

Load-based
Licensing
A fairer system
that rewards
cleaner industry



ENVIRONMENT PROTECTION AUTHORITY

Contents

| | |
|---|--------------------------|
| Pollution—a problem we need to control | 1 |
| Why we need a new way to control pollution | 2 |
| What does it cost to pollute? | 4 |
| How will the EPA know how much pollution has been emitted? | 6 |
| Rewarding cleaner industry | 8 |
| Finding cheaper solutions | 10 |
| | |
| Appendix 1 Activity classifications | 12 |
| Appendix 2 Pollutant weightings | 14 |
| Appendix 3 Critical zones for pollutants | 15 |
| Like to know more? | inside back cover |

For information about this guide contact:
EPA POEO Service Centre,
Phone: 133 372
Fax: (02) 9995 5921
Email: POEOHelp@epa.nsw.gov.au

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Environment Protection Authority
59-61 Goulburn Street, Sydney
PO Box A290, Sydney South 1232
Phone: (02) 9995 5000 (switch)
Phone: 131 555 (information &
publications)
Fax: (02) 9995 5999
Email: info@epa.nsw.gov.au
Website: www.epa.nsw.gov.au

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Pollution—a problem we need to control

Living in an industrialised society like ours provides many benefits, but it also puts considerable stress on the environment. Our waterways and air are not as clean as we would like—and people as well as fauna and flora suffer as a result.

The NSW Government has been active in regulating pollution for many years with the objective of maintaining a healthy environment while encouraging sustainable growth in industrial and agricultural activity.

However, the traditional approach to pollution regulation can no longer guarantee the best outcomes for the environment.

The new load-based licensing (LBL) approach applies the 'polluter pays' principle which introduces a powerful mechanism to control, reduce and prevent air and water pollution in NSW.

It harnesses the power of 'the market' so that the most cost-effective pollution reduction methods are used to achieve positive environmental outcomes.

LBL also creates new markets and business opportunities in environment protection.

The fundamental shift in the new LBL approach is to use pollutant 'load' (the amount of pollution) as the basic unit of measure, rather than pollution concentration.

LBL introduces annual reporting of pollution performance, with accountability assigned to the senior managers of licensed activities.

This booklet provides an overview of the new system and explains how it works. For more technical information, see the Environment Protection Authority (EPA) website www.epa.nsw.gov.au or contact the EPA direct on 133 372.

Why we need a new way to control pollution

A new approach to environmental regulation in New South Wales

The traditional approach can no longer guarantee the best outcomes for the environment

The approach used in the past has been for Governments to tell industry what to do about pollution control—to define control requirements at the end of the production process.

The focus was to limit the concentration of pollutants produced. Standards were set in terms of milligrams per litre and similar measures.

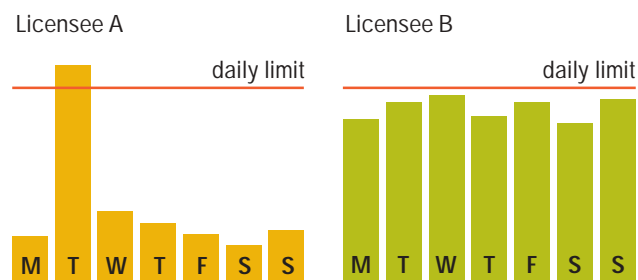
There are a number of problems with the traditional approach.

1 Pollution can be diluted to meet concentration targets without any reduction in the total quantity of pollution. There is no protection against the cumulative effects of pollutants.

2 It is difficult to protect against the cumulative effects of population growth and economic expansion. Even if every polluter used the best available technology, environmental objectives might still not be met.

3 There is no incentive to do better than the minimum required, and so there is little opportunity for lateral thinking and innovation.

4 There is no mechanism to redistribute resources for pollution reduction to achieve the best environmental outcome at the lowest cost.



The old way: regulating concentration *only*

Under the traditional regulatory approach, licensee A would be penalised for exceeding the concentration limit on just one occasion, even though its overall emissions are significantly less than licensee B.

The new 'polluter pays' approach

LBL focuses on the total amount of pollution emitted each year. The annual licence fee is calculated on the potential environmental impact of that pollution, not on concentration levels. **The lower the potential for environmental impact, the lower the fee.**

An approach like this offers polluters a financial incentive to reduce the pollution they produce, and to keep on reducing it. It also encourages industry to invest in pollution reduction in those areas where it will most reduce fees, and so most improve the environment.

