ACCEPTANCE CRITERIA FOR SPRINKLER SYSTEM

NOS	ITEMS	CRITERIA	ACCEPT (√) / REJECT (X)			REMARKS
			Design/Tendering	Construction	T&C	
1	**Breeching Inlet**					
1.1	Diameter	150 mm				
1.2	Type	4 - way type c/w box				
1.3	Standard	Breeching Inlet - M.S. 1210 : Part 3				
		Enclosure - M.S. 1210 : Part 5				
1.4	Location	BOMBA Access				
2	**Control Valve**					
2.1	Each set of control valves	1) Main stop valve				
	consisting	2) Alarm valve				
		3) Motor alarm				
		4) Drain line with stop valve				
		5) Water flow gauges (Flow meter)				
		6) Pressure gauges				
2.2	Size of control valve	Follow the size of the rising sprinkler size				
2.3	Pressure loss	Shall not exceed the equivalent of 20m of pipe line				
2.4	Maximum no. of sprinklers	1) Light Hazard : 500 sprinklers				
	to feed from one set of	2) Ordinary Hazard : 1000 sprinklers				
	installation valve	3) High Hazard : 1000 sprinklers				
		4) Life Safety Hazard : 200 sprinklers/zone and no limit on the no of zones				
		5) Car parks - 1000 sprinklers (shall provide a separate control valve)				
3	**Main Stop Valve**					
3.1	Location	Shall be flanged connected below the				
		alarm valve				
3.2	Open or shut position	1) Locked in the open position				
		2) Status monitored by the fire alarm system				
4	**Alarm Valve**					
4.1	Location	Connected immediately above the main stop valve				
5	**Zone Isolating Valve**					
5.1	Type	Stop valve provided with micro switch and interfacing unit				
5.2	Standard	UL listed/BS				
5.3	Service Pressure	12 bars				
6	**Flow switch**					
6.1	Type					
6.2	Standard	UL Listed or FM approved/BS				
7	**Pressure sensor switch**					
7.1	Location	Fitted on the supply line and above the alarm valves				

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8	**Pressure Gauges**					
8.1	Size	minimum 100mm				
8.2	Type	Dial type				
8.3	Calibration of the gauges	Pressure range of 0 to 15 bars in 0.2 bars graduations				
8.4	Standard	B.S 1780				
9	**Piping and fittings**					
9.1	Material	Galvanised steel, Class C				
9.2	Standards	BS 1387 - ~~for screwing~~				
		BS 21 - pipe threads				
9.3	-Joints - <50mm	Screwed and socketed				
	>50mm	welded flanged				
	-Standards	with BS240 and BS2971				
9.4	All changes of direction of the pipe run	standard bends or long turn fittings				
9.5	Supports	steel hangers with maximum allowable spacing 1) Pipe size <40mm - 1.8m 2) Pipe size 50mm to 150mm - 3.0m 3) Pipe Size 200mm to 250mm - 4.5m				
9.6	Pipe Fittings	1)Galvanised wrought steel to BS 1740 2) Threaded to BS 21				
9.7	Drainage	Min slope : 1) Range Pipes - 4mm in 1m 2) Distribution pipes - 2mm in 1m 3) The drain valves shall not be less than 50mm dia				
9.8	Gate valve					
	a) >65mm					
	-Type	One piece wedge disc, taper seat, inside screw and non rising spindle and screw ends.				
	-Material	Bronze				
	-Standards	BS 1952				
	b)<=65mm					
	-Type	Butterfly type, suitable for 20 bars worknig pressure with end flanges				
	-Material	Valve body shall be of ductile and stainless steel shaft and resilient seat				
	-Standards	ANSI 16.5-1977 Class 300 or equiv BS				
9.9	Check valve	Wafer check type, ductile iron body,				
		stainless steel seat and stainless steel				
		disc (ANSI 16.34-1977 Class 150)				
9.10	Motorised valve and					
	actuator					
	-Construction	Cast steel				
	-Type	Flanged connections				
	-Accessories	Valve linkages, motor mountings, rear trains, travel limit switch and anti heaters				

