



Assets Planning and Delivery Group
Engineering

Strategic Product Specification

SPS 155 Metered Standpipes

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REVISION 4

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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 Senior Principal Engineer, Mechanical Section, Engineering to whom all enquiries relating to the technical content of the Specification should be directed. 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.

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Strategic Product Specification

SPS 155

Metered Standpipes

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1 Scope and General

1.1 Scope

This Specification sets out requirements for the design, manufacture, production testing, handling and delivery of metered standpipes. The Specification also details the means by which compliance with the Specification shall be demonstrated and the criteria for acceptance of Product.

1.2 Referenced Documents

The following documents are referenced in this Specification:

Water Corporation “Strategic Product Appraisal Process Manual” (Internally controlled)

AS

1111.1	ISO metric hexagon commercial bolts and screws – Product grade C - Bolts
1112.3	ISO metric hexagon nuts - Product grade C
1275	Metric screw threads for fasteners
1565	Copper and copper alloys - Ingots and castings
1646	Elastomeric seals for waterworks purposes
1874	Aluminium and aluminium alloys – Ingots and castings
2345	Dezincification resistance of copper alloys
2550.1	Cranes, hoists and winches – Safe use – General requirements
2550.3	Cranes, hoists and winches – Safe use – Bridge, gantry, portal (including container cranes), jib and monorail cranes
2550.5	Cranes, hoists and winches – Safe use – Mobile
2550.11	Cranes, hoists and winches – Safe use – Vehicle loading
3565.1	Meters for cold and heated drinking and non-drinking water supplies– Technical requirements

AS/NZS

2845	Water supply – Backflow prevention devices – Materials, design and performance
3718	Water supply – Tap ware
4020	Products for use in contact with drinking water
4680	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles

AS/NZS ISO

9001	Quality management systems – requirements
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NMI

R 49-1	Water meters intended for the metering of cold potable water and hot water Part 1: Metrological and technical requirements
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R 49-2 Water meters intended for the metering of cold potable water and hot water
Part 2: Test Methods

ASTM

A276 Standard specification for stainless steel bars and shapes

ISO/IEC

17000 Conformity assessment – Vocabulary and general principles

17025 General requirements for the competence of testing and calibration laboratories

Standards Australia Guides

HB 18.23 Guidelines for third-party certification and accreditation - Guide 23-Methods of indicating conformity with standards for third-party certification systems (ISO/IEC Guide 23)

HB 18.28 Conformity assessment - Guidance on a third-party certification system for products(ISO/IEC Guide 28)

1.3 Referenced Drawings

Drawings referred to in this Specification are:

AQ71-03-03 Wrench, Socket – Key and Bar, to suit sluice valve and fire plug

BD22-01-01 Screw Down Fire Hydrant – General Arrangement

BD22-02-04 Screw Down Fire Hydrant – Contractors Standpipe – Metered

1.4 Definitions and Notation

The following definitions are intended to clarify the terminology used in this Specification.

1.4.1 Allowable Operating Pressure

The allowable internal pressure, excluding surge that the standpipe can safely withstand in service.

1.4.2 Australian Standards®

Standards that are developed, published and maintained by Standards Australia

1.4.3 Certificate

A formal certificate issued by a Certification Body in accordance with the third party product certification system described in HB 18.28, including associated Product license schedules.

1.4.4 Certification Body

An independent (or third party) organization duly accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ) to operate product Certification Schemes.

1.4.5 Certification Mark

A proprietary mark of product conformity issued in accordance with HB 18.23.

1.4.6 Certification Scheme

A third party product certification system operated in accordance with HB 18.28.

NOTE: The effect of this is to require maintenance by the manufacturer of effective production control planning in addition to full type testing from independently sampled production and subsequent verification of conformity with specified standards.

1.4.7 Compliant Product

Product that has been assessed, by means of Product Appraisal, as conforming to standards and specifications that are specified by the Corporation.