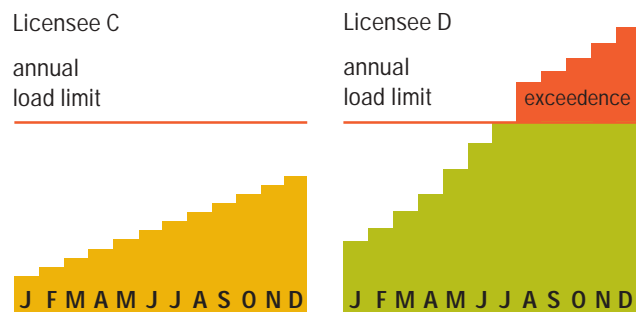
Operators are now free to decide *how* to manage their own pollution control affairs. Government is imposing environmental performance standards (and a fee structure) but not defining the specific pollution control mechanism.

The LBL approach has already resulted in innovation and excellent environmental outcomes for the people of NSW at lower cost. It shifts the environmental costs of pollution from the community to those who pollute.

All pollution control under a single licence

The new regulatory system started on 1 July 1999. It is based on the *Protection of the Environment Operations Act 1997* and administered by the EPA. This Act replaces a number of separate Acts controlling and licensing air, water and noise pollution and waste management. A single licence now controls all aspects of pollution for each premises. Its focus is on control of the potentially most harmful activities.

Having a single licence reduces the potential to shift pollution between air, water and land.



The new way: regulating concentration *and* load

Under the LBL approach, licensee C has complied with its annual load limit, while licensee D has exceeded its limit and faces possible prosecution and large fines.

What does it cost to pollute?

Costs are based on the 'polluter pays' principle.

Administration fee—the minimum fee

Pollutant load fee—how much, how harmful and where you pollute

All licence holders pay an administration fee. This fee is based on the type and size of the activity.

The types of businesses that must have a licence and pay the administration fee are listed in Appendix 1.

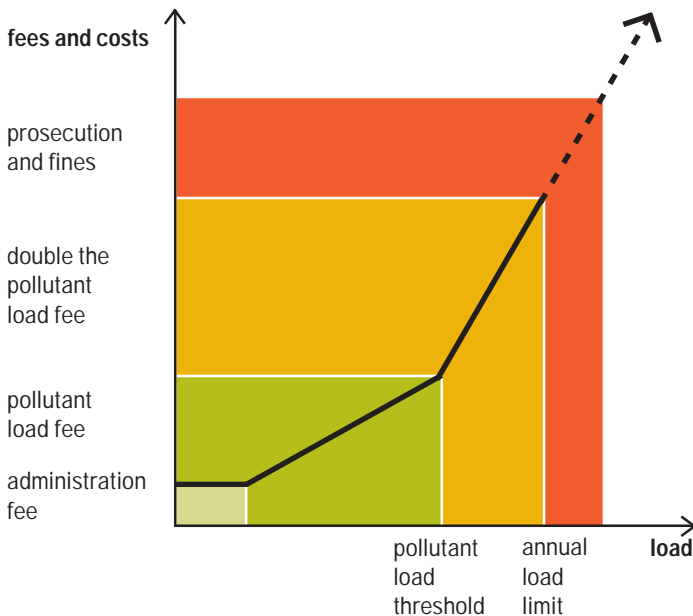
The pollutant load fee is based on the potential for pollutants from an operation to impact on the environment. The more potential impact, the higher the fee.

Not all licence holders pay a pollutant load fee. Many licensed activities do not emit prescribed pollutants. The types of business that do pay a pollutant load fee are shown in Appendix 1.

The fee is based on the load (or *amount* of pollution), *how harmful* it is and *where* it is released.

Load-based licensing recognises that some types of pollutants are more harmful to the environment than others and that some parts of NSW are more sensitive to some pollutants or are already more heavily polluted. Operators can reduce the fee they pay by reducing their pollutant load.

The LBL fee considers the premises as a whole. If there are multiple discharge points, the fee is calculated on the total discharge. If an operation emits different types of pollutants, a fee for each type is calculated and totalled to get the pollutant load fee.



