Guide to Licensing

Under the Protection of the Environment Operations Act 1997

Part B

Department of **Environment & Climate Change** NSW

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Contents

Appendix 1: Definitions

1.1 General definitions

Activity means an industrial, agricultural or commercial activity or an activity of any other nature whatever (including the keeping of a substance or an animal).

Air impurity includes smoke, dust (including fly ash), cinders, solid particles of any kind, gases, fumes, mists, odours and radioactive substances.

Air pollution means the emission into the air of any air impurity.

AMG Reference means Australian Map Grid Reference. Using this standard map coordinate system enables the EPA to pinpoint the location of point-source discharges of pollution. The map coordinate system uses three values: an easting value, consisting of six digits, a northing value consisting of seven digits, and an AMG zone (zones 54 to 57 cover NSW). AMG reference detail is required for point-source discharges and emissions for each separate point, and also (in the case of a utilisation area being used for the land application of waste water or waste) for the approximate centre of the utilisation area. AMG reference is obtained from AMG maps or GPS receivers. Commercial services that can provide this information are also available.

Ancillary activity means an activity that is subsidiary to the activity requiring a licence.

Animal waste includes dead animals and animal parts and any mixture of dead animals and animal parts.

Anniversary date means each anniversary of the date the licence was issued. See also *licence-fee period*.

Asbestos means the fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.

Asbestos waste means any waste that contains asbestos.

Assessable pollutants are those pollutants for which load fees are payable; the nature of the pollutants discharged affects the amount of the load-based licence fee (if any) payable for a licence.

Biosolids means the organic product that results from sewage treatment processes (sometimes referred to as sewage sludge).

Biosolids Guidelines means the document entitled *Environmental Guidelines: Use and Disposal of Biosolids Products*, published by the EPA and as in force from time to time, copies of which are held in the offices of the EPA.

Building and demolition waste means unsegregated material (other than material containing asbestos waste) that results from:

(a) the demolition, erection, construction, refurbishment or alteration of buildings other than:
    (i) chemical works, or
    (ii) mineral processing works, or
    (iii) container reconditioning works, or
    (iv) waste treatment facilities, or
(b) the construction, replacement, repair or alteration of infrastructure development such as roads, tunnels, sewage, water, electricity, telecommunications and airports,

and includes materials such as:

(c) bricks, concrete, soil, paper, plastics, glass, metal, and

(d) timber, including unsegregated timber, that may contain timber treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).

Capacity to produce, process, etc. means the amount of product that is physically able to be produced, processed, etc. taking into account:
(a) the size of the plant or equipment being used
(b) any expected maintenance time required during the period specified in the threshold
(c) limits imposed by any legal constraints such as those that can be exercised under the planning laws in the form of development consents and 'existing use' rights.

Catchment means the area in which water (from rainfall or otherwise) collects, to form the supply of a river, stream or drainage area (see also **Appendix 6**).

Clinical and related waste means:
(a) clinical waste, or
(b) cytotoxic waste, or
(c) pharmaceutical, drug or medicine waste, or
(d) sharps waste.

Clinical waste means any waste resulting from medical, nursing, dental, pharmaceutical, skin penetration or other related clinical activity, being waste that has the potential to cause injury, infection or offence, and includes waste containing any of the following:
(a) human tissue (other than hair, teeth and nails),
(b) bulk body fluids or blood,
(c) visibly blood-stained body fluids, materials or equipment,
(d) laboratory specimens or cultures,
(e) animal tissue, carcasses or other waste from animals used for medical research,
but does not include any such waste that has been treated by a method approved in writing by the Director-General of the Department of Health.

Coal includes any other carbonaceous material.

Contaminated soil means soil that contains a substance at a concentration above the concentration at which the substance is normally present in soil from the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment, where harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment.

Cytotoxic waste means any substance contaminated with any residues or preparations that contain materials that are toxic to cells principally through their action on cell reproduction.

Dangerous goods has the same meaning as it has in the Transport of Dangerous Goods Code.

Discharge point means the precise location at which a pollutant is to be discharged or waste is to be disposed of.

Eastings see ***AMG Reference***.

Effluent means
(a) waste water from sewage collection or treatment plants, or
(b) waste water from collection or treatment systems that are ancillary to processing industries involving livestock, agriculture, wood, paper or food, being waste water that is conveyed from the place of generation by means of a pipe, canal or other conventional method used in irrigation (but not by means of a tanker or truck), or
(c) waste water from collection or treatment systems that are ancillary to intensive livestock, aquaculture or agricultural industries, being waste water that is released by means of a pipe, canal or other conventional method used in irrigation as part of day-to-day farming operations.

Electricity plant includes all associated water storage, ash recovery and waste management facilities.

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

Environment means components of the earth, including:
(a) land, air and water, and
(b) any layer of the atmosphere, and
(c) any organic or inorganic matter and any living organism, and
(d) human-made or modified structures and areas,
and includes interacting natural ecosystems that include components referred to in paragraphs (a)–(c).

Environment protection licence means a licence authorising the carrying out of scheduled development work or scheduled activities or controlling the pollution of water arising from non-scheduled activities, being a licence issued under Chapter 3 of the POEO Act and in force.

Environment protection notice means a clean-up notice, prevention notice or prohibition notice issued under Chapter 4 of the POEO Act and in force.

Environmental planning instrument means an environmental planning instrument within the meaning of the *Environmental Planning and Assessment Act 1979*.

EPA Gazettal notice means a notice that has been published in the Gazette by the EPA, copies of which are held in the offices of the EPA.

Estuarine waters means all waters (other than open coastal waters):
(a) that are ordinarily subject to tidal influence, and
(b) 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).

Excluded material means contaminated soil, grease trap waste, waste stored prior to its lawful discharge to a sewer or waters, septic tank waste, stormwater or recoverable oil or oil and water mixture.

Explosives has the same meaning as it has in the Australian Explosives Code.

Food waste means waste from the manufacture, preparation, sale or consumption of food but does not include grease trap waste.

Friable asbestos waste means asbestos waste:
(a) that is in the form of a powder, or
(b) that can be crumbled or reduced to powder by hand pressure when dry.

Garden waste means waste that consists of branches, grass, leaves, plants, loppings, tree trunks, tree stumps and similar materials, and includes any mixture of those materials.

Grease trap waste means any grease, oil, solids, water or other matter:
(a) that results from the preparation or manufacturing of food, and
(b) that is collected in a grease trap in the usual course of the operation of the grease trap.

Licence means an environment protection licence.

Licence application means an application for the issue, transfer, variation or surrender of a licence.

Licence-fee period means the 12-month period from the date of issue of the licence until the anniversary of that date, and each subsequent 12-month period. See also ***Anniversary date***.

Local authority means

(a) a local council (being the council of an area under the *Local Government Act 1993*), or
(b) the Lord Howe Island Board in relation to Lord Howe Island, or
(c) the Western Lands Commissioner in relation to the Western Division, except any part of the Western Division within the area of a local council, or
(d) an authority prescribed by the regulations for the purposes of this paragraph for any place not covered above, or
(e) an authority prescribed instead by the regulations for the purposes of this paragraph for any place wholly or partly covered above.

Manure includes any mixture of manure and biodegradable animal bedding (such as straw).

Metropolitan area means the area of Sydney, Newcastle, Central Coast and Wollongong bounded by and including the local government areas of Newcastle, Lake Macquarie, Wyong, Gosford, Hawkesbury, Blue Mountains, Penrith, Liverpool, Camden, Campbelltown, Wollongong and Shellharbour.

National environment protection (movement of controlled waste between states and territories) measure means the document made under the *National Environment Protection Council Act 1994* of the Commonwealth on 26 June 1998.

Natural organic fibrous materials waste means bagasse, peat, seed hulls and husks, straw and the like, and includes any mixture of those materials

Non-point source means discharges arising from multiple activities over a broad area, for example, stormwater run-off.

Non-premises-based activity means an activity listed in Part 2 of Schedule 1 of the POEO Act (see **Appendix 2** of this guide).

Non-scheduled activity means an activity that is not a scheduled activity and is not scheduled development work.

Northings see **AMG Reference**.

Not capable of environmentally significant biological transformation: A reference to a waste that is not capable of environmentally significant biological transformation is a reference to:
(a) waste that has a specific oxygen uptake of less than 1.5 milligrams O_2/hour/g total organic solids at 200C, or
(b) waste that has been treated by composting for at least 14 days, during which time:
    (i) the average temperature of the organic waste has not been less than 450^{o}C, and
    (ii) the minimum temperature of the organic waste has not been less than 400^{o}C, or
(c) organic waste in which the mass of volatile solids has been reduced, during composting for the purpose of stabilisation, by at least 38%, or
(d) biologically treated putrescible waste in which the organics fraction has a self-heating temperature not less than 400^{o}C, when tested in accordance with the test method in Appendix K of AS 4454—2003 Composts, soil, conditioners and mulches, or
(e) waste that has been subjected to, and has met the requirements of, alternative tests approved for the time being pursuant to an EPA Gazettal notice.

Occupier of premises means the person who has the management or control of the premises.

On site: a reference to something being done in relation to waste on site is a reference to that thing being done only on the premises on which the waste was generated.

Open coastal waters means all waters of the Pacific Ocean, except for those waters enclosed by a straight line drawn between the low-water marks of consecutive headlands. For more detail, refer to Schedule 3 of the POEO (General) Regulation 2009.

Organics means natural organic fibrous materials of waste and non-waste origin, including:
(a) putrescible organics (such as meat, fish, poultry, fruit, vegetable and their cooked or processed products, biosolids and animal materials), and
(b) non-putrescible organics (such as timber, garden trimmings, agricultural, forestry and crop materials, and natural fibrous organic and vegetative materials),
but does not include:
(c) human-made organic chemicals (such as solvents, industrial, agricultural, mining, household chemical cleaning agents and personal care products), or
(d) naturally occurring organic chemicals that have been refined and concentrated by human activity (such as oil, petrol, diesel and coal tar).

Owner means the owner of waste or other substances but does not include (in any provision under which a person commits an offence in the capacity of owner) a financial institution that is acting solely as a holder of a security interest in the waste or other substances. In that case, the person who has control of the waste or other substances is taken to be the owner.

Pharmaceutical, drug or medicine waste means waste:
(a) that has been generated by activities carried out for business or commercial purposes, and
(b) that consists of pharmaceutical or other chemical substances specified in the Poisons List made under section 8 of the *Poisons and Therapeutic Goods Act 1966*.

Plant means any plant, equipment, apparatus, device, machine or mechanism, and includes any vessel, dredge, railway locomotive or crane, but does not include a motor vehicle.

Point source means the individual source of discharge, such as a discharge pipe or a chimney stack.

Pollution means water pollution, air pollution, noise pollution, or land pollution.

Premises includes:
(a) a building or structure, or
(b) land or a place (whether enclosed or built on or not), or
(c) a mobile plant, vehicle, vessel or aircraft.

Premises-based activity means an activity listed in Part 1 of Schedule 1 of the POEO Act (see **Appendix 2** of this guide).

Public authority means a public or local authority constituted by or under an Act, and includes:
(a) a government department, or
(b) a statutory body representing the Crown, a State-owned corporation or a local council, or
(c) a member of staff or other person who exercises functions on behalf of a public authority.

Receiving waters mean waters into which water discharges flow from an activity.

Records include plans, specifications, maps, reports, books and other documents (whether in writing, electronic form or otherwise).