1.4.8 Corporation

The Water Corporation of Western Australia.

1.4.9 Distortion

Any permanent deformation.

1.4.10 Hydrant

Hydrant shall mean screw down type fire hydrant complete with yoke.

1.4.11 Manufacturer

An entity or combination of entities that are responsible for selection, processing and control of Product constituent materials or compounds and for the processing equipment that collectively result in the manufactured product.

1.4.12 Meter

Meter shall mean either a right-angled volumetric chamber meter fitted to the top of the standpipe or an in-line turbine or multi-jet meter fitted within the standpipe barrel.

1.4.13 Nominal Size (DN)

An alphanumeric designation of size for components of a pipework system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number, which is indirectly related to the physical size, in millimeters, of the bore, or outside diameter of the end connections.

1.4.14 Notation

Statements governed by use of the word 'shall' are mandatory or 'normative' requirements of the Specification. Statements expressed by use of the words 'should' or 'may' are 'informative' but not mandatory and are provided for information and guidance. Notes in Specification text are informative. Notes that form part of Specification Tables are normative. 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.

1.4.15 Nut

Nut shall mean the part of the bayonet type fitting on the bottom of the standpipe, which fits into the yoke of the hydrant. This nut moves up the standpipe as it is turned anticlockwise, driving the standpipe down onto the hydrant to seal the connection.

1.4.16 Officer

A duly authorised representative or appointed agent of the Corporation.

1.4.17 Pressure Class (PN)

A classification of pressure by PN number based on the allowable operating pressure expressed in Megapascals (PN = 10 x AOP).

1.4.18 Principal's Representative

An authorised representative of the Corporation.

1.4.19 Product

A single unit or multiple units of manufactured end product or an assembly of manufactured component products, materials or equipment. This Specification and accompanying Purchasing Schedule define the nature and details of Product to be supplied.

NOTE 1: An end product is most commonly an output of manufacturing processes that result in finished end products having the same features and characteristics and can be the result of a single or multiple production batches.

NOTE 2: Manufactured equipment and assemblies of Product components or materials are commonly procured for mechanical, electrical and civil infrastructure applications.

1.4.20 Product Appraisal

A formal process whereby Product, including product design, is subjected to systematic engineering assessment to determine Product fitness for prescribed end uses and to evaluate conformity of its production systems with specified standards and requirements. Product Appraisal includes verification of the extent of compliance in accordance with the requirements of a relevant 'Technical Compliance Schedule'.

1.4.21 Product Assessor

An organization, Officer or other person who, having demonstrated specialist product knowledge and competence acceptable to the Corporation, is appointed to evaluate Product, appraises the Product and issues one or more Product Verification Reports.

1.4.22 Product Certification

A formal process whereby the production and management systems for the manufacture of Product, are assessed by a Certification Body to evaluate compliance of these systems with specified product standards and tests, in accordance with Certification Scheme rules.

1.4.23 Product Verification Report

A formal report wherein a Product Assessor evaluates the extent of Product compliance with the specified product standards and specifications.

NOTE: Verification may be on a project-by-project basis or at agreed intervals, as appropriate to the scope of a Purchasing Schedule and Product end use, subject to determination by the Corporation.

1.4.24 Product Warranty

A formal express undertaking by a Supplier that indemnifies the Corporation against the consequences of supplied Product failure to comply with specified fitness for application and in-service life expectancy performance requirements.

1.4.25 Purchasing Schedule

A Corporation purchase order, tender, schedule of prices, bill of quantities, or specification that details the nature, quantity and other characteristics of Product to be supplied, purchased or installed.

1.4.26 Quality System

A management system that establishes, documents, implements and maintains organizational structures, resources, responsibilities, processes and procedures for the manufacture of Product and provision of Product related services in accordance with the requirements of AS/NZS ISO 9001.

1.4.27 Spigot

Spigot shall mean the extension at the standpipe inlet that guides the standpipe into the hydrant.

