

Load Based Licences - A Management Perspective

by

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1. INTRODUCTION:

The significance to the agricultural and commercial enterprises of the Protection of the Environment Operations Act 1997 that will commence on 1st July 1999, has been complicated by reports of large increases to licence fees predicted during the draft phases of this legislation and the plethora of Environment Protection Authority (EPA) guidelines which were available for public comment. The most significant changes from the draft to the gazetted Protection of the Environment Operations Act (POEOA) are that the full administration fee will be imposed over several years, and for Livestock Processing Industries, the assessable pollutants fee has been waived.

Other legislation important to the agricultural and mining industries are the various State Environmental Planning Policies (SEPP), under the powers and functions of the Department of Urban Affairs and Planning (DUAP). These policies have specific requirements which impinge upon the development application stage and the ability of the developer to receive local government consent for the development to proceed. In granting approval, not only will EPA be involved, but other government departments having powers pertaining to the SEPPs will also have a power of comment and veto.

This paper examines material which is available to producers, consultants and researchers from documentation located on the NSW Environmental Protection Authority's Internet Web-site, together with information distributed by the EPA over recent years. The information most valuable to the agricultural sector is addressed in light of the changes from the Bill to the Act. Practical implications of meeting the requirements for monitoring and load reduction are considered. The importance of the Waste Minimisation and Management Act 1995 is also addressed.

2. PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997

The objectives of the act are presented in full from s.3 of the Act.

(a) *to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development,*

(b) *to provide increased opportunities for public involvement and participation in environment protection,*

(c) *to ensure that the community has access to relevant and meaningful information about pollution,*

(d) *to reduce risks to human health and prevent the degradation of the environment by the use of mechanisms that promote the following:*

- (i) *pollution prevention and cleaner production,*
- (ii) *the reduction to harmless levels of the discharge of substances likely to cause harm to the environment,*
- (iii) *the reduction in the use of materials and the re-use or recycling of materials,*
- (iv) *the making of progressive environmental improvements, including the reduction of pollution at source,*
- (v) *the monitoring and reporting of environmental quality on a regular basis,*

(e) *to rationalise, simplify and strengthen the regulatory framework for environment protection,*

(f) *to improve the efficiency of administration of the environment protection legislation,*

(g) *to assist in the achievement of the objectives of the Waste Minimisation and Management Act 1995.*

In simple terms, the aim of the new legislation is to reduce pollutant emissions to the environment through cleaner production. Section 42 gives the EPA licensing powers for various types of licences (s.43), of which the new Load Based Licences come under the Protection of the Environment Operations (General) Regulation 1998. S.66 allows the imposition of monitoring and certification, which will become a compulsory component of any licence under the POEOA. S.67 addresses mandatory audits, s.68 describes the conditions requiring pollution studies and reduction programs while the remaining sections of Part 3.5 address other particular licence conditions.

3 Load Based Licences

3.1 Fee structure

The licence consists of two separate parts, each of which has a fee structure. The administration fee is imposed according to the type and size of operation. For example, a piggery of up to 250 tonnes Pig Live weight capacity has an administration fee of five fee units per year. A saleyards operation with a capacity

greater than 60 000 tonnes (120,000 head throughput), has an admin. fee of 50 units.

The assessable pollutant is based on the difference between the fee rate threshold factor and the actual pollutant discharged. The fee rate threshold is *the amount of an assessable pollutant that may be discharged in any licence fee period before the fee rate for any further discharge of the assessable pollutant increases*. Again, for each industry that threshold value has been set for a range of pollutants. The annual fee incurred is again based upon the pollutant factor multiplied by the pollutant weighting factor, calculated at the dollar value of the pollutant fee. In addition, pollutant zone rating apply for air (NO_x, VOC) for mainly Sydney, Newcastle regions, and water pollutants (salt, TP and TN) for western waters. Each of these regions has an additional burden of a three-fold increase in charges for those pollutants. The difficult position with salt, as it is defined is addressed later.

3.2 Fee units

The value of the each fee unit varies according to the scale in Table 1 sourced from the POEO Regulations. The fee unit is used to calculate the administrative fee and the pollutant load fee. Each fee unit has a value which may be changed by the EPA (charges are set in the Regulations).

TABLE 1. Fee unit charges

Period	Admin. fee	Pollutant fee
1/7/99-30/6/00	\$ 50	\$ 0
1/7/00 -30/6/01	\$ 95	\$ 24
1/7/01-30/6/02	\$ 95	\$ 29
1/7/02 -	\$ 95	\$ 35

No pollutant load fees are payable until September 2001. The first year will be used to estimate loads on which future calculations can be made, thus, monitoring will become increasingly important.

