheric Wastes) Regulations 1992**

As at 06 Feb 2004

Version 01-00-02

Extract from www.slp.wa.gov.au, see that website for further information

Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992

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Reprinted under the
Reprints Act 1984 as at
6 February 2004

Western Australia

Environmental Protection Act 1986

Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992

1. Citation

These regulations may be cited as the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992*¹.

2. Interpretation

In these regulations —

- (a) “equivalent aerodynamic diameter”, in relation to a particle, means the diameter of a spherical particle of a density of 1 000 kilograms per cubic metre which exhibits the same aerodynamic behaviour as the first-mentioned particle;
- “ $\mu\text{g}/\text{m}^3$ ”, when used in relation to the measurement of an atmospheric waste, means the concentration of that waste in micrograms per cubic metre of dry air at 0 degrees Celsius and one atmosphere pressure (101.325 kilopascals);

r. 3

“the policy” means the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999* approved under the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1999* and set out in the Schedule to that Order;

“total suspended particulates” means inert particles each having an equivalent aerodynamic diameter of less than 50 micrometres; and

- (b) unless the contrary intention appears, other words and expressions have the same respective meanings as they have in the policy.

[Regulation 2 amended in Gazette 21 Dec 1999 p. 6404.]

3. Definition of “atmospheric waste”

- (1) For the purposes of paragraph (a) of the definition of “atmospheric waste” in clause 3(1) of the policy, sulphur dioxide is a prescribed kind of gaseous substance.
- (2) For the purposes of paragraph (b) of the definition of “atmospheric waste” in clause 3(1) of the policy, total suspended particulates are a prescribed kind of particulate substance.

4. Ambient air quality standards and ambient air quality limits for atmospheric wastes

For the purposes of clause 6 of the policy —

- (a) the ambient air quality standard and ambient air quality limit for the concentration of sulphur dioxide in the relevant portion of the environment over an area referred to in the second column of Schedule 1 are the standard and limit (expressed in $\mu\text{g}/\text{m}^3$) specified in relation to that area in the third and fourth columns respectively of that Schedule when averaged over the period of time specified in the fifth column of that Schedule;

- (b) the ambient air quality standard and ambient air quality limit for the concentration of total suspended particulates in the relevant portion of the environment over an area referred to in the second column of Schedule 2 are the standard and limit (expressed in $\mu\text{g}/\text{m}^3$) specified in relation to that area in the third and fourth columns respectively of that Schedule when averaged over the period of time specified in the fifth column of that Schedule.

5. Prescribed licence conditions for industrial premises in Policy Area

- (1) For the purposes of section 62(1)(h) of the Act the following conditions are prescribed as conditions that may be specified in a licence issued in respect of industrial premises in the Policy Area —
 - (a) a condition that the occupier of the premises shall control the discharge of a specified atmospheric waste from specified industrial sources within those premises so as to ensure that the quantities of the waste so discharged comply with the relevant determination;
 - (b) a condition that the occupier of the premises shall —
 - (i) control the discharge of a specified atmospheric waste from specified industrial sources within those premises so as to achieve compliance with the relevant determination within a specified period and in accordance with a specified compliance programme;
 - (ii) take specified measures for the purpose of achieving, or monitoring the extent of, compliance with the relevant determination; and

r. 5

- (iii) furnish to the Chief Executive Officer, at specified intervals of time, a report on the progress being made towards compliance with the relevant determination.
- (2) In subclause (1) —
“specified” means specified in the licence concerned.

Ambient air quality standards and ambient air quality limits — sulphur dioxide **Schedule 1**

Schedule 1

[Regulation 4(a)]

Ambient air quality standards and ambient air quality limits — sulphur dioxide

Item	Area	Standard ($\mu\text{g}/\text{m}^3$)	Limit ($\mu\text{g}/\text{m}^3$)	Averaging period
1	Area A	700	1 400	1 hour
2	Area A	200	365	24 hours
3	Area A	60	80	1 year
4	Area B	500	1 000	1 hour
5	Area B	150	200	24 hours
6	Area B	50	60	1 year
7	Area C	350	700	1 hour
8	Area C	125	200	24 hours
9	Area C	50	60	1 year

