



University of Wollongong

Fire Services Commissioning Standard
Version 1.01 – 13 May 2009



VERSION CONTROL SYSTEM

Section Modified	Description of Modification	Version	Organisation	Representative	Date
8. (e)	Added part (e) Fire Suppression Systems	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.3 (f)	Added part (f) Programming passwords	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.1 (b)	Added part (b) "Note the relevant Australian Standard..."	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.2 (g) & (h), 8.5.7 (d) & (e)	Added "in each zone"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.1 (a)	Added "and as-installed drawings"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.5 (h)	"manufacturer's recommendations" replaced with "Australian Standards"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.6 (e)	Added "and flow rate"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.14	Added section on Operator Terminal & Application Software	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.7.11	Added "Warden" to "Intercom Points"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.5.10 (h)	Added "operation of discharge time delays"	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.7.1, 8.7.2, 8.7.3, 8.7.4, 8.7.5, 8.7.6, 8.7.7, 8.7.8, 8.7.9, 8.7.10, 8.7.11, 8.7.12	Added schedule checkpoints for Block Plan and As-installed Drawings	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
8.7.13	Added schedule for Operator Terminal & Application Software	D2	Asset Technologies Pacific	Tom Poyner	23/11/06
Throughout	UOW Logo added to headers	V1	Asset Technologies Pacific	Tom Poyner	01/12/06
8.2	Commissioning Process – added “to meet Practical Completion” in Commissioning Planning box	V1.01	University of Wollongong	Chris Hewitt	13/05/09



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8. FIRE SERVICES

The fire services provide protection against fire and ensure the safety and well being of people, property and processes at the University of Wollongong (UOW).

The fire services comprise:

- a. Portable Fire Extinguishers;
- b. Hose Reels & Hydrants;
- c. Dry Fire Detection Systems;
- d. Sprinkler Systems;
- e. Fire Suppression Systems;
- f. Fire Doors & Associated Controls;
- g. Smoke Exhaust Systems; and
- h. Emergency Evacuation & Warning Systems.

8.1 OVERVIEW

The quality control process for the fire services involves the following stages:

Stages	Description	Parties Involved
Stage 1	Unit Testing - Performed by the manufacturer at a component level.	Manufacturer
Stage 2	Installation Inspections - Performed by the project manager during the installation process. The objective is to identify poorly installed equipment or parts of the installation that do not comply with the provisions of the design specifications. Provided the defect is identified at an early stage, the cost of remedial work and delays to the project program can be minimised.	Project Manager
Stage 3	Final Commissioning - Performed by the installation contractor and witnessed by the project manager.	Contractor, Project Manager

Table 1 - Commissioning Stages

Final commissioning is the most important part of the quality control process. It is at this stage of the project that the project manager will determine whether the system is ready to be approved for Practical Completion.

All commissioning tests are critical and shall be performed to ensure that all fire services operate correctly. It is UOW's objective to complete the commissioning tests with zero defects remaining in the system.

The fire services commissioning tests have been designed to test the functionality and performance of all systems and equipment. It is important that the fire services be tested under all operational conditions to ensure that the fire services operate efficiently and safely and comply with the design specification.



8.2 COMMISSIONING PROCESS

The following flow diagram depicts the commissioning process:

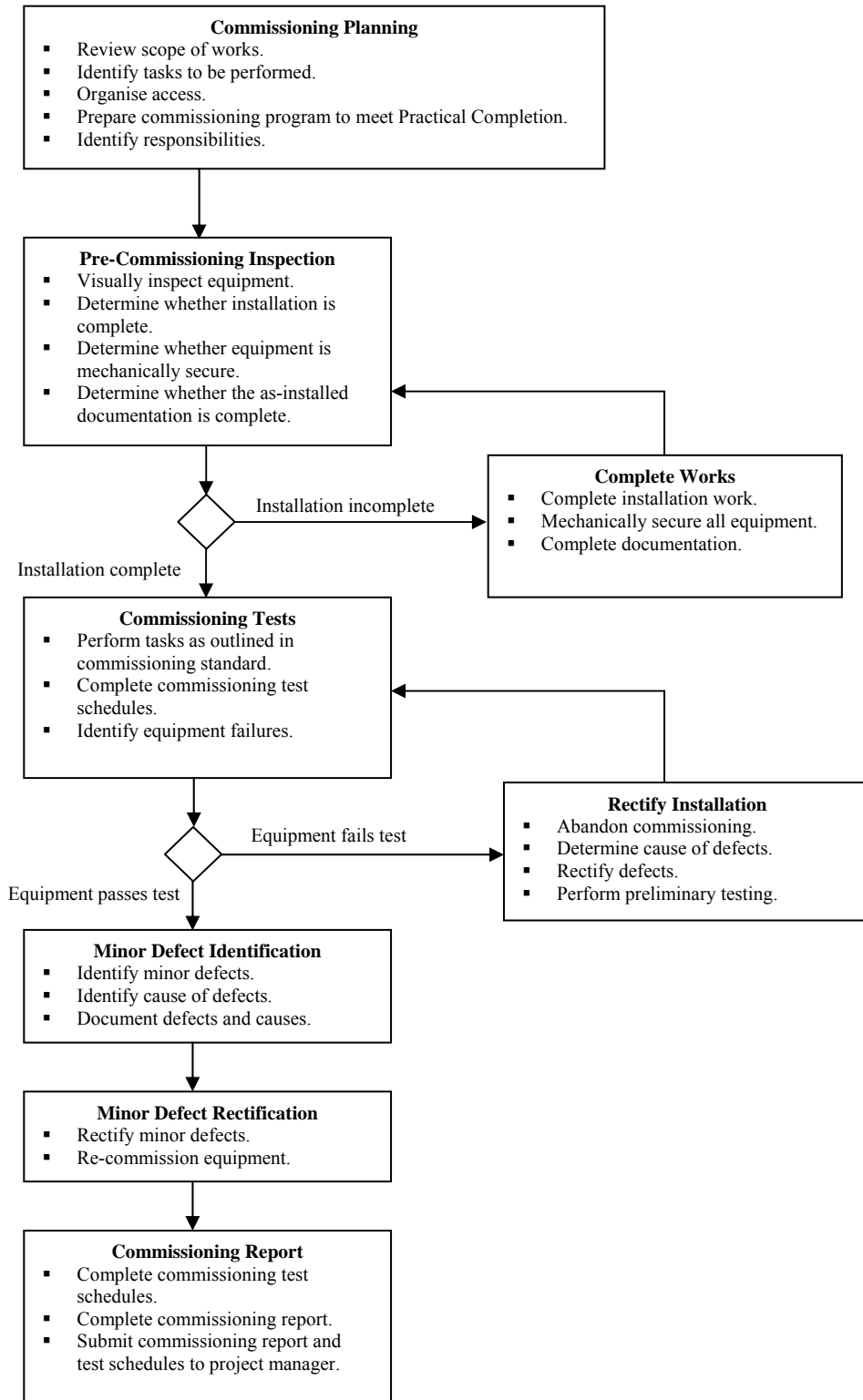


Figure 1 - Commissioning Process Flowchart



8.3 DOCUMENTATION

The contractor shall submit a complete set of documentation to the project manager no later than one (1) week prior to the planned commissioning date. As a minimum the documentation shall comprise:

- a. As-installed drawings;
- b. Equipment technical manuals;
- c. Equipment operation manuals;
- d. Hardware and software technical manuals;
- e. Programming schedules;
- f. Programming passwords;
- g. Installation test results;
- h. Fire Safety Statement.

The contractor shall obtain written approval of the documentation from the project manager before commencing the commissioning tests.

8.4 COMMISSIONING TIME AND DATE

The contractor shall submit a program to the project manager containing the proposed time and date for each commissioning test at least two (2) weeks prior to the planned commissioning date. The program must contain allowances for defect rectification and remedial works.

The contractor shall obtain written approval of the program from the project manager before commencing the commissioning tests.

8.5 COMMISSIONING TESTS

Commissioning tests shall be performed to assess the functionality and performance of the fire services. Each commissioning test is specific to the fire service being tested.

Where the fire indicator panel (FIP) interfaces with a Building Monitoring and Control System (BMCS) or an electronic security system or a ventilation system, the relevant service function must be tested in conjunction with the fire system tests.

Persons with qualifications and experience suitable for the testing and inspection tasks shall perform all commissioning tasks and associated remedial work.



As each commissioning test is performed, the results shall be recorded on the appropriate commissioning test schedule. Any comments regarding abnormal operation in particular to failed tests shall be recorded in the comments section of the commissioning schedule.

If the equipment or system fails a test then the commissioning process shall be abandoned. The contractor shall determine the cause of the defects and retest the equipment. A report shall be provided to the project manager outlining the cause of the failure and the action taken to ensure that the remainder of the installation shall not experience the same failure.

