



Assets Planning and Delivery Group
Engineering

Strategic Product Specification

SPS 300 Water Meters – DN20 & DN25

VERSION 7
REVISION 0

JULY 2022

FOREWORD

Each Strategic Product Specification has been prepared to inform Water Corporation staff, consultants, contractors and land developers of the requirements for selecting and acquiring a manufactured product to be used in strategic Corporation infrastructure. The definition of ‘Product’ includes items that comprise assembled components, equipment or plant for mechanical, electrical and civil infrastructure applications.

The objective of a Strategic Product Specification is to specify fit-for-purpose Product which will contribute to the provision of effective water services at least whole-of-life cost and with least risk to service standards and safety. A Strategic Product Specification also provides uniform standards for compatibility of new water infrastructure with existing water assets.

Many Strategic Product Specifications have drawn on the design, asset management and operational experience of Product performance in live service gained by the Corporation over time. Some Strategic Product Specifications have drawn on the experience of the water industry nationally by referencing Australian or WSAA standards.

Strategic Product Specifications are intended for reference and use in the following typical procurement scenarios:

- Capital funded infrastructure design and construction work;
- Private developer funded subdivision infrastructure for takeover by the Corporation;
- Operationally funded infrastructure design and construction work;
- Corporation period contracts for Product purchases;
- Product purchases for stock or for miscellaneous minor work.

A published Strategic Product Specification will, in some cases, comprise technical content that is typical of a range of products of the same type (type specification) but may exclude specific requirements that should apply to a particular project or application. In such cases, the project designer is required to document the supplementary project specific requirements in the ‘Project Specific Requirements’ Appendix of the Specification.

The text of a published Specification should not be directly modified. In the event that a text variation is considered necessary to accommodate the needs of a particular project or application, the text modification should be documented in the appropriate Clause of a ‘Project Specific Requirements’ Appendix.

Enquiries relating to the technical content of this Specification should be directed to the Manager, Advisory Section, Engineering to whom all enquiries relating to the technical content of the Specification should be directed.

Enquiries relating to the selection and specification of meters shall be directed to the Principle, In-Service Assets Metro.

Future Specification changes, if any, will be issued to registered Specification users as and when published.

Head of Engineering

This document is prepared without the assumption of a duty of care by the Water Corporation. The document is not intended to be nor should it be relied on as a substitute for professional engineering design expertise or any other professional advice.

Users should use and reference the current version of this document.

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REVISION STATUS

The revision status of this specification is shown section by section below:

REVISION STATUS						
SECT.	VER./REV.	DATE	PAGES REVISED	REVISION DESCRIPTION (Section, Clause, Sub-Clause)	RVWD.	APRV.
1	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
2	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
3	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
4	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
5	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
6	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
7	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
8	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
9	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
10	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
11	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
12	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
13	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
14	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
15	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
16	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM

17	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
18	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM
19	7/0	19.07.22	All	Full document reviewed to incorporate latest technology	DMCE	DM

Strategic Product Specification

SPS 300

Water Meters – DN20 & DN25

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1 Scope

This Specification sets out the requirements for the design, manufacture, production, testing, handling, and delivery of DN20 or DN25 Water Meters to Water Corporation.

The Specification also details the means by which compliance with the Specification shall be demonstrated and the criteria for acceptance of a Water Meter

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2 Notation

The words ‘shall’ and ‘must’ are interchangeable. Statements governed by the use of these words are mandatory or ‘normative’ requirements of this Specification.

Statements expressed by the use of the words ‘should’ or ‘may’ are ‘informative’ but not mandatory and are provided for information and guidance within this Specification.

An Appendix to the Specification that is designated ‘normative’ contains mandatory requirements.

An Appendix that is designated ‘informative’ is provided for information and guidance only.

The term ‘specified’ includes requirements of the Specification and requirements stated or referenced in other project documentation.