At this stage, the livestock processing industries, coal and metalliferous mining and related activities, such as quarrying will not pay pollutant fees.

3.3 Administrative fee units for various enterprises

The various agricultural enterprises covered by the regulations are given in Table 2. The size of the operation is rated in tonnes of production, the protocols for calculating the annual production values are given in the Appendix 1 to the Regulations.

As an example, a saleyard complex selling 60 000 cattle and 120 000 sheep annually would be equivalent to 30 000 t cattle and 5500 t sheep, totalling 35 500 t. An administrative fee for the current year (99/00) is \$750.00, and \$1425 for each subsequent year.

TABLE 2. Administrative fees for various enterprises

Enterprise	Capacity	No. Admin fee units
Dairying Capacity to accommodate, live weight	0-500 t	5
	>500-1000 t	15
	>1000 t	50
Feedlot capacity to accommodate live weight	0-500 t	5
	>500-2500 t	15
	>2500 t	50
Pig production, capacity to accommodate live weight	0-250 t	5
	>250-500 t	15
	>500	50
Saleyards capacity to accommodate live weight	0-25 000 t	5
	>25000-60000 t	15
	>60 000 t	50
Animal slaughtering live weight capacity /yr	0-30 000 t	5
	>30 000 t	15

See Table 1 for value of fee unit.

3.4 Pollutant weighting factors

The POEO Regulations give pollutant weightings for air and water (s.20). It is assumed that each pollutant is ranked according to the potential for environmental harm. A discussion of the derivation of the fees is given in the regulatory Impact Statement (RIS) (EPA,1998) The pollutant weighting for discharge into open coastal and enclosed water are given for some of the pollutants

TABLE 3. Pollutant weighting factors from POEO Regulations

Pollutant	Open coastal	Enclosed
Arsenic	2 500	2 500
BOD ₅	0	1
Cadmium	67 000	67 000
Copper	1 700	1700
Oil & Grease	13	74
Salt	0	8.4
Total Nitrogen	6	23
Total Phosphorus	0	680
Total suspended	9.5	78
Zinc	7	7

in Table 3. An additional zone of estuarine waters has since been included in the Regulations.

Reference to the Methods for measuring each of the pollutants are stated in the Regulations.

3.5 Fee rate threshold factor

The pollutant load fees are calculated by deriving the mass of pollutants less the fee rate threshold factor and applying the factors for pollutant weighting, critical zone factor and pollutant fee value. The fee rate threshold factors are expressed in units of kilograms of pollutants per the applicable unit of quantity of activity.

4. Practical implications of LBL

4.1 Water resource

A key principle of load-based licencing is the development of a regulatory framework that minimises or removes a discharge and its nutrient load to the environment whether that is: the air, watercourse, estuary or ocean. It is possible to reduce the net load of nutrient to a watercourse by diverting the discharge to a land area where effluent or biosolids are assimilated and used by the soil-crop system.

The LBL system accepts that where land application occurs either a nil load fee is applicable or substantial discounts can be obtained. While this has the potential to reduce the load fee there are several implications. They are that;

- ⊆ land application of effluent may change the hydrological cycle in the catchment or region where the development is located, and,
- ⊆ The application of nutrient to land may simply be a case of relocating the load from the discharge point to another location.

While nutrients in effluent are diverted to a land area so too is its carrier - water. Many developments whether they be towns, cities, abattoirs, wineries etc draw their water from either surface water or groundwater resources. More often than not the water is drawn from a catchment watercourse. Obviously, where effluent is applied to land that water is not returned to the river system. A town with a population of 25,000 will use in excess of about 6 ML per day. In the case of Armidale, water is drawn from the Gara River catchment and discharged into the Commissioners Waters, a tributary of the Gara. Under base flow conditions the effluent discharge is up to 14% of flow in that tributary. The removal of this effluent for irrigation onto land may cause environmental consequences for the aquatic environment of Commissioners Waters downstream of the discharge. The cumulative effects of not returning water drawn by domestic, industrial and agricultural developments in a catchment have not been considered.

4.2 Nutrient loads and losses

A build up of nutrients in the soil system by either continued effluent irrigation or biosolid application has the potential to cause leakage of nutrient back into the environment. In this case, the issue of nutrient loads has been merely shifted from one location to another. The LBL scheme has focussed on the use of land application of effluent and biosolids rather than treatment and discharge or disposal because potentially it will attract no load fee. However, land application must be undertaken in a

'sustainable' manner. Sustainability must be quantitatively defined in terms where soil health, soil decline, maintenance or improvement through time.

