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12 August 2021

To: Recipients of FSD Circular Letters

Dear Sir/Madam,

**FSD Circular Letter No. 7/2021**  
**Annual Inspection Checklist for Water Supplies**

This letter serves to announce the introduction of an annual inspection checklist to facilitate annual inspection (AI) of water supplies by Registered Fire Service Installation Contractors (RFSICs).

The AI checklist for water supplies (**Annex**) is devised by making reference to different codes and standards and upon extensive consultation with local trade members. It also specifies the minimum requirements for conducting AIs of transfer pumping installations which are used to refill fire service installation water tank(s). Items listed in the checklist and its table, if applicable to the water supplies in the buildings/premises, shall be inspected/tested. RFSICs shall, after inspection, complete the checklist by indicating, where appropriate, whether the inspected and tested items conform to the standards/requirements as stipulated in the Code of Practice for Minimum Fire Service Installations and Equipment (**the version that is relevant to the buildings/premises**).


This apart, RFSICs shall duly observe the principles and requirements regarding **“Completion of checklists for AI”** and **“Duty and responsibility of RFSICs”** as stated in FSD Circular Letter No. 4/2019 **“Annual Inspection Checklists for Fire Hydrant/Hose Reel**

Systems and Supply Tanks” issued on 13 December 2019. It is important for RFSICs to note that they shall bear the ultimate responsibility for certifying that the FSIs are in efficient working order and conform to the requirements specified in the Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installation and Equipment.

To allow more time for the trade to acquaint themselves with the new arrangement and practice, the AI checklist for water supplies will take effect on **1 November 2021**. The new arrangement will be reviewed after 12 months of its implementation. Meanwhile, checklists for other fire service installations and equipment will be devised for promulgation in due course.

For enquiries, please contact our Fire Service Installations Task Force on 2733 1567 during office hours.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Leung Kwun-hong', written in a cursive style.

(LEUNG Kwun-hong)

for Director of Fire Services

Encl.

Annual Inspection Checklist for Water Supplies

RFSIC Ref.: .....

Serial no. of FS 251: .....

Completion Date of Annual Inspection: .....

Building/Premises Address: .....

The annual inspection is conducted in accordance with the appropriate version of Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment, and relevant requirements applicable to the system(s) installed in the building/premises. All applicable items in this Checklist have been inspected/tested as required.

Remarks: (a) This Checklist is applicable to transfer pumping installations used to refill F.S. installation water tank(s).

(b) For systems with direct town main(s), the inspection results for the water supply portion shall be recorded in the Checklist for the corresponding systems. For systems with water tanks refilled directly from town main(s), the inspection results for the water supply portion shall be recorded in the Checklist for Supply Tanks.

(c) "Yes" denotes compliance with the FSD's requirements. "No" denotes non-compliance with the FSD's requirements. "N/A" denotes not applicable. Please insert a "√" in the appropriate box.

See Table I for the Schedule of Equipment and Test Record.

<b>1.</b>	<b>Supply Tank</b>
	Results of the annual inspection for transfer tank(s) shall be recorded in the Annual Inspection Checklist for Supply Tanks.

<b>2.</b>	<b>Transfer Pumping Installation</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Remarks</b>
2.1	Pump Room/Enclosure (where applicable)			[ ]	If N/A, go to 2.2
	a. The room(s)/enclosure(s) shelter(s) the pump(s) from tampering/inclement weather.	[ ]	[ ]	[ ]	..... .....
	b. The room(s)/enclosure(s) is/are properly labelled in terms of usage.	[ ]	[ ]	[ ]	..... .....
2.2	Pump Space (for pump(s) mounted on spreaders or flat roofs, where applicable)			[ ]	If N/A, go to 2.3
	a. The pump space(s) is/are properly labelled in terms of usage.	[ ]	[ ]	[ ]	..... .....
	b. The electrical equipment, pump control panel(s) and cable connections, where applicable, within the pump space(s) are protected against ingress of water.	[ ]	[ ]	[ ]	..... .....
2.3	Pump Foundation				
	a. The pump plinth(s)/spreader(s) is/are intact and free from deformation, settlement and undue corrosion.	[ ]	[ ]	[ ]	..... .....
	b. The anti-vibration mounting(s), where provided, is/are intact and free from undue settlement.	[ ]	[ ]	[ ]	..... .....

