
WASTE DISCHARGE CONTROLS UNDER THE CLEAN WATERS ACT

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1. INTRODUCTION

Water pollution control relating to the waters of the State of Queensland is the responsibility of the Water Quality Council, a statutory body set up under the Clean Waters Act 1971-82. This Act and its Regulations provide the statutory powers to control water pollution in Queensland.

The Act is of relatively recent origin having come into effect following its proclamation in 1973. It is an Act for the restoration preservation and enhancement of the waters of the state. Its existence can be traced to a manifest need for water pollution control in Queensland at that time. This need was demonstrated by the occurrence of anaerobic conditions in some of the state's waters, an industry survey to identify the scope and potential impact of waste discharges therefrom and an absence of simple effective legislation to enable the situation to be rectified. At that time there was a world wide clamour for water pollution control and, this was reflected by local agitation for it here in Queensland.

Within the framework of the then existing conditions, priorities were readily identified and the act framed accordingly.

2. SCOPE OF THE CLEAN WATERS ACT

The Clean Waters Act is intended to apply to the whole of the water segment of the environment - underground and surface waters, rivers, (both the bed and the banks) lakes, water storages and the sea. The Act embraces all uses of water - agriculture, irrigation, livestock, industry, public water supply, navigation, recreation, waste disposal, wildlife, fish and other aquatic life. It seeks to protect these waters and uses of water in a variety of ways, including the control of waste discharges from buildings, lands, drains, sewers, refuse tips, vehicles and vessels. The term waste is not restricted to sewage, garbage and material of no value, but includes any solid, liquid or gas which is capable of causing water pollution. The term discharge includes any escape; 'however caused or occasioned'. Provision is made for the promulgation by Regulation of water quality plans and water quality objectives which will apply to catchments or regions or, in some cases, to the whole State.

The Act is binding on all persons and bodies, including the Crown, and, subject to specific exceptions, its provisions prevail over those of any other State Act whenever the latter are inconsistent with the former. The exceptions are:

- (a) Existing agreements under Section 10A of the Health Act, of which only one remains in operation;
- (b) Five existing agreements made under Special Acts applying to mining developments which agreements pre-dated the Clean Waters Act;
- (c) The Pollution of Waters by Oil Act.
- (d) The discharge of wastes from vessels into tidal waters.

Both (c) and (d) are basically concerned with maritime matters and impinge on national and international agreements.

3. THE CLEAN WATERS ACT 1971-82

The Act is administered by the Water Quality Council of Queensland supported mostly by the Water Quality Section of the Engineering and Technical Services Division of the Department of Local Government, subject to the Minister for Local Government, Main Roads and Racing. The Council which is representative of State Departments, Local Government, Industry and Conservation comprises 19 members.

The Clean Waters Act seeks to control water pollution by two separate groups of provisions:

- (i) 'The licensing provisions centered on Section 23 where the occupiers of premises are required to hold licences for discharges, subject to their meeting conditions attached to the licence.
- (ii) The "duty of care" provisions of Section 31 where an occupier is required to so use premises that water pollution does not occur.

The licensing provisions provide exception for the following categories of discharge:

- (i) if such wastes comprise stormwater runoff uncontaminated by domestic sewage or trade wastes!
- (ii) if such wastes comprise stormwater runoff from agricultural lands and the occupier of the premises complies with any specific or general requirements of the Council for controlling the contamination of such wastes;
- (iii) discharges from septic tanks serving less than 100 persons.

In the case of (iii) Water Quality Council may impose other general or specific conditions to be observed by Local Authorities in granting permits for septic tanks under the Standard Sewerage By-Laws.

The "duty of care" or other provisions are currently implemented by:-

- (i) inspecting premises to ensure occupiers are operating in accordance with Section 31, viz. in such a manner as to avoid the discharge of wastes to waters;
- (ii) reviewing planning and other reports, such as environmental impact assessments, for new works and developments under Section 32; and
- (iii) reviewing Local Authority proposals for refuse tips, strategic plans, town planning schemes, development control plans and by-laws under Section 36 and 37.

4. THE LICENSING PROVISIONS OF THE ACT

Section 24 of the Clean Waters Act contains the main provisions relating to licensing discharges.

Council may grant, refuse or grant subject to such conditions 'as it thinks fit, an application for a licence or for renewal or transfer thereof.' It may also revoke or vary any conditions applied to a licence or attach new conditions to a licence during its currency. In considering an application Council must have regard to, amongst other things, the character and flow of the receiving water, the best available practicable methods of treating the wastes, the present and future requirements for quality and quantity of such water, any prescribed water quality plans and Government policies, any conditions of a mining lease, the combined effects of the discharge and any other existing or future discharges to such waters and any other relevant information. Licences expire on the 30th June in each year and attract annual fees which are usually based on the quantity of wastes discharged. By definition, compliance with the licence conditions cannot be construed to be water pollution under the Act and conversely, failure to comply with licence conditions is an offence covered by special penalties.