Loss of nutrient from a soil to the environment occurs in runoff which dissolves nutrient and erodes and transports soil, and in deep drainage of water percolating below the root zone. Nutrient loss can be minimised by reducing the amount of runoff, the quantity of soil lost, the amount and quality of water lost below the root zone.

This reduction is best achieved by manipulating the hydrological cycle through maximising both the retention of water in the soil and water use by plants. While this strategy should provide maximum uptake of nutrients care is needed to ensure that system remains not only in balance but also in a condition that promotes retention of water.

This aspect is one of the key indices of soil health and it can be defined by measurements of soil organic matter and cation balance. The cations of note are Ca, Mg, K, Na and Al. The balance of these elements directly influences soil structural stability and thus infiltration rates influencing the likely rainfall excess (that is rainfall runoff).

4.3 Nutrient balance

At this point it is important to briefly discuss 'nutrients'. A nutrient is an ion or compound that serves to nourish the plant. Some elements are more important to plant metabolism than others. In particular, the major nutrients are N, P, K, S, and Ca, but the plant also requires some metals and even Na and Cl in small quantities. All of these elements exist in the soil (and are taken up by the plant at times) as either an elemental ion (Ca^{2+}) or salt. While the nutrient value of effluent may be high for particular elements, it is unusual for the nutrients to be in the correct ratio for plant uptake and soil assimilation. For example, feedlot runoff has high levels of potassium and phosphorus and low concentrations of nitrogen. For the effluent to have its potential economic value for pasture or crop production, additional nitrogenous fertiliser may need to be applied. Thus, sustainability is not simply the judicious spreading of effluent and/or biosolids, but the management of the soil/plant nutrient balance (Lott *et al.*, 1999)

4.4 Water sources

An important aspect of monitoring water quality is the problems of total salt load from the input water. Patterson (1998) showed that for 62 towns in NSW, the variation of total dissolved solids in potable water supplies was extreme. Figure 1 indicates the range of total dissolved salts (TDS) in the potable water supplies. It is significant that the inland water systems have a higher TDS than coastal systems. When the salt (that is, total salt load) is calculated for effluent quality, there may be instances where the full discount rate is not applicable because the input water quality provides a significant source of salt. Where groundwater is sourced for the enterprise, salt may be an issue prior to the production of wastewater.

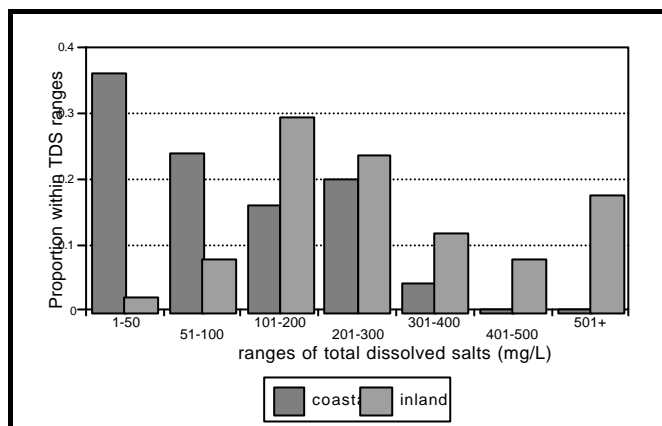


Figure 1. Frequency ranges for TDS in potable town water supplies (Patterson, 1998)

4.5 Salt and its determination

A salt is a compound of basic and acid radicals (eg SO_4^{2-}). A build up salts in the soil results in salinisation and impedance of plant metabolism because of the effects on osmotic pressure in plant cells. If the relative proportion of sodium increases in the soil then soil structural decline can occur. Clearly too many salts or too much sodium in the soil can compromise soil health and plant production.

Salt, as derived from the measurement of electrical conductivity, is a complex of cations, anions and other dissolved compounds. The ions Na^+ , Ca^{2+} , Mg^{2+} , K^+ , Al^{3+} , H^+ , Cl^- , SO_4^{2-} , CO_3^{2-} , HCO_3^- , and others all increase EC but non-ionised compounds do not affect EC (Patterson, 1999). It is not possible to determine which ion has the greatest concentration, or proportion by this method. Thus, some of the salts may be detrimental to the environment, while others may provide essential nutrients such as calcium, potassium and magnesium salts.

