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**FIRE SERVICES DEPARTMENT
FIRE PROTECTION COMMAND**

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15 March 1995

FSD Circular Letter No. 1/95
Checklist for Fire Detection System in accordance with
FOC Rules for Automatic Fire Alarm Installations (12th Ed.)

This Circular Letter announces an agreement reached by the Working Group of Fire Service Installations Inspection Procedures, with endorsement from the FSD/Building Industry Joint Liaison Group, to the attached 'Checklist for Fire Detection System in accordance with Rules of the Fire Offices' Committee for Automatic Fire Alarm Installations (12th Edition)', which will come into operation as from 1 May 1995.

The checklist is prepared in accordance with Code of Practice for Inspection and Testing of Installations and Equipment with an objective to provide guidelines for acceptance inspection and testing of automatic fire detection system upon installation completion. It also provides means of verification for the design engineers and contractors to assure the installed equipment and system being in conformity with the specified standard.

Signed
(TSANG Kwong-yu)
for Director of Fire Services

Checklist for Fire Detection System
in accordance with Rules of the Fire Offices' Committee
for Automatic Fire Alarm Installations (12th Edition)

I. Reference

Project : FSD Ref.
Address :
Type of building : Domestic/Industrial/Godown/Commercial/Office/Composite/Hotel/Hospital/
Others with/without basement

II. Type of Equipment

2.1 Alarm annunciation Panel

2.1.1 Manufacturer/Model No. of alarm annunciation panel : (Main panel)
(Sub-panel,
if any)

2.1.2 FSD approved type Yes/No

2.1.3 Conventional (electronic) type []
Addressable type []

2.2 Detectors

2.2.1 Heat detector : Manufacturer/model no. :
FSD approved type : Yes/No
Type : fixed temperature []
: rate of rise []
combination []
linear cable []
others

2.2.2 Smoke detector : Manufacturer/model no. :
FSD approved type : Yes/No
Type : ionization []
: photoelectric []
beam []
selfaspirating []
others

2.2.3 Flame detector : Manufacturer/model no. :
FSD approved type Yes/No
Type : infrared []
ultra-violet []
others

2.2.4 Others : Manufacturer/model no. :
: Yes/No
:

III.	<u>Visual Inspection</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Remark</u>
3.1	<u>Detector and alarm sounder installations</u>				
3.1.1	Detectors are provided in areas as indicated on approved building plans.	[ ]	[ ]	[ ]	.....
3.1.2	Detectors are provided in areas as indicated on endorsed FSI plans.	[ ]	[ ]	[ ]	.....
	Heat detector :nos.				
	Smoke detector :nos.				
	Flame detector :nos.				
	Others :nos.				
3.1.3	Detectors are accessible for inspection and maintenance.	[ ]	[ ]	[ ]	.....
3.1.4	In the floor where sleeping risk exists (e.g. hotel, hospital, etc.) :-	[ ]	[ ]	[ ]	.....
	i. fixed temperature type heat detector is used in kitchen; (Remark : the use of this type of detector is not mandatory)	[ ]	[ ]	[ ]	.....
	ii. smoke detector is used in other areas.	[ ]	[ ]	[ ]	.....
3.1.5	Detector is provided to entire basement (except car parking area, strong room & safe deposit vault).	[ ]	[ ]	[ ]	.....
3.1.6	Intrinsically safe detector is used in environment with presence of explosive or flammable gas.	[ ]	[ ]	[ ]	.....
3.1.7	The floor area covered by a detection zone is less than or equal to 2,000 sq. m.	[ ]	[ ]	[ ]	.....
3.1.8	Area covered by a detection zone is in the same floor.	[ ]	[ ]	[ ]	.....
3.1.9	External indicators are provided for detectors installed inside rooms where travel distance exceeds 30 meters of reach within a zone.	[ ]	[ ]	[ ]	.....
3.1.10	Detector is provided to ceiling void of depth greater than 800 mm	[ ]	[ ]	[ ]	.....
3.1.11	Detector is provided to void containing combustible material irrespective of its depth. (Remark : LV power cable in metal conduit/trunking is not considered as combustible)	[ ]	[ ]	[ ]	.....
3.1.12	A minimum of 300 mm clearance is provided below detector.	[ ]	[ ]	[ ]	.....
		<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Remark</u>