For each assessable pollutant, the assessable pollutant fee is calculated using the following factors:

Assessable load (AL)

The amount of pollutant released. This may be reduced to a weighted load or an agreed load—see page 8-9 for details.

Pollutant weighting (PW)

A factor that reflects the pollutant's potential to damage the environment. PWs are listed in Appendix 2.

Critical zone weighting (CZ)

Some environments are already overloaded by particular types of pollutants. CZs are shown in Appendix 3.

Pollutant fee units (PFU)

The amount of money that must be paid for each unit of pollution discharged. The cost of the fee units has been discounted initially to provide a four-year phase-in period.

Double the fee rate if the load goes over a threshold

An emission threshold for each industry type and pollutant is set at a level that can be reasonably achieved with modern technology.

The threshold should only be exceeded if an operator is not using modern technology, or if its management and control systems are poor.

Doubling the load fee beyond this threshold provides a strong incentive for industry to reduce high levels of pollution promptly. Beneath the thresholds, the incentive of further fee reductions encourages continuing improvement in performance.

Prosecution if the load goes over the annual load limit

Each licensee has an annual load limit for each type of pollutant emitted from their premises.

If a licensee releases more pollution than this annual limit, the EPA may prosecute, with fines imposed by the Courts. Fines are up to \$250,000 for corporations and \$120,000 for individuals. The penalties are designed to keep rogue operators in check.

The annual limits are a way of ensuring population or economic growth does not cause an unregulated increase in pollution over time.

New or expanding industries may obtain increases in their annual load limits if the additional impacts will not adversely affect the environment.

Other specific emission limits protect against localised and acute pollution

These limits complement annual load limits (which control cumulative impact) and depend on the characteristics of the licensed activity, the pollutants it generates and the receiving environment. They may include daily or seasonal load limits or absolute concentration limits.

LBL ONLINE FEE CALCULATOR

www.epa.nsw.gov.au

On-line LBL fee calculator

The EPA website, at www.epa.nsw.gov.au, includes an on-line LBL fee calculator. It is designed to calculate licence fees for differing pollutant loads and receiving environments, for up to five years.

The calculator clearly demonstrates the relationship between pollution output and fees. You can test different pollution reduction scenarios and see the effect on fees.

How will the EPA know how much pollution has been emitted?

The EPA has a rigorous program to maintain integrity and transparency in the LBL licensing system.

Ways of measuring pollution are defined

The EPA has developed a *Load Calculation Protocol* that sets out acceptable methods for calculating the emission of the various pollutants covered under the scheme.

The protocol encourages licensees to put most of their measuring effort into monitoring their largest or most hazardous emissions. Less significant emissions can be estimated by less costly methods.

A Technical Review Panel advises the EPA on the protocol. The panel includes representatives of licensees, local government, environmental groups and the EPA, as well as having an independent adviser.

You can find out more about the *Load Calculation Protocol* on the EPA's website at www.epa.nsw.gov.au.

Pollutant load figures are available to the public

Load data reported to the EPA will be made available to the public. This will complement information on pollution provided through the National Pollutant Inventory (NPI).

NPI is an emissions reporting and public information system, available on CD-ROM and the Internet. It is designed to provide the community, industry and government with data on types and amounts of certain emissions to air, land and water across Australia, and their impacts on health and the environment.

LBL and NPI data allow the long-term emission reduction performance of the EPA and regulated industries to be tracked.

For more information visit the NPI website at www.environment.gov.au/epg/npi or ask for a copy of the *NPI Guide* (1998) from the NSW EPA, Phone: 131 555.

Licensees submit annual returns

Each licensee must submit an annual return to the EPA detailing their pollution emissions. A senior representative of the licence holder must certify that the calculations have been made according to the EPA's protocol. There are significant penalties for false declarations for both corporations and their senior managers.

The EPA will audit compliance

The EPA has an effective compliance audit program. It has now been extended to include scrutiny of load calculations and annual returns to make sure licensees have complied with all the requirements of the licensing scheme. Active auditing of licensees' load reporting began in 2000.



The EPA requires licensees to use rigorous methods for monitoring emissions. (Source: Michael Amendolia, News Limited)

Rewarding cleaner industry

Load-based licensing provides industry with a number of ways to reduce the fees they pay.

Each of the following approaches reduces both the environmental impact of pollution and the LBL fee.