4.6 Salinity and sodicity

The issue of load based licensing of irrigation schemes need to be more flexible in addressing the differences between salinity (total salt load) and sodicity (sodium salts). Unfortunately, the practice of measuring salinity by EC and failing to measure sodium is too common.

Where effluent is irrigated onto land, the sodium salts are indeed detrimental to both soil structure and plant metabolism. On the other hand, calcium, magnesium, sulphates and phosphates are plant macro-nutrients and should be considered apart from sodium. The sodium load needs to be monitored separately. A measure of the impact of sodium is well described by the scientific community using sodium adsorption ratio (SAR) for water and exchangeable sodium percentage (ESP) for soil.

An effluent re-use project at Armidale's sewage treatment works (STW) uses 10 ML per month of effluent from the treatment ponds (Patterson & Chapman, 1998). This rate of application results in the discharge of about 21 tonnes of sodium chloride equivalent onto the land, sufficient to increase the ESP in the soil to levels where soil sodicity was well elevated above background levels. A simple measure of EC would not identify this potential problem.

4.7 Salt amelioration

Leaching is only one mechanism to remove salts like sodium out of the soil. Most irrigation systems should be designed with a leaching fraction to ensure that deleterious salts such as sodium are displaced from the root zone and carried lower in the soil profile. If the leaching is impeded then salt will accumulate in the soil.

Amelioration with chemical such as gypsum (CaSO_4), lime (CaCO_3) or dolomite ($\text{CaCO}_3 \cdot \text{MgCO}_3$) will assist the leaching of sodium while increasing the essential element calcium. The use of these products will depend upon specific conditions.

The important effects of gypsum on sodium and soil structural stability is that both the addition of calcium salts and the elevation of EC aid in soil structural stability. Effluents with a high SAR and low EC are detrimental to soils, thus gypsum reduces SAR and elevates EC. Whether the gypsum is applied mixed with the effluent or spread over the irrigation area will depend upon local conditions.

Where LBL conditions relate to salt load, it is unclear as to how the EPA views the addition of gypsum to the effluent, since it significantly increases the EC, hence the total salt load. In this case, all the increase is for amelioration purposes. There may also be a case where effluent from a particular operation has significant proportion of "valuable" salts and should not be rated on the "total salt" load. There is a strong case for salt loading to be based upon sodium concentration and not EC.

5 MONITORING

5.1 Management versus conformance

The load based licence scheme derived from the POEO Act and Regulations place great emphasis on monitoring to determine assessable pollutant loads for LBL fees and compliance with licence limits. Unfortunately, many licensees regard monitoring for these purposes are paramount to monitoring for management direction. Licence monitoring requires a particular number of samples once or several times per year, depending upon the enterprise. However, for maintenance of soil structural stability, seed germination, plant growth and maturity, seed setting and maturity and periods of fallow, monitoring need to provide knowledge of soil and plant conditions often at short intervals.

The program of soil, effluent and plant monitoring must provide inputs to system management in the first instance, otherwise sustainability will suffer. Patterson and Chapman (1998) indicate that regular monitoring for specific environmental indicators at regular periods will provide a greater return on monitoring costs because production management can be altered to prevent soil/plant problems well before an annual monitoring would reveal.

5.2 Meeting Threshold Limits

For each of the activities listed in Schedule 1 to the POEO Regulations, the fee threshold factor has been determined by the EPA. The justification for these values in the varying

climatic and socio-economic conditions has not been revealed. In some instances, the threshold levels have been set well below those achievable using current technology. For example, sewage treatment works (STW) have the following threshold factors: BOD₅ 10, Oil & Grease (TOG) 2, Total nitrogen (TN) 10, Total phosphorus (TP) 0.3, suspended solids (TSS) 15.

Currently licence conditions for BOD₅ /TSS are 20/30 respectively. Many STW can achieve the threshold with better monitoring for management inputs. In most cases the TN threshold can be achieved. The TP value of 0.3 kg/ML (or mg L⁻¹) is not achievable even by the most modern STW built within the last two years. The two newest plants at Quakers Hill (NSW) and Lower Molonglo (Canberra) can produce an effluent with a TP less than 1 mg L⁻¹ (Cruse (1996). Many of the older plants still have a significant proportion of their economic life to run. The use of chemical phosphorus removal will only shift a problems from a soluble phosphate to a phosphate bound to a metal (Fe³⁺, Al³⁺) which then becomes an even more problematic residual. The transportation and disposal of this residual would require additional licensing under the Waste Management and Minimisation Act 1995

6. CONCLUSION

The Protection of the Environment Operations Act has amalgamated the various other acts under a combined piece of legislation with an aim to reduce pollution generally. Various activities are licensed under the previous system and will change to the LBL system within the year.

