

DESCRIPTION OF SYSTES:

FIRE HYDRANT & HOSE REEL SYSTEM:

This system is provided throughout entire building. It mainly comprise of Water Tank at Basement level, Terrace Tank, Fire Pumps, Hydrant Valves, Hoses and Hose Reel Drums, Branch Pipes, etc.

Fire Hydrants, Hoses and Drums are installed at floor level from Ground Floor to Terrace Floor, so that entire building can be covered by hose and hose reel drums.

At the time of Fire, first we have to identify the exact location and source of Fire and then give alarm to intimate the security and people to evacuate.

Then take the Hoses and Branch Pipe in the Hose Box and Connect Male coupling to Hydrant Valve and Female Coupling to Branch Pipe.

Hold the Hose and Nozzle properly pointing towards the source of Fire.

AUTOMATIC SPRINKLER SYSTEM:

A fire sprinkler system is an active fire protection measure, consisting of a water supply system, providing adequate pressure and flow rate to a water distribution piping system, onto which fire sprinklers are connected. In buildings completely protected by fire sprinkler systems, over 99% of fires were controlled by fire sprinklers alone.

Each closed-head sprinkler is held closed by either a heat-sensitive glass bulb or a two-part metal link held together with fusible alloy. The glass bulb or link applies pressure to a pip cap which acts as a plug which prevents water from flowing until the ambient temperature around the sprinkler reaches the design activation temperature of the individual sprinkler head. In a standard wet-pipe sprinkler system, each sprinkler activates independently when the predetermined heat level is reached. Because of this, the number of sprinklers that operate is limited to only those near the fire (in reality, normally one or two will activate), thereby maximizing the available water pressure over the point of fire origin. This also minimizes the water damage to the building.

Sprinkler activation will do less damage than a fire department hose stream, which provides approximately 900 liters/min. In addition, a sprinkler will usually activate between one and four minutes, whereas the fire department typically takes at least five minutes to arrive at the fire site after receiving an alarm, and an additional ten minutes to set up equipment and apply hose streams to the fire. This additional time can result in a much larger fire, requiring much more water to extinguish.



HYDRANT & SPRINKLER SYSTEM:

This System is always put in auto mode, to meet the needs at the time of emergency. However, manual-starting provision should not be ignored.

It is recommended to carry out "Wet Drill" once in a week at different hydrant points and sprinkler drains. This will have a check on all sections and will prevent clogging at valve seats and in pipes. It will also confirm that all sectionalizing butterfly valves are open.

Checking Procedure for Automatic Sequence Starting of the Pumps:

Automatic sequence starting of the pumps shall be checked periodically in the following manner:

- 1) Ensure the pressure in both hydrant and sprinkler system pipe line is maintaining 8.8Kg/Cm2, and there is no leakage in the system.
- 2) Keep Jockey pump in "Auto Mode" and other pumps in "Manual Mode". Open nearest Hydrant/Test Line inside the pump house slowly, and checkup the pressure at which the Jockey pump starts at 7.0Kg/Cm2, Close the opened Hydrant valve / Test Line completely and see whether the Jockey pump stops automatically at 8.8Kg/Cm2
- 3) Keep the Electric main pump in Hydrant/Sprinkler system in "Auto Mode" and other pumps in "Manual Mode". Reduce the Pressure using Hydrant/Test Line inside the pump house slowly, and checkup the pressure at which the Electrical pump starts at 4.0Kg/Cm2, Close the opened Hydrant valve / Test Line completely and see whether the Jockey pump stops automatically at 8.8Kg/Cm2
- 4) Keep the Diesel Driven pump in Hydrant/Sprinkler system in "Auto Mode" and other pumps in "Manual Mode". Reduce the Pressure using Hydrant/Test Line inside the pump house slowly, and checkup the pressure at which the Diesel pump starts at 2.0Kg/Cm2, Close the opened Hydrant valve / Test Line completely and see whether the Jockey pump stops automatically at 8.8Kg/Cm2

FIRE PUMP OPERATION:

 When the Hydrant / Sprinkler header pressure drops, then the Fire Pumps will come into Operation for maintaining the pressure in the system at 8.8Kg/Cm2.

2) Fire Pump House will have Jockey Pump, Electrical Main Pump, Diesel Driven Pump and Control Panel for Controlling pumps.

3) When Pressure drop down in the system, firstly Jockey pump will come into Operation for pressurizing and Operate the system at 8.8kg/Cm2

4) If the system drops more than the capacity of jockey pump (below 7.0Kg/Cm2) then Electric pump will come into Operation to Maintain the System at 8.8kg/Cm2.



5) If the system drops more than the capacity of jockey pump and Electric Pump or if Power is not available (below 2.0Kg/Cm2) the Diesel Driven pump will come into Operation to Maintain the System at 8.8kg/Cm2

Note:

Starting of Fire Main Pump and Diesel Pump is Automatic but stopping of these Pumps are Manual Only. It is advised that switching off the Pumps after completion of each Operation.

FIRE ALARM SYSTEM

A fire alarm is used in the event of a fire or fire drill. They are activated either manually or automatically.