1.4.28 Standpipe

Standpipe shall mean the metered standpipe, complete with meter and bayonet type fitting. Standpipes with DN 20 and DN 50 outlets will be referred to as small and large standpipes respectively throughout the Specification.

1.4.29 Standards Australia

The peak non-government standards development body in Australia which develops Australian Standards®.

1.4.30 Strategic Product

An essential infrastructure component whose performance is critical to the elimination of risk to the safe and effective provision of water services, which are functions of the Corporation under the Water Corporation Act as licensed under the Water Services Coordination Act.

NOTE: Strategic product is a component of permanent Corporation infrastructure. Ancillary operational and safety equipment that does not form part of permanent infrastructure but offers exceptional enhancements in operational performance or personnel safety may also be deemed strategic.

1.4.31 Strategic Product Appraisal Process

The process described in the Strategic Product Appraisal Process Manual whereby manufactured products and equipment are evaluated and, where they comply with specified requirements, authorised for use in Corporation infrastructure.

1.4.32 Supplier

An entity or combination of entities that is responsible for the supply of Product.

NOTE: A Supplier may be a Manufacturer, owner, producer, distributor, vendor, agent, tenderer or contractor for supply of Product or Product related service.

1.4.33 Testing

The determination of Product characteristics by inspection and by the application of specified test procedures.

1.4.34 Valve Key

Valve key shall mean the Corporation standard valve key, as shown in Drawing AQ71-03-03.

1.4.35 Yoke

Yoke shall mean the fitting on the outlet of Corporation hydrants that accepts bayonet type standpipe fittings.

1.5 Designation of Size

Standpipes shall comply with the sizes and flow rates shown in Table 1.1. The inlet shall be suitable for attachment to the Corporation’s standard hydrants specified in Strategic Product Specification SPS 292.

Table 1.1 - Designation of sizes and flow rates for metered standpipes

Designation	Outlet	Inlet Size	Maximum Permissible Flow Rate – kL/h
small standpipe	DN 20 hose tap	DN 80	12
large standpipe	DN 50 Camlock	DN 80	30

2 Materials and Components

2.1 Standpipe

The standpipes shall be constructed from materials in accordance with Table 2.1 below. The materials shown are the minimum standard required. Materials of an equivalent or higher standard will be acceptable.

Table 2.1 - Materials Specification

Standpipe Component	Material	Standard	Grade
Barrel	Aluminium	AS 1874	-
Handle	Aluminium	AS 1874	-
Nut	Gunmetal	AS 1565	C83600
Base Assembly	Gunmetal	AS 1565	C83600
Inlet seal	Synthetic rubber	AS 1646	Polyurethane 80 – 90 IRHD
Inlet screen	Stainless steel	ASTM A276	304
Security screws	Stainless steel	ASTM A276	304
Camlock	Aluminium	AS 1874	-
Fasteners	Galvanised Carbon Steel	AS 1111.1, AS 1112.3	4.6
	Or		Or
	Stainless Steel	ASTM A276	316
Meter dial cover	Stainless steel Forged Brass	ASTM A240M AS 1568	304 C 325200

2.2 Dezincification Resistant Materials

All copper alloys shall be dezincification resistant alloys in accordance with AS 2345.

2.3 Mouldings

Mouldings shall be free from structural defects, laps, porosity, pitting and inclusions.

3 Design

3.1 Application

The standpipe shall be suitable for attachment to Corporation hydrants for the delivery of potable water.

3.2 Type

The standpipe shall be of the screw down type, featuring a bayonet type fitting for attachment to Corporation hydrants. The design shall incorporate a meter and a tamper proof method to deter removal of the meter.

3.3 Condition

The standpipe shall be in a new unused condition.

3.4 Standpipe

The standpipe shall comply with the following:

- (a) The standpipe shall be constructed to the dimensions shown in Figure 3.1 below.