Licence fees will have two components, an administrative fee based upon type and size of activity with an incremental fee structure over two years. In many cases the administration fee will be higher than the current fee. The second part of the licence fee will be based upon assessable pollutant loads above a fee free threshold. For the agricultural sector these are currently set to zero, although changes can be made by the Minister without reference to Parliament, since these fees are set by regulation. The phased introduction of LBLs to various industries was addressed in the RIS (EPA, 1998). It is unclear whether the waiver is permanent.

Monitoring to determine assessable pollutant loads will become an essential ingredient in each operation. It is suggested that monitoring should, primarily, be associated with better management decision making rather than conformance requirements. In this way, real solutions and pollution reductions will be realised, well before conformance monitoring is likely to indicate the need for remedial actions.

The issue that the pollutant load may simply be shift from the aquatic to the terrestrial environment is one which concerns the authors, particularly as matters such as the

definition and determination of salt, nutrient leaching and irrigation leaching fractions, and plant/soil nutrient interactions appear to be poorly appreciated in the determination of assessable pollutant threshold values.

The current methods of determining salt loadings in the LBL scheme do not address the issue of whether salts are beneficial or detrimental. Simple EC measurements are only tools for total salinity management whereas SAR and ESP measurements are sodium specific.

Of importance to LBL operators is the need to consider a holistic approach to management of all "waste" resources for some economic gain. It will be determined by individuals how much effort is devoted to compliance versus management monitoring for sustainable operations.

7. REFERENCES:

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NSW Government 1997 *Protection of the Environment Operations Act 1997*. Government Information Service, Sydney.

NSW Government 1995 *Waste Minimisation and Management Act 1995 No 102*. Government Information Service. Sydney.

STATE ENVIRONMENTAL PLANNING POLICIES

This list was sourced from the NSW Department of Urban Affairs and Planning Internet site <http://www.duap.nsw.gov.au> reported to be last updated on 19 February 1999.

Departmental statement

State environmental planning policies (SEPPs) are legal documents that deal with issues significant to the people and State of New South Wales. They are made by the Minister for Urban Affairs and Planning and may be exhibited in draft form for public comment before a final policy is gazetted and becomes legal.

This list is intended for use as a general guide only. Please refer to the relevant policy for full details. Further information is available from: Information Centre, Department of Urban Affairs and Planning, 1 Farrer Place, Sydney NSW 2000. Phone: (02) 9391 2222 or (02) 9391 2223, fax (02) 9391 2333, or email information@duap.nsw.gov.au

SEPP No. 1 — Development Standards

Gazetted 17.10.80. Amended 14.6.85, 26.6.87 and 31.12.92

Makes development standards more flexible. It allows councils to approve a development proposal that does not comply with a set standard where this can be shown to be unreasonable or unnecessary.

SEPP No. 4 — Development Without Consent

Gazetted 4.12.81. Amended 7.10.83, 31.8.84, 22.11.85, 26.2.88, 25.10.91, 31.7.92, 24.12.92 and 21.7.95

Allows relatively simple or minor changes of land or building use and certain types of development by public authorities without the need for formal development applications. The types of development covered are outlined in the policy.

SEPP No. 11 — Traffic Generating Developments

Gazetted 9.8.85

Rationalises consultation required in relation to traffic-generating developments. The policy establishes the Roads and Traffic Authority as the sole traffic management authority to be consulted, and ensures it is given the opportunity to make a representation on a development application before the local council decides whether to approve a proposal. The policy is being reviewed to remove requirements for unnecessary consultations.

SEPP No. 14 — Coastal Wetlands

Gazetted 12.12.85. Amended 14.3.86, 26.6.87, 5.2.88 (by SEPP No. 26), 16.12.88, 27.10.89, 15.6.90, 17.8.90, 15.2.91, 26.3.93, 11.6.93, 24.6.94, 22.12.95, 15.11.96 and 10.11.97

Ensures coastal wetlands are preserved and protected for environmental and economic reasons. The policy applies to local government areas outside the Sydney metropolitan area that front the Pacific Ocean. The policy identifies over 1300 wetlands of high natural value from Tweed Heads to Broken Bay and from Wollongong to Cape Howe. Land clearing, levee construction, drainage work or filling may only be carried out within these wetlands with the consent of the local council and the agreement of the [Director-General of the Department of Urban Affairs and Planning]. Such development also requires an environmental impact statement to be lodged with a development application.