3 DEFINITIONS, ABBREVIATIONS AND ACRONYMS

Throughout this Specification the defined terms outlined below are capitalised and have the following meanings:

Compliance Schedules	Suppliers shall demonstrate Product compliance with this Specification by completing the Compliance Schedules in Appendix B and C.
Compliant Product	A product that has been assessed, using Product Appraisal, as conforming with Standards and specifications that are specified by Water Corporation.
Digital Meter	<p>A Water Meter that has been fitted with electronic components, either internally or externally that enables the Water Meter to log and transmit water flow measurements automatically.</p> <p>There are two ways Mechanical Meters can be equipped to operate as digital Meters:</p> <p>Hybrid Meter A Hybrid Meter is a Mechanical Meter that has been fitted with electronic components that enables the logging and transmission of water flow measurements automatically.</p> <p>Plug-In Device A Plug-In Device is a discrete electronic device that can be fitted externally to a Mechanical Meter and in this way enables the Meter to log and transmit flow and status data automatically.</p>
Electronic Meter	A battery powered Integrated Water Meter inclusive of sensors, metrology, display and all LPWAN communication components that meets the compliance requirements at Appendix C.

Mechanical Meter	A Water Meter that requires the movement of water to mechanically displace components within it to record water flow. All water flow recording is performed mechanically - with geared components and a tumbler type mechanical display.
Water Meter	A device that records incrementally accumulating water flow, either mechanically or electronically. All Digital, Electronic or Mechanical meters are considered Water Meters within the scope of this specification.

4 Certifications

To meet this specification Water Meters offered by a Supplier shall:

- a) Be Manufactured under a Quality Management system accredited to either AS/NZS ISO 9001 or ISO 9001,
- b) WaterMark certified to AS/3565.1 - Meters for cold and heated drinking and non-drinking water supplies,
- c) Be Compliant with NMI R49 - Water meters for cold potable water and hot water,
- d) Be Compliant with the NMI R49-1,
- e) Be Compliant with AS/NZS 4020 - Testing of products for use in contact with drinking water,
- f) Be Compliant with AS 2345 – Dezincification resistance of copper alloys,
- g) Be tested by a NATA accredited laboratory with the lab’s procedures, test results and standards matching the latest published revisions of all applicable standards for the duration of supply to Water Corporation.

In addition to the flow rates specified in NMI R49, the following flow rates shall be included in the testing for acceptance.

- h) Between 0.33 l/min and 0.37 l/min (Q1), and
- i) Between 0.53 l/min and 0.59 l/min (Q2).

For Water Meters offered by a Supplier that utilise thermally bonded polymeric coatings on any valves or fittings the Water Meter shall be:

- j) Compliant with AS/NZS 4158 - Thermal-bonded polymeric coatings on valves and fittings for water industry purposes.

For Electronic or Digital Water Meters offered by a Supplier shall be:

- k) Compliant with the Australian Communications and Media Authority regulations and be labelled with a Regulatory Compliance Mark.
- l) Compliant with the Water Corporation DS46 series of IoT standards.

In addition, Suppliers warrant that the offered Water Meters:

- m) For acceptance, test exposures shall meet or exceed the anticipated extent of component exposure to drinking water during its service life, and
- n) Unless otherwise specified, all limits in this specification or referenced documents including Australian Standards are absolute. The AS 2706 “Absolute Method” is applicable. e.g., Where AS/NZS 4020 specifies an upper limit for an acceptable test result then this shall be the upper limit and therefore rounding down a result like 2.41 mg/L to 2.4mg/L will deem the Meter unacceptable.

5 Proof of Compliance

For all Water Meters proof of compliance to the requirements outlined directly above (4.a through 4.s) Suppliers shall:

- a) Submit all test results and test certificates to Water Corporation along with Compliance Schedule 1 at appendix B.

Tests performed shall be:

- b) Provided with a Certificate issued by the Certification Body in accordance with the Product Certification system described in ISO/IEC 17067 and ISO/IEC 17020;
- c) Tabulated with the Certificate compliant to NMI R49-3.

Each Test Certificate shall as a minimum:

- d) Bear the relevant Meter serial number,
- e) Certify that the Meter has complied with the specified test requirements, and
- f) Certify that the Meter has complied with NMI R49-1:
 1. Error of Indication, and
 2. Static Pressure tests.