### Annual Inspection Checklist for Water Supplies

2.4	Pump Set (Pump and Driver)	Yes	No	N/A	Remarks
	a. The pump set(s) together with the base plate(s), where applicable, is/are intact, securely mounted and free from settlement.	[ ]	[ ]	[ ]	..... .....
	b. The guard(s) for the coupling/shaft, where applicable, is/are intact and securely mounted.	[ ]	[ ]	[ ]	..... .....
	c. The pump coupling cushions and shaft alignment are checked and re-aligned where necessary.	[ ]	[ ]	[ ]	..... .....
	d. The shaft bearings and shaft coupling are lubricated.	[ ]	[ ]	[ ]	..... .....
	e. The packing for the pump shaft(s) is checked and re-adjusted to suitable tightness where necessary.	[ ]	[ ]	[ ]	..... .....
	f. An air vent valve is provided at an appropriate position of the pump casing for pump(s) which is/are capable of trapping air inside the casing.	[ ]	[ ]	[ ]	..... ..... .....
2.5	Pipework, Valves, Equipment and Accessories				
	a. The pipework, valves, strainers, expansion joints, flexible connectors, equipment and accessories, where applicable, are intact, securely supported, and free from leakage, distortion and undue corrosion.	[ ]	[ ]	[ ]	..... ..... .....
	b. The support and brackets are intact and free from distortion and undue corrosion.	[ ]	[ ]	[ ]	..... .....
	c. The strainer(s), where applicable, is/are free from blockage and the screen(s) inside is/are cleaned.	[ ]	[ ]	[ ]	..... .....
	d. The stop valves are duly lubricated and tested to operate freely between fully open and fully closed and are set at their correct (fully open or fully closed) positions after the tests.	[ ]	[ ]	[ ]	..... .....
	e. Where applicable, the stop valves are padlocked and labelled “Normally Open 常開” or “Normally Closed 常關” as appropriate.	[ ]	[ ]	[ ]	..... ..... .....
	f. The electrical monitoring switch(es) for stop valves, where provided, is/are intact, properly wired, and tested to be in working order.	[ ]	[ ]	[ ]	..... ..... .....
	g. The pressure switch(es), where provided, is/are intact, properly wired, and labelled in terms of usage and pressure setting.	[ ]	[ ]	[ ]	..... .....
	h. The reading(s) on the pressure gauge(s), where provided, is/are within the acceptable range.	[ ]	[ ]	[ ]	..... .....
	i. The automatic air vent valve(s), where provided, is/are intact, with the vent opening unobstructed (not capped closed).	[ ]	[ ]	[ ]	..... .....