Schedule 2 Ambient air quality standards and ambient air quality limits —
total suspended particulates¹

Schedule 2

[Regulation 4(b)]

**Ambient air quality standards and ambient air quality
limits — total suspended particulates**

Item	Area	Standard ($\mu\text{g}/\text{m}^3$)	Limit ($\mu\text{g}/\text{m}^3$)	Averaging period
1	Policy Area	—	1 000	15 minutes
2	Area A	150	260	24 hours
3	Area B	90	260	24 hours
4	Area C	90	150	24 hours

Notes

- ¹ This reprint is a compilation as at 6 February 2004 of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992* and includes the amendments made by the other written laws referred to in the following table. The table also contains information about any reprint.

Compilation table

Citation	Gazettal	Commencement
<i>Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992</i>	17 Jul 1992 p. 3390-2	17 Jul 1992
<i>Environmental Protection (Kwinana) (Atmospheric Wastes) Amendment Regulations 1999</i>	21 Dec 1999 p. 6404	21 Dec 1999 (see r. 2 and <i>Gazette</i> 21 Dec 1999 p. 6395)
Reprint 1: The <i>Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992</i> as at 6 Feb 2004 (includes amendments listed above)		

APPENDIX 3

State Environmental Policies: An Explanatory Document

State Environmental Policies (SEPs)

An Explanatory Document



Environmental Protection Authority

November 2004

Note:

This document has no legal status. It is published to assist in understanding the development of processes for State Environmental Policies.

This report is printed on recycled paper.

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State Environmental Policy (SEP)

A new initiative – State Environmental Policies (SEPs)

There is a need for an environmental policy instrument which is developed through public consultation and ends in consideration by the Cabinet for adoption on a whole of Government basis. It is proposed that this function be filled through the establishment of a policy instrument to be known as a State Environmental Policy (SEP).

A SEP would be a non-statutory instrument, developed in its first stages by the Environmental Protection Authority (EPA) under the provisions of Part II of the Act. Section 17(3)(d) provides the EPA with the powers to develop a SEP as follows:

s.17(3)the Authority, if it considers it appropriate or is requested to do so by the Minister, may –

(d) consider and make proposals as to the policy to be followed in the State with regard to environmental matters;

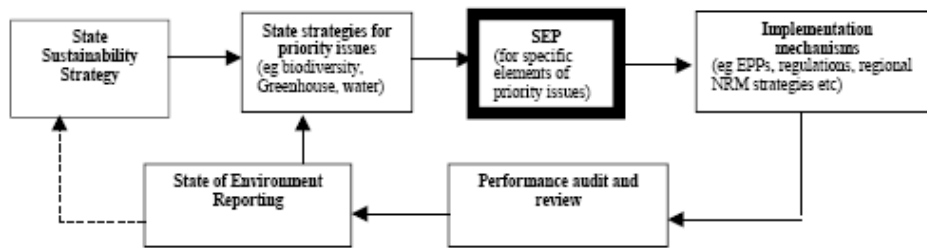
A SEP could have the scope to provide the following:

- establish environmental values (EVs) and environmental quality objectives (EQOs) for a particular environment;
- identify a framework for implementation using existing statutory mechanisms (eg Environmental Protection Policies (EPPs), environmental impact assessment (EIA), licensing, regulations, natural resource management processes), new funding and by guiding other agency mechanisms (such as Town Planning Scheme provisions, Statement of Planning Policies (SPPs) etc); and
- define environmental performance criteria (EQC) against which to audit environmental performance.

Government coordination of State Environmental Policy

A SEP can be effective if it is developed via the Cabinet process as a whole-of-Government instrument. It would be placed within the existing environmental policy framework of Government (refer Figure1).

Figure 1: Environmental Policy Framework of Government



The SEP development process

It is proposed that SEPs are developed by the EPA followed by consideration and approval (or otherwise) by the Minister for the Environment.