Test results shall:

- g) Precede/accompany each batch of Water Meters with a preference that these are delivered as electronic Certificates encompassing a certified digital workflow signature, but a hard copy is acceptable.

Additionally, for Electronic or Digital Water Meters the Supplier shall:

- h) Submit to Water Corporation Compliance Schedule 2 at appendix C.

6 Classification and Rating

- a) Meet or exceed the requirement for accuracy class 2 as defined in NMI R49-1,
- b) Meet or exceed the requirement for Temperature Class T30 as defined in NMI R49-1,
- c) Meet or exceed the requirement for flow profile sensitivity class of U3 / D0 as defined in NMI R49-1 noting that Water Corporation prefers Meters with a flow profile sensitivity class of U0 / D0,
- d) Have a Maximum admissible pressure of at least 1.4MPa,
- e) Have an IP68 rating or better, and
- f) Have a minimum Q3/Q1 value of 200 as defined in NMI R49-1,

Water Meters shall be suitable for operation in the following conditions:

- a) Outdoor use with an ambient temperature range of -10 to +50 degrees Celsius noting that the Ambient temperature will not be below 0 degrees Celsius long enough to cause the water inside the meter to freeze,
- b) Exposure to 4 ppm free chlorine at a pH of 6.5 coupled with 30° Celsius water temperatures continuously, and
- c) Yearly solar exposure of up to 8800 MJ/m² with a total yearly UV exposure component between 295 and 400nm wavelengths of 700 MJ/m².

7 Materials and Components

- a) Stainless steel shall not be used where it is likely to be affected by shielded corrosion.
- b) The meter body shall provide electrical continuity between the customer connection point and Water Corporation riser. If a Metallic Bond is fitted to the water meter to ensure electrical conductivity, it shall be a minimum of the equivalence to a 16mm² copper conductor. The bond should be secured across the water meter by means of a screwed, or permanent connection, and be designed in a way as to prevent its removal.
- c) Plastic threads shall not be accepted, and
- d) Any copper alloys used must be compliant with AS 2345 – Dezincification resistance of copper alloys.

8 Design, Manufacture and Operation

Water Meters shall:

- a) Not be delivered to Water Corporation having had any repairs undertaken during the initial manufacturing process (e.g. welding, the use of fillers or other cosmetic repairs),
- b) Incorporate an internal strainer,
- c) Incorporate internal dual check valves fitted on the outlet end,
- d) Incorporate a human readable register/display with a minimum of displaying of 99,999kl (m³),
- e) Incorporate a human readable register/display with the ability to display flows down to 0.1L,
- f) Incorporate a hinged lid protecting the register window that is designed to remain closed under strong wind,

Water Meters incorporating multiple viewing options of the registers/displays shall:

- g) Revert the register/display to the Meter's primary volumetric register/display value without customer interaction,

Mechanical Meters shall:

- h) Incorporate an additional element to detect and display movement of the measuring device before it is perceptible on the register,
- i) Be pre-equipped for future remote reading communications, and
- j) Incorporate a magnetic drive system between the measuring chamber and the register and magnetic field protection.

9 Design or Material Change

The Supplier shall:

- a) Advise Water Corporation of any changes (e.g., design, manufacturing process/location, material properties) to an approved Water Meter, accepted under this Specification, and submit updated Proof of Compliance as detailed in section 5 above prior to shipping of the revised product.

Water Corporation may:

- a. Subject the changes/modifications to Prequalification and/ or Endurance testing as detailed further in the Procurement Clause in relation to Product Re-verification.

10 Meter Length and Threaded End connections

10.1 Meter Length

- a) DN20 Water Meters shall have an overall length of 154mm (+0mm -2mm)
- b) DN25 Water Meters shall have an overall length of 178mm (+0mm -2mm)

10.2 Thread End connections

- a) The basic thread form shall be external thread to the basic Whitworth form as specified in AS/1722.2 with the ends suitably finished to form a watertight seal on a gasket.
- b) Thread dimensions shall comply with Table 1 for DN20 meters and Table 2 for DN25 meters.