Regulated area means the area comprising the local government areas of Ashfield, Auburn, Bankstown, Baulkham Hills, Blacktown, Botany, Burwood, Camden, Campbelltown, Canada Bay, Canterbury, Cessnock, Fairfield, Gosford, Hawkesbury, Holroyd, Hornsby, Hunters Hill, Hurstville, Kiama, Kogarah, Ku-ring-gai, Lake Macquarie, Lane Cove, Leichhardt, Liverpool, Maitland, Manly, Marrickville, Mosman, Newcastle, North Sydney, Parramatta, Penrith, Pittwater, Port Stephens, Randwick, Rockdale, Ryde, Shellharbour, Shoalhaven, Strathfield, Sutherland, Sydney, Warringah, Waverley, Willoughby, Wingecarribee, Wollongong, Woollahra and Wyong.

Regulatory authority means the EPA, a local authority or a public authority prescribed for the purposes of section 6(3) of the POEO Act.

Rolling stock means:
(a) railway vehicles used or intended to be used to transport passengers or freight for reward, or
(b) railway vehicles used or intended to be used to maintain railway track and equipment (whether or not for reward),
but does not include railway vehicles that are used solely for heritage purposes.

Scheduled activity means an activity listed in Schedule 1 of POEO Act (see **Appendix 2** of this guide).

Scheduled development work means work at any premises that is designed to enable scheduled activities to be carried on at the premises.

Sharps means those things:
(a) that have sharp points or edges capable of cutting, piercing or penetrating the skin (such as needles, syringes with needles or surgical instruments), and
(b) that are designed for the purpose of cutting, piercing or penetrating the skin, and
(c) that have the potential to cause injury or infection.

Sharps waste means any waste collected from designated sharps waste containers used in the course of business, commercial or community service activities, being waste resulting from the use of sharps for any of the following purposes:
(a) human health care by health professionals and other health care providers,
(b) medical research or work on cadavers,
(c) veterinary care or veterinary research,
(d) skin penetration or the injection of drugs or other substances for medical or non-medical reasons,
but does not include waste that has been treated:
(e) at premises at which a waste activity is carried out, or
(f) on the site where it was generated, and to a standard specified in an EPA Gazettal notice.

Thermal treatment means the processing of wastes by burning, incineration, thermal oxidation, gasification, pyrolysis, plasma or other thermal treatment processes.

Threshold means a level of production or processing (or capacity to produce or process), above which an activity becomes a scheduled activity, and at or below which an activity becomes a non-scheduled activity.

Toxic substance has the same meaning as it has in the Transport of Dangerous Goods Code.

Transport of Dangerous Goods Code means the document called the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (7th edition) approved by the Ministerial Council for Road Transport and published by the Commonwealth Government from time to time.

Utilisation area means the area used for the application of waste and/or waste water.

Virgin excavated natural material means natural material (such as clay, gravel, sand, soil or rock fines):
(a) that has been excavated or quarried from areas that are not contaminated with manufactured chemicals, or with process residues, as a result of industrial, commercial, mining or agricultural activities, and
(b) that does not contain any sulfidic ores or soils or any other waste, and includes excavated natural material that meets such criteria for virgin excavated natural material as may be approved for the time being pursuant to an EPA Gazettal notice.

Waste activity means any activity that is a scheduled activity by reason only that it involves having on site at any time more than 5 tonnes of any hazardous waste, restricted solid waste or liquid waste.
Note. See the use of this expression in section 91(1) of the *Environmental Planning and Assessment Act 1979*.

Waste Classification Guidelines means the document entitled Waste Classification Guidelines, published by the EPA and as in force from time to time, copies of which are held in the offices of the EPA.
Note. A copy of the guidelines is available on the EPA's website (www.environment.nsw.gov.au/waste/envguidlns/index.htm).

Waste facility means any premises used for the storage, treatment, processing, sorting or disposal of waste (except as provided by the regulations).

Waste tyres means used, rejected or unwanted tyres, including shredded tyres or tyre pieces.

Water pollution or ***pollution of waters*** means
(a) placing in or on, or otherwise introducing into or onto, waters (whether through an act or omission) any matter, whether solid, liquid or gaseous, so that the physical, chemical or biological condition of the waters is changed, or
(b) placing in or on, or otherwise introducing into or onto, the waters (whether through an act or omission) any refuse, litter, debris or other matter, whether solid or liquid or gaseous, so that the change in the condition of the waters or the refuse, litter, debris or other matter, either alone or together with any other refuse, litter, debris or matter present in the waters makes, or is likely to make, the waters unclean, noxious, poisonous or impure, detrimental to the health, safety, welfare or property of persons, undrinkable for farm animals, poisonous or harmful to aquatic life, animals, birds or fish in or around the waters or unsuitable for use in irrigation, or obstructs or interferes with, or is likely to obstruct or interfere with persons in the exercise or enjoyment of any right in relation to the waters, or
(c) placing in or on, or otherwise introducing into or onto, the waters (whether through an act or omission) any matter, whether solid, liquid or gaseous, that is of a prescribed nature, description or class or that does not comply with any standard prescribed in respect of that matter,
and, without affecting the generality of the foregoing, includes:
(d) placing any matter (whether solid, liquid or gaseous) in a position where:
(i) it falls, descends, is washed, is blown or percolates, or
(ii) it is likely to fall, descend, be washed, be blown or percolate,
into any waters, onto the dry bed of any waters, or into any drain, channel or gutter used or designed to receive or pass rainwater, floodwater or any water that is not polluted, or
(e) placing any such matter on the dry bed of any waters, or in any drain, channel or gutter used or designed to receive or pass rainwater, floodwater or any water that is not polluted,
if the matter would, had it been placed in any waters, have polluted or have been likely to pollute those waters.

Waters means the whole or any part of:
(a) any river, stream, lake, lagoon, swamp, wetlands, unconfined surface water, natural or artificial watercourse, dam or tidal waters (including the sea), or
(b) any water stored in artificial works, any water in water mains, water pipes or water channels, or any underground or artesian water.

Wood waste means sawdust, timber offcuts, wooden crates, wooden packaging, wooden pallets, wood shavings and similar materials, and includes any mixture of those materials, but does not include wood treated with chemicals such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigmented emulsified creosote (PEC) and light organic solvent preservative (LOSP).

1.2 Definitions of waste classifications

General solid waste (non-putrescible) means waste (other than special waste, hazardous waste, restricted solid waste, general solid waste (putrescible) or liquid waste) that includes any of the following:

(a) glass, plastic, rubber, plasterboard, ceramics, bricks, concrete or metal,
(b) paper or cardboard,
(c) household waste from municipal clean-up that does not contain food waste,
(d) waste collected by or on behalf of local councils from street sweeping,

(e) grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices or stormwater management systems, that has been dewatered so that it does not contain free liquids,
(f) grit and screenings from potable water and water reticulation plants that has been dewatered so that it does not contain free liquids,
(g) garden waste,
(h) wood waste,
(i) waste contaminated with lead (including lead paint waste) from residential premises or educational or child care institutions,
(j) containers, having previously contained dangerous goods, from which residues have been removed by washing or vacuuming,
(k) drained oil filters (mechanically crushed), rags and oil absorbent materials that only contain non-volatile petroleum hydrocarbons and do not contain free liquids,
(l) drained motor oil containers that do not contain free liquids,
(m) non-putrescible vegetative waste from agriculture, silviculture or horticulture,
(n) building cavity dust waste removed from residential premises, or educational or child care institutions, being waste that is packaged securely to prevent dust emissions and direct contact,
(o) synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste,
(p) virgin excavated natural material,
(q) building and demolition waste,
(r) asphalt waste (including asphalt resulting from road construction and waterproofing works),
(s) biosolids categorised as unrestricted use, or as restricted use 1, 2 or 3, in accordance with the criteria set out in the *Biosolids Guidelines*,
(t) cured concrete waste from a batch plant,
(u) fully cured and set thermosetting polymers and fibre reinforcing resins,
(v) fully cured and dried residues of resins, glues, paints, coatings and inks,
(w) anything that is classified as general solid waste (non-putrescible) pursuant to an EPA Gazettal notice,
(x) anything that is general solid waste (non-putrescible) within the meaning of the *Waste Classification Guidelines*,
(y) any mixture of anything referred to in paragraphs (a)–(x).

General solid waste (putrescible) means waste (other than special waste, hazardous waste, restricted solid waste or liquid waste) that includes any of the following:
(a) household waste containing putrescible organics,
(b) waste from litter bins collected by or on behalf of local councils,
(c) manure and nightsoil,
(d) disposable nappies, incontinence pads or sanitary napkins,
(e) food waste,
(f) animal waste,
(g) grit or screenings from sewage treatment systems that have been dewatered so that the grit or screenings do not contain free liquids,
(h) anything that is classified as general solid waste (putrescible) pursuant to an EPA Gazettal notice,
(i) anything that is general solid waste (putrescible) within the meaning of the *Waste Classification Guidelines*,
(j) a mixture of anything referred to in paragraphs (a)–(i).

Hazardous waste means waste (other than special waste or liquid waste) that includes any of the following:
(a) anything that is classified as:
    (i) a substance of Class 1, 2, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or
    (ii) a substance to which Division 4.1, 4.2, 4.3 or 6.1 of the Transport of Dangerous Goods Code applies,
(b) containers, having previously contained:
    (i) a substance of Class 1, 3, 4, 5 or 8 within the meaning of the Transport of Dangerous Goods Code, or

(ii) a substance to which Division 6.1 of the Transport of Dangerous Goods Code applies, from which residues have not been removed by washing or vacuuming,

(c) coal tar or coal tar pitch waste (being the tarry residue from the heating, processing or burning of coal or coke) comprising more than 1% (by weight) of coal tar or coal tar pitch waste,

(d) lead-acid or nickel-cadmium batteries (being waste generated or separately collected by activities carried out for business, commercial or community services purposes),

(e) lead paint waste arising otherwise than from residential premises or educational or child care institutions,

(f) anything that is classified as hazardous waste pursuant to an EPA Gazettal notice,

(g) anything that is hazardous waste within the meaning of the *Waste Classification Guidelines*,

(h) a mixture of anything referred to in paragraphs (a)–(g).

Liquid waste means any waste (other than special waste) that includes any of the following:

(a) anything that:
   (i) has an angle of repose of less than 5 degrees above horizontal, or
   (ii) becomes free-flowing at or below 600^0C or when it is transported, or
   (iii) is generally not capable of being picked up by a spade or shovel,

(b) anything that is classified as liquid waste pursuant to an EPA Gazettal notice.

Non-liquid waste means any waste (other than special waste) that is not liquid waste.

Restricted solid waste means any waste (other than special waste, hazardous waste or liquid waste) that includes any of the following:

(a) anything that is restricted solid waste within the meaning of the *Waste Classification Guidelines*,

(b) anything that is classified as restricted solid waste pursuant to an EPA Gazettal notice.

Special waste means any of the following:

(a) clinical and related waste,

(b) asbestos waste,

(c) waste tyres,

(d) anything that is classified as special waste pursuant to an EPA Gazettal notice.

Appendix 2: Schedule 1 (Parts 1 & 2) of the POEO Act

Schedule 1 to the POEO Act lists those activities for which the EPA is the appropriate regulatory authority. The schedule is amended from time to time.

For the current version of the schedule, visit DECC's legislation web page at www.epa.nsw.gov.au/legislation/legislation.htm

Appendix 3: Environmental impact statement (EIS) requirements

The following is a generic example of the EPA's Environmental Impact Statement (EIS) requirements. Please note that this is an example only – EIS requirements are developed for each individual application so some requirements may be omitted or modified and others may be added.

EIS requirements

How to use these requirements

The DECC requirements have been structured in accordance with the Department of Planning 'EIS Guidelines', as follows. It is suggested that the EIS follow the same structure:

A. Executive summary
B. The proposal
C. Location
D. Identification and prioritisation of issues
E. Environmental issues
F. List of approvals and licences
G. Compilation of mitigation measures
H. Justification for the proposal

A Executive summary

The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

B The proposal

1. Objectives of the proposal

The objectives of the proposal should be clearly stated and refer to:

a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced
b) a life-cycle approach to the production, use or disposal of products
c) the anticipated level of performance in meeting required environmental standards and cleaner production principles
d) the staging and timing of the proposal and any plans for future expansion
e) the proposal's relationship to any other industry or facility.