3.1.13	Smoke detector is installed within 15m ceiling height limit (Remark : Not more than 10% of ceiling height shall exceed this limit, but in any event the height shall not exceed 18m.)	[ ]	[ ]	[ ]	.....
3.1.14	Heat detector is installed within 13.5m (Grade 1), 12.0m (Grade 2) or 10.5m (Grade 3) ceiling height limit. (Remark : Not more than 10% of ceiling height shall exceed these limits, but in any event the height shall not exceed 15m.)	[ ]	[ ]	[ ]	.....
3.1.15	Horizontal separation between any point in the area requires protection and a heat detector is less than 5.3 m.	[ ]	[ ]	[ ]	.....
3.1.16	Horizontal separation between any point in the area requires protection and a smoke detector is less than 7.5 m.	[ ]	[ ]	[ ]	.....
3.1.17	Horizontal separation between any point in corridor and a heat detector is less than $[5.3 + (5-W)/2]$ m where W is the width of corridor.	[ ]	[ ]	[ ]	.....
3.1.18	Horizontal separation between any point in corridor and a smoke detector is less than $[7.5 + (5-W)/2]$ m where W is the width of corridor.	[ ]	[ ]	[ ]	.....
3.1.19	Coverage of any heat detector is within a max. of 50 sq. m.	[ ]	[ ]	[ ]	.....
3.1.20	Coverage of any smoke detector is within a max. of 100 sq. m.	[ ]	[ ]	[ ]	.....
3.1.21	Horizontal distance between detector and unenclosed floor opening, openings to lift, chute, etc. is within a maximum of 1.5 m.	[ ]	[ ]	[ ]	.....
3.1.22	Beam > 150 mm and > 10% of ceiling height are treated as wall in detector installation.	[ ]	[ ]	[ ]	.....
3.1.23	Heat detector protection distance is within $(5.3 - 2 \times D)$ m limit for beam (D) > 150 mm but < 10% of ceiling height.	[ ]	[ ]	[ ]	.....
3.1.24	Smoke detector protection distance is within $(7.5 - 2 \times D)$ m limit for beam (D) > 150 mm but < 10% of ceiling height.	[ ]	[ ]	[ ]	.....
3.1.25	Sensing element of heat detector is installed between 25 mm to 150 mm below ceiling.	[ ]	[ ]	[ ]	.....
3.1.26	Sensing element of smoke detector is installed between 25 mm to 600 mm below ceiling.	[ ]	[ ]	[ ]	.....
3.1.27	Alarm sounder (weatherproof type) is installed at building external.	[ ]	[ ]	[ ]	.....

3.2 Alarm annunciation panel

		<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Remark</u>
3.2.1	The alarm annunciation panel is located near entrance or in Fire Control Centre.	[ ]	[ ]	[ ]	.....
3.2.2	The panel is compatible with the model/type of detectors installed.	[ ]	[ ]	[ ]	.....
3.2.3	Detection zonings are properly labelled. (no. of zones : .....)	[ ]	[ ]	[ ]	.....
3.2.4	The wirings are compatible with the type of control panel. (2-wire system/4-wire system/ twist pair/ .....).	[ ]	[ ]	[ ]	.....
3.3	<u>Power supply arrangement</u>				
		<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Remark</u>
3.3.1	Permanent electricity supply is connected.	[ ]	[ ]	[ ]	.....
3.3.2	Secondary electricity supply is connected, i.e.				
	a. battery	[ ]	[ ]	[ ]	.....
	b. emergency generator	[ ]	[ ]	[ ]	.....
3.3.3	Battery power supply is provided. (Voltage : DC Volts; Amp-hour)	[ ]	[ ]	[ ]	.....
3.3.4	The capacity of battery supply is sufficient to maintain the system in alarm condition for 30 minutes.	[ ]	[ ]	[ ]	.....
3.3.5	Calculation on the battery capacity is attached.	[ ]	[ ]	[ ]	.....
3.3.6	The battery shall be able to operate the system at normal condition for not less than 24 hours, or for 6 hours if emergency generator is installed.	[ ]	[ ]	[ ]	.....
3.3.7	The battery charger is capable of recharging the batteries from fully discharged to fully charge within 24 hours.	[ ]	[ ]	[ ]	.....
3.4	As installed zoning schedule and a log book are provided adjacent to alarm annunciation panel.	[ ]	[ ]	[ ]	.....

IV. Testing

		<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Remark</u>
4.1	The sensitivities of all heat/smoke/flame detectors are correctly factory adjusted/set and checked.	[ ]	[ ]	[ ]	.....
4.2	The zonings of detectors are correct.	[ ]	[ ]	[ ]	.....
4.3	The panel is in normal working condition.	[ ]	[ ]	[ ]	.....
4.4	Audio and visual alarms for system/detector fault are given at the panel.	[ ]	[ ]	[ ]	.....
4.5	Alarm is given from the bell installed at building external upon 'in-situ' actuation of detector.	[ ]	[ ]	[ ]	.....
4.6	Direct telephone link (DTL) to FSCC/Chubb Centre is connected. (pl. state DTL no. : .....).	[ ]	[ ]	[ ]	.....
4.7	Other panel function works properly :-				
4.7.1	alarm silence/reset.	[ ]	[ ]	[ ]	.....
4.7.2	normal supply / battery supply. (if applicable)	[ ]	[ ]	[ ]	.....
4.7.3	power on/failure indicator.	[ ]	[ ]	[ ]	.....
4.7.4	direct link failure indicator. (if applicable)	[ ]	[ ]	[ ]	.....
4.7.5	zone alarm/fault indicator.	[ ]	[ ]	[ ]	.....
4.8	Detectors solely using as actuating devices for fire service systems such as fire shutter, VAC control and smoke extraction systems are isolated from the Computerized Fire Alarm Transmission System (CFATS). [Remark : it is not mandatory.]	[ ]	[ ]	[ ]	.....

Test witnessed by :-

Signature :

Name of :

Responsible Engineer

Name of FSI :

Contractor

Company Chop :

Registration no. : RCI /Date :