Department of Agriculture and Food
Government of Western Australia

5 September 2007

Mr Lyndon Rowe
Chairman
Inquiry on Competition in the Water and Wastewater Services Sector
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Dear Mr Rowe

SUBMISSION FROM THE DEPARTMENT OF AGRICULTURE AND FOOD

The Department provided a submission on the Inquiry on Competition in the Water and Wastewater Services Sector last week. Unfortunately the wrong units were used in the figures relating to the cost of water supply to horticultural operations on the coastal plain, and for treatment of wastewater. The units used were per megalitre and should have been per kilolitre. I apologise for the error, and provide a corrected version of the submission for your information.

Once again thank you for the opportunity to make a submission to the Inquiry. Should you have any further questions about DAFWA's submission, please telephone Mr Eric Wright on 9368 3954.

Yours sincerely

David Hartley
EXECUTIVE DIRECTOR
NATURAL RESOURCE MANAGEMENT

Att

Natural Resource Management
3 Baron-Hay Court, South Perth, Western Australia 6151
Postal address: Locked Bag 4, Bentley Delivery Centre WA 6983
Telephone: (08) 9368 3743 Facsimile: (08) 9474 5974

31 August 2007

Mr Lyndon Rowe
Chairman
Inquiry on Competition in the Water and Wastewater Services Sector
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Dear Mr Rowe

SUBMISSION FROM THE DEPARTMENT OF AGRICULTURE AND FOOD

Thank you for the opportunity to provide a submission to the Inquiry on Competition in the Water and Wastewater Services Sector. The Department of Agriculture and Food's (DAFWA) primary interest in this matter relates to the Inquiry's implications for horticulture in Perth.

Currently, there is an established horticulture area located on the north side of Perth, at East Wanneroo, where irrigation water is accessed from the Gnangara Mound aquifer. Due to urban encroachment, horticulture at this location is under pressure from competing land uses. DAFWA is aware that some horticulture producers are keen to sell their properties, while others would like to continue their existing operations. There are also potential producers that would like to establish new, or take over existing enterprises in the area.

The nearest alternative for a horticulture precinct is further north at Carabooda. Irrigation water for this area is also sourced from the Gnangara Mound, but is already fully allocated. If Carabooda was developed for horticulture, additional irrigation water could be sourced from recycled metropolitan wastewater, which is currently being disposed of into the ocean at Beenyup. However, this recycled water is only treated to a standard for ocean disposal, and would need further treatment for use for horticulture (and possibly for industry).

It has been proposed that if the wastewater segment of the water and wastewater industry in Western Australia was open to competition, then depending on the costs and benefits involved, a wastewater treatment plant(s) could be set up near the sewerage pipeline from Perth to Beenyup, and mine the organic waste streams from the pipeline. This in turn could provide irrigation water for a horticulture precinct at Carabooda.

A target of the State Water Plan is to recycle 20 per cent of all wastewater in Western Australia. The total volume of wastewater produced in 2006 was 140 gigalitres per year. It is forecast to increase to 170 gigalitres per year in 2012. If 30 gigalitres of wastewater (that is currently disposed of into the ocean) was treated and returned to agriculture at Carabooda (or if at least 30 gigalitres of wastewater were mined and treated from the Perth to Beenyup pipeline), this would significantly contribute to meeting the current recycling goal. However, given wastewater costs more than $1000/ megalitre to treat, the relatively low value of agricultural produce per megalitre means using recycled water for agriculture is generally unviable in purely financial terms. However, the State Water Plan, states that *reuse of*

Natural Resource Management
3 Baron-Hay Court, South Perth, Western Australia 6151
Postal address: Locked Bag 4, Bentley Delivery Centre WA 6983
Telephone: (08) 9368 3743 Facsimile: (08) 9474 5974

treated wastewater by agricultural industries can play a role where water is otherwise unavailable or where recycling provides an economic alternative to other wastewater treatment options, which may be applicable to the Carabooda and Swan Valley horticulture areas.

