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22 March 2012

To: Recipients of FSD Circular Letters

Dear Sirs/Madams,

FSD Circular Letter No. 3/2012
Specification for Automatic Sprinkler Installations

Subsequent to the issue of FSD Circular Letter No. 3/2006 relating to the local modifications of LPC Rules for Automatic Sprinkler Installations incorporating BS EN 12845, a few technical issues were further elaborated in collaboration with practitioners in the industry.

The modifications as detailed in "List Two" annexed to FSD Circular Letter No. 3/2006 are to be augmented with the supplementary sheets and the modified Table TB210.T5 attached to this Circular Letter. As the current modifications are only ratification of existing practices, they are to be adopted for compliance with immediate effect.

Yours faithfully,

(LAU Mun-ming)
for Director of Fire Services

Encl.

**List Two : Clauses to be replaced by modified conditions
LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003**

List-Item	Clause/Para./Page	Context	Replaced by	Reason
2.115	Clause 10.6.2.2 Page 60	<p>Positive head In positive head conditions, the diameter of the suction pipe shall be no less than 65mm. Furthermore, the diameter shall be such that a velocity of 1,8 m/s is not exceeded when the pump is operating at maximum demand flow.</p> <p>Suction lift In suction lift conditions, the diameter of the suction pipe shall be no less than 80 mm. Furthermore, the diameter shall be such that a velocity of 1,5 m/s is not exceeded when the pump is operating at maximum demand flow.</p>	<p>Positive head In positive head conditions, the diameter of the suction pipe shall be no less than 65 mm. Furthermore, the diameter shall be such that a velocity of 1,8 m/s is not exceeded when the pump is operating at maximum demand flow. The equivalent length of the suction pipe and fittings shall be not more than 30m to avoid air locks.</p> <p>Suction lift In suction lift conditions, the diameter of the suction pipe shall be no less than 80 mm. Furthermore, the diameter shall be such that a velocity of 1,5 m/s is not exceeded when the pump is operating at maximum demand flow. The equivalent length of the suction pipe and fittings shall be not more than 30m to avoid air locks.</p>	Follow local practice according to the LPC Rules BS 5306 : Part 2 : 1990
2.116	Clause 10.6.2.3 Page 60	<p>Suction lift In suction lift conditions, the diameter of the suction pipe shall be no less than 80 mm. Furthermore, the diameter shall be such that a velocity of 1,5 m/s is not exceeded when the pump is operating at maximum demand flow.</p>	<p>Suction lift In suction lift conditions, the diameter of the suction pipe shall be no less than 80 mm. Furthermore, the diameter shall be such that a velocity of 1,5 m/s is not exceeded when the pump is operating at maximum demand flow. The equivalent length of the suction pipe and fittings shall be not more than 30m to avoid air locks.</p>	Follow local practice according to the LPC Rules BS 5306 : Part 2 : 1990
2.117	Annex E Clause E.2.1 Page 149	<p>Hazard group High rise sprinkler systems shall comply with the requirements for Ordinary Hazard Group II protection.</p>	<p>Hazard Group High rise sprinkler systems shall comply with the requirements according to Clause 6 (Classification of occupancies and fire hazards).</p>	Follow local practice according to FSD Circular Letter No. 2/94.
2.118	New Clause 10.10		<p>Intermediate Booster Pump In all buildings for Installation(s) where the height between the topmost sprinkler heads and the lowest Sprinkler Inlet is in excess of 60m, the flow and pressure characteristics (other than "nominal data" of modified Table TB210.T5 [see item 2.119]) according to the Rules shall be maintained by intermediate booster pumps which may be either a dual purpose pump system or a separate one. Design and requirements such as the control, signal indications, start and stop as well as labeling shall be in accordance with the intermediate booster pump of FH/HR system stipulated in the FSCoP.</p>	Follow similar requirements in FH/HR system as stated in the FSCoP

List Two : Clauses to be replaced by modified conditions
LPC Rules for Automatic Sprinkler Installations Incorporating BS EN 12845 : 2003

List-Item	Clause/Para./Page	Context	Replaced by	Reason
2.119	TB210: 2007	Table TB210.T5	Table TB210.T5 in Annex V is modified to extend the addition of S-“pressure equivalent to the height between the pump and the lowest sprinkler in the installation” to the nominal pressure data of LH to OH4 for high rise system.	To suit local practice.

TB210.7.1 Pre-calculated systems – LH and OH

Where the pumps take water from a storage tank, the characteristic of pre-calculated LH and OH systems shall conform to Table TB210.T5.

Table TB210.T5 Minimum pump characteristics for LH and OH (pre-calculated systems) (replaces BS EN 12845:2003 Table 16)							
Hazard class	(Non-high rise system) Height difference from pump – h or (High rise system) Lowest sprinkler in installation – h to highest sprinkler in installation	Nominal data		Characteristic not less than			
		Pressure ²	Flow	Pressure ²	Flow	Pressure ²	Flow
LH (Wet or pre-action)	m $b \leq 15$	bar 1,5	l/min 300	bar 3,7	l/min 225	bar –	l/min –
	$15 < b \leq 30$	1,8	340	5,2	225	–	–
	$30 < b \leq 45$	2,3	375	6,7	225	–	–
OH1 Wet or pre-action	$b \leq 15$	1,2	900	2,2	540	2,5	375
	$15 < b \leq 30$	1,9	1 150	3,7	540	4,0	375
	$30 < b \leq 45$	2,7	1 360	5,2	540	5,5	375
OH1 Dry or alternate OH2 Wet or pre-action	$b \leq 15$	1,4	1 750	2,5	1 000	2,9	725
	$15 < b \leq 30$	2,0	2 050	4,0	1 000	4,4	725
	$30 < b \leq 45$	2,6	2 350	5,5	1 000	5,9	725
OH2 Dry or alternate OH3 Wet or pre-action	$b \leq 15$	1,4	2 250	2,9	1 350	3,2	1 100
	$15 < b \leq 30$	2,0	2 700	4,4	1 350	4,7	1 100
	$30 < b \leq 45$	2,5	3 100	5,9	1 350	6,2	1 100
OH3 Dry or alternate OH4 Wet or pre-action	$b \leq 15$	1,9	2 650	3,0	2 100	3,5	1 800
	$15 < b \leq 30$	2,4	3 050	4,5	2 100	5,0	1 800
	$30 < b \leq 45$	3,0	3 350	6,0	2 100	6,5	1 800

NOTE 1: For high rise system definition see BS EN12845:2003 clause 3.32
NOTE 2: For high rise installation, an additional pressure – S, which is equivalent to the height difference between the pump and the lowest sprinkler in the installation shall be added to each of the above pressure requirements.