Table 1: DN20 SUMMARY OF METER END THREAD SPECIFICATION

Thread Form	Nominal Diameter (inches)	Threads Per Inch	Pitch (P)
Whitworth Form	1.28	14	1.814
Basic Diameter (mm)	Major (d=D)	Pitch (d ₂ =D ₂)	Minor (d ₁ =D ₁)
	32.513 (max)	31.351 (max)	30.190 (max)
	32.229 (min)	31.067 (min)	
Notation and nomenclature shall be as defined in AS 1722.2			

Table 1: DN25 SUMMARY OF METER END THREAD SPECIFICATION

Meter Size	Designation of threads	Number of threads in 25.4 mm	Pitch (P)	Basic diameter, mm		
				Major (d = D)	Pitch (d ₂ = D ₂)	Minor (d ₁ = D ₁)
DN25	G1.0	11	2.309	33.249	31.77	30.292
<ul style="list-style-type: none"> • Notation and nomenclature shall be as defined in AS 1722.2 • The Minor Thread Diameter shall be not greater than the Basic Minor Diameter 						

11 Water Corporation Testing

- a) Water Corporation operates an internal NATA accredited Meter Testing Laboratory and reserves the right to periodically test Water Meters delivered from the Supplier.
- b) Water Corporation reserves the right to return Meters that fail testing to the requirements set out in this Specification.

12 Minimum Sampling and Testing frequency

- a) Water Meters shall be subject to batch testing by the Supplier during the production process as a minimum to the requirements of NITP 14, AS3565.1 Table A2, NMI R49 and the relevant pattern approvals.

- b) Batch release testing results shall be submitted to the Water Corporation before presenting the Meters for acceptance.
- c) In addition, any periodic testing requirements of the following standards shall be compliant with the Water Corporation DS46 series of IoT standards.

13 Marking

13.1 Unique Numbering

The meter size code, Manufacturer code, year of manufacture and sequential serial numbers to be used (normally 9 alphanumeric characters but can be 10) will be in the format provided by Water Corporation with each batch supplied to ensure that the unique serial numbers are not duplicated and are correctly applied.

13.2 Water Corporation Unique Numbering System

The unique numbering format is as follows:

- a) First # = Capital alpha character denotes meter size and is always B for DN20 meters,
- b) Second # = Capital alpha character identifies meter make/ Manufacturer – assigned by Water Corporation and can be used for any meter size provided by the Manufacturer/Supplier,
- c) Third # (Optional) = Capital Alpha 'B' character to denote meter Manufacturer with 2 x Water Corporation Approved meters of same size, provided less than 99,999 to be purchased, (e.g., Elster DN20 V100 & V200 meter),
- d) yy = year of manufacture (last two numbers of year of manufacture),
- e) nnnnn = sequential serial number commencing at 00001 and reset at the beginning of each calendar year,
- f) Example: BC1500001,
- g) Example: BK2000001 (Elster V200) 9 Characters, with potential for 10 characters for over 99,999 meters, and
- h) Example: BKB2000001 (Elster V100) 10 Characters, but under 99,999 meters.

13.3 Serial Number Characteristics

- a) The unique serial number shall have an apparent height of not less than 6mm;
- b) Serial numbers shall be permanently marked on either the body or plastic components of each Water Meter and shall remain readable for the service life of the meter (not less than 15 years);
- c) Serial numbers shall be capable of being read from a position directly above the meter;
- d) Serial numbers and register readings shall be capable of being read from the same position.

14 Theft Mitigation Characteristics

- a) Brass meter bodies must be sprayed with Microdot Technology to mitigate theft and enable Police Identification and Proof of Asset Ownership;
- b) For other than brass meter bodies Microdot Technology is preferred, and the requirement should be confirmed with Water Corporation.
- c) Microdot Technology shall be designed utilising the Water Corporation's Logo and approved by the Water Corporation.
- d) Water Meters must be permanently marked with Water Corporation Logo and include 'Marked for Police Identification'.