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9.10	Motorised valve and					
	actuator (cont')					
	-Actuator motor	1)Reversible directly mounted on the butterfly valve				
		2) Fitted with thermal overload protection				
10	**Orifice Plates**					
10.1	Diameter	Not less than 50% of the dia of the pipe into which the plate is to be fitted				
10.2	Material	Brass with plain central hole without burrs				
11	**Sprinkler Head**					
11.1	Type	~~1) Conventional pattern design to produce a spherical type of discharge.~~				
		~~2) Incorporate a universal deflector plate~~				
		Upright/Pendant/Sidewall/Roof (As pertechnical requirement)				
11.2	Spare sprinklers	Spare set of 24 numbers of sprinkler heads and necessary wrenches				
11.3	Sprinkler orifice	Nominal size for the respective hazard classes: 1) Extra light - 10mm('K' Factor- 57.5%) 2) Ordinary - 15mm('K' Factor- 80.5%)				
	Certification for sprinkler head	Sprinkler orifice, Temperature rating, Standards				
11.4	Temperature rating	68oC				
11.5	Sprinkler spacing	Spaced according to the recommendations as listed on the relevant section of the LPC Rules.				
		As per drawing				
11.6	~~Testing~~ Hydrostatic Test	Hydrostatic pressure test of 1 1/2 the working pressure (app 15.5 bars) for a minimun 24hours.				
12	**Pumping Equipment**					
12.1	Type	~~Centrifugal constant speed, single stage, double entry horizontal end suction type~~				
		As per technical requirement				
12.2	Pump casing material	~~Volute type with flanged connections and shall be of close grained cast type or cast steel~~				
		As per technical requirement				
12.3	Impeller	Bronze, statically and dynamically balanced				
12.4	Impeller shaft	machine ground stainless steel mounted fitted with renewable bronze sleeve bearings.				
12.5	Pump Glands	mechanical seal type				
12.6	Speed	shall not exceed 3000rpm				
12.7	Jockey Pump	Starts when pressure falls 5% of working pressure.				
12.5	Motor					
	-Type	Totally enclosed, fan cooled and fully tropicalised with class F insulation				

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12.5	Motor (cont')					
	-Standard	BS 2757:1956; BS 2613:1957				
	-Accessories	Isolator gears, starter gear, thermal overload protection,over current protection devices, under voltage release.				
13	**Diesel Engine**					
13.1	Type	Cold starting, direct injection type, single cylinder, air cooled with variable speed governor, fuel and lubricating oil filters and exhaust silencer.	`			
13.2	Speed	2900rpm				
13.3	Starting	Auto & manual				
13.4	Battery					
	-Type	~~Extra heavy duty nickel cad rechargeable type.~~				
		Heavy duty centrifugal				
	-Capacity	~~Capacity not be less than 25AH~~ As per technical requirements				
	-	Place in lockable box and have louvres for sufficient ventilation.				
	-Discharge Rate	5 hour				
	-Charger	Provided				
14	**Storage tank**					
14.1	Type	Hot dipped galvanised pressed steel				
14.2	Thickness	6.5mm				
14.3	Standard	BS 1564				
14.4	Tank accessories	a) Level Indicator ~~of the float valve.~~				
		b) External and internal access ladders-aluminium.				
		c) Overflow pipe.				
		d) Scour pipe.				
		e) Inlet pipe c/w float ball (brass) valve (BS 1968).				
		f) Outlet pipe connections to pumps.				
		g) Galvanised vent pipe of 80mm dia in the form of swan neck and covered with stainless steel insect screen.				
		h) Two (2) nos of 600 mm diameter manholes with hinged cover situated near the water inlet pipes.				
		i) Warning pipe.				
		j) Stainless steel electrodes.				
14.5	Jointing Material	Bituminous putty, chemical resistant and insoluble in water.				
14.6	Tank cover	Fully covered c/w air vent				
14.7	Painting					
	-Internal surfaces	Primed with 1 coat of malanoid no.1 black paint				
	-External surfaces	1 coat of zinc chromate and finished with 2 coats of weather proof, mildew resistant paint.				