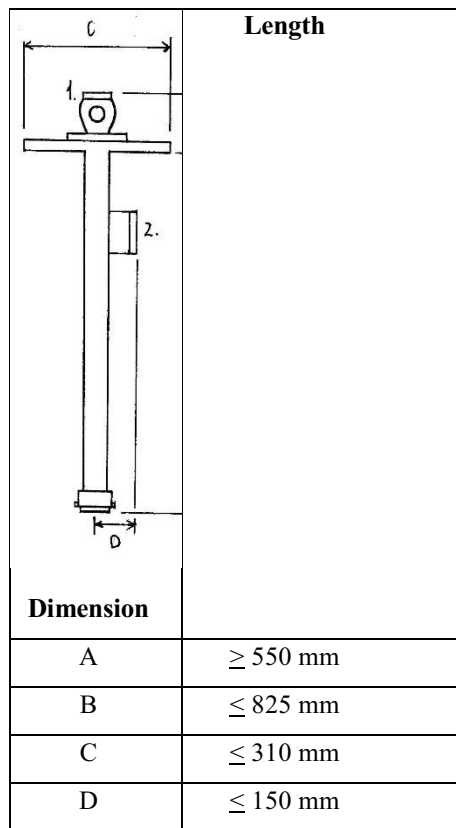


Figure 3.1 - Required Standpipe Dimensions

- NOTES:
1. The standpipe meter shall be either as shown at location 1 or the in-line as shown at location 2 in the above diagram.
 2. Tolerances on length shall be $\pm 2\text{mm}$

- (b) The standpipe nut shall be of bayonet type construction for attachment to the Corporation standard hydrants as depicted in Drawing BD22-01-01. For the detailed dimensions of the standpipe nut required, refer to Detail E contained in Drawing BD22-02-04.
- (c) The standpipe inlet shall incorporate a spigot with dimensions as depicted by Detail C contained in Drawing BD22-02-04.
- (d) The standpipe shall incorporate a dual check valve in accordance with AS/NZS 2845.1. The small standpipe shall have the dual check valve incorporated into the meter. The large standpipe shall incorporate the dual check valve downstream of the meter.
- (e) The large standpipe shall employ security-locking fasteners to deter removal of the dual check valves from the barrel. The security locking fasteners shall require a special spanner to enable removal. Special spanners shall be supplied to the Corporation.
- (f) The standpipe shall incorporate a strainer at the inlet, sized to prevent ingress of sand or other solids capable of blocking the meter.
- (g) Standpipe outlets, for the sizes designated in Table 1.1, shall incorporate either a DN 20 hose tap complying with AS 3718 or a DN 50 male Camlock fitting.
- (h) The standpipe meter shall incorporate a protective metal cover for the meter dial. This shall prevent foreign objects contacting the dial glass whilst still allowing the dial to be read. A hinged metal cover shall be able to be secured to prevent it swinging open during normal operation or transport using a permanently attached fixing.
- (i) Standpipe meters shall comply with AS 3565.1 and NMI R 49-1. Meters shall be accuracy class 2 minimum and shall be configured in compliance with Figure 3.1.
- (j) The standpipe shall be capable of operation at the allowable operating pressure, and ambient air temperature shown in Table 3.1.
- (k) The standpipe inlet shall incorporate an elastomeric seal, which shall be designed to provide a watertight seal between the standpipe inlet and the hydrant.
- (l) Standpipes fitted with an inline meter shall incorporate a 90° fully swivelling outlet.
- (m) The standpipe shall be of robust construction to accommodate installation and operation without flexing or distortion.

Table 3.1 - Operating and Test Pressure

Pressure Class (PN)	Allowable Operating Pressure kPa	Seat Test Pressure kPa	Hydrostatic Test Pressure kPa	Working Ambient Temperature °C
14	1,400	1,400	2,100	5 - 40

3.5 Fasteners

Bolt dimensions shall conform to AS 1111.1, nuts shall conform to AS 1112.3 and threads shall conform to AS 1275.