Despite the relatively high costs of wastewater treatment, establishing a new horticulture precinct near Perth and using recycled water for irrigation would likely have significant public benefits. These are:

- having a significant supply of fresh food close to Perth would likely generate health benefits for the local population;
- reduced energy use in transport;
- green waste recycling capacity help meet reduced landfill quota; and
- increased employment opportunities in Perth's Northwest corridor.

These public good benefits may provide a case for the State Government to subsidise wastewater supply services, should wastewater treatment, distribution and retailing be competitively tendered. However, a potential public cost component of supplying an expanding horticulture area in Carabooda is that the public may be concerned about using recycled wastewater on horticulture crops.

DAFWA believes several issues need to be considered in assessing whether to open the wastewater market to competition:

- state-of-the-art irrigation systems will not be invested in unless there is long term security of water supply contracts offered by suppliers. This may be jeopardised past a certain threshold point of competition;
- data on prices paid for recycled wastewater need to be surveyed nationally, to provide an indicator of what is a reasonable benchmark price to be paid by horticulture irrigators in Western Australia. The 'willingness to pay' (WTP) for recycled irrigation water will determine whether establishing a recycled wastewater system is justified. Because bore water is already fully allocated at Carabooda, and if treated wastewater was to become an additional source of irrigation water, then there would likely be a positive WTP for water by horticulture producers.

  Currently horticulture producers pay between 10 to 15 cents/kilolitre (pumping and distribution costs from bores). Their WTP for treated wastewater may or may not exceed what they are paying now, depending on the perceived net benefits of treated wastewater and depending on what agricultural producers pay for treated wastewater in South Australia. However, public good components of such a system, may justify Community Service Obligation (CSO) payments by the State Government to new private businesses to subsidise the capital and operating costs of such a system. For example, say that the cost of treating wastewater was 70 cents/kilolitre, and the WTP by horticulture producers was 20 cents per kilolitre (due to the nutrient value of wastewater), then the Government would need to subsidise wastewater treatment to the tune of 50 cents/kilolitre, in the form of a CSO. A value judgement by the Government would be necessary in deciding whether the public good component values (of expanding horticulture in Carabooda) would exceed the public costs of subsidising wastewater treatment for the area. A similar proposal to treat and distribute wastewater has also been made for the Swan Valley horticulture zones, which could be supplied with treated wastewater from the Perth sewerage line.

- sewer mining for recycled wastewater could also be used by, and contribute to industry outside of agriculture;
- a full benefit cost analysis of establishing a wastewater industry would need to be conducted, which would include not only wastewater treatment plant costs, network distribution and storage costs, for different levels of supply (including administration, metering, customer call service at the retail level), but also any changes in economies scale and scope that may result from an increase in competitive supply; and
- licensing of prospective suppliers would be important to not only maintain health and environmental standards, but also to provide long term investment (in wastewater treatment plant and distribution network) certainty for suppliers.

In conclusion, looking at this issue in purely financial terms, it would appear that treating wastewater and distributing it to the Carabooda and Swan Valley horticulture precincts (and possibly industry) is not likely to be financially viable, even if the wastewater segment of the water and wastewater supply sector is opened to competition. However, given the public good aspects of such a proposition, there may be a case for the State Government to subsidise wastewater treatment and distribution through CSO payments.

In light of this it is DAFWA's view that a thorough investigation is required, which attempts to:

- estimate perceived public good values of treating and distributing wastewater to agricultural, industrial and public amenity uses;
- estimate the WTP for treated wastewater by potential users, especially horticulture producers; and
- estimate the impact on wastewater treatment costs of varying levels of competitive supply. While increased competition could reduce costs, it can also erode economies of scale and scope and this requires some investigation.

Once again thank you for the opportunity to make a submission to the Inquiry. Should you have any further questions about DAFWA's submission, please telephone Mr Eric Wright on 9368 3954.

Yours sincerely

David Hartley
EXECUTIVE DIRECTOR
NATURAL RESOURCE MANAGEMENT