8.5.1 General

All tests shall be performed in accordance with relevant codes, regulations and standards. Appropriate safety precautions and procedures must be followed at all times.

Following are the general commissioning procedures that apply to all systems and equipment:

- a. Verify that all systems and equipment have been installed at the location and in the configuration specified in the design documentation and as-installed drawings;
- b. Note the relevant Australian Standard for installation and commissioning. Cross-reference the commissioning tests with the requirements of the Australian Standards;
- c. Prior to undertaking all fire services commissioning tests, ensure that the fire indicator panel has been set to normal operation and is clear of all faults and alarms;
- d. For all fire commissioning tests, a record of the test results shall be maintained (refer section 8.7 Commissioning Schedules);
- e. For all defects identified, the corrective action must be recorded and the equipment shall be retested.

8.5.2 Fire Indicator Panels

The following commissioning tasks shall be performed for fire indicator panels:

- a. Verify that fire indicator panels have been correctly installed;
- b. Verify that fire indicator panels have been correctly labelled in accordance with UOW's labelling convention;
- c. Verify the FIP is easily accessible by the Fire Brigade from vehicular access;



- d. Verify all cable terminations are permanent and insulated to protect against faults and interference;
- e. Verify the operation of all switches and indicating devices;
- f. Verify that each FIP is connected to the main campus FIP;
- g. Simulate a fault in each zone then verify that each FIP transmits the correct signal to the main campus FIP;
- h. Simulate fire conditions in each zone then verify that each FIP transmits the correct signal to the main campus FIP.

8.5.3 Portable Fire Extinguishers

The following commissioning tasks shall be performed for all portable fire extinguishers:

- a. Verify the fire extinguisher has been correctly secured and mechanical protection has been provided to minimise the likelihood of physical damage;
- b. Verify the extinguisher can be easily accessed and is not obscured from view or physically obstructed;
- c. Verify that all extinguishers have been installed at the location specified in the design documentation;
- d. Verify that the correct type of extinguisher has been installed, e.g. carbon dioxide or dry chemical near electrical equipment;
- e. Verify that the extinguisher has been fitted with a maintenance record tag;
- f. Verify that the extinguisher has been labelled with usage instructions;
- g. Verify that the extinguisher has been provided with signage that clearly indicates type of extinguisher;
- h. Verify that the extinguisher anti-tamper device is intact;
- i. Verify that the extinguisher is fully charged.

8.5.4 Fire Blankets

The following commissioning tasks shall be performed for all fire blankets:

- a. Verify the fire blanket container can be easily accessed and is not obscured from view or physically obstructed;
- b. Verify that the blanket container has been fitted with a maintenance record tag;



- c. Verify that the fire blanket has been correctly folded and packed into the fire blanket container;
- d. Verify that the blanket container has been labelled with usage instructions;
- e. Verify that signage has been installed adjacent to the fire blanket container that clearly indicates the location of the fire blanket.

8.5.5 Fire Hose Reels

The following commissioning tasks shall be performed for all fire hose reels:

- a. Verify the hose reel can be easily accessed;
- b. Verify that the hose reel has been fitted with a maintenance record tag;
- c. Verify that the hose reel has been labelled with usage instructions;
- d. Verify that the hose reel has been provided with signage that clearly indicates its location;
- e. Verify that the hose can be easily unwound in its intended direction;
- f. Verify operation of the stop valve;
- g. Verify that water leakage does not exceed 5 mL in a three-minute period from the valve gland, spindle gland or discharge nozzle with the stop valve turned fully open, the nozzle closed and the hose fully run out;
- h. Verify that the rate of flow is in accordance with the Australian Standards;
- i. Verify the water pressure at the hose reel.

8.5.6 Fire Hydrants

The following commissioning tasks shall be performed for all fire hydrants:

- a. Verify the hydrant can be easily accessed;
- b. Verify that the hydrant has been fitted with a maintenance record tag;
- c. Verify that signage has been provided that clearly indicates the location of the fire hydrant;
- d. Simulate fire conditions by opening a valve, then verify that all water flow alarm and valve monitoring system switches operate correctly;



- e. Verify water pressure and flow rate at the hydrant.

8.5.7 Dry Fire Detection System

The following commissioning tasks shall be performed for all dry fire detection systems. The contractor shall notify the fire control station before performing any tests that will produce a fire alarm.