4 Protective Coatings

Mild steel standpipe components shall be coated with a corrosion inhibiting paint. Hot dip galvanising shall comply with AS/NZS 4680.

5 Testing

5.1 General

Product shall be tested in accordance with the test requirements of this Specification. Testing shall be deemed acceptable when test outcomes have been formally verified by a Certification Body or witnessed by a testing Officer. Product for which a test requirement has not been met shall be classified as non-compliant Product.

NOTE 1: Testing should be carried out by an organisation accredited by NATA or in accordance with ISO/IEC 17025.

NOTE 2: A testing Officer should normally be an Officer who has specialist knowledge of or training in product or materials testing appropriate to the Product characteristics to be tested.

5.2 Notification of Testing

The Corporation shall be notified in writing of each formal test proposal, allowing as a minimum the period nominated in Table 11.1, prior to the preparation of Product for testing except where a specified test has been the subject of a current valid Certificate issued by a Certification Body. This notification is required to enable the Corporation to make all necessary arrangements including appointment of a testing Officer in a timely manner.

5.3 Access to the Place of Manufacture

The testing Officer shall be afforded access, at all reasonable times, to all places of manufacture of Product or product components and shall be authorised to arrange or undertake such testing there as the Corporation deems appropriate to the testing regime specified.

5.4 Place of Manufacture other than WA

Where any Product or product component is being manufactured other than in Western Australia the Corporation may appoint a local inspecting Officer to undertake inspections and witnessed testing as required. The testing Officer shall be provided with all due authority and permits required to carry out testing at the place of manufacture.

NOTE 1: The cost of witnessed testing arranged by the Corporation will normally be borne by the Corporation unless otherwise negotiated.

5.5 Test Requirements

5.5.1 General

Each standpipe shall be tested by the Contractor in the order of tests shown below. Where the Contractor is not exempted by full Quality Assurance Certification the Principal's Representative shall be present during testing. Any standpipe that does not meet the test requirements shall be made to comply with the specification or shall be rejected and replaced.

5.5.2 Body Hydrostatic Test

With the outlet blanked off, a hydrostatic pressure test shall be performed on each standpipe at 2,100 kPa. The test shall be conducted with water used as the test fluid at ambient temperature. The test duration shall be for a minimum period of 1 minute, during which time there shall be no signs of leakage through the standpipe body, the joints or the stem seal, nor shall any part have suffered distortion. Minor leakage through the pipe connection shall be permitted.

5.5.3 Seal Test

The above test shall be repeated with a hydrostatic pressure of 1400 kPa. The test duration shall be for a minimum period of 1 minute, during which time there shall be no signs of leakage through the pipe connection seal.

5.5.4 Meter Accuracy Test

The standpipe meter shall be tested in accordance with the principles of NMI R49-1 and R49-2 and shall ensure that meters perform within an accuracy envelope of $\pm 2\%$.

5.5.5 Test Certificates

A certificate of testing shall be provided for each standpipe to demonstrate compliance with clauses 5.5.2 to 5.5.4 of the testing requirements. For the purposes of acceptance, each test certificate shall, as a minimum, bear the relevant Product item serial number and shall certify that the Product item has complied with the specified test requirements.

6 Marking and Packaging

6.1 Marking

6.1.1 Body Markings

The standpipe and standpipe meter shall have the following information permanently marked onto them:

- (a) Manufacturer's name or mark
- (b) Nominal size / Outlet DN
- (c) Year of Manufacture
- (d) Pressure Class (PN)

In addition, all standpipes shall be clearly marked "PROPERTY OF WATER CORPORATION". Standpipes shall also be fitted with a clearly visible warning sign indicating that hydrants must be flushed before standpipes are connected to them

Small standpipes shall have the above information marked around the meter dial and also a stainless steel tag welded to the body upstream of the meter, containing the above information. Large standpipes shall have the tag welded to the body downstream of the meter.