2. Description of the proposal

General

- Outline the production process including:
  a) the environmental 'mass balance' for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill, etc.)
  b) any life-cycle strategies for the products.

- Outline cleaner production actions, including:
  a) measures to minimise waste (typically through addressing source reduction)
  b) proposals for use or recycling of by-products

c) proposed disposal methods for solid and liquid waste
d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points
e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.
f) soil contamination treatment and prevention systems.

- Outline construction works including:
  a) actions to address any existing soil contamination
  b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)
  c) construction timetable and staging; hours of construction; proposed construction methods
  d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.

Air

- Identify all sources of air emissions from the development.

  Emissions can be classed as either:
  - point (e.g. emissions from stack or vent) or
  - fugitive (from wind erosion), leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).

- Provide details of the project that are essential for predicting and assessing air impacts including:
  a) the quantities and physico-chemical parameters (e.g. concentration, moisture content, bulk density, particle sizes, etc.) of materials to be used, transported, produced or stored
  b) an outline of procedures for handling, transport, production and storage
  c) the management of solid, liquid and gaseous waste streams with potential for significant air impacts.

Noise and vibration

- Identify all noise sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.

- Specify the times of operation for all phases of the development and for all noise producing activities.

- For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts, etc.), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

Water

- Provide details of the project that are essential for predicting and assessing impacts to waters:
  a) including the quantity and physico-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on www.environment.nsw.gov.au/ieo, using technical criteria derived from the *Australian and New Zealand guidelines for fresh and marine water quality* (ANZECC 2000))
  b) the management of discharges with potential for water impacts
  c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.

- Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts, e.g. effluent ponds) and showing potential areas of modification of contours, drainage, etc.

- Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

Waste and chemicals

- Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the *Waste Classification Guidelines* (DECC 2008).

- Provide details of liquid waste and non-liquid waste management at the facility, including:
  a) the transportation, assessment and handling of waste arriving at or generated at the site
  b) any stockpiling of wastes or recovered materials at the site
  c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site
  d) the method for disposing of all wastes or recovered materials at the facility
  e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility
  f) the proposed controls for managing the environmental impacts of these activities.

- Provide details of spoil disposal with particular attention to:
  a) the quantity of spoil material likely to be generated
  b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil
  c) the need to maximise reuse of spoil material in the construction industry
  d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material
  e) designation of transportation routes for transport of spoil.

- Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.

- Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.

- Reference should be made to the *Waste Classification Guidelines* (DECC 2008).

ESD

- Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:
  a) an assessment of a range of options available for use of the resource, including the benefits of each option to future generations
  b) proper valuation and pricing of environmental resources
  c) identification of who will bear the environmental costs of the proposal.

3. Rehabilitation

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

4. Consideration of alternatives and justification for the proposal

- Consider the environmental consequences of adopting alternatives, including alternative:
  a) sites and site layouts
  b) access modes and routes
  c) materials handling and production processes
  d) waste and water management
  e) impact mitigation measures
  f) energy sources

- Selection of the preferred option should be justified in terms of:
  a) ability to satisfy the objectives of the proposal
  b) relative environmental and other costs of each alternative
  c) acceptability of environmental impacts and contribution to identified environmental objectives
  d) acceptability of any environmental risks or uncertainties
  e) reliability of proposed environmental impact mitigation measures
  f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.

C Location

1. General

- Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:
  a) meteorological data (e.g. rainfall, temperature and evaporation, wind speed and direction)
  b) topography (landform element, slope type, gradient and length)
  c) surrounding land uses (potential synergies and conflicts)
  d) geomorphology (rates of landform change and current erosion and deposition processes)
  e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)
  f) ecological information (water system habitat, vegetation, fauna)
  g) availability of services and the accessibility of the site for passenger and freight transport.

2. Air

- Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.

- Describe surrounding buildings that may affect plume dispersion.

- Provide and analyse site representative data on the following meteorological parameters:
  a) temperature and humidity
  b) rainfall, evaporation and cloud cover
  c) wind speed and direction
  d) atmospheric stability class
  e) mixing height (the height that emissions will be ultimately mixed in the atmosphere)
  f) katabatic air drainage
  g) air re-circulation.

3. Noise and vibration

- Identify any noise-sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches and hospitals. Typically the location of any noise-sensitive locations in relation to the site should be included on a map of the locality.

- Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.

4. Water

- Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The water quality and river flow objectives on the website: www.environment.nsw.gov.au/ieo should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.

5. Soil contamination issues

- Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.

D Identification and prioritisation of issues/scoping of impact assessment

- Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
  a) relevant NSW government guidelines
  b) industry guidelines
  c) EISs for similar projects
  d) relevant research and reference material
  e) relevant preliminary studies or reports for the proposal
  f) consultation with stakeholders.

- Provide a summary of the outcomes of the process including:
  a) all issues identified including local, regional and global impacts (e.g. increased/decreased greenhouse emissions)
  b) key issues which will require a full analysis (including comprehensive baseline assessment)
  c) issues not needing full analysis though they may be addressed in the mitigation strategy
  d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).

E Environmental issues

1. General

- The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.

- Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.

  Note: The level of detail should match the level of importance of the issue in decision-making which is dependent on the environmental risk.

Describe baseline conditions

- Provide a description of existing environmental conditions for any potential impacts.

Assess impacts

- For any potential impacts relevant for the assessment of the proposal, provide a detailed analysis of the impacts of the proposal on the environment, including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.

- Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.

- The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts, e.g. assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts, etc.

- The assessment needs to consider impacts at all phases of the project cycle including exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.

- The level of assessment should be commensurate with the risk to the environment.

Describe management and mitigation measures

- Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

- Proponents are expected to implement a ‘reasonable level of performance’ to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology-based criteria if available, or identify good practice for this type of activity or development. A ‘reasonable level of performance’ involves adopting and implementing technology and management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.

- Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.

- Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:
  a) operational procedures to manage environmental impacts
  b) monitoring procedures
  c) training programs
  d) community consultation
  e) complaint mechanisms including site contacts
  f) strategies to use monitoring information to improve performance
  g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.

2. Air

Describe baseline conditions

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.

Assess impacts

- Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.

- Estimate the resulting ground level concentrations of all pollutants. Where necessary (e.g. potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with DECC.

- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.

- Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.

- For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA/DECC procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate.

  Note: With dust and odour, it may be possible to use data from existing similar activities to generate emission rates.

- Reference should be made to relevant guidelines e.g. *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW* (DEC 2005); *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (DEC 2007); *Assessment and Management of Odour from Stationary Sources in NSW* (EPA 2001); *Technical Notes: Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW* (EPA 2001); *Load Calculation Protocol for use by holders of NSW Environment Protection Licences when calculating Assessable Pollutant Loads* (DECC 2009).

Describe management and mitigation measures

- Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.

3. Noise and vibration

Describe baseline conditions

- Determine the existing background (L_{A90}) and ambient (L_{Aeq}) noise levels in accordance with the *NSW Industrial Noise Policy* (EPA 2000).

- Determine the existing road traffic noise levels in accordance with the *NSW Environmental Criteria for Road Traffic Noise* (EPA 1999), where road traffic noise impacts may occur.

- The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:
  a) details of equipment used for the measurements
  b) a brief description of where the equipment was positioned

c) a statement justifying the choice of monitoring site, including the procedure used to choose the site, having regards to the definition of 'noise-sensitive locations(s)' and 'most affected locations(s)' described in Section 3.1.2 of the *NSW Industrial Noise Policy* (EPA 2000)
d) details of the exact location of the monitoring site and a description of land uses in surrounding areas
e) a description of the dominant and background noise sources at the site
f) day, evening and night assessment background levels for each day of the monitoring period
g) the final Rating Background Level (RBL) value
h) graphs of the measured noise levels for each day should be provided
i) a record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring under Step 1 in Section B1.3 of the *NSW Industrial Noise Policy* (EPA 2000)
j) determination of L_{Aeq} noise levels from existing industry.

Assess impacts

- Determine the project specific noise levels for the site. For each identified potentially affected receiver, this should include:
  a) determination of the intrusive criterion for each identified potentially affected receiver
  b) selection and justification of the appropriate amenity category for each identified potentially affected receiver
  c) determination of the amenity criterion for each receiver
  d) determination of the appropriate sleep disturbance limit.

- Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible affects on sleep. Where $L_{A1(1min)}$ noise levels from the site are less than 15 dB above the background L_{A90} noise level, sleep disturbance impacts are unlikely. Where this is not the case, further analysis is required. Additional guidance is provided in Appendix B of the *NSW Environmental Criteria for Road Traffic Noise* (EPA 1999).

- Determine expected noise level and noise character (e.g. tonality, impulsiveness, vibration, etc.) likely to be generated from noise sources during:
  a) site establishment
  b) construction
  c) operational phases
  d) transport including traffic noise generated by the proposal
  e) other services.

  Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).

- Determine the noise levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development). Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.

- The noise impact assessment report should include:
  a) a plan showing the assumed location of each noise source for each prediction scenario
  b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site
  c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc.

d) methods used to predict noise impacts including identification of any noise models used. Where modelling approaches other than the use of the ENM or SoundPlan computer models are adopted, the approach should be appropriately justified and validated
e) an assessment of appropriate weather conditions for the noise predictions including reference to any weather data used to justify the assumed conditions
f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario under any identified significant adverse weather conditions as well as calm conditions where appropriate
g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived
h) an assessment of the need to include modification factors as detailed in Section 4 of the *NSW Industrial Noise Policy* (EPA 2000).

- Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional mitigation measures.

- The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.

- Where relevant noise/vibration criteria cannot be met after application of all feasible and cost effective mitigation measures the residual level of noise impact needs to be quantified by identifying:
  a) locations where the noise level exceeds the criteria and extent of exceedence
  b) numbers of people (or areas) affected
  c) times when criteria will be exceeded
  d) likely impact on activities (speech, sleep, relaxation, listening, etc.)
  e) change on ambient conditions
  f) the result of any community consultation or negotiated agreement.

- For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.

- Where blasting is intended an assessment in accordance with the *Technical Basis for Guidelines to minimise annoyance due to blasting overpressure and ground vibration* (ANZECC 1990) should be undertaken. The following details of the blast design should be included in the noise assessment:
  a) bench height, burden spacing, spacing burden ratio
  b) blast hole diameter, inclination and spacing
  c) type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

Describe management and mitigation measures

- Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.

- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:
  a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage
  b) control of traffic (e.g. limiting times of access or speed limitations)

c) resurfacing of the road using a quiet surface
d) use of (additional) noise barriers or bunds
e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern
f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quiet' trucks and/or trucks to use air bag suspension)
g) driver education
h) appropriate truck routes
i) limit usage of exhaust breaks
j) use of premium muffles on trucks
k) reducing speed limits for trucks
l) ongoing community liaison and monitoring of complaints
m) phasing in the increased road use.

4. Water

Describe baseline conditions

- Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).

  Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2007) or be approved and analyses undertaken by accredited laboratories).

- Provide site drainage details and surface run-off yield.

- State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: www.environment.nsw.gov.au/ieo. The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal.
  Note: A consolidated and approved list of environmental values is not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.

- State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC 2000) at www.deh.gov.au/water/quality/nwqms/volume1.html.