15 Traceability

The Supplier shall make available to Water Corporation upon request and through their accredited Quality Management System:

- a) The Bill of Materials (BOM) for any approved Water Meter,
- b) Verification of materials, quality and supply chain traceability for all components of any approved Water Meter, and
- c) Instruction manuals (e.g., installation, programming, operation) in English.

16 **Appendix A: Project Specific Requirements (Normative)**

Procurement or project specific information and requirements not included in this Specification shall apply as specified in the following Clauses.

17 **Revisions to Specification Text**

Notwithstanding the content of sections 1 to 15 of this Specification, the following amendments to the Specification shall apply and shall prevail in the event of conflict with section 1 to 15 content.

Additional or amended Clauses with the appropriate original clause numbers can be documented here in the same sequence as in the Specification, subject to the agreement of the Standards Custodian for the relevant discipline.

18 Appendix B: Technical Compliance Schedule (Normative)

Suppliers shall demonstrate Product compliance with the Specification by completing Technical Compliance Schedule 1 below on an item-by-item basis. For acceptance, the extent of scheduled technical item compliance shall be supported by verifiable documentary evidence. Each scheduled item nominates a Specification clause number with which the extent of Product compliance shall be demonstrated.

The Supplier shall denote compliance of an item by ticking the unshaded ‘Yes’ column appropriate to that item. Where Product does not comply with specified requirements, the Supplier shall tick the ‘No’ column and shall detail the reasons for non-conformance and any proposed alternatives in the ‘Comments’ column. The Supplier shall denote acceptance and understanding of a Specification clause by ticking the corresponding ‘Noted’ column wherever unshaded.

Failure to notify the Corporation of all non-compliant Product components, including the extent of non-compliance, may void an accepted offer to supply or may result in rectification of all non-compliant Product elements, at the Supplier’s cost.

TECHNICAL COMPLIANCE SCHEDULE 1

SPS 300 – Water Meters – DN20 & DN25					
Section/Clause summary		Noted	Compliance		Comments
			Yes	No	
4. Certifications					
4.a	Manufactured under a Quality Management system compliant to either AS/NZS ISO 9001 or ISO 9001				
4.b	WaterMark certified to AS/3565.1				
4.c	Compliant with NMI R49 - Water meters for cold potable water and hot water				
4.d	Compliant with the NMI R49-1 accuracy class 2				
4.e	Compliant with AS/NZS 4020 - Testing of products for use in contact with drinking				
4.f	Compliant with AS 2345 – Dezincification resistance of copper alloys				
4.g	Has a minimum Q3/Q1 value of 200 as defined in NMI R49-1				
4.h	Meets or exceeds the requirement for Temperature Class T30 as defined in NMI R49-1				
4.i	Meets or exceeds the requirement for flow profile sensitivity class of U3 / D0 as defined in NMI R49-1 noting that Water Corporation prefers Meters with a flow profile sensitivity class of U0 / D0				
4.j	Maximum admissible pressure of at least 1.4MPa				
4.k	IP68 rating or better				
4.l	Tested by a NATA accredited laboratory with the lab’s procedures, test results and standards matching the latest published revisions of all applicable standards for the duration of supply to Water Corporation				
4.m	In addition to the flow rates specified in NMI R49 the Meter has been tested for flow rate of between 0.33 l/min and 0.37 l/min (Q1)				
4.n	In addition to the flow rates specified in NMI R49 the Meter has been tested for flow rate of between 0.53 l/min and 0.59 l/min (Q2)				
4.o	Compliant with AS/NZS 4158				
4.p	Compliant with the Australian Communications and Media Authority regulations and be labelled with a Regulatory Compliance Mark.				
4.q	Compliant with the Water Corporation DS46 series of IoT standards				
4.r	Acceptance test exposures meet or exceed the anticipated extent of component exposure to drinking water during its service life				
4.s	Test results comply with the “Absolute Method” detailed in AS 2706.				

