



Non-Urban Water Metering Code of Practice for Water Extraction Licences

Introduction

The measurement of water take is an integral part of the administration and regulation of water usage. It underpins the water allocation planning process through which water resources are sustainably managed to meet water use demands and maintain healthy aquatic environments.

In 2010 states and territories agreed to a 'National Framework for Non-urban Water Metering' with the primary objective: "to provide an acceptable level of confidence that measurement performance under in situ conditions is within maximum permissible limits of error of ± 5 per cent". Consistent with the National Framework this Code of Practice provides the standard for water meter selection; installation and maintenance; and water usage reporting in the Northern Territory.

Compliance with this Code will satisfy Northern Territory water extraction licence terms and conditions that relate to water metering and reporting requirements for the installation and maintenance of water meters.

Recognising there are water meters installed (prior to the approval of this Code) that will not meet this Code, and consistent with the transitional periods specified under the National Framework, this Code of Practice must be implemented such that:

1. all non-urban meters comply with the code of practice by 1 July 2027
2. any meter installed after 30 June 2017 meets the requirements of the Code
3. any meter installed prior to 1 July 2017 shall be replaced with a compliant meter by 1 July 2027. Replacement shall be undertaken at the earliest opportunity, such as when major maintenance is required on the non-compliant meter.



Definitions

<i>licence holder</i>	The holder of a water extraction licence granted under either section 45 or section 60 of the Water Act, or the licence holder's authorised representative.
<i>authorised officer</i>	An officer authorised under the Water Act and holding responsibilities to undertake Validation and inspection of meter installations.
<i>validation</i>	A set of activities that includes inspecting the meter to check that it is pattern approved or has a certificate issued by a recognised and accredited testing institution, and that it has been installed and maintained in a manner that provides an acceptable level of confidence that the meter will record the volume of water passing through it within +/- 5% accuracy.
<i>security seal</i>	A seal applied by an Authorised Officer to detect any interference with the installation of a meter.
<i>manufacturers seal</i>	A seal applied by the manufacturer connecting the meter register to the meter body.
<i>verification</i>	The process whereby meters are inspected to ensure that they comply with the approved pattern and/or are calibrated to ensure they are operating within the maximum permissible error (+/- 5%) and stamped or certified as evidence of conformity.
<i>verification seal</i>	A seal placed on the meter to indicate that the meter has been verified.



Meter selection

1. The *licence holder* is responsible for meter selection and should take the following requirements into consideration when deciding to purchase a meter.
2. The meter must be fit for purpose and capable of recording the volume of water passing through it within $\pm 5\%$ accuracy when correctly installed. Certification that the meter is capable of this accuracy is provided by:
 - a) A pattern approval under the National Measurement Regulations; or
 - b) A certificate issued by a recognised and accredited testing institution.
3. The meter must be selected to provide the required accuracy considering the diameter of the pipework and the expected maximum and minimum flow rates in which it will operate.
4. All meter components, including castings, must be sound, clean and free from imperfections and the meter body coated internally and externally with high quality coating to resist the effects of corrosion and mechanical damage.
5. A mechanical meter installed from 1 July 2017 must have an intact *manufacturer's seal* or *verification seal*.
6. The meter must have the direction of flow and manufacturer's serial number clearly and permanently indicated on the meter body.
7. The meter must clearly display cumulative totals in metric units.
8. If the meter relies on an electrical power source, then it must have a non-volatile memory to ensure that recorded data is not lost in the event of power failure, the last meter reading at the time of power failure is retained and all recorded data can be retrieved.
9. The *licence holder* must retain a copy of specification details provided by the manufacturer, including information on certification of meter accuracy and installation instructions, and make it available to an *authorised officer* upon request.

Installation

10. The *licence holder* is responsible for installing a meter (or meters) so that all licensed extraction passes through the meter (or meters).
11. The meter must be installed in accordance with specifications provided by the manufacturer. If the meter manufacturer does not provide installation specifications, the *licence holder* must contact an *authorised officer* and ensure that the meter is installed in compliance with specifications provided by the *authorised officer*.
12. There must be no intrusions within any part of the specified minimum lengths of straight pipe immediately upstream and downstream of the meter.
13. Where a meter is installed with internal diameter smaller than the associated pipework, then the reduction and expansion couplings must be fitted at the ends of the specified minimum lengths of straight pipe that are furthest from the meter. In these instances, the resultant flow must still be within the specified flow parameters of the meter.
14. The meter should be installed above ground wherever practicable.
15. A meter may be installed below ground provided that:
 - a) prior to installation, the *licence holder* provides an *authorised officer* with the manufacturer's meter and installation specifications, and the proposed installation design details; and
 - b) the meter is subsequently installed in compliance with the specifications provided by an *authorised officer*.
16. The meter reading display and manufacturer's serial number must be clearly visible and easily accessible for reading by the *licence holder* and an *authorised officer*.
17. The full weight of the meter and its associated pipework must be adequately supported to ensure structural stability and no leakage under all operating conditions.
18. The meter must be installed so that the minimum lengths of straight pipe immediately upstream and downstream of the meter flow full under all operating conditions.
19. If the meter relies on a mains power source it must be hard wired to ensure that the power source cannot be deliberately interrupted.
20. The meter must be installed, when relevant, with the *manufacturer's seal* or *verification seal* intact. If the seal is not intact, the *licence holder* must not install the meter and should arrange for verification of the meter at the *licence holder's* expense.
21. The *licence holder* must notify an *authorised officer* that a meter has been installed within 1 month of installation. This notification must be given both for a new installation and the installation of a replacement meter.
22. An *authorised officer* will inspect the meter installation as soon as practicable after notification of installation.