Pollute less, pay less.



Reduce the assessable load

1 Reduce the actual pollutant load

This is the most obvious strategy to lower fees. If an operator can find ways to reduce the amount of pollution released, or to produce less damaging types of pollution, it will pay lower fees.

Since the load is based on total emissions from a site instead of from individual discharge points, the licensee can channel resources into improving those parts of the operation that result in the biggest pollution reductions at the lowest cost.

Case Study

Smart software to reduce power industry NO_x emissions

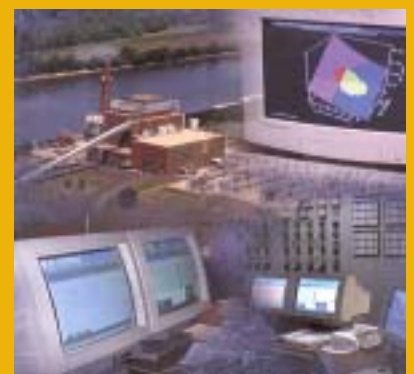
Coal-fired power stations, such as those in the Hunter Valley, on the Central Coast and near Lithgow, are the State's largest producers of nitrogen oxides (NO_x) and other air pollutants.

Under LBL, based on current emissions, large power stations face **annual assessable pollutant fees of up to \$1.3 million**—a significant incentive to prompt investigation of new ways to reduce pollution.

New plant operation software has been developed that optimises the performance of individual power station boilers. It can significantly reduce NO_x emissions and may increase fuel efficiency. By comparing emissions of NO_x with other variables, such as the temperature of steam and flue gas, the position of air dampeners and the rate of fuel supply, the software can deduce which configuration of boiler operation leads to cleanest production.

The software can reduce NO_x emissions by up to 20%, lowering the load-based fee for a typical four-burner power station by **\$250,000 each year**. The payback period is usually just over two years, or less if fuel efficiency gains are taken into account.

LBL has created a market opportunity by providing financial incentives for innovative solutions to pollution.



Specialised software can cut power station emissions such as nitrogen oxides while maintaining and even improving fuel efficiency. (Source: Ultramax Corporation)



2 Reduce the impact of the pollutants on the environment

If an operator has a system that lowers the environmental impact of the pollution released, the EPA will reduce the fee. The fee will be calculated as if the actual load has been reduced (or 'weighted'). In some cases the weighted load could be zero.

In many cases, good pollution management methods can protect the environment better and at lower cost than sophisticated treatment technology.

For example, ways of reducing the environmental impact of treated liquid waste include:

- reusing it for irrigation
- reusing it in further industrial processes, such as cooling or dust suppression
- only releasing the waste to a river when it is in high flow.



3 Agree to reduce the load at some time in the future

Often it takes time to implement new technology to reduce pollution.

If an operator intends to introduce a technique that will reduce the load in the future, the EPA may agree to base the fee on the future load rather than the current load. Money that would otherwise be paid in fees can be used to make the changes needed to reduce pollution.

Case study

Using sewage profitably reduces LBL fee

LBL incentives have helped many local councils recognise sewage effluent as a valuable resource for activities such as agriculture and mining.

For example, an old sewage treatment plant servicing a large country town may discharge high levels of nitrogen and phosphorus, which can significantly harm sensitive inland waterways.

As a result, the LBL fee for such a plant serving 50,000 people could be up to **\$800,000 every year**.

By introducing a scheme to divert all of the effluent to irrigate and fertilise pastures, the pollutant load fee could be reduced to zero, based on the weighted load.

Provided the scheme was managed within strict EPA guidelines, the operator would only pay an administration fee of about **\$16,000**.

Sustainable reuse of effluent could **save over \$780,000 each year in fees**, and also provide a valuable and reliable resource for farming.

Case study

LBL fee reduction helps fund new technology to reduce emissions

The Pilkington Glass plant at Ingleburn emits large quantities of nitrogen oxides (NO_x), contributing to poor air quality in the Sydney region. The total annual LBL fees for this type and amount of pollution is estimated at **\$229,000**.

Pilkington has developed new cleaner combustion technology which will reduce NO_x emissions by 80% when fully installed.

