Assets Planning and Delivery Group
Engineering

DESIGN STANDARD DS 70-06

CHLORINE ANCILLARY EQUIPMENT

VERSION 1
REVISION 1

MARCH 2024

FOREWORD

The intent of Design Standards is to specify requirements that assure effective design and delivery of fit for purpose Water Corporation infrastructure assets for best whole-of-life value with least risk to Corporation service standards and safety. Design standards are also intended to promote uniformity of approach by asset designers, drafters and constructors to the design, construction, commissioning and delivery of water infrastructure and to the compatibility of new infrastructure with existing like infrastructure.

Design Standards draw on the asset design, management and field operational experience gained and documented by the Corporation and by the water industry generally over time. They are intended for application by Corporation staff, designers, constructors and land developers to the planning, design, construction and commissioning of Corporation infrastructure including water services provided by land developers for takeover by the Corporation.

Nothing in this Design Standard diminishes the responsibility of designers and constructors for applying the requirements of the Western Australia's Work Health and Safety (General) Regulations 2022 to the delivery of Corporation assets. Information on these statutory requirements may be viewed at the following web site location:

Overview of Western Australia's Work Health and Safety (General) Regulations 2022 (dmirs.wa.gov.au)

Enquiries relating to the technical content of a Design Standard should be directed to the Senior Principal Engineer, Water Treatment, Engineering. Future Design Standard changes, if any, will be issued to registered Design Standard 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.

DISCLAIMER

Water Corporation accepts no liability for any loss or damage that arises from anything in the Standards/Specifications including any loss or damage that may arise due to the errors and omissions of any person. Any person or entity which relies upon the Standards/Specifications from the Water Corporation website does so that their own risk and without any right of recourse to the Water Corporation, including, but not limited to, using the Standards/Specification for works other than for or on behalf of the Water Corporation.

The Water Corporation shall not be responsible, nor liable, to any person or entity for any loss or damage suffered as a consequence of the unlawful use of, or reference to, the Standards/Specifications, including but not limited to the use of any part of the Standards/Specification without first obtaining prior express written permission from the CEO of the Water Corporation.

Any interpretation of anything in the Standards/Specifications that deviates from specific Water Corporation Project requirements must be referred to, and resolved by, reference to and for determination by the Water Corporation's project manager and/or designer for that particular Project.

REVISION STATUS

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

REVISION STATUS						
SECT.	**VER./ REV.**	**DATE**	**PAGES REVISED**	**REVISION DESCRIPTION (Section, Clause, Sub-Clause)**	**RVWD.**	**APRV.**
1	1/0	11.02.21	All	New Version/Revision	BM	DH

2	1/0	11.02.21	All	New Version/Revision	BM	DH
	1/1	**26.02.24**	**All**	**Minor edits + portable Cylinder Ramps no longer an option because recessed flooring for scales now required.**	**SZ**	**NH**

DESIGN STANDARD DS 70-06

CHLORINE ANCILLARY EQUIPMENT

CONTENTS

1 PRELIMINARIES

1.1 Scope

The scope of this Design Standard is to list the ancillary equipment required for specific types of chlorine installations.

1.2 Standards

This Design Standard refers to the following current Standards:

AS 2927	The storage and handling of liquefied chlorine gas

1.3 Definitions

1.3.1 Chlorine

Elemental chlorine in its gaseous or liquid form.

1.3.2 Container

The vessel in which the chlorine is wholly or partly contained, including cylinders and drums.

1.3.3 Cylinder

A rigid packaging, which is designed in accordance with AS 2030.1 as a portable pressure vessel for storage of chlorine, and has only one cylinder valve, at the top, used for the withdrawal of chlorine gas.

1.3.4 Chlorine Store

An area that is used solely for the storage of chlorine containers and their associated equipment.

1.3.5 Drum

A cylindrical steel container having a water capacity of 500-1000 L and which can be fitted into a protective cradle for storage and transport.

1.3.6 Shall

Indicates the statement is mandatory, and thus must be carried out.

1.3.7 Should or May

Indicates the statement is a recommendation.

1.3.8 Cylinder Facility

A building designed to house chlorine cylinders. Cylinders are moved about using purpose-built trolleys.

1.3.9 Drum Facility

A building designed to house chlorine drums. Drums are unloaded from trucks using HIABs, or monorail or gantry cranes.

2 REQUIREMENTS

The ancillary equipment requirements for each type of chlorine facility are listed below, along with links to the relevant Equipment Specifications. Contractors can source these specifications from the Superintendent or Principal's Representative.

2.1.1 Chlorine Facilities Housing Cylinders

Chlorine cylinder facilities (both prefabricated modules and fixed buildings) shall be provided with the following equipment:

1) Ammonia Bottle Station

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573716

2) Chlorine Mallet

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573731

3) Chlorine Valve Key

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573742

4) Multi Chlorine Spanner

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573779

5) Manifest Holder Tube (signage and labelling inclusive)

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573764

6) Windsock or Windvane (according to Region preference)

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573792

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58574823

2.1.2 Drum Rail Module or Drum Facility

Chlorine drum facilities (both prefabricated modules and fixed buildings) shall be provided with the following equipment:

1) Ammonia Bottle Station

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573716

2) Chlorine Mallet

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573731

3) Chlorine Valve Key

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573742

4) Multi Chlorine Spanner

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573779

5) Manifest Holder Tube (signage and labelling inclusive)

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573764

6) Windsock or Windvane (according to Region preference)

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58573792

https://nexus.watercorporation.com.au/otcs/cs.exe/link/58574823

7) Lifting Beam

https://nexus.watercorporation.com.au/otcs/cs.exe/link/103786207

7) Lifting Beam Rest

https://nexus.watercorporation.com.au/otcs/cs.exe/link/103814850

END OF DOCUMENT