23. The *licence holder* must provide copies of the certification of meter accuracy and manufacturer's installation instructions, and photographs that show the dimensions of all installed pipework, if requested in writing by an *authorised officer*.
24. An *authorised officer* will provide the *licence holder* with written confirmation of *validation* or notification of required actions following inspection of the meter and its installation.
25. Water extraction will be permitted to occur in the time between the completion of meter installation and confirmation of *validation* or notification of required actions by the *authorised officer*.
26. When a meter and its installation is considered to adequately ensure that water use will be recorded to within +/- 5% accuracy, an *authorised officer* will place security seals on the installation to detect the removal of the meter or alteration to the installed pipework.
27. When a meter and its installation is not considered by an *authorised officer* to adequately ensure that water use will be recorded to within +/- 5% accuracy, the *authorised officer* will notify the *licence holder* of the required actions that must be undertaken.
28. The maximum timeframe for required actions will be specified in the notification and shall not exceed 12 months.
29. Water extraction may be permitted to continue while all required actions following the *validation* inspection are completed.
30. If all required actions are not completed within the timeframe given in the notification then the water extraction licence may be suspended or revoked.
31. The *licence holder* must ensure that access to the meter installation complies at all times with the work health and safety requirements of the Northern Territory.

Maintenance

32. The *licence holder* must keep a log of all maintenance activities carried out on a meter and its installation and notify an authorised officer of all such work prior to commencement if practicable but no later than 1 month after completion of each maintenance activity.
33. Maintenance notifications and the log of maintenance activities must include all instances when a *security seal*, *manufacturer's seal* or *verification seal* is broken.
34. When a *manufacturer's seal* or *verification seal* on an installed meter is found to be broken or tampered with, the *licence holder* should remove the meter as soon as practicable and arrange for verification of the meter at the *licence holder's* expense.
35. The *licence holder* must notify an *authorised officer* as soon as practicable but no later than 1 month after becoming aware that a *manufacturer's seal*, *verification seal* or *security seal* has been broken or tampered with.
36. Notification that a *security seal* has been broken or tampered with will trigger a validation inspection by an *authorised officer*.
37. Water extraction will be permitted to occur in the time between finding that a *manufacturer's seal*, *verification seal* or *security seal* has been broken or tampered with and the validation inspection.
38. If the validation inspection confirms that recording accuracy of the meter and its installation has not been compromised following the maintenance activities, an *authorised officer* will replace all *security seals* and provide the *licence holder* with written confirmation of validation.
39. If the *validation inspection* confirms that the recording accuracy of the meter and its installation has been compromised following the maintenance activities, the *licence holder* will be notified of required actions that must be undertaken.
40. The maximum timeframe for required actions will be specified in the notification and shall not exceed 12 months.
41. Water extraction may be permitted to continue while all required actions following the *validation inspection* are completed.
42. If all required actions are not completed within the timeframe given in the notification then the water extraction licence may be suspended or revoked.
43. Any evidence that the *manufacturer's seal* or *verification seal* has been tampered with will require verification of the meter at the expense of the licence holder.
44. The meter must be kept free from interference (debris, livestock, vandalism, etc.) under all operating conditions.

Reporting Water Usage

45. The *licence holder* must submit meter readings on a monthly basis. The reporting form is available at www.nt.gov.au/environment/water/water-meter-reading-form
46. The reporting form can be completed on line or printed and sent via:
Email: water.regulation@nt.gov.au
Fax: 8999 3666 Darwin
8973 8894 Katherine
8951 9268 Alice Springs

Compliance Inpections

47. Compliance inspection of the meter installation to ensure it is in good working order will be conducted by an *authorised officer*. This inspection will be undertaken in consultation with the licence holder and arranged at a mutually suitable time, where possible.

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