### Annual Inspection Checklist for Water Supplies

2.6	Electrical Equipment, Cable and Cable Containment	Yes	No	N/A	Remarks
	a. The power supply switch(es), busbar chamber(s), pump control panel(s) and electrical equipment, where applicable, are intact, securely mounted, properly labelled and free from undue corrosion.	[ ]	[ ]	[ ]	..... ..... ..... .....
	b. The fuses in the power supply circuit and control circuit, where applicable, are of the correct ratings and intact.	[ ]	[ ]	[ ]	..... .....
	c. The cables and cable containment are intact, securely mounted, properly wired, and free from undue deterioration.	[ ]	[ ]	[ ]	..... .....
	d. The power supply switches are tested to be operating properly and are switched on after the test.	[ ]	[ ]	[ ]	..... .....
	e. The contactor(s), relay(s), timer(s), interface module(s), switch(es), circuit breaker(s), indicator(s), terminal block(s) and other components, wherever applicable, and the wirings inside the pump control panel(s) are intact, properly wired and free from any sign of damage/overheating and undue deterioration.	[ ]	[ ]	[ ]	..... ..... ..... ..... .....
	f. The control buttons, switches, indicators and meters are properly labelled in terms of usage.	[ ]	[ ]	[ ]	..... .....
	g. The reading(s) on the voltmeter(s), where provided, is/are within the acceptable range.	[ ]	[ ]	[ ]	..... .....
	h. The reading(s) on the ammeter(s), where provided, is/are within the acceptable range.	[ ]	[ ]	[ ]	..... .....
	i. The control buttons and switches are tested to operate properly and are in the correct positions.	[ ]	[ ]	[ ]	..... .....
	j. The switch(es) for suspending pump operation, where provided, is/are in the correct position(s).	[ ]	[ ]	[ ]	..... .....
	k. The indicator(s), where provided, is/are tested to operate properly and are in proper status.	[ ]	[ ]	[ ]	..... .....
2.7	<b>As-built Framed Schematic Diagram</b>				
	Legible as-built system schematic diagram(s), where provided, is/are displayed conspicuously at the pump room/enclosure/space.	[ ]	[ ]	[ ]	..... .....
2.8	<b>Operation of Transfer Pump</b>				
	a. Transfer pump no. 1 can be started and stopped by the corresponding start and stop buttons on the pump control panel respectively.	[ ]	[ ]	[ ]	..... ..... .....
	b. Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....

### Annual Inspection Checklist for Water Supplies

		Yes	No	N/A	Remarks
c.	When assigned as the duty pump by the manual selector switch or by the control circuit, where applicable, transfer pump no. 1 starts upon receipt of a low water level signal from any water tank served by the transfer pump and can only be stopped after the low water level signal of the water tank (or all water tanks when more than one water tanks are being served) has been cleared.	[ ]	[ ]	[ ]	..... ..... ..... .....
d.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....
e.	Upon activation of the lock-off button and/or other switches, where provided, at the pump room/enclosure/space for suspending the operation of transfer pump no. 1, the fault alarm signal(s), where provided, on the pump control panel and/or the F.S. control and indicating panel as appropriate is/are in working order.	[ ]	[ ]	[ ]	..... ..... ..... .....
f.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....
g.	When started, transfer pump no. 1 accelerates to full speed within an acceptable time frame.	[ ]	[ ]	[ ]	..... .....
h.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....
i.	After running transfer pump no. 1 for not less than 10 minutes, the pump operation is free from abnormal noise, excessive vibration, undue leakage, overheating and other signs of malfunction. (Remark: Ensure there is a steady flow for proper cooling of the pump.)	[ ]	[ ]	[ ]	..... ..... ..... .....
j.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....
k.	When the transfer pump no. 1 runs, the discharge pressure reading, the full load voltage readings and the full load current readings at all phases are within the acceptable ranges, and the discharge pressure is recorded in Table I.	[ ]	[ ]	[ ]	..... ..... .....
l.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....
m.	The transfer pump no. 1 status indicator(s), where provided, on the pump control panel and/or the F.S. control and indicating panel as appropriate is/are tested to be in working order by simulating respective scenarios.	[ ]	[ ]	[ ]	..... ..... .....
n.	Ditto but for transfer pump no. 2 where provided.	[ ]	[ ]	[ ]	..... .....
o.	(Where applicable), when assigned as the standby pump, transfer pump no. 2 starts automatically when transfer pump no. 1, which is assigned as the duty pump, fails to operate properly when required.	[ ]	[ ]	[ ]	..... ..... .....