- a. Verify that smoke detectors have been correctly installed to provide the desired coverage;
- b. Verify that detectors can be accessed for maintenance;
- c. Verify that the system meets the requirements of the design specification for the environment in which it is installed;
- d. Simulate a fire alarm in each zone using an approved method for smoke detectors. Test the detector operational performance and ensure addressable systems transmit the appropriate data and non-addressable systems transmit the correct signal to the fire indicator panel (FIP);
- e. Simulate fault conditions in each zone and verify that fault is correctly indicated on the FIP.

8.5.8 Smoke & Heat Ventilation

The following commissioning tasks shall be performed for heat and smoke ventilation systems:

- a. Verify that vents have been correctly installed to provide the desired coverage;
- b. Verify that vents and smoke detectors can be accessed for maintenance;
- c. Verify all actuators and dampers operate freely and smoothly;
- d. Verify all latches engage correctly and hold the vent securely open;
- e. Verify that cables and linkages run smoothly and do not catch on any projections;
- f. Verify type and temperature rating of thermally released links;
- g. Verify draught curtains are fully intact and correctly installed.

8.5.9 Sprinkler Systems

The following commissioning tasks shall be performed for all sprinkler systems:



- a. Verify that sprinklers have been installed in accordance with the design specification and that the correct coverage is achieved;
- b. Verify calibration of pressure gauges;
- c. Verify anti-freeze solution levels;
- d. Verify water level and pressure for all tanks;
- e. Open test valves and verify operation of the alarm valves;
- f. Ensure that all valves are left in the correct position;
- g. Verify pressure and flow rate at water supply;
- h. Simulate sprinkler operation by opening flow switch test valves and verify operation of water flow alarm switches. Check FIP for correctly received alarm signal.

8.5.10 Gas Discharge Systems

The following commissioning tasks shall be performed for all gas discharge systems:

- a. Ensure that all extinguishant actuating circuits are isolated or firing mechanisms are removed to ensure that testing cannot cause discharge of any extinguishant;
- b. Verify extinguishant containers, manual mechanical release mechanisms and ancillary equipment have been secured and are unobstructed;
- c. Verify discharge nozzles are correctly aligned;
- d. Verify that the correct warning and instruction signage has been provided;
- e. Verify the pressure of each extinguishant container;
- f. Verify the amount of extinguishant in each container by weight, pressure or liquid level;
- g. Verify electrical resistance of actuators and insulation of actuators to earth;
- h. Initiate detector alarms then verify the response of container valve actuating circuits at the extinguishant container and verify the operation of discharge time delays;



8.5.11 Fire Doors

The following commissioning tasks shall be performed for all fire doors:

- a. Verify doors have been correctly installed;
- b. Verify that doors have been provided with maintenance record tags;
- c. Verify that latch handles and latch bolts operate smoothly and freely;
- d. Verify that the opening force required to open a door is in accordance with the design specification;
- e. Verify that doors close and latch within the time specified by the design specification;
- f. Verify that hold open devices operate correctly and hold open the door under normal conditions;
- g. Simulate a power failure then verify that hold open devices release doors and that doors close fully and latch correctly;
- h. Simulate fire conditions by initiating an alarm then verify that hold open devices release doors and that doors close fully and latch correctly;
- i. Verify that backchecking action functions correctly open reopening doors.

8.5.12 Evacuation Warning & Intercom Systems

The following commissioning tasks shall be performed for all evacuation warning & intercom systems (EWIS):

- a. Notify occupants of the facility that testing is being conducted;
- b. Verify that installation is complete and correct;
- c. Simulate emergency conditions by operating an alarm test switch and verify that an alert alarm appears at each EWIS panel and EWIS operation is automatically initiated;
- d. Verify the operation of audible and visual indicators at each EWIS panel;
- e. Simulate emergency conditions and perform a full automatic evacuation sequence;
- f. Verify the frequency of flashing visible signals is between 60 and 120 flashes per minute;



- g. Verify the operation of each intercom point;
- h. Verify that correct signage has been installed throughout each facility identifying evacuation and emergency procedures.

8.5.13 Stair Pressurisation Systems

The following commissioning tasks shall be performed for stair pressurisation systems:

- a. Simulate fire conditions and verify that the building monitoring and control system (BMCS) activates fire mode operation;
- b. Verify that the desired pressure is achieved;
- c. While the pressurisation system is operating:
 - i. Verify that noise in the stairwell is not excessive;
 - ii. Verify that doors can be easily opened;
 - iii. Verify the air flow rate moving from the pressurised area through an open door is in accordance with design specifications;
- d. Verify that the manual switch overrides the BMCS and de-energizes the pressurisation fans.