  Note 1: As at 2004, the NSW Water Quality Objectives booklets and website contain technical criteria derived from the 1992 version of the ANZECC Guidelines. The Water Quality Objectives remain as Government Policy, reflecting the community's environmental values and long-term goals, but the technical criteria are replaced by the more recent ANZECC 2000 Guidelines.
  Note 2: While specific guidelines for groundwater are not available, the ANZECC 2000 Guidelines endorse the application of the trigger values and decision trees as a tool to assess risk to environmental values in groundwater.

- State any locally specific objectives, criteria or targets, which have been endorsed by the Government e.g. the Healthy Rivers Commission Inquiries (www.hrc.nsw.gov.au) or the *NSW Salinity Strategy* (DLWC 2000) (www.dlwc.nsw.gov.au/care/salinity/#Strategy).

- Where site-specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to assess whether a licensed discharge impacts on water

quality objectives), then prior agreement from DECC on the approach and study design must be obtained.

- Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality/river flow/groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include:
  a) lake or estuary flushing characteristics
  b) specific human uses (e.g. exact location of drinking water offtake)
  c) sensitive ecosystems or species conservation values
  d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc.
  e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
  f) historic river flow data where available for the catchment.

Assess impacts

- No proposal should breach clause 120 of the *Protection of the Environment Operations Act 1997* (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).

- Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.

- Include a rationale, along with relevant calculations, supporting the prediction of the discharges.

- Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater).

- Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow).

- Identify any potential impacts on quality or quantity of groundwater describing their source.

- Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.

- Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.

- Containment of spills and leaks shall be in accordance with the technical guidelines section ‘Bunding and Spill Management’ of the *Authorised Officers Manual* (EPA 1995) (www.environment.nsw.gov.au/mao/bundingspill.htm) and the most recent versions of the Australian Standards referred to in the guidelines. Containment should be designed for no-discharge.

- The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered:
  a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and
  b) will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.

- Consult with DECC as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does not immediately meet water quality objectives). The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). DECC will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment.

  Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.

- Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines.

- Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.

- Reference should be made to relevant guidelines e.g. *Managing Urban Stormwater: Soils and Construction* (Landcom 2004), *Guidelines for fresh and marine water quality* (ANZECC 2000), *Draft environmental guidelines for the utilisation of treated effluent by irrigation* (EPA 1995).

Describe management and mitigation measures

- Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.

- Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.

- Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements.

- Outline pollution control measures relating to storage of materials, possibility of accidental spills (e.g. preparation of contingency plans), appropriate disposal methods, and generation of leachate.

- Describe hydrological impact mitigation measures including:
  a) site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition)
  b) minimising runoff
  c) minimising reductions or modifications to flow regimes

d) avoiding modifications to groundwater.

- Describe groundwater impact mitigation measures including:
  a) site selection
  b) retention of native vegetation and revegetation
  c) artificial recharge
  d) providing surface storages with impervious linings
  e) monitoring program.

- Describe geomorphological impact mitigation measures including:
  a) site selection
  b) erosion and sediment controls
  c) minimising instream works
  d) treating existing accelerated erosion and deposition
  e) monitoring program.

- Any proposed monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DEC 2007).

5. Soils and contamination

Describe baseline conditions

- Provide any details (in addition to those provided in the location description in Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.

Assess impacts

- Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:
  a) disturbing any existing contaminated soil
  b) contamination of soil by operation of the activity
  c) subsidence or instability
  d) soil erosion
  e) disturbing acid sulfate or potential acid sulfate soils.

- Reference should be made to relevant guidelines e.g. *Contaminated sites – guidelines for consultants reporting on contaminated sites* (EPA 1997)*; Contaminated sites – guidelines on significant risk of harm and duty to report* (EPA 1999).

Describe management and mitigation measures

- Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:
  a) erosion and sediment control measures
  b) proposals for site remediation – see *Managing land contamination, planning guidelines SEPP 55 – remediation of land* (Department of Urban Affairs and Planning and EPA 1998)
  c) proposals for the management of these soils – see *Assessing and managing acid sulfate soils* (EPA 1995) (note that this is the only methodology accepted by DECC).

6. Waste and chemicals

Describe baseline conditions

- Describe any existing waste or chemicals operations related to the proposal.

Assess impacts

- Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.

- Reference should be made to relevant guidelines e.g. *Waste Classification Guidelines* (DECC 2008)

Describe management and mitigation measures

- Outline measures to minimise the consumption of natural resources.
- Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.
- Outline measures to support any approved regional or industry waste plans.

7. Cumulative impacts

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.
- Assess the impact of the proposal against the long-term air, noise and water quality objectives for the area or region.
- Identify infrastructure requirements flowing from the proposal (e.g. water and sewerage services, transport infrastructure upgrades).
- Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (e.g. travel demand management strategies).

F List of approvals and licences

- Identify all approvals and licences required under environment protection legislation, including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).

G Compilation of mitigation measures

- Outline how the proposal and its environment protection measures would be implemented and managed in an integrated manner to demonstrate that the proposal is capable of complying with statutory obligations under DECC licences or approvals (e.g. outline of an environmental management plan).
- The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.

H Justification for the proposal

- Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.

Appendix 4: Supporting documentation required when applying for an environment protection licence

PREMISES-BASED ACTIVITIES

You must supply the following information, **where applicable**, with your licence application for scheduled development work, scheduled activity and/or non-scheduled activity likely to cause water pollution.

The activity - general information

- Environmental Impact Statement or statement of environmental effects
- Species impact statement
- Waste strategy in force under the *Waste Avoidance and Resource Recovery Act 2001*
- Development consent
- A detailed description of:
  a) the current and/or proposed activity (including commencement and completion dates of all stages of development work)
  b) the production process (if any), including the types of materials used (that is, all solid, liquid and gas inputs), any reuse of recycled materials, and the nature of the finished product and all intermediates. Include a flow diagram of the process, showing all emission and/or discharge points for pollutants, raw material stockpiles and raw material input points; add a piping and instrument diagram where appropriate.
  c) the finished product (if any) (tonnes/year), and capacity (tonnes/year)
  d) all pollutants (air, water, noise) and waste products that will be generated, discharged and/or emitted
  e) the proposed treatment, mitigation, and/or disposal methods for pollutants, including any discharges after treatment and/or mitigation and disposal
  f) all pollution control equipment.

Discharge of pollutants to air

- For pollutants to be emitted or discharged, both before and after treatment:
  a) composition of flue gases on a dry basis
  b) moisture content in flue gases
  c) volumetric flow rate (cubic metres per hour) corrected to 0^{o}C and 101.3 kilopascals
  d) temperature of flue gases
  e) pollutant concentrations (parts per million) and mass emission rate (grams per second)
  f) exit velocity of flue gases from each discharge point
  g) concentrations and size ranges of particulate matter
  h) dispersion modelling for pollutants (including odours) used in determining chimney heights. Include all assumptions, air quality criteria and background ambient levels used.
- A detailed assessment of fugitive emissions from the activity on the premises, including location of fugitive emissions, source of emissions, and mitigation measures for these emissions.

Discharge of pollutants to water

- A full justification for any proposed discharges. This must include a description of best management practices and cleaner production techniques to be used, and an assessment of what wastewater can be beneficially reused in preference to being discharged to waters.
- Plans and cross-sectional drawings of proposed works, including inlet and outlet points, baffles or other works to be installed at the discharge point.
- A longitudinal-section drawing along the outfall drainpipe or diffuser for the disposal of effluent to waters.
- A schematic flow diagram of the treatment and disposal process proposed, including a piping and instrument diagram where appropriate.

- The average flow rate (kilolitres per day) of liquid to be discharged/irrigated from the proposed discharge point.
- The maximum flow rate (kilolitres per day) of liquid to be discharged/irrigated from the proposed discharge point.
- Proposed methods for measuring flow rates to be discharged/irrigated, and details of major items of equipment (for example aerators, diffusers, sprinkler types, pumps).
- The location of proposed monitoring points.
- A detailed description of the concentration of pollutants both before and after treatment, in terms of the following characteristics:
  a) temperature
  b) pH
  c) biological oxygen demand (BOD)
  d) total suspended solids
  e) faecal coliforms
  f) metals
  g) radioactivity
  h) oil, grease and floating solids
  i) infectious or contagious materials
  j) nutrient content
  k) salinity
  l) any prescribed matter for the definition of water pollution.
- The description must take into consideration the characteristics and hydrology of the receiving waters. Consideration must also be given to the cumulative effects of a number of pollutants.

Discharge of pollutants to land

- Soil and land characteristics:
  a) type and description
  b) permeability, infiltration and percolation potential
  c) soil profile: strata type at each depth
  d) types of vegetation or crops
  e) subsoil nutrient and salinity status.
- Topography:
  a) ground slope
  b) description of adjacent land
  c) erosion potential
  d) flood potential.
- Climate:
  a) precipitation analysis (monthly distribution)
  b) storm intensities
  c) evapotranspiration (monthly distribution)
  d) prevailing wind.
- Ground water:
  a) depth to ground water
  b) location of existing wells:
  c) on site, and/or
  d) adjacent to site
  e) current use of ground water
  f) whether the site is a groundwater recharge area
  g) groundwater chemistry and hydrology.
- Surface waters:
  a) proximity
  b) current use
  c) flow characteristics.
- Proximity to dwellings and roads.
- Irrigation system:
  a) a schematic diagram of the system controls, including pipes, pumps, valves, timers and alarms
  b) description of the type of irrigation system: flood, spray, trickle or furrow.
- A hydraulic water balance, including calculations.

See *Environmental guidelines: Use of effluent by irrigation* (DEC 2004) available at www.environment.nsw.gov.au/water/effluent.htm

Generation, treatment, processing, reprocessing, storage and/or disposal of waste

- For licence applications relating to landfilling activities provide details of how environmental goals will be met through the benchmark techniques specified in the *Environmental guidelines: solid waste landfills* (EPA 1996), or provide a comprehensive environmental management plan.

See also *Draft environmental guidelines for industrial waste landfilling* (EPA 1998) available at www.environment.nsw.gov.au/waste/envguidlns.htm

- For putrescible landfills where the application is for a supervisory licence, the applicant must specify the arrangements under which they have the capacity to exercise control over the waste facility with respect to:
  a) the types and volumes of waste received at the waste facility
  b) the design of the waste facility
  c) the separation, reuse, reprocessing and recycling of waste received at the facility.
- In all cases, a detailed assessment of the types and quantities of waste generated, received, treated, processed, reprocessed and/or stored at the facility and exported from the facility

See DECC's *Waste classification guidelines* (DECC 2008) available at www.environment.nsw.gov.au/waste/envguidlns.htm

Environmental outcomes

- A detailed assessment of the expected environmental goals or outcomes to be achieved in conducting the activity. This should include, at a minimum:
  a) reuse options for the wastewater
  b) pollutant emission loads on a yearly basis
  c) potential impacts on regional air quality, including odour modelling
  d) noise levels at the nearest receptors, and any mitigation measures required to ensure noise levels are within acceptable limits
  e) a 'cradle to grave' flow diagram for all waste generated by the development works and/or activity.

The assessment must refer to any relevant standard, guideline or policy that formed the basis of any environmental goal or outcome to be achieved (for example World Health Organisation Goals, Australian and New Zealand Environment and Conservation Council Guidelines, the adoption of best management technology or demonstration that it is being used).

Site contamination

- Details of any contamination present on the premises, including:
  a) the nature and extent of any contamination
  b) any actual or proposed remediation to be carried out
  c) any actual or proposed validation of the remediation carried out.

Locality and site plan

- Locality and site plan drawn to scale showing:
  a) contours
  b) existing and proposed facilities, site boundaries, adjacent residential areas (existing and proposed development), and other noise-sensitive areas such as schools, hospitals and aged-care centres
  c) nearest affected or isolated residences within the area likely to be affected by the activity
  d) other adjoining premises (commercial and/or industrial)
  e) all sensitive ecological receivers, including nearby creeks and wetlands.