The policy is continually reviewed. It has, for example, been amended to omit or include areas, clarify the definition of the land to which the policy applies and to allow minimal clearing along boundaries for fencing and surveying.

SEPP No. 26 - Littoral Rainforests

Gazetted 5.2.88. Amended 24.4.92 (by SEPP No. 21) and 16.11.97

Protects littoral rainforests, a distinct type of rainforest well suited to harsh salt-laden and drying coastal winds. The policy requires that the likely effects of proposed development be thoroughly considered in an environmental impact statement. The policy applies to 'core' areas of littoral rainforest as well as a 100 metre wide 'buffer' area surrounding these core areas, except for residential land and areas to which SEPP No. 14 — Coastal Wetlands applies. Eighteen local government areas with direct frontage to the Pacific Ocean are affected, from Tweed in the north to Eurobodalla in the south.

SEPP No. 30 — Cattle Feedlots

Gazetted 8.12.89. Amended 20.8.93 and 24.2.95

Requires development consent for cattle feedlots having a capacity of 50 or more cattle. The policy sets out information and public notification requirements to ensure there are effective planning control over this export-driven rural industry. The policy does not alter if, and where, such development is permitted, or the functions of the consent authority.

SEPP No. 33 — Hazardous and Offensive Development

Gazetted 13.3.92

Provides new definitions for 'hazardous industry', 'hazardous storage establishment', 'offensive industry' and 'offensive storage establishment'. The definitions apply to all planning instruments, existing and future. The new definitions enable decisions to approve or refuse a development to be based on the merit of proposal. The consent authority must carefully consider the specifics the case, the location and the way in which the proposed activity is to be carried out. The policy also requires specified matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy. For example, any application to carry out a potentially hazardous or potentially offensive development is to be advertised for public comment, and applications to carry out potentially hazardous development must be supported by a preliminary hazard analysis (PHA). The policy does not change the role of councils as consent authorities, land zoning, or the designated development provisions of the *Environmental Planning and Assessment Act 1979*.

SEPP No. 37 — Continued Mines and Extractive Industries*Gazetted 18.6.93*

Provides for the continued operation of mines and extractive industries that lawfully commenced without development consent before planning controls came into force and which cannot operate in future without obtaining consent.

The policy:

- sets a three-month registration period and a two-year moratorium during which operations may continue without development consent, provided certain limitations and restrictions are complied with
- establishes environmental impact assessment provisions which are to be followed when seeking approval to operate after the end of the moratorium period.

SEPP No. 44 — Koala Habitat Protection*Gazetted 6.1.95. Amended on 10.2.95*

Encourages the conservation and management of natural vegetation areas that provide habitat for koalas to ensure permanent free-living populations will be maintained over their present range. The policy applies to 107 local government areas. Local councils cannot approve development in an area affected by the policy without an investigation of core koala habitat. The policy provides the State-wide approach needed to enable appropriate development to continue, while ensuring there is ongoing protection of koalas and their habitat.

SEPP No. 45 — Permissibility of Mining*Gazetted 4.8.95*

Ensures there are clear planning controls to determine the permissibility of mining. The policy allows mining on land, with consent, where an environmental planning instrument requires the consent authority to make a value judgement as to whether such development is permissible. It is important to note that the policy does not affect provisions in environmental planning instruments that have no relevance in determining whether or not mining is permitted on land — only those provisions that must be satisfied for mining to be permissible.

SEPP No. 48 — Major Putrescible Land fill Sites*Gazetted 29.12.95*

Makes the Minister for Urban Affairs and Planning the consent authority for major putrescible landfills in NSW. The policy applies to all landfills that receive waste from more than one local government area when the volume of waste to be received exceeds specified thresholds. It specifies matters the Minister will need to take into account when assessing a proposal, for example, ensuring that there is a legitimate demand for a landfill and that it is appropriately located. This is to ensure landfills are only approved following a comprehensive assessment.

SEPP No. 52 — Farm Dams and Other Works in Land and Water Management Plan Areas*Gazetted 31.7.98*

Applies to 11 irrigation areas or districts and lands shown on the plans. They are: Coleambally, Jemalong, Wyldes Plains, Burronga, Tabbita and Wah Wah; Berriquin, Cadell, Denemein and Wakool which are part of the area administered by Murray Irrigation Ltd; and land in East Cadell in the Murray local government area.