The SEP development process (refer Figure 2), consists of 3 distinct phases summarised as follows:

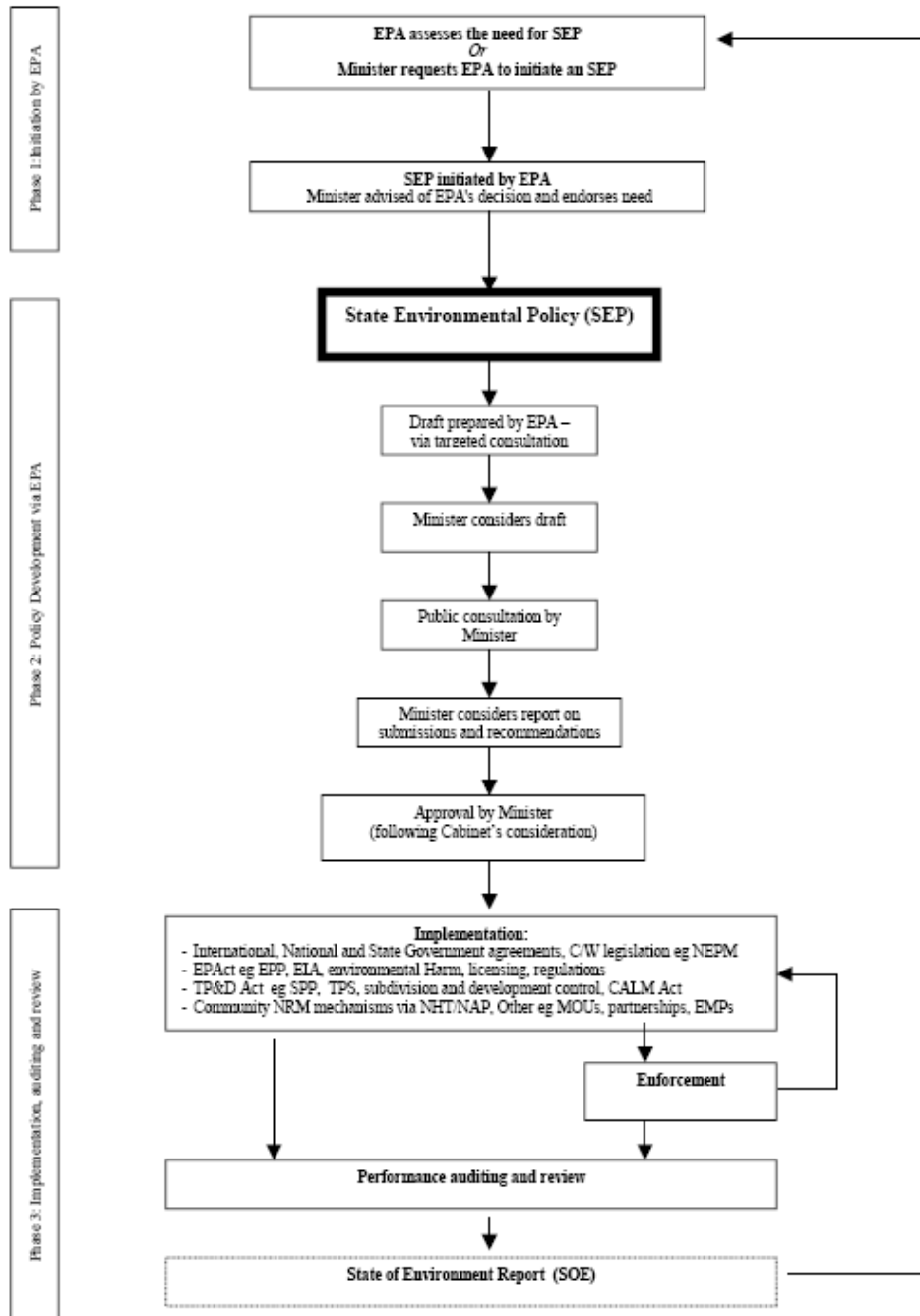
Phase 1: Decision to Initiate SEP

- *Minister requests EPA to scope the need for SEP or EPA decides to examine the need for a SEP; and*
- *EPA to advise Minister of strategy for development and implementation of SEP (including indicative funding implications).*

Phase 2: Policy Development

- *Minister agrees to develop a SEP via the EPA (including support in principle for SEPs initiated by the EPA);*
- *EPA prepares a draft SEP via targeted consultation with key stakeholders (including purpose, Environmental Values, Environmental Quality Objectives, performance measures and recommendations to coordinate an implementation framework based on existing mechanisms);*
- *EPA forwards the draft SEP, associated report and recommendations to Minister;*
- *Minister considers the draft SEP and requests modifications as appropriate;*
- *Minister consults publicly on the draft SEP;*
- *Minister considers submissions and revises the draft SEP as required ;*

Figure 2: State Environmental Policy (SEP) development process



-
- *Minister seeks* Cabinet endorsement; and
 - *Minister releases* approved the SEP on behalf of Government.