Auditing compliance

- Proposed means of auditing compliance with licence conditions.

NON-PREMISES-BASED ACTIVITIES – MOBILE WASTE PROCESSOR

You must supply the following information, **where applicable**, with your licence application for scheduled development work, scheduled activity and/or non-scheduled activity likely to cause water pollution. You must supply the following information with your licence application for mobile waste processing.

- A detailed assessment of the expected environmental goals or outcomes to be achieved in conducting the activity. This should include at a minimum, where applicable:
  a) details of potential discharges and the reuse options for the waste water
  b) pollutant emission loads on a yearly basis
  c) potential impacts on regional air quality, including odour modelling
  d) noise levels at the nearest receptors, and any mitigation measures required to ensure noise levels are within acceptable limits
  e) a ‘cradle to grave’ flow diagram for all waste products resulting from the development works and/or activity.

The assessment must refer to any relevant standard, guideline or policy that formed the basis of any environmental goal or outcome to be achieved (for example World Health Organisation Goals, Australian and New Zealand Environment and Conservation Council Guidelines, the adoption of best management technology or the demonstration that it is being used).

Appendix 5: Fee-based activity classifications and assessable pollutants

The following information is extracted directly from Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009 as at June 2009. This schedule is amended from time to time.

For the current version of the schedule, visit DECC's legislation web page at www.environment.nsw.gov.au/legislation/legislation.htm.

Schedule 1 Licensing fees

(Clauses 3, 4, 10, 14, 16, 17, 18 and 39)

AGRICULTURAL PROCESSING

Dairy processing (see clause 2 (1) of Schedule 1 to the Act)

1 Units of measure: megalitres

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 30,000 megalitres	5
More than 30,000 but not more than 100,000 megalitres	15
More than 100,000 megalitres	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

General agricultural processing (see clause 2 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	15
More than 100,000 but not more than 250,000 tonnes	50
More than 250,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

AGRICULTURAL PROCESSING

Grape processing (see clause 2 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	15
More than 100,000 but not more than 250,000 tonnes	50
More than 250,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

AQUACULTURE AND MARICULTURE

Aquaculture and mariculture (see clause 3 (1) of Schedule 1 to the Act)

1 Units of measure: megalitres

2 Administrative fee

Annual volume of discharge	Administrative fee units
Not more than 2,000 megalitres	5
More than 2,000 but not more than 20,000 megalitres	15
More than 20,000 megalitres	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

BREWING AND DISTILLING

Brewing and distilling (see clause 5 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	5
More than 10,000 but not more than 20,000 tonnes	50
More than 20,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CEMENT OR LIME WORKS

Cement or lime handling (see clause 6 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual handling capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	8
More than 100,000 but not more than 500,000 tonnes	25
More than 500,000 but not more than 2,000,000 tonnes	65
More than 2,000,000 tonnes	165

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Cement or lime production (see clause 6 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	65

CEMENT OR LIME WORKS

More than 100,000 but not more than 250,000 tonnes	165
More than 250,000 but not more than 500,000 tonnes	300
More than 500,000 tonnes	420

3 Load-based fee (but only if the annual production capacity exceeds 30,000 tonnes)

Air pollutants	**Threshold factor**
Coarse particulates	0.1
Fine particulates	0.28
Lead	0.00061
Mercury	0.00054
Nitrogen oxides and nitrogen oxides (summer)	3.2
Sulfur oxides	0.16
Water pollutants	**Threshold factor**
Nil	Not applicable

CERAMIC WORKS

Ceramic waste generation (see clause 7 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee (but only if the activity is a scheduled activity under clause 7 (2) of Schedule 1 to the Act)

Annual volume of waste generated or stored	**Administrative fee units**
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CERAMIC WORKS

Ceramics production (see clause 7 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 15,000 tonnes	8
More than 15,000 but not more than 50,000 tonnes	25
More than 50,000 but not more than 200,000 tonnes	65
More than 200,000 tonnes	165

3 Load-based fee (but only if the annual production capacity exceeds 15,000 tonnes)

Air pollutants	Threshold factor
Coarse particulates	0.085
Fine particulates	0.11
Fluoride	0.12
Nitrogen oxides and nitrogen oxides (summer)	0.22
Sulfur oxides	0.53
Water pollutants	**Threshold factor**
Nil	Not applicable

Glass production (see clause 7 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual melting capacity	Administrative fee units
Not more than 15,000 tonnes	8
More than 15,000 but not more than 30,000 tonnes	25
More than 30,000 but not more than 100,000 tonnes	65
More than 100,000 tonnes	165

CERAMIC WORKS

3 Load-based fee (but only if the annual melting capacity exceeds 15,000 tonnes)

Production of container glass

Air pollutants	**Threshold factor**
Arsenic	0.00028
Coarse particulates	0.05
Fine particulates	0.05
Lead	0.0018
Nitrogen oxides and nitrogen oxides (summer)	4.02
Sulfur oxides	3.12
Water pollutants	**Threshold factor**
Nil	Not applicable

Production of float glass

Air pollutants	**Threshold factor**
Coarse particulates	0.11
Fine particulates	0.11
Nitrogen oxides and nitrogen oxides (summer)	2.00
Sulfur oxides	3.64
Water pollutants	**Threshold factor**
Nil	Not applicable

Production of other glass

Air pollutants	**Threshold factor**
Coarse particulates	2.75
Fine particulates	2.75
Nitrogen oxides and nitrogen oxides (summer)	4.29
Sulfur oxides	4.16
Water pollutants	**Threshold factor**
Nil	Not applicable

CHEMICAL PRODUCTION

Agricultural fertiliser (inorganic) production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 50,000 tonnes	25
More than 50,000 but not more than 100,000 tonnes	65
More than 100,000 tonnes	165

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Agricultural fertiliser (phosphate) production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 50,000 tonnes	25
More than 50,000 but not more than 100,000 tonnes	65
More than 100,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Coarse particulates	0.022
Fine particulates	0.13
Fluoride	1.1
Water pollutants	**Threshold factor**
Total phosphorus	0.002

CHEMICAL PRODUCTION

Ammonium nitrate production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 50,000 tonnes	25
More than 50,000 but not more than 100,000 tonnes	65
More than 100,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Coarse particulates	0.77
Fine particulates	0.33
Nitrogen oxides and nitrogen oxides (summer)	1.5
Water pollutants	**Threshold factor**
Total nitrogen	0.11

Battery production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 500 tonnes	15
More than 500 but not more than 1,500 tonnes	50
More than 1,500 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Carbon black production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 5,000 tonnes	25
More than 5,000 but not more than 20,000 tonnes	65

CHEMICAL PRODUCTION

More than 20,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Benzo(a)pyrene	0.005
Fine particulates	0.3
Nitrogen oxides and nitrogen oxides (summer)	11.0
Sulfur oxides	8.0
VOCs and VOCs (summer)	0.4

Water pollutants	**Threshold factor**
Nil	Not applicable

Chemical production waste generation (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Annual volume of waste generated or stored	**Administrative fee units**
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Dangerous goods production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 10,000 tonnes	15
More than 10,000 but not more than 25,000 tonnes	50
More than 25,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CHEMICAL PRODUCTION

Explosives production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,000 tonnes	15
More than 2,000 but not more than 10,000 tonnes	50
More than 10,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Paints/polishes/adhesives production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 5,000 tonnes	25
More than 5,000 but not more than 15,000 tonnes	65
More than 15,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Benzene	0.015
Fine particulates	0.035
Nitrogen oxides and nitrogen oxides (summer)	0.068
VOCs and VOCs (summer)	2.1
Water pollutants	**Threshold factor**
Nil	Not applicable

CHEMICAL PRODUCTION

Pesticides and related products production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,000 tonnes	15
More than 2,000 but not more than 10,000 tonnes	50
More than 10,000 but not more than 30,000 tonnes	135
More than 30,000 tonnes	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Pesticides and related products (toxic substances) production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,000 tonnes	15
More than 2,000 but not more than 10,000 tonnes	50
More than 10,000 but not more than 30,000 tonnes	135
More than 30,000 tonnes	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Petrochemical production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	25
More than 10,000 but not more than 30,000 tonnes	65
More than 30,000 but not more than 100,000 tonnes	165
More than 100,000 but not more than 200,000 tonnes	300

CHEMICAL PRODUCTION

More than 200,000 tonnes	420

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Benzene	0.25
Fine particulates	0.02
Nitrogen oxides and nitrogen oxides (summer)	0.96
VOCs and VOCs (summer)	0.5
Water pollutants	**Threshold factor**
Nil	Not applicable

Pharmaceutical and veterinary products production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 2,000 tonnes	15
More than 2,000 but not more than 5,000 tonnes	50
More than 5,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Plastic resins production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 2,000 tonnes	25
More than 2,000 but not more than 10,000 tonnes	65
More than 10,000 tonnes	165

CHEMICAL PRODUCTION

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Benzene	0.00073
Fine particulates	0.041
Nitrogen oxides and nitrogen oxides (summer)	0.092
VOCs and VOCs (summer)	8.5
Water pollutants	**Threshold factor**
Nil	Not applicable

Plastics reprocessing (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual reprocessing capacity	**Administrative fee units**
Not more than 5,000 tonnes	25
More than 5,000 but not more than 10,000 tonnes	65
More than 10,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 8 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Benzene	0.00073
Fine particulates	0.041
Nitrogen oxides and nitrogen oxides (summer)	0.092
VOCs and VOCs (summer)	8.5
Water pollutants	**Threshold factor**
Nil	Not applicable

CHEMICAL PRODUCTION

Rubber products/tyres production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 5,000 tonnes	50
More than 5,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Soap and detergents production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,500 tonnes	15
More than 2,500 but not more than 5,000 tonnes	50
More than 5,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Soap and detergents (toxic substances) production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,500 tonnes	15
More than 2,500 but not more than 5,000 tonnes	50
More than 5,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CHEMICAL PRODUCTION

Synthetic rubber production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 2,000 tonnes	15
More than 2,000 but not more than 5,000 tonnes	50
More than 5,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Toxic substance production (see clause 8 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	15
More than 10,000 but not more than 25,000 tonnes	50
More than 25,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CHEMICAL STORAGE

Chemical storage waste generation (see clause 9 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee (but only if the activity is a scheduled activity under clause 9 (2) of Schedule 1 to the Act)

Annual volume of waste generated or stored	Administrative fee units
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

CHEMICAL STORAGE

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

General chemicals storage (see clause 9 (1) of Schedule 1 to the Act)

1 Units of measure: kilolitres

2 Administrative fee

Storage capacity	Administrative fee units
Not more than 5,000 kilolitres	8
More than 5,000 but not more than 100,000 kilolitres	25
More than 100,000 kilolitres	65

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Petroleum products storage (see clause 9 (1) of Schedule 1 to the Act)

1 Units of measure: kilolitres

2 Administrative fee

Storage capacity	Administrative fee units
Not more than 5,000 kilolitres	8
More than 5,000 but not more than 100,000 kilolitres	25
More than 100,000 kilolitres	65

3 Load-based fee (but only if the activity is a scheduled activity under clause 9 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Benzene	0.0005
VOCs and VOCs (summer)	0.05
Water pollutants	**Threshold factor**
Nil	Not applicable

COAL WORKS

Coal works (see clause 10 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual handling capacity	Administrative fee units
Not more than 2,000,000 tonnes	50
More than 2,000,000 but not more than 5,000,000 tonnes	135
More than 5,000,000 tonnes	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

COKE PRODUCTION

Coke production (see clause 11 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual handling capacity	Administrative fee units
Not more than 100,000 tonnes	65
More than 100,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 11 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.00085
Benzene	0.028
Benzo(a)pyrene (equivalent)	0.00003
Coarse particulates	0.22
Fine particulates	0.3
Hydrogen sulfide	0.002
Lead	0.0021
Mercury	0.0022

