APPENDIX

WATER ACCOUNTS AND WATER USE SYSTEMS

The Queensland water industry now operates as a market-based system, which allows flexible arrangements in ownership and the 'right to use' water. However, to prevent abuse of this flexibility inside unsupplemented systems, there is a need for a robust and prescriptive process to manage the operational and inventorial aspects.

The Department of Natural Resources and Mines (NR&M) has explored the establishment of water accounts that allow aggregation of use for accounting and operational purposes. Under this system, the following would need to occur:

- Users would be required to give the chief executive notice of works through which water would be taken;
- Users would be required to notify the chief executive of what water product is being taken and when it is being taken; and
- A 'nominee' would be assigned to each water account. A single individual (not a corporation or trustee) would become the person initially responsible for the taking of all water under a water account and would be the primary point of contact for operational, compliance and billing issues.

The water accounts concept is currently being debated. However, in areas not governed by resource operations licences and user supply contracts, it may be difficult to ensure compliance without this kind of system.

RELATIONSHIP BETWEEN THE METERING WATER EXTRACTIONS POLICY AND THE METERING PROCESS MANUAL

Introduction

The *Metering Water Extractions Policy* sets out the State's requirements for metering water extractions in Queensland in accordance with the *Water Act 2000* and *Water Regulations 2002*. The policy articulates the department's position on metering and outlines the reasoning behind the need for water meters.

To implement metering in the field, the department has developed procedures and specifications for the practical aspects of installing meters. These are set out in the *Metering Process Manual*.

Purpose of the Metering Process Manual

The manual sets out the requirements for all metering processes. It outlines the operational, contractual and technical aspects of metering and provides a guideline for all stakeholders in the metering process. These stakeholders include NR&M staff, contractors engaged to install, read and maintain the meters, meter manufacturers and water entitlement holders.

Contents of the Manual

The *Metering Process Manual* contains information on all aspects of metering including overviews of:

- The metering process
- The metering policy
- The statutory basis for metering
- Ad hoc and pre-ROP metering
- Existing meters
- NR&M coordination of the metering process
- Site assessment and community consultation
- Meter selection
- Tendering and offer processes
- Manufacturer certification
- Site preparation
- Meter installation
- Practical completion
- Data retrieval
- Dataloggers and telemetry
- Meter maintenance
- Meter accuracy disputes
- Meter tampering
- Work place health and safety requirements

In addition, the manual's appendices detail specific departmental requirements for each of the metering issues above. Each appendix contains

a procedure or specification developed by the department. The manual is a guideline for NR&M staff, contractors and entitlement holders installing meters.

A copy of the Metering Process Manual can be obtained from the Department of Natural Resources and Mines' web site at www.nrm.qld.gov.au.

PROTOCOL FOR WATER METERS SHARED BY NR&M AND WATER SERVICE PROVIDERS

Purpose of the protocol

This protocol outlines the department's requirements for data and maintenance cost sharing where the department and a water service provider (WSP) share water meters.

Background

In the past, the department has entered into shared meter arrangements with WSPs (such as SunWater or a water board). These arrangements are in place to measure extractions of the following water products from a single point of take by a water entitlement holder:

- Supplemented water (which includes 'credit water' i.e. not released from a storage); and
- Unsupplemented water extracted from a watercourse during a water-harvesting event announced by the department (i.e. a natural high flow not triggered by water released from a storage managed by a water service provider).

Protocol

The following protocol has been adapted from an existing agreement between SunWater and the department.

1. NR&M announces to the customer and to the WSP the commencement date & time for a water-harvesting event.

2. Customers provide their start meter readings to NR&M prior to taking any water.

3. NR&M announces to the customer and to the WSP the end date & time for the event.

4. Customers provide their end meter readings to NR&M.

5. NR&M will collate all readings and prepare a written report to the WSP within ten (10) working days of the end of the event notifying the WSP that the details are a true statement of the information provided by the customer. The report will include:

    - Details of the event
    - Customer Details
    - Meter/Installation Number
    - Start meter Reading
    - End Meter Reading
    - Total Volume Harvested

6. The WSP must provide NR&M with written notice within 14 days of receipt of the written report of any concerns regarding meter readings.

7. If NR&M does not provide the WSP with a signed report then the WSP will bill the customer at supplemented flow rates for all water taken in accordance with the contract.

This process does not apply to:

- Water diversions from the WSP's channel systems
- Credit water
- Spot Sales
- Border Rivers Commission area

Maintenance sharing

In the past, the department and SunWater have held an informal agreement regarding the sharing of maintenance costs, based on usage. For example, the department may contribute to maintenance costs associated with water harvesting events managed by the department.

To date, no formal maintenance cost sharing protocol exists between WSPs and the department. Future maintenance cost sharing protocols will be established when the cost responsibilities of each party are agreed.

DEPARTMENTAL METER SPECIFICATIONS

Background

The *National Measurement Act 1960 (Cth)* ("the *NMA*") provides mandatory metrological controls for utility meters, including water meters. The *NMA* is part of uniform trade measurement legislation throughout Australia. All states and territories have enacted complementary legislation, along the lines of Queensland's *Trade Measurement Act 1990* ("the *TMA*").