Phase 3: Implementation, performance auditing and review

- *SEP Implementation* would be primarily through the powers of the *Environmental Protection Act 1986*, including Environmental Protection Policies (EPPs), environmental impact assessment, industry licensing, clearing regulations, environmental harm and pollution provision; and
- *SEP performance auditing and review* (including performance targets).

Relationship of SEPs to Environmental Protection Policies

Environmental Protection Policies (EPPs) are developed under Part III of the *Environmental Protection Act 1986* (the Act). They are whole-of-Government policies which are ratified by Parliament and have the force of law as if part of the Act.

Due to their legal standing, EPPs have been used by Government to address environmental issues that could not otherwise be adequately addressed via other provisions of the Act. EPPs have been used to provide strong (legal) environmental policy positions.

In the past EPPs have not always been constructed as an instrument of coercive law. Instead, EPPs have been applied to a wide variety of environmental issues across various geographical scales and their provisions have varied in their degree of coerciveness and success. For example, EPPs such as the Swan and Canning Rivers EPP 1998 provided broad scale guidance statements with little or no enforcement provisions and no measurable performance criteria. In contrast, the most legally enforceable EPPs to date have been those which focus on a localised area with locally specific enforcement provisions (eg the Kwinana and Goldfields Sulphur Dioxide EPPs).

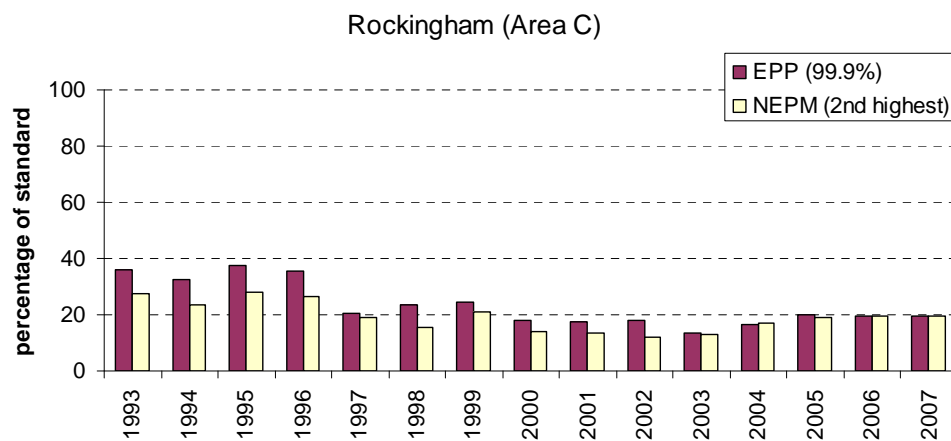
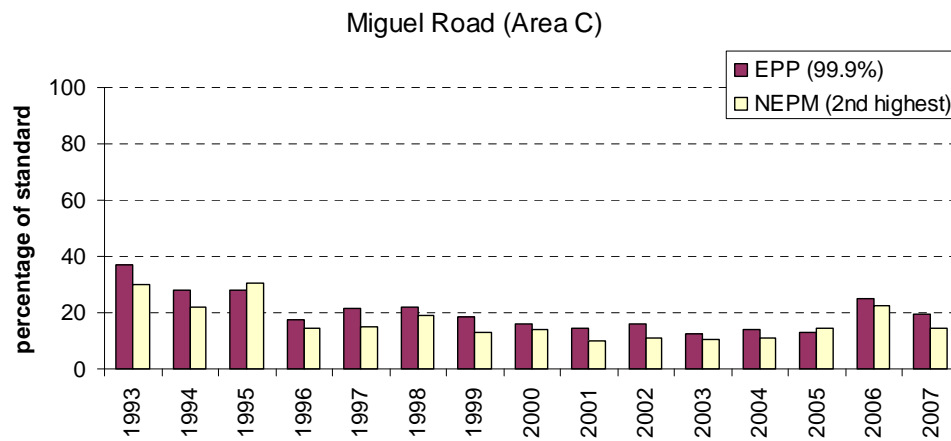
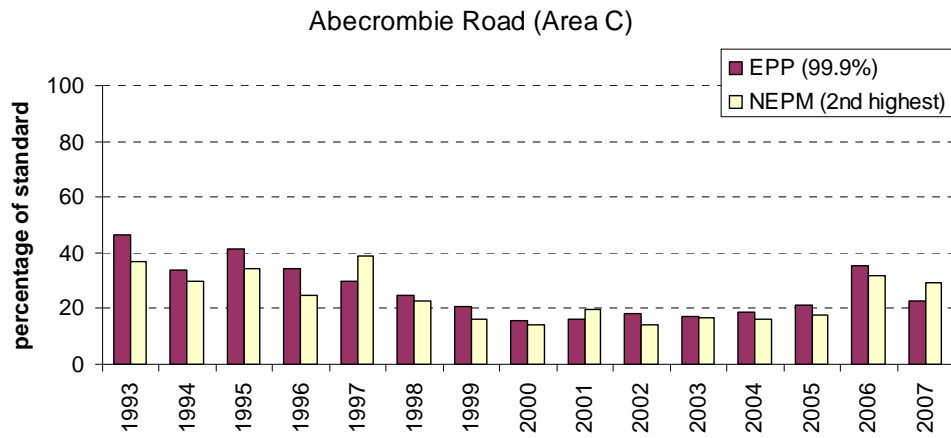
Following the recent promulgation of Environmental Protection Act amendments (October 2003), the Act now has clearer and wider reaching powers of protection, such as new Environmental Harm provisions. Accordingly, there may be now much less need to use EPPs as an instrument for establishing a strong basis for non-coercive policy statements.