Glass-making is a continuous process and so the new technology can only be implemented during a major upgrade. Once the company sets a date to commission the installation, the LBL fee may be based on the agreed future emissions of NO_x. **The potential saving is about \$180,000 each year.**

If the plan goes ahead, money that would have been paid as fees can be invested in the cleaner combustion technology.

Finding cheaper solutions



LBL harnesses the market to make pollution reduction cheaper.

Offset pollution at one source against that at another

It may be that reducing pollution at one source is easier and cheaper than at another. In this case the fee may be reduced to reflect a reduction in the *total* emissions from both sources, even though the emissions from one source have not changed. Offsets can benefit both licensees and the environment.

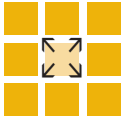
To allow for uncertainties in estimating the benefits of off-site emission reductions, offset ratios will generally be greater than 1:1. That is, a one kilogram on-site emission reduction would require more than a one kilogram off-site reduction.



Case study Lower pollution from fuel offsets pollution at refinery

A major source of urban air pollution is volatile organic compounds (VOCs). These are emitted from oil refineries (from leaks, spills and storage tanks), and from fuel when it is distributed (through evaporation). Due to earlier successful work, it has become increasingly expensive to further reduce VOC emissions from these sources.

However, under LBL, a refinery may agree to lower the volatility of the fuel it produces. This could reduce emissions from the fuel at petrol stations and during use by motor vehicles. Pollution at the refinery could be more than offset by reduced pollution from motor vehicles, and so the EPA may agree to a reduction in LBL fees at the refinery.



Emissions trading schemes

Emissions trading schemes are similar to offset schemes. Trading schemes broaden LBL from individual premises to whole groups of licensees and focus on containing and reducing total emissions.

Emissions trading schemes can be used where significant reductions in emissions are required across a whole group of emitters. The total emissions that will be allowed are determined after a scientific and economic assessment. The right to emit a portion of this total is then allocated to each potential polluter.

Allocation may be based on previous emissions or environmental performance, or by auction.

Polluters can trade these rights with each other, so that market forces finally determine who emits what. The environmental outcome is not compromised and overall compliance costs are minimised.

LBL provides the administrative infrastructure for emissions trading schemes in NSW. Its robust calculation and annual reporting procedures ensure high public accountability.

The EPA has established a successful salinity trading scheme for licensees in the Hunter Valley and South Creek (see below). It is also considering a trading scheme for nitrogen oxides (NO_x) emissions and a nutrient trading scheme in the Hawkesbury-Nepean.

Hunter River Salinity Trading Scheme

The EPA's first emissions trading scheme began in January 1995. Discharges of saline water to the Hunter River are managed so that they do not cause river salinity to go above certain levels. It works by:

- scheduling saline discharges for times of high river flow and low background salinity levels
- distributing the total amount of discharge allowed at any time to each discharger according to the number of salinity credits they hold

- allowing licensees to trade salinity credits via the Internet—24 hours a day, 365 days a year.

The scheme has resulted in a significant improvement in water quality in the Hunter River— it's now fresher than most bottled mineral waters! It has also resolved a difficult dispute between industry and agriculture over water quality and has enabled economic development of the region to continue.

South Creek Bubble Licensing

In July 1996 the EPA introduced a small, self-contained emissions trading scheme in the South Creek area of the Hawkesbury-Nepean River.

This 'bubble' licence allows the three participating sewage treatment plants to adjust their individual discharges, provided the total pollutant load limit for the scheme is not exceeded.

Efforts to reduce pollution can now be focused where the costs are lowest.

The load limits set under the bubble scheme represent an 83% reduction in total phosphorus discharges and a 50% reduction in total nitrogen discharges by 2004 (compared with a 'business as usual' scenario).

As a result of the bubble arrangement, the cost of achieving these large environmental improvements into the future has been reduced by \$45 million.

Appendix 1

Activity classifications

Schedule 1 of fee rates, thresholds, FRT factors, etc. in the Regulation may change over time. For up-to-date information, download a copy of the Regulation from www.epa.nsw.gov.au/licensing.