SPS 300 – Water Meters – DN20 & DN25					
Section/Clause summary		Noted	Compliance		Comments
			Yes	No	
5. Proof of compliance					
5.a	Submit all test results and test certificates to Water Corporation along with Compliance Schedule 1.				
5.b	A Certificate issued by the Certification Body in accordance with the Product Certification system described in ISO/IEC 17067 and ISO/IEC 17020;				
5.c	Certificates are tabulated with the Certificate compliant to NMI R49-3				
5.d	Test Certificates bear the relevant Meter serial number and certify that the Meter has complied with the specified test requirements				
5.e	Tests performed are tabulated with the Certificate compliant to NMI R49-3				
5.f	Test Certificates include the Meter’s serial number and certify that the Meter has complied with NMI R49-1 Error of Indication test				
	Test Certificates include the Meter’s serial number and certify that the Meter has complied with NMI R49-1 Static Pressure test				
5.g	Test results shall precede/accompany each batch of Water Meters with a preference that these are delivered as electronic Certificates encompassing a certified digital workflow signature, but a hard copy is acceptable				
5.h	For Electronic or Digital Water Meters the Supplier shall submit to Water Corporation Compliance Schedule 2.				
6. Classification and Rating					
6.a	Water Meter is suitable for operation outdoor with an ambient temperature range of -10 to +50 degrees Celsius				
6.b	Water Meter is suitable for operation with exposure to 4 ppm free chlorine at a pH of 6.5 coupled with 30° Celsius water temperatures continuously				
6.c	Water Meter is suitable for operation with yearly solar exposure of up to 8800 MJ/m2 with a total yearly UV exposure component between 295 and 400nm wavelengths of 700 MJ/m2.				
7. Materials and Components					
7.a	Meter does not contain any stainless steel				
7.b	Meter body shall provide electrical continuity between the customer connection point and Water Corporation riser				
7.c	Meter does not have plastic threads				
7.d	Any copper alloys used are compliant with AS 2345 – Dezincification resistance of copper alloys.				

SPS 300 – Water Meters – DN20 & DN25					
Section/Clause summary		Noted	Compliance		Comments
			Yes	No	
8. Design, Manufacture and Operation					
8.a	Meters delivered without any repairs during the manufacturing process				
8.b	Meter incorporates an internal strainer.				
8.c	Meter incorporates internal dual check valves fitted on the outlet end.				
8.d	Meter incorporates a human readable register/display with a minimum of displaying of 99,999kl (m3).				
8.e	Meter incorporates a human readable register/display with the ability to display flows down to 0.1L				
8.f	Meter incorporates a hinged lid protecting the register window that is designed to remain closed under strong wind.				
8.g	If the Meter incorporates multiple viewing options of the registers/displays the register/display reverts to the Meter’s primary volumetric register/display value without customer interaction.				
8.h	If the Meter is Mechanical, it incorporates an additional element to detect and display movement of the measuring device before it is perceptible on the register.				
8.i	If the Meter is Mechanical, it is pre-equipped for future remote reading communications.				
8.j	If the Meter is Mechanical, it incorporates a magnetic drive system between the measuring chamber and the register and magnetic field protection.				
9. Design or Material Change					
9.a	The Supplier shall advise Water Corporation of any changes (e.g., design, manufacturing process/location, material properties) and submit updated Proof of Compliance as detailed in section 5 prior to shipping of the revised product.				
9.b	Water Corporation may subject the changes/modifications to Prequalification and/ or Endurance testing.				
10. Meter Length and Threaded End Connections					
10.1	Meter is compliant for overall length as per 10.1.a or 10.1.b as appropriate (DN20 or DN25)				
10.2	The Meter thread end connections complies with the appropriate requirements outlined on section 10.2.a through 10.2.c and the appropriate specifications in Table 1 or 2 (DN20 or DN25)				