Basic components of a fire alarm system:

The following is a list of the basic components that can be installed together to make up a typical fire alarm system:

Alarm Initiation Devices:

 Manual Call Point: MCP should be installed at unobstructed, readily accessible locations throughout the protected area with at least one box on each floor.

Types of MCP (Stations):

Non-coded

Coded

Break glass

Non-Break glass

Single action

Double action

General alarm

Pre-signal

Notification Appliances

- Bells: Bells may be used for fire alarm signals where their sound is distinctive and will
 not be con-fused with similar audible signals used for other purposes. Bells are normally
 operated by 12 or 24 volts DC (direct current) and may be of the single-stroke or
 vibration type connected in parallel.
- 2. <u>Horns</u>: Horns are provided for applications that require louder or more distinctive signals, or both. Horns may be operated by either alternate or direct current and may be connected in series or parallel. Care should be exercised to see that circuits are electrically compatible when powering both types of appliances.



2010 National Fire Alarm and Signaling Code. Advantages of the combined signals are:

The visible signal localizes the particular audible alarm appliance that is operating.

The visible signal produces a recognizable alarm when an ambient noise level may affect the audible signal.

Persons having impaired hearing can see the visible portion of the alarm signals.

PA SYSTEM:

The System is used to make Announcements and to play music through Speakers, which are spread over the entire building. The Speakers are grouped in zones and designed to serve multipurpose. The music can be played in NORMAL conditions. The ALERT tone or the announcement can be sent through the same speakers under FIRE conditions. Each one of this is designed with different levels of priorities.

The Priorities are as follows

- 1) Emergency or General Announcements.
- 2) Fire Tone.
- 3) Music.
- 4) Wall Mounted Speaker.

One Control Amplifier is provided through which music or announcements can be selected. Announcements to be made can be selected through the Microphone.

The System Comprises of

- 1) Public Addressing Amplifiers.
- 2) Ceiling/Wall Mounted Speakers.
- Control Cabling.
- 4) Paging Consol.
- 5) Mike for Announcements.



MAINTENANCE INSTRUCTIONS



PUMPS:

- 1) A Trained Person shall always be available in all shifts and at all hours of the day and night to operate the Fire Pumps as and when required.
- 2) All Pumps shall be run for at least 5 Minutes every day.
- 3) All Pumps and Valve Glands shall be maintained in efficient working condition and gland packaging renewed as required to maintain efficiently.
- 4) Suction and Delivery Valves, Strainers shall be examined once in every 6 Months.
- 5) All working parts shall be kept clean and lightly oiled as cleanliness greatly adds to efficiency. Any necessary repairs shall be put in hand and carried out immediately.
- 6) The bearing grease caps shall be checked once in every week and filled with fresh grease, if necessary.
- Strainer contacts shall be cleaned as needed.
- 8) Insulation resistance of pump motor circuit shall be examined once in 6 Months and recorded of results shall be maintained.
- 9) Hydrants mains shall be tested once in fortnight with the pump delivering at its maximum pressure, with all hydrant valves closed and thereafter a running test with two or more hose lines, each 15m long operating shall be carried out. This checks the efficiency of the pumps as well as the tidiness of the hydrant mains.
- 10) All cut-off valves are thoroughly overhauled annually to remove sludge and other foreign matter collected in the valve seating.
- 11) All cut-off valves shall be operated and oiled / greased, if necessary once in 30 days.

HOSES:

- 1) Hoses should be neatly kept on the racks of the hose boxes.
- 2) Hose boxes provided with locks and shall have one master key, which shall be available at the main gate or any accessible location known to be Fire Fighting Personnel.
- 3) All hose boxes shall be inspected once in every week to ensure that the equipment installed there is intact. Further they shall be cleaned once in a Month.
- 4) Hoses after use shall be dried thoroughly before keeping them in the hose cabinet.
- 5) When the hose gets worn out at the tail end of the coupling, it is permissible to cut the end of the hose. However, length of the hose after cutting fall below 90% of the original, the hose shall be discarded.

HYDRANT VALVES:

- 1) All hydrants shall be examined systematically in rotation once in a week to ensure that valves and springs are maintained in good condition and all brass parts polished.
- 2) It is recommended that painting of stand posts to be carried out annually.
- 3) Hose coupling and branch pipes shall be polished once in a fortnight.



STEPS TO BE TAKEN CARE WHEN INSTALLATION IS TEMPORARLY INOPERATIVE:

- 1) When installation is expected to remain inoperative for a period exceeding 24 Hours, prior approval of Maintenance Manager should be obtained. When any component of the hydrant system is to be replaced for any reason whatsoever, the entire hydrant system shall not be rendered inoperative for a long time. If however, it is not possible to complete replacement before nightfall blank flanges shall be provided at the point where the component has been removed, so that the entire system other than the component which has been removed would remain operative throughout night.
- Only one compartment of the reservoir shall be emptied out at the time for cleaning or repair work.
- 3) If any of the pumps is expected to be inoperative for more than 72 Hours, it should be made sure that the other pump is in operating condition.
- 4) If the hydrant system is to be extended, portion shall be first laid and, thereafter the connection between the existing system and the extension shall be carried out expeditiously, so that the entire system is not left inoperative overnight.