Agricultural produce industries

- 1 Milk processing
- 2 Wine or spirit processing
- 3 Other agricultural crop processing

Aircraft facilities

- 4 Aircraft (helicopter) facilities

Aquaculture or mariculture

- 5 Aquaculture or mariculture (involving discharge to waters)
- 6 Aquaculture or mariculture (not involving discharge to waters)

Biosolids application

- 7 Application of biosolids

Bitumen pre-mix or hot-mix industries

- 8 Bitumen pre-mix or hot-mix production

Breweries and distilleries

- 9 Beer or distilled alcohol production

Cement works

- LBL** 10 Cement or lime production
- LBL** 11 Cement or lime handling

Ceramic works

- LBL** 12 Glass production
- LBL** 13 Ceramics production (excluding glass)

Chemical industries or works

- LBL** 14 Agricultural fertiliser and/or ammonium nitrate production
- 15 Battery production
- 16 Explosives or pyrotechnics production
- LBL** 17 Paint production
- LBL** 18 Petrochemical production
- 19 Pesticides production
- 20 Pharmaceutical or veterinary products production
- LBL** 21 Plastics production
- 22 Rubber production
- 23 Soap or detergent production
- 24 Other chemical processing

Chemical storage facilities

- LBL** 25 Chemical storage

Coal mines

- 26 Coal mining

Coal works

- LBL** 27 Coke production
- 28 Coal loading

Composting works

- 29 Composting and related reprocessing or treatment

Concrete production

- 30 Concrete batching

Contaminated soil treatment

- 31 Contaminated soil treatment

Crushing, grinding or separating works

- 32 Crushing, grinding or separating works

Drum or container reconditioning

- 33 Drum or container reconditioning

Electricity generation

- LBL** 34 Electricity generation

Extractive industries

- 35 Dredging
- 36 Hard-rock gravel quarrying
- 37 Other land-based extraction

Freeway or tollway construction

- 38 Freeway or tollway construction

Irrigated agriculture

- 39 Irrigated agriculture

Livestock intensive industries

- 40 Milking facilities
- 41 Feedlot production
- 42 Pig production
- 43 Poultry production
- 44 Saleyards

Livestock processing industries

- 45 Animal slaughtering
- 46 Fish processing
- 47 Rendering or fat extraction
- 48 Tanning or fellmongery
- 49 Wool scouring
- 50 Other livestock processing

Logging operations

- 51 Logging operations

LBL Activities that attract LBL fees at 1 January 2001

Marinas and boat repair facilities

- 52 Mooring and boat storage
- 53 Vessel construction or maintenance using dry or floating docks
- 54 Other vessel construction or maintenance

Mineral processing or metallurgical works

- LBL** 55 Primary iron and steel production
- LBL** 56 Secondary iron and steel production
- LBL** 57 Primary aluminium production
- LBL** 58 Secondary aluminium production
- LBL** 59 Primary non-ferrous production (excluding aluminium)
- LBL** 60 Secondary non-ferrous production (excluding aluminium)
- 61 Metal plating or coating works
- 62 Scrap metal recovery
- 63 Other metal processing

Mining (other than coal)

- 64 Mining (other than coal)

Mushroom substrate production

- 65 Mushroom substrate production

Paper, paper pulp or pulp products industries

- LBL** 66 Paper production using recycled materials
- LBL** 67 Other paper production

Petroleum works

- LBL** 68 Petroleum refining
- LBL** 69 Waste oil recovery

Railway systems

- 70 Railway activities

Sewage treatment systems

- LBL** 71 Sewage treatment

Shipping facilities (bulk)

- 72 Bulk cargo handling

Waste activities

- 73 Hazardous, industrial or group A waste generation or storage

Waste facilities

- LBL** 74 Biomedical waste incineration
- 75 Hazardous, industrial, group A or group B waste processing
- 75A Hazardous, industrial, group A or group B waste disposal
- 76 Used tyre processing or disposal
- 77 Inert waste landfilling
- 78 Coal washery reject or slag landfilling
- 79 Solid waste landfilling
- 80 Landfilling in designated areas
- 81 Environmentally sensitive area landfilling
- 82 Industrial waste landfilling
- 83 (Repealed)
- 84 Waste storage, transfer, separating or processing
- LBL** 85 Municipal solid waste incineration

Wood works

- 86 Wood or timber milling
- 87 Wood preservation

Transport of waste

- 88 Transport of used, rejected or unwanted tyres
- 89 Transport of hazardous, industrial, group A, group B or group C waste

Miscellaneous water activities

- 90 Miscellaneous licensed discharge to waters (wet weather only)
- 91 Miscellaneous licensed discharge to waters (at any time)

Mobile plant activities

- 92 Mobile waste processing—hazardous, industrial or group A waste
- 93 Mobile plant activities—miscellaneous

Other activities not listed elsewhere

- 94 Other activities

Appendix 2 Pollutant weightings

Clause 20 of the Protection of the Environment Operations (General) Regulation 1998 is reproduced below.