SPS 300 – Water Meters – DN20 & DN25					
Section/Clause summary		Noted	Compliance		Comments
			Yes	No	
11. Water Corporation Testing					
11.a	Water Corporation operates an internal NATA accredited Meter Testing Laboratory and reserves the right to periodically test Water Meters delivered from the Supplier.				
11.b	Water Corporation reserves the right to return Meters that fail testing to the requirements set out in this Specification.				
12. Minimum Sampling and Testing Frequency					
12.a	Water Meters are batch tested by the Supplier during the production process in compliance with: <ul style="list-style-type: none"> • NITP 14, • AS3565.1 Table A2, • NMI R49, and • the relevant pattern approvals. 				
12.b	Batch release testing results shall be submitted to the Water Corporation before presenting the Meters for acceptance.				
12.c	In addition, any periodic testing requirements of the following standards shall be compliant with the Water Corporation DS46 series of IoT standards.				
13. Marking					
13	Meters comply with the marking requirements outlined in section 13.				
14. Theft Mitigation Characteristics					
14	Meters comply with theft mitigation requirements outlined in section 14.				
15. Traceability					
15.a	The Supplier shall make available to Water Corporation upon request and through their accredited Quality Management System the Bill of Materials (BOM) for any approved Water Meters.				
15.b	The Supplier shall make available to Water Corporation upon request and through their accredited Quality Management System verification of materials, quality and supply chain traceability for all components of any approved Water Meter.				
15.c	The Supplier shall make available to Water Corporation upon request and through their accredited Quality Management System instruction manuals (e.g., installation, programming, operation) in English.				

19 **Appendix C: Electronic OR DIGITAL Water Meters Compliance Schedule (Normative)**

Appendix C is a Compliance Schedule and sets out the additional requirements for supply of Electronic or Digital Water Meters.

For acceptance the extent of compliance shall be supported by verifiable documentary evidence.

The Supplier shall denote compliance of an item by ticking the unshaded ‘Yes’ column appropriate to that requirement.

Where Product does not comply with specified requirements, the Supplier shall tick the ‘No’ column and shall detail the reasons for non-conformance and any proposed alternatives in the ‘Comments’ column.

Failure to notify the Corporation of all non-compliant Product components, including the extent of non-compliance, may void an accepted offer to supply or may result in rectification of all non-compliant Product elements, at the Supplier’s cost.

ELECTRONIC AND DIGITAL WATER METER REQUIREMENTS AND COMPLIANCE SCHEDULE 2

Electronic Water Meter Requirements and Compliance					
Requirements		Noted	Compliance		Comments
			Yes	No	
1	Electronic Meters shall as a minimum be rated to IP68				
2	Electronic Meters shall be pre-configured prior to delivery and shall be capable of being put into operation by a simple method as part of the installation procedure.				
3	Electronic Meters (including batteries) shall be warranted against failure for a minimum of ten years.				
4	Electronic Meter batteries shall provide a minimum of ten years life based upon hourly logging of meter reads and once per day transmission of all collected readings.				
5	Suppliers shall state the expected battery life, based upon requirement 4 directly above, in the 'Comments' column and provide supporting information on how this calculation was carried out.				
6	Electronic Meters shall be capable of displaying locally and transmitting remotely eight digits resolution.				
7	Electronic Meters shall have a real-time clock.				
8	Electronic Meter shall be capable of logging data at a pre-configured interval (e.g., 30 min, hourly)				
9	Electronic Meters shall be capable of transmitting data at a pre-configured interval (e.g., hourly/daily)				
10	Electronic Meters shall be capable of being forced to transmit data on request.				
11	Electronic Meters shall be capable of storing all data locally for a minimum of 10 days in the event of a communications failure.				
12	Electronic Meters shall have a tamper detection device that provides an alert in the event that the meter is tampered with.				
13	Electronic Meters shall have reverse flow detection capability and shall send an alert when such a signal is detected.				
14	Configuration or firmware updates to Electronic Meters shall not affect the ongoing accuracy of the meter reading and logging.				
15	Electronic Meters shall not require any specialist skills to install or replace.				
16	Electronic Meters shall be tested prior to delivery with the results recorded in the Certificate/s.				
17	The display on Electronic Meters shall default to the meters register value and be easy for the customer to read.				

END OF DOCUMENT