COKE PRODUCTION	
Nitrogen oxides and nitrogen oxides (summer)	0.03
Sulfur oxides	0.4
VOCs and VOCs (summer)	0.015
Water pollutants	**Threshold factor**
Oil and grease	0.011
Suspended solids	0.13
Total PAHs	0.000032
Total phenolics	0.000032

COMPOSTING

Composting (see clause 12 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity to receive organics	Administrative fee units
Not more than 5,000 tonnes	5
More than 5,000 but not more than 50,000 tonnes	15
More than 50,000 tonnes	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CONCRETE WORKS

Concrete works (see clause 13 (1) of Schedule 1 to the Act)

1 Units of measure: cubic metres

2 Administrative fee

Annual capacity to receive organics	Administrative fee units
Not more than 13,000 cubic metres	5
More than 13,000 but not more than 25,000 cubic metres	15
More than 25,000 but not more than 50,000 cubic metres	50
More than 50,000 cubic metres	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CONTAINER RECONDITIONING

Container reconditioning (see clause 14 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity to recondition, recover, treat or store	Administrative fee units
Any capacity	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CONTAMINATED SOIL TREATMENT

Contaminated soil treatment (see clause 15 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual handling capacity	Administrative fee units
Any capacity	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CONTAMINATED GROUNDWATER TREATMENT

Contaminated groundwater treatment (see clause 15A (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual handling capacity	Administrative fee units
Any capacity	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

CRUSHING, GRINDING OR SEPARATING

Crushing, grinding or separating (see clause 16 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	15
More than 100,000 but not more than 500,000 tonnes	50
More than 500,000 but not more than 2,000,000 tonnes	135

CRUSHING, GRINDING OR SEPARATING

More than 2,000,000 tonnes	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

ELECTRICITY GENERATION

Electricity generation (see clause 17 (1) of Schedule 1 to the Act)

1 Units of measure: gigawatt-hours

2 Administrative fee

Annual generating capacity	**Administrative fee units**
Not more than 450 gigawatt-hours	25
More than 450 but not more than 1,000 gigawatt-hours	65
More than 1,000 but not more than 4,000 gigawatt-hours	165
More than 4,000 gigawatt-hours	420

3 Load-based fee (but only if the annual generating capacity exceeds 250 gigawatt-hours)

Generation of electrical power from coal

Air pollutants	**Threshold factor**
Arsenic	0.0037
Benzo(a)pyrene (equivalent)	0.00066
Coarse particulates	80.0
Fine particulates	54.0
Fluoride	14.0
Lead	0.019
Mercury	0.0042
Nitrogen oxides and nitrogen oxides (summer)	2,700
Sulfur oxides	5,300
Water pollutants	**Threshold factor**
Salt	3.6

ELECTRICITY GENERATION	
Selenium	0.025
Suspended solids	0.18
Generation of electrical power from diesel	
Air pollutants	**Threshold factor**
Benzo(a)pyrene (equivalent)	0.0036
Fine particulates	54.0
Nitrogen oxides and nitrogen oxides (summer)	2,700
Sulfur oxides	2,650
VOCs and VOCs (summer)	76.0
Water pollutants	**Threshold factor**
Nil	Not applicable
Generation of electrical power from gas	
Air pollutants	**Threshold factor**
Nitrogen oxides and nitrogen oxides (summer)	1,655
Water pollutants	**Threshold factor**
Salt	0.0029
Suspended solids	0.066
Generation of electrical power otherwise than from coal, diesel or gas (there are no assessable pollutants and therefore no load-based fee in relation to this activity)	

ENERGY RECOVERY

Energy recovery from general waste (see clause 18 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	65

3 Load-based fee (but only if the activity is a scheduled activity under clause 18 of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.00005
Benzene	0.0000011
Benzo(a)pyrene	0.00002
Fine particulates	0.7
Lead	0.035
Mercury	0.003
Nitrogen oxides and nitrogen oxides (summer)	2.5
Sulfur oxides	0.07
Water pollutants	**Threshold factor**
Nil	Not applicable

Energy recovery from hazardous and other waste (see clause 18 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	65

3 Load-based fee (but only if the activity is a scheduled activity under clause 18 of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.00005
Benzene	0.0000011

ENERGY RECOVERY

Benzo(a)pyrene	0.00002
Fine particulates	0.7
Lead	0.035
Mercury	0.003
Nitrogen oxides and nitrogen oxides (summer)	2.5
Sulfur oxides	0.07
Water pollutants	**Threshold factor**
Nil	Not applicable

EXTRACTIVE ACTIVITIES

Land-based extractive activity (see clause 19 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Extractive, processing or storage capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 50,000 tonnes	15
More than 50,000 but not more than 100,000 tonnes	50
More than 100,000 but not more than 500,000 tonnes	135
More than 500,000 but not more than 2,000,000 tonnes	335
More than 2,000,000 tonnes	600

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

EXTRACTIVE ACTIVITIES

Water-based extractive activity (see clause 19 (1) of Schedule 1 to the Act)

1 Units of measure: cubic metres

2 Administrative fee

Extractive capacity	Administrative fee units
Not more than 30,000 cubic metres	5
More than 30,000 but not more than 50,000 cubic metres	15
More than 50,000 but not more than 100,000 cubic metres	50
More than 100,000 but not more than 500,000 cubic metres	135
More than 500,000 but not more than 2,000,000 cubic metres	335
More than 2,000,000 cubic metres	600

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

HELICOPTER-RELATED ACTIVITIES

Helicopter-related activity (see clause 20 (1) of Schedule 1 to the Act)

1 Units of measure: flights

2 Administrative fee

Annual flight movement capacity	Administrative fee units
Not more than 1,500 flights	5
More than 1,500 but not more than 5,000 flights	15
More than 5,000 flights	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

IRRIGATED AGRICULTURE

Irrigated agriculture (see clause 21 (1) of Schedule 1 to the Act)

1 Units of measure: hectares

2 Administrative fee

Total area of existing area of operations of irrigation corporation	Administrative fee units
Not more than 10,000 hectares	15
More than 10,000 but not more than 100,000 hectares	50
More than 100,000 hectares	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LIVESTOCK INTENSIVE ACTIVITIES

Animal accommodation (see clause 22 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Live weight capacity to accommodate	Administrative fee units
Not more than 25,000 tonnes	5
More than 25,000 but not more than 60,000 tonnes	15
More than 60,000 tonnes	50

Note. Live weight capacity is to be calculated either by using the actual live weight or estimating live weight on the basis that 1 tonne live weight equals 2 cattle, 2 horses, 5 breeding sows, 5 deer, 11 bacon pigs, 13 kangaroos, 17 emus, 17 porker or finisher pigs or 22 sheep.

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LIVESTOCK INTENSIVE ACTIVITIES

Bird accommodation (see clause 22 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Live weight capacity to accommodate	Administrative fee units
Not more than 375 tonnes	5
More than 375 but not more than 1,000 tonnes	15
More than 1,000 tonnes	50

Note. Live weight capacity is to be calculated either by using the actual live weight or estimating live weight on the basis that 1 tonne live weight equals 17 emus, 110 turkeys, 165 geese, 310 ducks, 555 layer chickens or 1,100 broiler chickens.

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Cattle, sheep or horse accommodation (see clause 22 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Live weight capacity to accommodate	Administrative fee units
Not more than 500 tonnes	5
More than 500 but not more than 2,500 tonnes	15
More than 2,500 tonnes	50

Note. Live weight capacity is to be calculated either by using the actual live weight or estimating live weight on the basis that 1 tonne live weight equals 2 cattle, 2 horses or 22 sheep.

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LIVESTOCK INTENSIVE ACTIVITIES

Dairy animal accommodation (see clause 22 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Live weight capacity to accommodate	Administrative fee units
Not more than 500 tonnes	5
More than 500 but not more than 1,000 tonnes	15
More than 1,000 tonnes	50

Note. Live weight capacity is to be calculated either by using the actual live weight or estimating live weight on the basis that 1 tonne live weight equals 1.6 milking cows or 13 other dairy animals.

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Pig accommodation (see clause 22 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Live weight capacity to accommodate	Administrative fee units
Not more than 250 tonnes	5
More than 250 but not more than 500 tonnes	15
More than 500 tonnes	50

Note. Live weight capacity is to be calculated either by using the actual live weight or estimating live weight on the basis that 1 tonne live weight equals 5 breeding sows, 11 bacon pigs, 17 porker or finisher pigs, 31 grower pigs or 62 weaner pigs.

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LIVESTOCK PROCESSING ACTIVITIES

General animal products production (see clause 23 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 100,000 tonnes	5
More than 100,000 tonnes	15

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Greasy wool or fleece processing (see clause 23 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual processing capacity	Administrative fee units
Any capacity	5

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Rendering or fat extraction (see clause 23 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 4,000 tonnes	5
More than 4,000 tonnes	15

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LIVESTOCK PROCESSING ACTIVITIES

Slaughtering or processing animals (see clause 23 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 tonnes	15

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Tanneries or fellmongeries (see clause 23 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 10,000 tonnes	5
More than 10,000 tonnes	15

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

LOGGING OPERATIONS

Logging operations (see clause 24 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	920

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MARINAS AND BOAT REPAIRS

Boat construction/maintenance (dry/floating docks) (see clause 25 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual handling capacity	Administrative fee units
Any capacity	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Boat construction/maintenance (general) (see clause 25 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual handling capacity	Administrative fee units
Any capacity	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Boat mooring and storage (see clause 25 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual handling capacity	Administrative fee units
Any capacity	15

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

METALLURGICAL ACTIVITIES

Aluminium production (alumina) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Any capacity	420

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Coarse particulates	0.75
Fine particulates	0.96
Fluoride	0.75
Lead	0.00011
Nitrogen oxides and nitrogen oxides (summer)	0.2
Sulfur oxides	20
Water pollutants	**Threshold factor**
Nil	Not applicable

Aluminium production (scrap metal) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	65
More than 10,000 tonnes	165

METALLURGICAL ACTIVITIES

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Coarse particulates	0.048
Fine particulates	0.066
Fluoride	0.056
Nitrogen oxides and nitrogen oxides (summer)	0.74
Sulfur oxides	0.46
VOCs and VOCs (summer)	0.68
Water pollutants	**Threshold factor**
Nil	Not applicable

Iron or steel production (iron ore) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	**Administrative fee units**
Any capacity	2,650

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Arsenic	0.000014
Benzene	0.0011
Benzo(a)pyrene (equivalent)	0.003
Coarse particulates	0.47
Fine particulates	0.38
Hydrogen sulfide	0.018
Lead	0.0014
Mercury	0.000041
Nitrogen oxides and nitrogen oxides (summer)	3.81
Sulfur oxides	6.6

METALLURGICAL ACTIVITIES

VOCs and VOCs (summer)	7
Water pollutants	**Threshold factor**
Arsenic	0.0091
Cadmium	0.0018
Chromium	0.0054
Copper	0.0036
Lead	0.0018
Mercury	0.000091
Oil and grease	0.015
Selenium	0.00091
Suspended solids	0.24
Zinc	0.0091

Iron or steel production (scrap metal) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 10,000 tonnes	65
More than 10,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Arsenic	0.000057
Coarse particulates	0.085
Fine particulates	0.33
Lead	0.00024
Mercury	0.00013
Nitrogen oxides and nitrogen oxides (summer)	0.12
Sulfur oxides	0.5

METALLURGICAL ACTIVITIES

VOCs and VOCs (summer)	0.09
Water pollutants	**Threshold factor**
Nil	Not applicable