6.2 Packaging

6.2.1 General

Product shall be packaged with appropriate protection, which shall prevent damage or defects as a result of handling, storage or transportation. Flexible packaging material shall have a minimum expected life in outside storage conditions of 12 months from the date of delivery.

6.2.2 Identification Tag

Each standpipe shall be identified using a weatherproof marking pen on a corrosion resistant metal tag securely wired to the standpipe in a conspicuous position using a galvanised tie wire with the following information:

- (a) Material Master Record number
- (b) Contract number
- (c) Purchase order number

6.2.3 Marking of Packaging

Where requested in the purchasing schedule the Product shall be identified by marking on the outside of any protective packaging the same information as shown on the identification tag. The markings shall include the relevant contract number and purchase order number.

7 Manuals

7.1 Format and Language

Where required, Product shall be supplied complete with appropriate installation, operation and maintenance instructions or manuals, in clear diagrammatic and text format, in English

7.2 Content

The manuals shall contain all the relevant information required to commission, operate and maintain the Product in live service, including the following:

- a) Details of Product features
- b) Operational adjustments
- c) Installation and commissioning instructions
- d) Preventative maintenance requirements and intervals
- e) Testing procedures
- f) Trouble shooting guidelines
- g) Complete list of parts and associated exploded views or sectional diagrams and reference part numbers

8 Spare Parts and Special Tools

All spare parts shall be interchangeable for standpipes of the same size and model

Spare parts and servicing facilities for the standpipes shall be readily available in Western Australia.

Any special tools required to service and maintain the standpipes shall be supplied. For example security screw spanner.

9 Transportation, Handling and Storage

9.1 General

Transportation, handling and storage facilities shall be designed to prevent Product damage or defects and to maintain Product free of deleterious matter. Product shall not be dropped off elevated vehicle platforms or sites. Mechanical handling equipment shall be in accordance with AS 2550.1, AS 2550.3, AS 2550.5 and AS 2550.11 and shall be appropriate to the loads to be lifted. Manual handling shall be in accordance with the National Standard for Manual Handling and the National Code of Practice for Manual Handling, published by National Occupational Health and Safety Commission, Australia. Product restraint during transportation shall be in accordance with Load Restraint Guide—Guidelines for Safe Carriage of Loads on Road Vehicles, published jointly by the Federal Office of Road Safety and the National Road Transport Commission, Australia.

NOTE: Where wire ropes or chains are used for loading and unloading, they should not come into direct contact with Product. Lifting elements in direct contact with Product should be of a non-abrasive design e.g. elastomeric or fabric webbing straps. During transportation, Product restraints should be checked for tension at regular intervals of travel and should not be released until the transporting vehicle is resting in a secure stable disposition on level ground.

9.2 Preservation of Product in Storage

Product shall be stored in original Product packaging in accordance with the published requirements of the manufacturer, prior to installation. Sensitive component materials shall be protected from extended exposure to direct sunlight and high temperatures e.g. elastomeric components shall be stored in accordance with the general principles of AS 1646. Designated Product storage areas shall be of sufficient size to accommodate Product deliveries and shall be flat, reasonably level and free of combustible vegetation, sharp stones or projections that could cause Product damage or defects.

10 Quality Assurance

10.1 Certification

10.1.1 Certification of Product

Wherever this Specification requires compliance with nominated Product and test Standards, conformance shall be certified by means of a Certification Scheme, conducted by a Certification Body. Each Certificate shall expressly attest compliance of all Product items with the nominated Standards. Wherever specified, Certificates shall be submitted to the Officer nominated for this purpose. Product shall be marked in accordance with the requirements of the Certification Body.

NOTE: Compliance of Product including related accessories and services with nominated Standards and specified requirements may be verified by means of a Product Verification Report provided by a Product Assessor. The Product Verification Report should identify all relevant Certificates of Product compliance, duly issued in accordance with Certification Scheme rules.