The policy amends the threshold used to determine what is 'designated development' in relation to farm dams (artificial waterbodies). It applies in areas where there are approved land and water management plans (LWMP) and farm plans have been approved.

Currently only the area administered by Murray Irrigation Corporation have approved LWMPs, that is, Berriquin, Caddell, Denemein and Wakool. As other LWMPs are approved, the policy may be amended to incorporate the areas covered by those plans. The policy amends SEPP No. 4 to enable Irrigation Corporations within the areas covered by the policy to carry out routine maintenance and emergency works without the need for development consent.

SEPP No. 55 — Remediation of Land*Gazetted 28.8.98*

Introduces State-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals. To assist councils and developers, the Department, in conjunction with the Environment Protection Authority, has prepared *Managing Land Contamination: Planning Guidelines*.

Draft SEPP — Sewerage Works*Exhibited 21.5.93 to 2.7.93*

Aims to establish uniform planning controls for sewerage works. The policy would allow public authorities to undertake sewerage works, subject to other authorities being consulted and satisfactory environmental impact assessment being carried out. Sewerage projects would be treated as an activity in accordance with Part 5 of the *Environmental Planning and Assessment Act 1979*.

The only exception being on land covered by SEPP No. 14 — Coastal Wetlands or SEPP No. 26 — Littoral Rainforests. These SEPPs specify types of development that are to be treated as designated development, requiring the consent of the local council and the concurrence of the Director of Planning.

ENVIRONMENTAL LEGISLATION

The following lists of environmental legislation were obtained from the NSW Environment Protection Authority's Internet site, <http://www.epa.nsw.gov.au> stated as updated on 12th February, 1999.

“The EPA was established in March 1992 under the Protection of the Environment Administration Act 1991. Under section 3(1) of that Act, the "environment protection legislation" consists of the following Acts (and any regulations or other instruments made under those Acts) which are either administered by the EPA or empower the EPA to act on behalf of the environment and the community:”

[The text of the legislation is available on the web site of the Australian Legal Information Institute (AustLII).]

Legislation administered by the EPA: Acts

Clean Air Act 1961
 Clean Waters Act 1970
 Contaminated Land Management Act 1997 (all commenced except s 60, duty to report contamination)
 Dangerous Goods Act 1975
 Environmental Offences and Penalties Act 1989
 Environmental Trust Act 1998 (commenced 9/11/98)
 Environmentally Hazardous Chemicals Act 1985
 National Environment Protection Council (New South Wales) Act 1995
 Noise Control Act 1975
 Ozone Protection Act 1989
 Pesticides Act 1978
 Pollution Control Act 1970
 Protection of the Environment Administration Act 1991
 Radiation Control Act 1990
 Recreation Vehicles Act 1983
 Road and Rail Transport (Dangerous Goods) Act 1997
 Unhealthy Building Land Act 1990
 Waste Minimisation and Management Act 1995
 Waste Recycling and Processing Service Act 1970

Legislation administered by the EPA: Regulations

Clean Air (Control of Burning) Regulation 1995
 Clean Air (Domestic Solid Fuel Heaters) Regulation 1997
 Clean Air (Motor Vehicles and Motor Vehicle Fuels) Regulation 1997
 Clean Air (Plant and Equipment) Regulation 1997
 Clean Waters Regulations 1972
 Contaminated Land Management Regulation 1998
 Environmentally Hazardous Chemicals Regulation 1994
 Noise Control (General) Regulation 1995
 Noise Control (Marine Vessels) Regulation 1996
 Noise Control (Miscellaneous Articles) Regulation 1995
 Noise Control (Motor Vehicles and Motor Vehicle Accessories) Regulation 1995
 Ozone Protection Regulation 1997
 Pesticides Regulation 1995
 Pollution Control Regulation 1985
 Protection of the Environment Administration (Disclosure by Board Members) Regulation 1997
 Radiation Control Regulation 1993
 Road & Rail Transport (Dangerous Goods) (Road) Regulation 1998
 Unhealthy Building Land Regulation 1996
 Waste Minimisation and Management Regulation 1996

Legislation administered by the EPA: Notices

Notice under section 63: Waste Minimisation and Management Act 1995

Uncommenced legislation and conversion tables

Protection of the Environment Operations Act 1997 (proclaimed to commence 1 July 1999)
 Protection of the Environment Operations (General) Regulation 1998 (proclaimed to commence 1 July 1999)

The conversion tables show the relationship of previous legislation to the new Protection of the Environment Operations Act, section by section. The two tables allow the reader to work in either direction.