8.5.14 Operator Terminal & Application Software

The following commissioning tasks shall be performed for addressable fire system operator terminals:

- a. Verify the CPU, LCD screen and other peripheral devices have been correctly connected and configured;
- b. Verify the application software has been correctly installed and configured;
- c. Verify the graphical user interface (GUI) has been configured to include detailed schematics of device locations for smoke detector and sprinkler systems;
- d. Verify that system programming and configuration, reporting and alarm management can be performed using the GUI and also using text only screens.



8.6 MINOR DEFECTS

As minor defects are identified during the commissioning tests, each defect shall be rectified before proceeding to the next test. The service or equipment that was found to be defective will be recorded in the commissioning report.

Once rectification is complete, the equipment shall be retested and the results recorded in the commissioning schedules.

8.7 COMMISSIONING SCHEDULES

The commissioning schedules shall be completed in accordance with this standard. Where a system or equipment needs to be retested, the retest results shall be recorded. At the completion of the commissioning tests, UOW shall have one complete set of commissioning schedules containing all systems and equipment that are free of defects.



8.7.1 Fire Services Commissioning Schedule - Fire Indicator Panel

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
FIP Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Labelling	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Cable Connections	<input type="checkbox"/>	<input type="checkbox"/>		
Switches	<input type="checkbox"/>	<input type="checkbox"/>		
Indicating Devices	<input type="checkbox"/>	<input type="checkbox"/>		
Connection to Campus FIP	<input type="checkbox"/>	<input type="checkbox"/>		
Fault Recognition	<input type="checkbox"/>	<input type="checkbox"/>		
Fire Mode Operation	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.2 Fire Services Commissioning Schedule - Portable Fire Extinguisher

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Extinguisher Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Extinguisher Type	<input type="checkbox"/>	<input type="checkbox"/>		
Maintenance Tag	<input type="checkbox"/>	<input type="checkbox"/>		
Instruction Labelling	<input type="checkbox"/>	<input type="checkbox"/>		
Extinguisher Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Anti-tamper device	<input type="checkbox"/>	<input type="checkbox"/>		
Fully charged	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____



8.7.3 Fire Services Commissioning Schedule - Fire Blanket

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Maintenance Tag	<input type="checkbox"/>	<input type="checkbox"/>		
Blanket Folding	<input type="checkbox"/>	<input type="checkbox"/>		
Instruction Labelling	<input type="checkbox"/>	<input type="checkbox"/>		
Blanket Location Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.4 Fire Services Commissioning Schedule - Fire Hose Reel

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Maintenance Tag	<input type="checkbox"/>	<input type="checkbox"/>		
Instruction Labelling	<input type="checkbox"/>	<input type="checkbox"/>		
Location Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Easily Unwound	<input type="checkbox"/>	<input type="checkbox"/>		
Stop Valve	<input type="checkbox"/>	<input type="checkbox"/>		
Leakage	<input type="checkbox"/>	<input type="checkbox"/>		
Flow Rate	<input type="checkbox"/>	<input type="checkbox"/>		
Water Pressure	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____



8.7.5 Fire Services Commissioning Schedule - Fire Hydrant

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Maintenance Tag	<input type="checkbox"/>	<input type="checkbox"/>		
Location Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Water Flow Alarm	<input type="checkbox"/>	<input type="checkbox"/>		
Valve Monitoring Switch	<input type="checkbox"/>	<input type="checkbox"/>		
Water Pressure	<input type="checkbox"/>	<input type="checkbox"/>		
Water Flow	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____



8.7.6 Fire Services Commissioning Schedule - Dry Fire Detection System

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Coverage	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Detection Type	<input type="checkbox"/>	<input type="checkbox"/>		
Fire Simulation	<input type="checkbox"/>	<input type="checkbox"/>		
Fault Recognition	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____



8.7.7 Fire Services Commissioning Schedule - Smoke & Heat Ventilation

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Accessibility	<input type="checkbox"/>	<input type="checkbox"/>		
Coverage	<input type="checkbox"/>	<input type="checkbox"/>		
Actuators	<input type="checkbox"/>	<input type="checkbox"/>		
Dampers	<input type="checkbox"/>	<input type="checkbox"/>		
Latches	<input type="checkbox"/>	<input type="checkbox"/>		
Cables	<input type="checkbox"/>	<input type="checkbox"/>		
Linkages	<input type="checkbox"/>	<input type="checkbox"/>		
Thermally Released Links	<input type="checkbox"/>	<input type="checkbox"/>		
Draught Curtains	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.8 Fire Services Commissioning Schedule - Sprinkler Systems