10.1.2 Quality System

The processes for manufacture, testing, supply, transportation, handling, delivery and storage of Product to be supplied in accordance with this Specification shall form part of a documented Quality System. The System shall be certified by a Certification Body as complying with the requirements of AS/NZS ISO 9001 and shall provide for identification and traceability, control of production and delivery to the specified destination, customer verification and control of documents and records.

10.1.3 Product Re-verification

Product compliance with the Specification shall be subject to re-verification by a Product Assessor when, during the agreed Product supply period, there occurs any:

- substantive change in Product design, material formulation or performance
- Product failure to perform in operational service to the nominated performance specification.

Re-verification shall require the issue of a new or supplementary Product Verification Report. Product components and test outcomes that are not significantly affected by the Product change or failure may be excluded from the scope of re-verification, provided that these outcomes have already been reported in a current valid Product Verification Report that is acceptable to the Corporation.

Wherever the requirements of the Specification apply to a Product supply period in excess of three years, continuing acceptance of Product shall be subject to re-verification. The purpose of re-verification shall be to confirm the continuing compliance of Product quality and production control processes with the requirements of the Specification

10.2 Compliance and Acceptance

10.2.1 Means of Demonstrating Compliance

Compliance with this Specification shall be demonstrated by means of Product Appraisal and issue by a Product Assessor of a Product Verification Report that confirms compliance. Otherwise, Product shall be deemed non-compliant and ineligible for registration as Product authorised for use in Corporation infrastructure.

NOTE 1: Where a project includes design work including Product design, Product Appraisal may form part of the project design review process and the Product Assessor may be a member of the project design review team.

NOTE 2: A Product Verification Report should verify the extent of compliance with the Specification including all relevant 'Technical Compliance Schedule' Appendices and the currency of a Certificate where relevant to the Product.

10.2.2 Acceptance Criteria

For acceptance, Product shall be supplied as specified in the Purchasing Schedule.

Prior to the implementation of any arrangement to supply Product, the Supplier shall, in accordance with specified requirements:

- nominate applicable Product Warranty terms; and
- provide documentary verification in the form of a current valid Certificate or Product Verification Report as appropriate to the Product; and
- detail each element of Product that does not comply with the specified requirements together with the extent of non-compliance.

NOTE: Where the Specification includes Technical Compliance Schedules, the nature and extent of all non-compliances should be provided in accordance with the appropriate Schedules.

10.3 Non-compliant Product

10.3.1 General

Product whose design, workmanship or performance fails to conform to the specified requirements shall be clearly tagged and quarantined by the Supplier as non-compliant and shall be subject to rejection for return to and replacement by the Supplier.

Where the Specification includes a 'Technical Compliance Schedule', Product shall be deemed non-compliant except where a Supplier has demonstrated compliance in accordance with the requirements of the 'Technical Compliance Schedule' Appendices of the Specification.

10.3.2 Manufacturing Repairs (In-process)

Welding, the use of fillers and other repairs shall generally not be permissible on Product which is in the course of production. Repairs to custom-built Products such as axially-split pumps and large valves may be considered only if determined by the Corporation to be minor casting repair work in non-strategic locations. Accordingly, details of any defect which the Manufacturer considers can be repaired; together with details of proposed repair procedures shall be submitted in writing for determination by the Corporation.

The Manufacturer shall make provision in its production Quality System and in the appropriate ITP's for sufficient hold points whenever casting defects are encountered. Production work on non-compliant components shall cease and repair work shall not commence until the following details have been confirmed by the Corporation in writing:

- (a) that repair of the non-compliant components in lieu of their replacement is acceptable; and
- (b) that proposed repair procedures are acceptable; and
- (c) that any proposal to vary the terms of the original Product Warranty as a consequence of the in-process repair is acceptable.