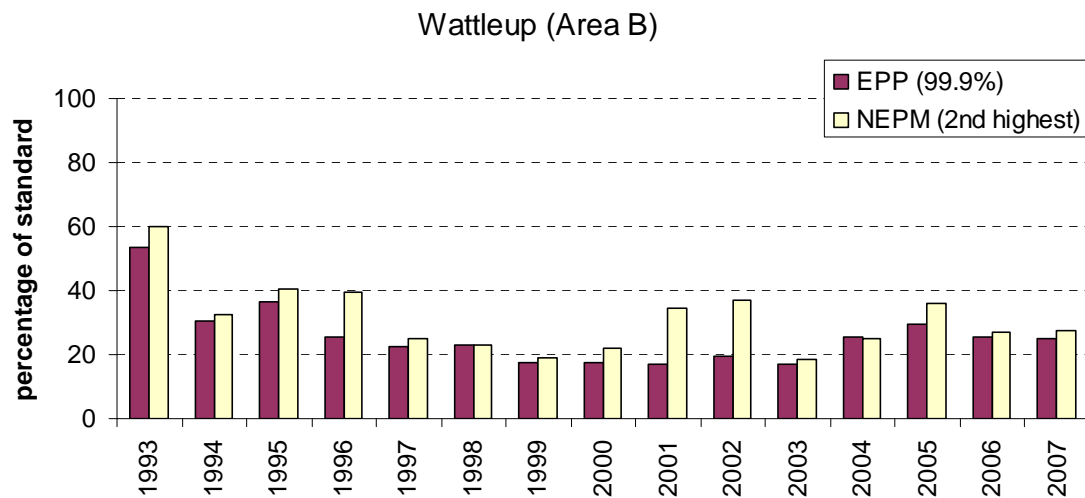
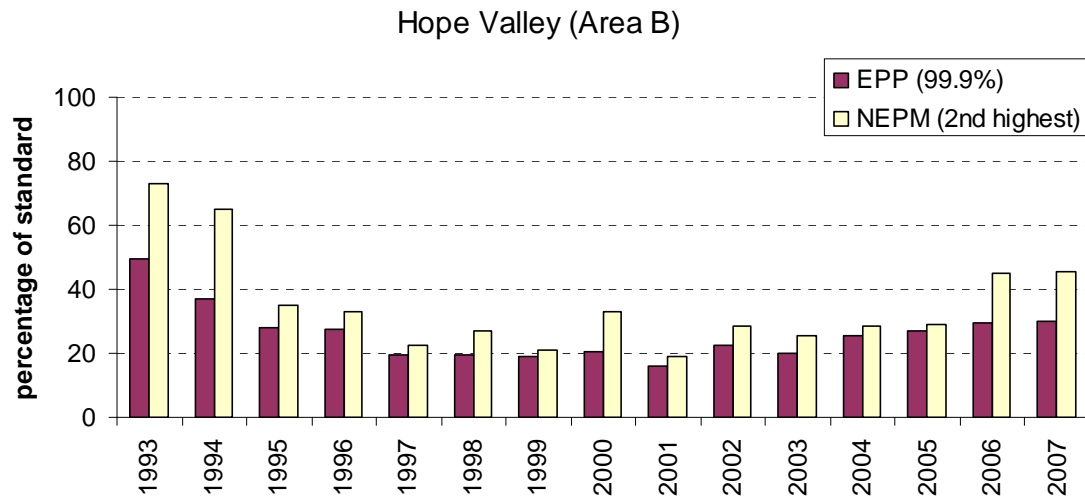
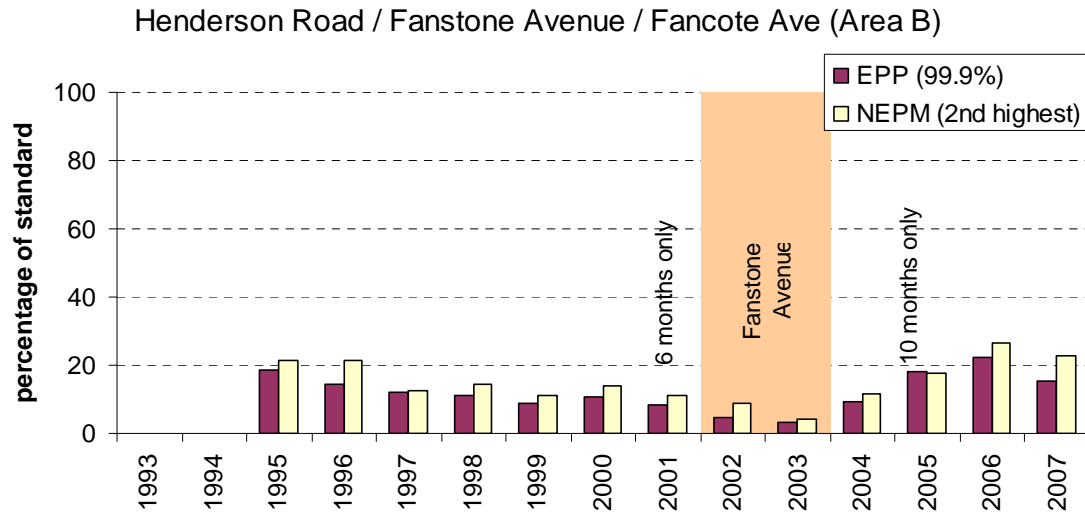
The development of an EPP under Part III of the Act should be reserved for establishing more detailed law (i.e. analogous to writing clauses in the Act or Regulations under it). The development and use of EPPs should be restricted to two main circumstances:

- to provide a clear statement of intent to use the enforcement powers of the Act, when required, in order to adequately address an environmental issue; or
- to provide the ability in certain areas under controlled conditions, by permitting activities that would otherwise be unclear under the Act.

APPENDIX 4

Charts showing percentage of EPP or NEPM standard for SO₂ at monitoring stations in the Kwinana EPP area





Flow diagram of the Environmental Protection Policy process under the *Environmental Protection Act 1986* showing the statutory (light grey boxes) and non-statutory (white boxes) stages.