Metal coating (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity to coat metal	Administrative fee units
Not more than 100,000 tonnes	15
More than 100,000 but not more than 1,000,000 tonnes	50
More than 1,000,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Metal processing (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 100,000 tonnes	15
More than 100,000 but not more than 500,000 tonnes	50
More than 500,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Metal waste generation (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Annual volume of waste generated or stored	Administrative fee units
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

METALLURGICAL ACTIVITIES

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Non-ferrous metal production (ore concentrates) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Any capacity	660

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.03
Coarse particulates	0.33
Fine particulates	0.49
Lead	0.06
Mercury	0.03
Sulfur oxides	230

Water pollutants	Threshold factor
Arsenic	0.0003
Cadmium	0.0003
Chromium	0.0003
Copper	0.0026
Lead	0.03
Mercury	0.0003
Selenium	0.0003
Suspended solids	0.78
Zinc	0.02

METALLURGICAL ACTIVITIES

Non-ferrous metal production (scrap metal) (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	65
More than 10,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 26 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Coarse particulates	0.011
Fine particulates	0.033
Lead	0.002
Nitrogen oxides and nitrogen oxides (summer)	0.37
Sulfur oxides	0.99
VOCs and VOCs (summer)	0.11

Water pollutants	Threshold factor
Nil	Not applicable

Scrap metal processing (see clause 26 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 100,000 tonnes	15
More than 100,000 but not more than 500,000 tonnes	50
More than 500,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MINERAL PROCESSING

Mineral processing (see clause 27 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 30,000 tonnes	5
More than 30,000 but not more than 100,000 tonnes	15
More than 100,000 but not more than 500,000 tonnes	50
More than 500,000 but not more than 2,000,000 tonnes	135
More than 2,000,000 tonnes	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Mineral waste generation (see clause 27 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee (but only if the activity is a scheduled activity under clause 27 (2) of Schedule 1 to the Act)

Annual volume of waste generated or stored	Administrative fee units
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MINING FOR COAL

Mining for coal (see clause 28 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 500,000 tonnes	50
More than 500,000 but not more than 2,000,000 tonnes	135
More than 2,000,000 but not more than 3,500,000 tonnes	335
More than 3,500,000 but not more than 5,000,000 tonnes	600
More than 5,000,000 tonnes	850

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MINING FOR MINERALS

Mining for minerals (see clause 29 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 30,000 tonnes	5
More than 30,000 but not more than 50,000 tonnes	15
More than 50,000 but not more than 100,000 tonnes	50
More than 100,000 but not more than 500,000 tonnes	135
More than 500,000 but not more than 2,000,000 tonnes	335
More than 2,000,000 but not more than 5,000,000 tonnes	600
More than 5,000,000 tonnes	850

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

PAPER OR PULP PRODUCTION

Paper or pulp production (see clause 30 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 150,000 tonnes	65
More than 150,000 tonnes	165

3 Load-based fee (but only if the activity is a scheduled activity under clause 30 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Coarse particulates	0.026
Fine particulates	0.075
Nitrogen oxides and nitrogen oxides (summer)	1.53
Water pollutants	**Threshold factor**
BOD	0.41
Salt	3.0
Suspended solids	0.57
Total nitrogen	0.078
Total phosphorus	0.001
Zinc	0.0013

Paper or pulp waste generation (see clause 30 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual volume of waste generated or stored	Administrative fee units
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

PETROLEUM AND FUEL PRODUCTION

Crude oil/shale oil production (see clause 31 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	**Administrative fee units**
Not more than 10,000 tonnes	25
More than 10,000 but not more than 200,000 tonnes	65
More than 200,000 but not more than 500,000 tonnes	165
More than 500,000 tonnes	660

3 Load-based fee (but only if the activity is a scheduled activity under clause 31 (2) of Schedule 1 to the Act)

Air pollutants	**Threshold factor**
Benzene	0.004
Benzo(a)pyrene (equivalent)	0.005
Fine particulates	0.2
Hydrogen sulfide	0.031
Nitrogen oxides and nitrogen oxides (summer)	0.5
Sulfur oxides	0.6
VOCs and VOCs (summer)	0.4
Water pollutants	**Threshold factor**
BOD	0.14
Oil and grease	0.12
Suspended solids	0.36
Total PAHs	0.07
Total phenolics	0.27

PETROLEUM AND FUEL PRODUCTION

Natural gas/methane production (see clause 31 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	25
More than 10,000 but not more than 200,000 tonnes	65
More than 200,000 but not more than 500,000 tonnes	165
More than 500,000 tonnes	660

3 Load-based fee (but only if the activity is a scheduled activity under clause 31 (2) of Schedule 1 to the Act)

Air pollutants	Threshold factor
Benzene	0.004
Benzo(a)pyrene (equivalent)	0.005
Fine particulates	0.2
Hydrogen sulfide	0.031
Nitrogen oxides and nitrogen oxides (summer)	0.5
Sulfur oxides	0.6
VOCs and VOCs (summer)	0.4
Water pollutants	**Threshold factor**
BOD	0.14
Oil and grease	0.12
Suspended solids	0.36
Total PAHs	0.07
Total phenolics	0.27

PETROLEUM AND FUEL PRODUCTION

Petroleum products and fuel production (see clause 31 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual production capacity	Administrative fee units
Not more than 10,000 tonnes	25
More than 10,000 but not more than 200,000 tonnes	65
More than 200,000 but not more than 500,000 tonnes	165
More than 500,000 tonnes	660

3 Load-based fee (but only if the activity is a scheduled activity under clause 31 (2) of Schedule 1 to the Act and has an annual production capacity of more than 10,000 tonnes)

Air pollutants	Threshold factor
Arsenic	0.000011
Benzene	0.0004
Benzo(a)pyrene (equivalent)	0.000002
Fine particulates	0.039
Hydrogen sulfide	0.002
Lead	0.000059
Mercury	0.000011
Nitrogen oxides and nitrogen oxides (summer)	0.33
Sulfur oxides	0.44
VOCs and VOCs (summer)	0.4
Water pollutants	**Threshold factor**
BOD	0.0034
Oil and grease	0.0015
Suspended solids	0.0052
Total PAHs	0.000005
Total phenolics	0.00011

PRINTING, PACKAGING AND VISUAL COMMUNICATIONS

Printing, packaging and visual communications waste generation (see clause 32 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual volume of waste generated or stored	Administrative fee units
More than 5 but not more than 100 tonnes	8
More than 100 tonnes	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

RAILWAY SYSTEMS ACTIVITIES

Railway systems activities (see clause 33 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	50

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

RESOURCE RECOVERY

Recovery of general waste (see clause 34 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of material recovered	Administrative fee units
General waste	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

RESOURCE RECOVERY

Recovery of hazardous and other waste (see clause 34 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of material recovered	Administrative fee units
Hazardous and other waste	32

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Recovery of waste oil (see clause 34 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual recovery capacity	Administrative fee units
Not more than 1,000 tonnes	25
More than 1,000 tonnes	65

3 Load-based fee (but only if the annual capacity exceeds 20,000 tonnes)

Air pollutants	Threshold factor
Lead	0.2
VOCs and VOCs (summer)	0.05
Water pollutants	**Threshold factor**
Oil and grease	4.8

Recovery of waste tyres (see clause 34 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of material recovered	Administrative fee units
Waste tyres	12

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

ROAD CONSTRUCTION

Road construction (see clause 35 (1) of Schedule 1 to the Act)

1 Units of measure: kilometres

2 Administrative fee

Design length of road to be constructed, widened or re-routed	Administrative fee units
Not more than 10 kilometres	50
More than 10 but not more than 30 kilometres	135
More than 30 kilometres	335

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

SEWAGE TREATMENT

Sewage treatment (see clause 36 (1) of Schedule 1 to the Act)

1 Units of measure: megalitres

2 Administrative fee

Annual maximum volume of discharge	Administrative fee units
Not more than 20 megalitres	5
More than 20 but not more than 100 megalitres	8
More than 100 but not more than 1,000 megalitres	25
More than 1,000 but not more than 5,000 megalitres	65
More than 5,000 but not more than 10,000 megalitres	165
More than 10,000 but not more than 20,000 megalitres	300
More than 20,000 but not more than 30,000 megalitres	420
More than 30,000 megalitres	2,650

SEWAGE TREATMENT

3 Load-based fee (but only if the maximum annual volume of sewage that the relevant licence authorises to be discharged exceeds 219 megalitres)

Processing by small plants (up to 10,000 megalitres annual capacity)

Air pollutants	**Threshold factor**
Nil	Not applicable
Water pollutants	**Threshold factor**
BOD	10
Oil and grease	2
Suspended solids	15
Total nitrogen	10
Total phosphorus	0.3

Processing by large plants (more than 10,000 megalitres annual capacity)

Air pollutants	**Threshold factor**
Nil	Not applicable
Water pollutants	**Threshold factor**
BOD	10
Cadmium	0.00005
Chromium	0.0025
Copper	0.01
Lead	0.0005
Mercury	0.00005
Oil and grease	2
Pesticides and PCBs	0.00012
Selenium	0.0025
Suspended solids	15
Total nitrogen	10
Total phosphorus	0.3
Zinc	0.012

SHIPPING IN BULK

Shipping in bulk (see clause 37 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity to load and unload	Administrative fee units
Not more than 100,000 tonnes	15
More than 100,000 but not more than 500,000 tonnes	50
More than 500,000 tonnes	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

STERILISATION ACTIVITIES

Sterilisation activities (see clause 38 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	32

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WASTE DISPOSAL (APPLICATION TO LAND)

Waste disposal by application to land (see clause 39 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	32

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WASTE DISPOSAL (THERMAL TREATMENT)

Thermal treatment of general waste (see clause 40 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	65

3 Load-based fee (but only if the activity is a scheduled activity under clause 40 of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.00005
Benzene	0.0000011
Benzo(a)pyrene	0.00002
Fine particulates	0.7
Lead	0.035
Mercury	0.003
Nitrogen oxides and nitrogen oxides (summer)	2.5
Sulfur oxides	0.07

Water pollutants	Threshold factor
Nil	Not applicable

Thermal treatment of hazardous and other waste (see clause 40 (1) of Schedule 1 to the Act)

1 Units of measure: tonnes

2 Administrative fee

Annual capacity	Administrative fee units
Any capacity	65

3 Load-based fee (but only if the activity is a scheduled activity under clause 40 of Schedule 1 to the Act)

Air pollutants	Threshold factor
Arsenic	0.00005
Benzene	0.0000011

WASTE DISPOSAL (THERMAL TREATMENT)

Benzo(a)pyrene	0.00002
Fine particulates	0.7
Lead	0.035
Mercury	0.003
Nitrogen oxides and nitrogen oxides (summer)	2.5
Sulfur oxides	0.07
Water pollutants	**Threshold factor**
Nil	Not applicable

WASTE PROCESSING (NON-THERMAL TREATMENT)

Non-thermal treatment of general waste (see clause 41 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of waste treated	**Administrative fee units**
General waste	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Non-thermal treatment of hazardous and other waste (see clause 41 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of waste treated	**Administrative fee units**
Hazardous and other waste	32

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WASTE PROCESSING (NON-THERMAL TREATMENT)

Non-thermal treatment of waste tyres (see clause 41 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of waste treated	Administrative fee units
Waste tyres	12

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WASTE STORAGE

Waste storage (see clause 42 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of waste stored	Administrative fee units
Hazardous waste, restricted solid waste, liquid waste, clinical and related waste and asbestos waste	32
Waste tyres	12
Other types of waste	16

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WOOD OR TIMBER MILLING OR PROCESSING

Wood or timber milling or processing (see clause 43 (1) of Schedule 1 to the Act)