Each licence application is considered on its merits relative to the assimilative capacity' of the receiving waters. Neither the Act nor the Regulations lays down discharge standards apart from the General Standard' prescribed in the Regulations. Each licence may, for example, stipulate the daily quantity, quality and location of the discharge and may also lay down conditions including outfall submergence, initial dilution and on occasions restrictions relating to tidal or other factors limiting the duration of discharge. There are basically two alternative philosophies to setting effluent standards

- (i) Technology based; and**
- (ii) Water quality based.**

Technology based standards stipulate the degree of treatment to be achieved before discharge is permitted e.g. secondary treatment by biological means. The effluent quality would bear little relationship to the assimilative capacity of the receiving waters but would be consistent throughout an industry.

Water quality based standards stipulate the effluent quality required to achieve some minimum acceptable quality in the receiving waters.

Water Quality based standards can be imposed by the application of effluent standards on the dischargers or by requiring that the receiving waters be managed to maintain certain minimum ambient water quality levels.

The Clean Waters Act is water quality based but the powers of the Water Quality Council are so wide in the conditions it may attach to a licence that it could embrace technology based standards if it saw fit.

5. THE "DUTY OF CARE" PROVISIONS

Section 31 of the Clean Waters Act outlines procedures for the prevention of water pollution from premises other than from discharges which are licensed.

Section 31 requires the occupier of any premises to keep or use such premises and to operate his trade or industry and control equipment in such a manner as to avoid the discharge of wastes therefrom to any waters. In addition, any matter whether solid, liquid or gaseous must not be placed in or on such premises in such a manner that water pollution is or is likely to be caused by any part of the matter.

The provisions of this section are aimed at the avoidance of the discharge of wastes therefrom to any waters. This is quite different from the aim of the licensing provisions where water pollution is prevented by control on the quantity and quality of the discharged wastes.

To date these provisions have been used routinely for schemes for land disposal of wastes where the Water Quality Council has refused to grant a licence for discharge to wastes. Supplementing this a number of highly polluting primary industries have been handled by the provisions of Section 23 (2) (b) (vii) and controlled through the use of guidelines e.g. piggeries and feedlots. Coal mines and other developments subject to the Environmental Impact Assessment procedures have also been handled under Section 31 and its complementary Section 32 which require the notification of the intention to carry out works at premises. The final area of application arises when pollution complaints are received and abatement means are required e.g. extractive industry in water storage catchments. This is not an all embracing list of situations where Section 31 provisions have been used but it is a good indication of the activities of the Water Quality Council in this area.

There is some debate as to whether these provisions of the Clean Waters Act could be used to control non-point source pollution generally. Two problems arise in such a general application:

- (i) the current lack of any definite data to prioritize potential wastes sources, and thus justify the cost to the community of such control measures;**
- (ii) the cumbersome procedures where**
 - (a) each premises must be investigated to allow the Water Quality Council to determine its opinion on the compliance with the provisions of Section 31,**
 - (b) the requirement that each occupier submit grounds supporting his belief that he is complying with the provisions of the Section where the Water Quality Council holds a contrary opinion, and**
 - (c) the Water Quality determining the efficiency of such and where necessary imposing its own conditions on such occupiers.**

The exemption of the discharges of wastes from agricultural land from licensing provisions shows the intention of those drafting the legislation to, impose controls in that industry. The imposition of controls was expected to be through the normal farm advisory procedures i.e. Department of Industries extension officers.

Nutrients

The Water Quality Council initially saw its immediate role in the, control of oxygen demanding substances, heavy metals and pesticides in point source discharges. In recent years the incidence of algal blooms and oxygen super-saturation in estuaries and the abundance of macrophytes in some non-tidal streams has focused the Water Quality Council's attention on the nutrient enrichment of the state's waters. In view of the Water Quality's reluctance to impose conditions not adequately justified by evidence of problems to support their imposition it has moved cautiously to require nutrient removal having firstly indicated to some licensees its opinion that controls may be imposed at a later date. This was followed by the requirement for nitrogen removal and most recently by requirements for both phosphorus and nitrogen removal. All these related to specific point source discharges and in each case the requirement was supported by evidence to the Water Quality Council of the likely problems were these measures not to be implemented.

In the study of the trophic status of estuaries, assessment of the impact of non-point source pollution has been made. In no case to the present time has the Water Quality Council moved to directly control input of nutrients from non-point sources in the catchment as part of its management of any river. Its activities under the Duty of Care provisions have indirectly addressed this issue.. It is the lack of evidence specifically relating nutrients from these sources to manifest water pollution problems which lies behind the Water Quality Council's approach to date.

Conclusions

- (i) Water pollution control to date in Queensland has been in response to manifest or identifiable problems
- (ii) These problems have been addressed to date by the control of oxygen demanding and toxic components in point source discharges to waters.
- (iii) Non-point source pollution control has, in the main, been restricted to industry other than intensive animal husbandry but even then problem areas have received priority.
- (iv) Work of the Water Quality Council to date has necessitated the imposition of nutrient removal on some point source discharges mainly in the highly populated areas of South East Queensland.
- (v) Continuing studies will be needed to justify any move towards the widespread control of non-point sources pollution.