Commissioning Methodologies (CM) – MUS-01 Pipework Flushing and Cleaning Method Statement

Client:	**Project Name:**		**Project No:**
Area:	**Drawing No's:**	**Date:**	**Sheet: 1 of 2**
Check Conducted By:	**Signature:**	**Check Approved By:**	**Signature:**

INTRODUCTION

The test procedure guideline has been prepared to explain the minimum standard for pre-commissioning flushing required to be undertaken on a pipe work system prior to final filling, addition of chemicals and water balancing.

The methodology is based on local Australian water quality.

The main contaminants found in water systems are installation debris, scale, corrosion products and biological fouling. The extent of cleaning and any associated water treatment during or after cleaning is required to be addressed by a qualified water treatment expert.

Typical stages of cleaning include static flushing, dynamic flushing, degreasing, biocide wash, removal of surface oxides, effluent flushing, neutralisation, passivation and corrosion inhibitor/biocide dosing as applicable to the pipework system as well as terminal pipework connected to coils/equipment and the like.

The pipework system should be flushed so that all sensitive plant and equipment is either bypassed or temporarily looped out during the course of flushing and cleaning process.

Dynamic flushing entails either use of system pumps or some form of supplementary pumps to allow flushing velocities to be achieved as nominated in the BSIRA Guidelines or design flow rate + 10% as applicable in all mains, branch and terminal pipe work runs and which flows can be verified using the installed measuring facilities and/or ultra-sonic measuring facilities.

Material in the water systems shall be removed by one of the options being in-line fine mesh strainers, side-stream filters drained to waste or some other method that provides actual removal of the material.

Provide adequate air vents and adequate drain points in pipework to allow the system to be purged of air and to be drained quickly.

REFERENCE STANDARDS

BSIRA - Pre-commission Cleaning of Pipework Systems AG 1/2001.0

CIBSE Commissioning Code W - Water Distribution

NEBB - Procedural Standards for Testing, Adjustment and Balancing Environmental Systems

CHECKLIST

Area/Level/Zone					
System Reference					
Drawing Number					
	ITEM	**VERIFICATION METHOD**	**RESULT**	**RESULT**	**RESULT**
1	Pipework pressure testing complete	Pressure Test Report			
2	Circulation pumps operating, aligned and commissioned OR external pumps provided for flushing	Site Inspection			
3	Water supply and drain facility available	Site Inspection			
4	All isolation valves open	Site Inspection			
5	Auto vent valves open	Site Inspection			
6	Drain valves open	Site Inspection			
7	Water fully drained from pipework	Site Inspection			
8	Drain valves closed before re-filling with clean water	Site Inspection			
9	Pipework re-filled with chemically dosed water for descaling/washing as applicable	Site Inspection			
10	All flushing loop valves open and isolation valves closed to all water coils/equipment	Site Inspection			
11	Side stream filter sock/pump strainers/ coil strainers are installed and are clean	Site Inspection			
12	Flushing velocities through pipework complies with minimum velocities and recorded on water balance test report	Minimum Flushing Velocities			
13	Side stream filter sock/pump strainers/ coil strainers are removed	Site Inspection			
14	All drains, dirt legs drained	Site Inspection			
15	Water clean and appropriate chemicals added by water treatment company	Chemical report			
16	Water samples taken and test report provided by water treatment specialist	Chemical report			
17	All flushing loop valves shut and isolation valves open to all water coils/equipment and drains before final connection to main system water	Site Inspection			

18	Final chemical concentrations from various representative points taken and tested / recorded to ensure complete dispersal of chemicals	Chemical report			
Certified By Sub Contractor (initial): Date:					
Confirmed By (Head Contractor / Client) (initial): Date:					