Air pollutants

| Pollutant | Weighting |
|--------------------------------------|-----------|
| Arsenic | 36 000 |
| Benzene | 510 |
| Benzo[<i>a</i>]pyrene (equivalent) | 20 000 |
| Coarse particulates | 12 |
| Fine particulates | 86 |
| Fluoride | 58 |
| Hydrogen sulfide | 220 |
| Lead | 7 500 |
| Mercury | 77 000 |
| Nitrogen oxides | 6 |
| Sulfur oxides | 1.5 |
| VOCs | 4.5 |

Water pollutants

| Pollutant | Weighting | | |
|------------------------|---------------------|------------------|-----------------|
| | Open coastal waters | Estuarine waters | Enclosed waters |
| Arsenic | 2 500 | 2 500 | 2 500 |
| BOD ₅ | 0 | 0.5 | 1 |
| Cadmium | 67 000 | 67 000 | 67 000 |
| Chromium | 840 | 4 200 | 4 200 |
| Copper | 1 700 | 1 700 | 1 700 |
| Lead | 6 400 | 6 400 | 6 400 |
| Mercury | 180 000 | 180 000 | 180 000 |
| Oil and grease | 13 | 30 | 74 |
| Pesticides and PCBs | 930 000 | 930 000 | 930 000 |
| Salt | 0 | 0 | 8.4 |
| Selenium | 710 | 10 000 | 10 000 |
| Total nitrogen | 6 | 12 | 23 |
| Total PAHs | 3 800 | 3 800 | 3 800 |
| Total phenolics | 4 900 | 4 900 | 4 900 |
| Total phosphorus | 0 | 120 | 680 |
| Total suspended solids | 9.5 | 9.5 | 78 |
| Zinc | 7 | 7 | 7 |

Open coastal waters has the meaning given by Schedule 5 of the Regulation.

Enclosed waters means all waters other than open coastal waters or estuarine waters.

Estuarine waters means waters (other than open coastal waters):

- that are ordinarily subject to tidal influence
- that have a mean tidal range greater than 800 mm (being the average difference between the mean high water mark and the mean low water mark, expressed in millimetres, over the course of a year).

Appendix 3 Critical zones for pollutants

Clause 21 of the Protection of the Environment Operations (General) Regulation 1998 is reproduced below.

Air pollutants

Nitrogen oxides and VOCs

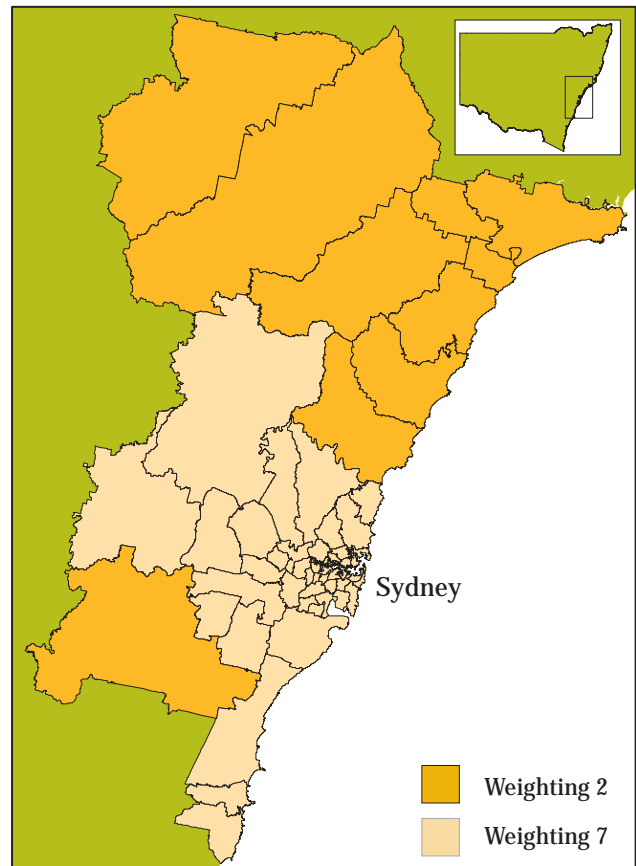
Weighting = 7 in these local government areas:

| | | |
|----------------|--------------|--------------|
| Ashfield | Hornsby | Pittwater |
| Auburn | Hunters Hill | Randwick |
| Bankstown | Hurstville | Rockdale |
| Baulkham Hills | Kiama | Ryde |
| Blacktown | Kogarah | Shellharbour |
| Blue Mountains | Ku-ring-gai | South Sydney |
| Botany Bay | Lane Cove | Strathfield |
| Burwood | Leichhardt | Sutherland |
| Camden | Liverpool | Sydney |
| Campbelltown | Manly | Warringah |
| Canada Bay | Marrickville | Waverley |
| Canterbury | Mosman | Willoughby |
| Fairfield | North Sydney | Wollongong |
| Hawkesbury | Parramatta | Woollahra |
| Holroyd | Penrith | |

Nitrogen oxides and VOCs

Weighting = 2 in these local government areas:

| | | |
|----------------|---------------|-------------|
| Cessnock | Muswellbrook | Singleton |
| Gosford | Newcastle | Wollondilly |
| Lake Macquarie | Port Stephens | Wyong |
| Maitland | | |



Water pollutants

Salt, total phosphorus and total nitrogen

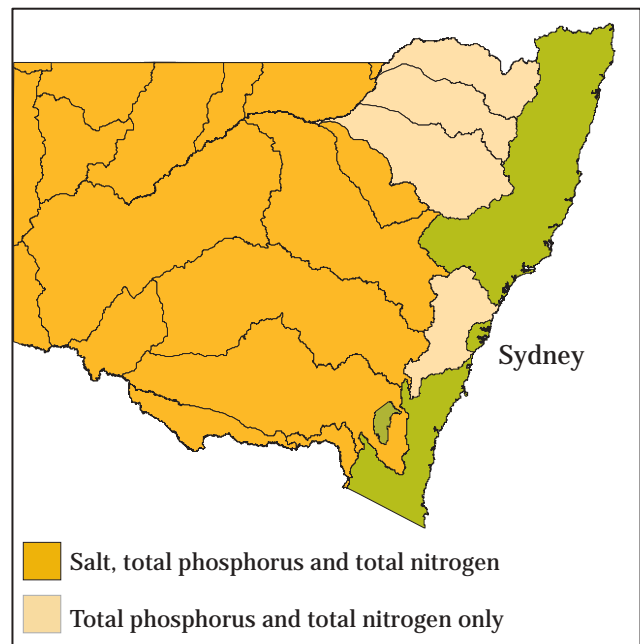
Weighting = 3 in these catchments:

| | | |
|--------------|----------------|-----------------|
| Benanee | Darling | Murray Riverina |
| Bulloo | Lachlan | Murray (Lower) |
| Castlereagh | Lake Bancannia | Murray (Upper) |
| Condamine– | Lake Frome | Murrumbidgee |
| Culgoa | Macquarie | Paroo |
| Cooper Creek | Moonie | Warrego |

Total phosphorus and total nitrogen

Weighting = 3 in these catchments:

Border Rivers
Gwydir
Hawkesbury–
 Nepean
Namoi



Like to know more?

For all general inquiries about LBL contact the EPA POEO Service Centre, 8.30 am to 5 pm weekdays:
Phone: 133 372
Fax: (02) 9995 5921
Email: POEOHelp@epa.nsw.gov.au

Extensive information about pollution reduction strategies, including the LBL-related documents listed below, are available from:

- the EPA's Pollution Line (131 555)
- the EPA's website at www.epa.nsw.gov.au/licensing

Guide to Licensing Parts A and B
about whether you need to apply for an environment protection licence under the POEO Act

Load Calculation Protocol
how to calculate loads of assessable pollutants

On-line Licence Fee Calculator
(EPA website only) about the fees that apply under various pollution reduction scenarios

Protection of the Environment Operations Act 1997
(EPA website only) NSW legislative framework for controlling emissions

Protection of the Environment Operations (General) Regulation 1998
(EPA website only) legislation that establishes the LBL fee system



ENVIRONMENT PROTECTION AUTHORITY