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____ Equipment Rating: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Coverage	<input type="checkbox"/>	<input type="checkbox"/>		
Pressure Gauges	<input type="checkbox"/>	<input type="checkbox"/>		
Anti-freeze Solution	<input type="checkbox"/>	<input type="checkbox"/>		
Water Tanks	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm Valves	<input type="checkbox"/>	<input type="checkbox"/>		
Supply Water Pressure	<input type="checkbox"/>	<input type="checkbox"/>		
Sprinkler Simulation	<input type="checkbox"/>	<input type="checkbox"/>		
Water Flow Alarm Switches	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____



8.7.9 Fire Services Commissioning Schedule - Gas Discharge System

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Coverage	<input type="checkbox"/>	<input type="checkbox"/>		
Alignment	<input type="checkbox"/>	<input type="checkbox"/>		
Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Container Pressure	<input type="checkbox"/>	<input type="checkbox"/>		
Extinguishant	<input type="checkbox"/>	<input type="checkbox"/>		
Actuator Insulation	<input type="checkbox"/>	<input type="checkbox"/>		
Actuator Operation	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.10 Fire Services Commissioning Schedule - Fire Door

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Maintenance Tag	<input type="checkbox"/>	<input type="checkbox"/>		
Latches	<input type="checkbox"/>	<input type="checkbox"/>		
Opening Force	<input type="checkbox"/>	<input type="checkbox"/>		
Closing/Latching Speed	<input type="checkbox"/>	<input type="checkbox"/>		
Hold Open Devices	<input type="checkbox"/>	<input type="checkbox"/>		
Power Failure Simulation	<input type="checkbox"/>	<input type="checkbox"/>		
Fire Conditions Simulation	<input type="checkbox"/>	<input type="checkbox"/>		
Backchecking Action	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___/___/___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.11 Fire Services Commissioning Schedule - Evacuation Warning & Intercom System

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Coverage	<input type="checkbox"/>	<input type="checkbox"/>		
EWIS Panel	<input type="checkbox"/>	<input type="checkbox"/>		
Audible Indicators	<input type="checkbox"/>	<input type="checkbox"/>		
Flashing Visual Indicators	<input type="checkbox"/>	<input type="checkbox"/>		
Evacuation Sequence	<input type="checkbox"/>	<input type="checkbox"/>		
Warden Intercom Points	<input type="checkbox"/>	<input type="checkbox"/>		
Signage	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: ___ / ___ / ___

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.12 Fire Services Commissioning Schedule - Stair Pressurisation System

Building Number: _____ Building Name: _____
 Equipment Number: _____ Equipment Location: _____ Equipment Type: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Fire Mode Operation	<input type="checkbox"/>	<input type="checkbox"/>		
Pressure	<input type="checkbox"/>	<input type="checkbox"/>		
Noise Levels	<input type="checkbox"/>	<input type="checkbox"/>		
Opening Force For Doors	<input type="checkbox"/>	<input type="checkbox"/>		
Air Flow Rate	<input type="checkbox"/>	<input type="checkbox"/>		
Manual Switch	<input type="checkbox"/>	<input type="checkbox"/>		
Block Plan	<input type="checkbox"/>	<input type="checkbox"/>		
As Installed Drawings	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: __/__/__

Commissioning Contractor Name: _____
 Commissioning Contractor Representative: _____

Project Manager Name: _____
 Project Manager Reference: _____



8.7.13 Fire Services Commissioning Schedule - Operator Terminal & Application Software

Building Number: _____ Building Name: _____
Equipment Number: _____ Equipment Location: _____ Equipment Type: _____

Test	Commissioning Results		Test Reference Notes	Defect Details
	Pass	Fail		
Hardware Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Hardware Configuration	<input type="checkbox"/>	<input type="checkbox"/>		
Software Installation	<input type="checkbox"/>	<input type="checkbox"/>		
Software Configuration	<input type="checkbox"/>	<input type="checkbox"/>		
GUI Schematics	<input type="checkbox"/>	<input type="checkbox"/>		
System Programming & Configuration	<input type="checkbox"/>	<input type="checkbox"/>		
Reporting	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm Management	<input type="checkbox"/>	<input type="checkbox"/>		

Commissioning Date: __/__/__

Commissioning Contractor Name: _____
Commissioning Contractor Representative: _____

Project Manager Name: _____
Project Manager Reference: _____