Essentially, the *NMA* and *TMA* require all water meters to be verified according to national standards by making it an offence to supply, install or use an unverified meter for trade purposes. However, there are currently no national standards for irrigation water meters and as such they are exempt from the *NMA*.

Work is proceeding on the development of national standards through the National Standards Commission, but finalisation is some years away. NR&M is working with the National Standards Commission to ensure that the final standards are consistent with existing NR&M metering specifications. Once the national standards are finalised they will be adopted and as part of this process NR&M will work with the Office of Fair Trading (which is responsible for the *TMA*) to develop appropriate auditing procedures.

Departmental specifications

To ensure all meters meet or exceed future national standards, all meters installed under the department's metering policy must comply with the following specifications:

- The meter must be installed in a straight length of pipe 10 times the inside pipe diameter upstream of the meter and 5 times the pipe diameter downstream of the meter.
- No offtakes are to be installed upstream of the meter, nor valves, gates and other similar fittings installed within the above specified lengths of pipe.
- The meter must be able to operate in the above specified length of pipe to an accuracy of $\pm$ 2% under laboratory conditions, with the expectation that a field accuracy of $\pm$ 5% will be achieved.
- The meter must have an electronic (pulse and/or analogue) output suitable for transmitting metered data to a data logger.
- The meter must operate under full pipe flow conditions at all times.

Disclaimer: The department reserves the right to alter the above specifications in situations it sees fit. Depending on the type of meter, the department may require compliance with other specifications. Specifications for mechanical and non-mechanical meters are contained in the department's *Metering Process Manual*.

METHODOLOGY FOR CALCULATING USER CHARGES

Purpose

The purpose of outlining the charging methodology is to ensure that users understand the basis for charges and that a transparent process is used.

Background

Charging users for metering is based on the principle that "all metering costs will be clearly identified and met by the water user". This will be done through an annual metering service charge made up of two components:

- Meter Use Charge – initial site assessment, purchase and installation costs, and borrowing costs; and
- Operating Charge – maintenance, reading, administration and borrowing costs.

Issues

Methodology

Water users will pay the metering service charge for 25 years, which equates to the term of the Department's loan to cover the initial cost of the meter.

The Meter Use Charge will be adjusted every 10 years for interest rate resets in the loan, and the Operating Charge will be adjusted every year for CPI increases and every two to five years to provide for policy changes, technology changes, contract changes and price increases/reductions.

The costs allocated to users will reflect the least cost possible for delivering the service. The majority of metering activities will be contracted out, including site assessment, meter supply, meter installation, meter reading and maintenance. The Government State Purchasing Policy will apply to the contracting out of these activities, which will ensure competitive tension and therefore efficient costs.

Exit Fees

Where water is traded away from a property and the user no longer uses their entitlement but may wish to in the future, then the user will be required to continue paying the annual meter service charge. This is because the meter and associated works provide the potential to access water and the Department would still need to read the meter for compliance purposes where works remain installed.

If the user decided they would not take water again, and they did not wish to continue paying the meter service charge, then they could pay an exit fee and the meter would be removed. The works would also be required to be removed or disabled.

The exit fee would be calculated on the cost of removing the meter, and the outstanding value of the meter purchase and installation component of the meter service charge.

COMPLIANCE ISSUES RELATING TO WATER METERS

Overview

Correctly documented processes for installation, maintenance and audit of water meters will be an effective tool in ensuring compliance and identifying potential breaches of the *Water Act 2000*, such as the unauthorised taking of water.

The following enforcement related procedures assist in achieving successful metering and water use arrangements.

Offence provisions

Offence provisions under the *Water Act 2000* relating to water meters include:

- Section 808 – Unauthorised taking, supplying or interfering with water Maximum penalty – 1665 penalty units.
- Section 811 – Tampering with devices. Maximum penalty – 1000 penalty units.
- The amended Water Regulations will also include a number of offences regarding metering.

Summary of meter tampering offence

It is an offence to tamper with a water meter and should any suspected offences be detected, departmental officers or contractors may carry out the following functions:

- Record any reasons for suspected tampering including the time, date and location of any evidence found.
- Photograph and documenting observable evidence
- Establish protocols for removing or leaving a meter element
- Maintain the preservation and continuity of physical evidence seized
- Advise the regional compliance officer or Compliance Coordination Unit

Investigation methodology – interviewing witnesses and persons of interest

If the landholder is suspected of committing an offence (or of witnessing an offence) the following may occur:

- A site inspection may occur where physical evidence may be seized and photographed.
- The landholder will be provided the opportunity to be interviewed.
- If sufficient evidence exists, prosecution action may be instigated against the landholder.

Functions and powers of authorised officers

To facilitate the Department in protecting the resource and enforcing compliance, authorised officers have a range of powers. These include:

- Principal function of conducting investigations and inspections to monitor and enforce compliance.
- Power to enter land to monitor compliance, collect information and to search for unauthorised activities subject to certain legislative provisions.
- Power to obtain a warrant to enter and search a place.

Penalty Infringement Notices (PINS)

- Penalty infringement notices may be issued for minor offences of unauthorised taking of water where the amount of excess water taken does not exceed 5 megalitres.

- Penalties for these offences will commence at $300 for one megalitre excess and increase at this interval to $1,500 for excess use of five (5) megalitres over the annual entitlement.