1 Units of measure: cubic metres

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 50,000 cubic metres	5
More than 50,000 but not more than 100,000 cubic metres	15
More than 100,000 but not more than 200,000 cubic metres	50
More than 200,000 cubic metres	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

WOOD PRESERVATION

Wood preservation (see clause 44 (1) of Schedule 1 to the Act)

1 Units of measure: cubic metres

2 Administrative fee

Annual processing capacity	Administrative fee units
Not more than 10,000 cubic metres	15
More than 10,000 but not more than 30,000 cubic metres	50
More than 30,000 cubic metres	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MOBILE WASTE PROCESSING

Mobile waste processing (see clause 47 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Type of activity	Administrative fee units
Any activity	32

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

TRANSPORT OF TRACKABLE WASTE

Transport of category 1 trackable waste (see clause 48 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity to transport	Administrative fee units
Any capacity	4

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Transport of category 2 trackable waste (see clause 48 (1) of Schedule 1 to the Act)

1 Units of measure (not applicable)

2 Administrative fee

Annual capacity to transport	Administrative fee units
Any capacity	4

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

MISCELLANEOUS WATER ACTIVITIES

Miscellaneous licensed discharge to waters (wet weather only), meaning any activity (other than a scheduled activity) in relation to which a licence to discharge pollutants to waters during or immediately following periods of wet weather (but not at any other time) has been granted under the Act

1 Units of measure: megalitres

2 Administrative fee

Maximum annual volume of discharge authorised by licence (calculated by multiplying maximum allowable daily discharge by 50)	**Administrative fee units**
Not more than 3 megalitres	5
More than 3 but not more than 15 megalitres	15
More than 15 but not more than 150 megalitres	50
More than 150 megalitres	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Miscellaneous licensed discharge to waters (at any time), meaning any activity (other than a scheduled activity) in relation to which a licence to discharge pollutants to waters has been granted under the Act

1 Units of measure: megalitres

2 Administrative fee

Maximum annual volume of discharge authorised by licence	**Administrative fee units**
Not more than 20 megalitres	5
More than 20 but not more than 100 megalitres	15
More than 100 but not more than 1,000 megalitres	50
More than 1,000 megalitres	135

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

OTHER ACTIVITIES NOT OTHERWISE LISTED

Other activities, meaning any activity (other than a scheduled activity or miscellaneous water activity)

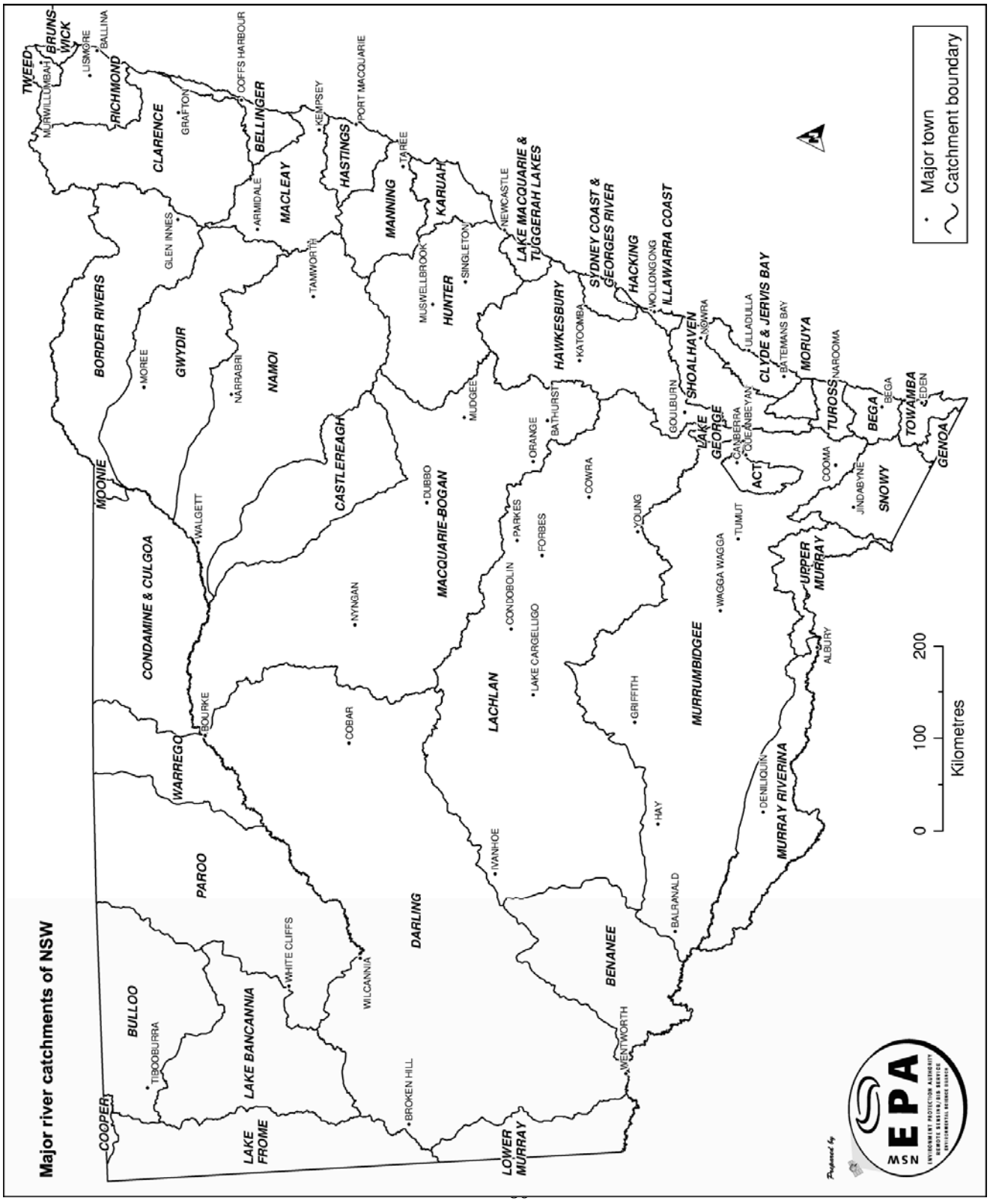
1 Units of measure (not applicable)

2 Administrative fee

Type of activity	Administrative fee units
Any activity	5

3 Load-based fee (there are no assessable pollutants and therefore no load-based fee in relation to this activity)

Appendix 6: Catchments of NSW



Appendix 7: Determining grid coordinates

Grid coordinates (easting/northing)

It is a requirement of all premises-based licence applications that the applicant supply grid coordinates for their operation. Additionally, if any activities which are carried out at the premises discharge pollutants to air, water or land, the applicant must also supply grid coordinates for all discharge points.

Grid coordinates are obtained from geographic coordinates using internationally recognised mathematical formulae to project a flat mapping grid of x and y coordinates onto the earth's surface. This grid is then broken down into more manageable sections called 'Zones'. Projected grid coordinates specify locations by recording the easting (x) and northing (y) in metres from a reference point within these zones.

The standard grid reference used in Australia is *Geocentric Datum Australia* 1994 (GDA94) and grid coordinates should be supplied in this format wherever possible. In addition to providing the actual coordinates, all applicants must also supply the Australian Map Grid (AMG) Zone and the reference system used (i.e. GDA94).

There are four AMG zones that cover NSW: 54 (western NSW), 55 (central NSW), 56 (coastal NSW) and 57 (Lord Howe Island). As these zones define what area of the state coordinates relate to, it is not possible to specify a location without a relevant zone number.

All applications for premises-based licences must be accompanied by a map showing the location and layout of the whole premises. Where pollutants are discharged to the environment, an additional map showing the location of all discharge points, clearly identified and labelled, must also be attached. When supplying location information for pollutant discharge points, it is also necessary to provide a physical description of each location.

Obtaining grid coordinates from topographic maps

The easiest way of determining the grid coordinates of a location is by reading the easting and northing from a map. As a guide, paper maps published prior to 2000 (e.g. 1st and 2nd edition Topographic maps published by the NSW Central Mapping Authority or Land Information Centre) will typically be in older *Australian Geodetic Datum 1966* (AGD66) format. Grid coordinates obtained in this format will need to be converted to the new standard of GDA94. Maps published after 2000 will conform to the GDA94 standard (e.g. 3rd Edition Series Topographic maps currently being produced by the Department of Lands).

If conversion from the older AGD66 format is required, coordinate conversion software tools can be obtained from the Geoscience Australia website at www.ga.gov.au/nmd/geodesy/datums/trans.

Obtaining grid coordinates from Global Positioning System (GPS) devices

As with using maps, the zone and grid reference format used must be known and recorded. Older GPS units may not have the option of using GDA94 and should be set at either WGS84 (a format that GPS devices use which is compatible with GDA94) or AGD66 – which requires subsequent conversion.

If you are uncertain whether the GPS unit is functioning properly, it is advisable to check the GPS reading against known points read from a topographic map such as a street corner.

Determining site references for premises

Only one grid coordinate will be submitted to reference the location of each premises-based licence. This point should therefore be representative of the licence in terms of the area of activities conducted at the location. In instances where the area of operation is large or activities are dispersed over a wide

area, it may be difficult to determine the appropriate point from which to take coordinates. Consequently, the following guidelines should be followed when determining the site reference for a licence:

- If the area of operation is homogenous, pick a point in the centre representing the activity undertaken. For example, if a sewage treatment plant irrigates effluent to an adjacent paddock with all land used for either plant or irrigation, the site reference will be at the centre of the block.

- If the area is heterogeneous, select the area that represents the major use, eliminating land with no licensed activity, determine the centre of that area of activity and take the site reference co-ordinates from the resulting point. For example, if a coal mining operation has a lease on a large 'L' shaped block of land with open cut mining activities affecting only one square section in a corner, the section of land that is not being affected by mining should be ignored. In this instance the site reference should be obtained from the centre of the smaller remaining area.

- The front gate of the premises or head office **should not** be used as the site reference unless it also happens to represent the centre of activity.

- Discharge points should not be used to form part of the area of activity for selecting the site reference, otherwise a discharge point well away from the major area of activity will result in the site reference becoming skewed from the main area of activity. Discharge points must be mapped and recorded independently from the site reference (see below).

- The extent of activity should only cover areas on the applicant's land or that are explicitly covered in the proposed licence. For example, if a licensed activity transfers effluent to a neighbouring property for disposal by irrigation then the irrigation area will not be included in the activity area used to derive the site reference.

Determining water pollutant discharge points

The grid coordinates submitted as the location of a discharge point for water pollutants should be recorded as the point at which the discharge enters the environment. The following guidelines clarify how to determine the appropriate point:

- **Direct discharge from a pipe or channel –** Generally this type of discharge point will be the end of the pipe or channel. Where this is difficult to identify due to submersion (e.g. ocean outfall), the point must be either estimated or obtained from the nearest accessible point.

- **'Wet weather discharge' from an irrigation area –** Licensed activities discharging to land (e.g. effluent re-use) do not have a discrete point of discharge. The point nominated should best represent the discharge as it enters the environment, such as the centre of a spillway from a terminal dam. In instances where discharge occurs but no dam is present, a drainage line should be chosen that represents the pollution impact from the area.

Determining air pollutant discharge points

The grid coordinates, which should be submitted as the location of a discharge point for air pollutants, follow the same rules as for water pollutants, that is, they should be recorded as the point at which the discharge enters the environment unless the discharge is diffuse. The following guidelines clarify how to determine the appropriate point:

- **Point sources** – Point source air discharges such as stacks should be recorded using the same principles as for point source water discharges, i.e. the point of discharge to the environment should be the location recorded.

- **Non-point sources** – For diffuse air discharges, such as dust, where it is not possible to determine a discrete discharge location, the diffuse nature of the discharge should be described fully in the description supplied.