### Annual Inspection Checklist for Water Supplies

		Yes	No	N/A	Remarks
p.	Ditto but with transfer pump no. 1 assigned as the standby pump and transfer pump no. 2 assigned as the duty pump, where applicable.	[ ]	[ ]	[ ]	..... .....
q.	When serving a reduced capacity tank (i.e. tank dependent on inflow), transfer pump no. 1 has sufficient flow rate to serve the reduced capacity tank in addition to other tank(s), where applicable, such that the infill rate for the reduced capacity tank and the water volume in the reduced capacity tank meet the full capacity tank requirements.	[ ]	[ ]	[ ]	..... ..... ..... .....
r.	Ditto but for transfer pump no. 2, where provided.	[ ]	[ ]	[ ]	..... .....

3. Town Main Connection					
a.	All pipework, stop valve(s), check valve(s) and backflow preventer(s), where applicable, are securely supported, intact and free from leakage and undue corrosion.	[ ]	[ ]	[ ]	..... ..... .....
b.	All stop valves are duly lubricated and tested to operate freely between fully open and fully closed and are set at their correct (fully open or fully closed) positions after the tests.	[ ]	[ ]	[ ]	..... .....
c.	Where applicable, the stop valves are padlocked and labelled "Normally Open 常開" or "Normally Closed 常關" as appropriate.	[ ]	[ ]	[ ]	..... .....
d.	The backflow preventer(s), where provided, is/are tested to be in working order.	[ ]	[ ]	[ ]	..... .....
e.	The electrical monitoring switch(es) for stop valves, where provided, is/are intact, properly wired, and tested to be in working order.	[ ]	[ ]	[ ]	..... .....
f.	The cables and cable containment for electrical monitoring switch(es) where provided are intact, securely mounted, properly wired and without undue deterioration.	[ ]	[ ]	[ ]	..... ..... .....

4. Other Observations					
a.	For pump rooms/enclosures, where applicable, the entrance door(s) is/are kept locked.	[ ]	[ ]	[ ]	..... .....
b.	For pump spaces, where applicable, the direct access to the pump space(s) is maintained available.	[ ]	[ ]	[ ]	..... .....
c.	The pump room(s)/enclosure(s)/space(s), where applicable, is/are kept clear of storage and waste materials.	[ ]	[ ]	[ ]	..... .....
d.	The artificial lighting, where provided, at transfer pump room(s)/enclosure(s)/space(s) is operating properly.	[ ]	[ ]	[ ]	..... .....

### Annual Inspection Checklist for Water Supplies

			Yes	No	N/A	Remarks
	e.	For underground pump rooms, where applicable, the submersible drainage pumping installation, where provided, is in working order.	[ ]	[ ]	[ ]	..... .....
	f.	Every opening for the passage of pipes, cables and cable containments, etc., through a required fire barrier is protected with an appropriate fire stop to maintain the required fire resisting properties of the fire barrier.	[ ]	[ ]	[ ]	..... ..... .....

Note:

1. All items under part 4 - Other Observations are not related to the functionality of the fire service installations and equipment (FSIs) and hence shall not be reflected in FS 251. However, owners of FSIs bear the responsibility to rectify any irregularities noted thereunder.
2. This checklist specifies the minimum requirements for annual inspection for water supplies involving transfer pump(s) installation. Incomplete inspections or inspections not conducted in full accordance with this checklist shall not be recognised as properly completed annual inspections.

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**Authorised Signatory of RFSIC:**

\_\_\_\_\_ (Name in Full) \_\_\_\_\_ (Signature)

\_\_\_\_\_ (Date)

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**Registered Fire Service Installation Contractor:**

\_\_\_\_\_ (FSD/RC No.) \_\_\_\_\_ (Company Name)

\_\_\_\_\_ (Company Stamp)



## Annual Inspection Checklist for Water Supplies

**Table 1**

**Schedule of Equipment and Test Record**

**Building/Premises Address:** \_\_\_\_\_

**Building/Block Name:** \_\_\_\_\_

Pump no.	Floor level and Location of Transfer Pump	Water Tank(s) being Served	Floor level and Location of Water Tank(s) being Served	Pump Running Pressure (bar)	Remarks