Other NSW environmental legislation

Aboriginal Land Rights Act 1983
 Animal Research Act 1985
 Bicentennial Park Trust Act 1987
 Biological Control Act 1985
 Catchment Management Act 1989
 Centennial Park and Moore Park Trust Act 1983
 Coal Mines Regulation Act 1982
 Coastal Protection Act 1979
 Commons Management Act 1989
 Community Land Development Act 1989
 Community Land Management Act 1989
 Community Protection Act 1994
 Crown Lands Act 1989
 Darling Harbour Authority Act 1984
 Drainage Act 1939
 Electricity (Pacific Power) Act 1950
 Electricity Safety Act 1945
 Electricity Supply Act 1995
 Electricity Transmission Authority Act 1994
 Energy Administration Act 1987
 Energy Services Corporations Act 1995
 Environmental Planning and Assessment Act 1979
 Exhibited Animals Protection Act 1986
 Exotic Diseases of Animals Act 1991
 Fertilizers Act 1985
 Fish Marketing Act 1994
 Fisheries Management Act 1994
 Fluoridation of Public Water Supplies Act 1957
 Forestry (State Forest Revocation) Act 1978
 Forestry Act 1916
 Forestry Restructuring and Nature Conservation Act 1995
 Forestry Revocation and National Parks Reservation Act 1983

Forestry Revocation and National Parks Reservation Act 1984	Rivers and Foreshores Improvement Act 1948
Forests and Flora Reserves Revocation Act 1996	Roads Act 1993
Forests and Reserves Revocation Act 1995	Royal Botanic Gardens and Domain Trust Act 1980
Freedom of Information Act 1989	Rural Fires Act 1997
Gas Supply Act 1996	Rural Lands Protection Act 1989
Heritage Act 1977	Soil Conservation Act 1938
Historic Houses Act 1980	State Emergency and Rescue Management Act 1989
Hunter Water Board (Corporatisation) Act 1991	State Environmental Planning (Permissible Mining) Act 1996
Inclosed Lands Protection Act 1901	Stock (Chemical Residues) Act 1975
Irrigation Act 1912	Stock Diseases Act 1923
Irrigation Corporations Act 1994	Stock Medicines Act 1989
Justices Act 1902	Subordinate Legislation Act 1989
Land and Environment Court Act 1979	Summary Offences Act 1988
Local Government Act 1993	Supreme Court Act 1970
Lord Howe Island Act 1953	Sustainable Energy Development Act 1995
Marine Parks Act 1997	Sydney Cove Redevelopment Authority Act 1968
Marine Pollution Act 1987	Sydney Organising Committee for the Olympic Games Act 1993
Maritime Services Act 1935	Threatened Species Conservation Act 1995
Mines Rescue Act 1994	Timber Industry (Interim Protection) Act 1992
Mining Act 1992	Timber Plantations (Harvest Guarantee) Act 1995
Mutual Recognition (New South Wales) Act 1992	Traffic Act 1909
National Parks and Wildlife Act 1974	Transport Administration Amendment (Rail Corporatisation and Restructuring) Act 1996
National Trust of Australia (New South Wales) Act 1990	Uranium Mining and Nuclear Facilities (Prohibitions) Act 1986
Native Title (New South Wales) Act 1994	Water Act 1912
Native Vegetation Conservation Act 1997	Water Administration Act 1986
Noxious Weeds Act 1993	Water Amendment (Charges) Act 1996
Occupational Health and Safety Act 1983	Water Board (Corporatisation) Act 1994
Olympic Coordination Authority Act 1995	Water Supply Authorities Act 1987
Petroleum(Onshore) Act 1991 Petroleum(Submerged Lands) Act 1982	Western Lands Act 1901
Pipelines Act 1967	Wild Dog Destruction Act 1921
Plant Diseases Act 1924	Wilderness Act 1987
Ports Corporatisation and Waterways Management Act 1995	Zoological Parks Board Act 1973
Prevention of Cruelty to Animals Act 1979	
Public Health Act 1991	

NOTE: "While some sections in current legislation have been reproduced almost identically in the Protection of the Environment Operations Act, most sections have been changed to some degree. Officers are advised to check both the section in the current legislation and the section in the Protection of the Environment Operations Act to see differences between them." Refer to the conversion tables.

Authorised Officers Manual

This document is well worth examining, if only to understand the directions and information being provided for EPA inspectors. While, in several areas, the information does not appear to have been updated with the current known scientific data, the general tenor of the EPA's direction can be gleaned.