10.3.3 Product Warranty

The Supplier shall replace non-compliant Product with Product that conforms to the acceptance criteria or shall repair or rectify all faults, damage or losses caused by defective Product. Except as may otherwise be specified, the Product Warranty shall indemnify and keep indemnified the Corporation against all losses suffered by the Corporation as a result of non-compliant Product for a period no less than 24 months after Product delivery or 12 months after Product installation, whichever period elapses first.

10.3.4 Product Repair

All reasonable proposals for repair or remedy of defects will be considered, provided that each such proposal is accompanied by a methodology statement that accords with the performance objectives of this Specification, as determined by the Corporation. For acceptance, a proposal for repair or remedy of Product defects shall not void or otherwise diminish the provisions of the Product Warranty.

11 Appendix A: Technical Compliance Schedules (Normative)

11.1 Compliance Schedules

Suppliers shall demonstrate Product compliance with the Specification by completing Technical Compliance Schedule 1 as shown in **TABLE 11.1** 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.

TABLE 11.1: TECHNICAL COMPLIANCE SCHEDULE 1

Metered Standpipes					
Section/Clause		Noted	Compliance		Comments
			Yes	No	
1. SCOPE AND GENERAL					
1.1	Scope				
1.2	Referenced Documents				
1.3	Referenced Drawings				
1.4	Definitions and Notations				
1.5	Designation of Size				
2. MATERIALS AND COMPONENTS					
2.1	Standpipe				
2.2	Dezincification Resistant Materials				
2.4	Mouldings				
3. DESIGN					
3.1	Application				
3.2	Type				
3.3	Condition				
3.4	Standpipe				
3.5	Fasteners				
4. PROTECTIVE COATINGS					
4.0	Protective Coatings				
5. TESTING					
5.1	General				
5.2	Notification of Testing				
5.3	Access to the Place of Manufacture				
5.4	Place of Manufacture other than WA				
5.5	Test Requirements				
5.5.1	General				
5.5.2	Body Hydrostatic Test				
5.5.3	Seal Test				
5.5.4	Meter Accuracy Test				
5.5.5	Test Certificates				
6. MARKINGS AND PACKAGING					
6.1	Marking				
6.1.1	Body Markings				
6.2	Packaging				
6.2.1	General				
6.2.2	Identification Tag				
6.2.3	Marking of Packaging				

7. MANUALS					
7.1	Format and Language				
7.2	Content				
8. SPARE PARTS & SPECIAL TOOLS					
8.0	Spare Parts and Special Tools				
9. TRANSPORTATION, HANDLING AND STORAGE					
9.1	General				
9.2	Preservation of Product in Storage				
10. QUALITY ASSURANCE					
10.1	Certification				
10.1.1	Certification of Product				
10.1.2	Quality System				
10.1.3	Product Re-verification				
10.2	Compliance and Acceptance				
10.2.1	Means of Demonstrating Compliance				
10.2.2	Acceptance Criteria				
10.3	Defective and Non-compliant Product				
10.3.1	General				
10.3.2	Manufacturing Repairs				
10.3.3	Product Warranty				
10.3.4	Product Repair				

Name of Supplier:

Signature:

Date:

12 Appendix B: Material Master Records (Informative)

The following Material Master Records (MMR) comprise Corporation catalogue numbers that are unique to the particular products described for the purposes of Corporation activities or work.

MMR	PURCHASE ORDER LONG TEXT
19999	Standpipe; Hydrant; Metered; Bayonet Type Inlet; DN20 Hose Tap Outlet; PN14; 12Kl/hr. Maximum Permissible Flow Rate; Dual Check Valve to AS/NZS 2845.1; C/W Inlet Strainer.
20000	Standpipe; Hydrant; Metered; Bayonet Type Inlet; DN50 Male Camlock Outlet; PN14; 30Kl/hr Maximum Permissible Flow Rate; Dual Check Valve to AS/NZS 2845.1; C/W Inlet Strainer.

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