DRYING AND FOLDING OF HOSES:

- 1) After use, Hose to be thoroughly washed in clean water and then thoroughly dried.
- 2) A rack of some similar contrivance at least 10 Mtrs of height to be provided so that, after cleaning hose may be suspended to drain and dry evenly. This is to be done in the shade and not in the sunshine so that the hoses will evenly dry inside and out.
- 3) Care to be exercised that it is not removed until it is thoroughly dried in all places.
- 4) The hose to be then thoroughly brushed with a hard bristle or wire brush, and re-rolled, care being taken to choose a dry and clean place where on to roll it, and replaced in the boxes.
- Care to be taken after washing that the hose does not touch the ground, where it might be soiled.
- 6) Hose to be rolled up evenly and carefully, the female or spring coupling being in the center. In this manner the spring clips, when grasped one in each hand form a "real" and the hose can be quickly run out in the event of fire.
- 7) Alternatively, the hose to be doubled in the center of the length and rolled up evenly from the fold. Both the male and female coupling will then to be on the outside to the roll. This permit the nozzle being attached to the hose while being stored in readiness for use, and the nose runs out without twisting.



OPERATION OF VALVES:

- Allow the valve to warm up gradually and then check all jointing. If pneumatic facility is available, check with soap water to detect any minute leakage.
- 2) Flush out the whole line thoroughly. Try to open and close the valve. If it operates with difficulty, it is understood that some internal parts are locked up. For example gate is not coming up smoothly in case of gate valve. In such cases, the valves should be dismantled and repaired.
- For manually operated valves, turn the hand wheel counter, clockwise to Open and anticlockwise to Close. However it is marked on the hand wheel.
- 4) Turn the hand wheel slowly in the initial opening.
- 5) Never use too much force in either opening or closing. If the hand wheel is tight and you want to use any tools, such as lever, spanner or pipe wrenches. Do not close the valve too tightly.
- 6) Put the lubricant in to the grease nipple and the threaded part of the spindle for easy operation.

INSTALLATION OF VALVES:

- One should take care in handling the valves. Valves should not be dropped on the ground, and not to bump valves against anything. Especially, be careful not to damage the flange surfaces, butt-weld ends, socket-weld ends etc.,
- 2) Make sure that all valves and piping materials are clean and of dust, rust and scale. Blow out all pipe and fittings with compressed air; remove protective covers from valve openings just before installing the valve. When installing flanged valves, make sure that the gaskets are cleaned and they are properly placed on the flange faces. Bolts should be stressed equally in opposing pairs during tightening the joints.
- Make all joints thigh but do not overstress. This is especially important when tightening packing and bonnet nuts.
- Remove any foreign materials inside the connecting piping such as dirt, sand, scale, metal chips, burrs and grit particles which damage valve seat.

DIS-ASSEMBLING OF VALVES:

- 1) Prepare all necessary spare gland packing and joining gaskets.
- Open the valves slightly by turning the hand wheel in anti-clock wise and loosen the gland.
- Put match markings on all valve body, bonnet, yoke and actuator. This helps to avoid mismatching of parts at the time of re-assembling.
- 4) If the bolts and nuts are too tight, put the deep penetrating oil for some time and then unscrew the same.



MAINTENANCE OF VALVES:

 Inspect whether all valves can be OPENED or CLOSED smoothly and whether any leakage. This should be done once or twice a year. Put lubricant (Such as grease) into the grease nipple and spindle threaded part.

PUMP MAINTENANCE:

1	Flow Test	Annually
2	Lubrication	Quarterly
3	Gland Packing	Weekly
4	Pump Coupling Alignment	Annually
5	Overhauling	Once in 2 Years
6	Calibration of Pressure Gauges Annually / As and When Needed	
	CTRICAL MAINTENANCE:	
1	Exercise isolating switch & circuit breaker	Monthly
2	Operated manual starting means(Electrical)	Annually
3	Lubricate mechanical moving parts (Excluding starters & relays)	Annually
4	Calibrate pressure switch settings	Annually / As and When Needed
5	Grease motor bearing	Annually

PUMP MAINTENANCE:

S. No	ADICAL TESTING & MAI Subject	Activities	Duration
1	Reservoir	Level Checking Cleaning	Weekly Once in a Year
2	Pump	Running Test Flow Test Lubrication Gland Packing Overhaul	Daily 5 Minutes Annually Quarterly Weekly
3	Motor	Lubrication Starter Contact Checking Insulation Resistance Check	Weekly Weekly Half Yearly
4	Main piping	Flushing Gauge Pressure	Once in a Year Check Daily
5	Butterfly Valves	Operating	Monthly
6	Pressure Gauges	Calibrate	Annually
7	Painting of Entire System		Every 2 Years



HYDRANT COMPONANTS MAINTENANCE:

YDRA	NT MAINS MAINTEN	ANCE			Duration
S. No	Des	9-18-11-16-18-1		Fortnightly	
1	To be tested with the pur	np delivering at	iti iitari		
	pressure & all hydrant va	V 15 Mtre hoses	connected to	Fortnightly	1
2	Run the Pump(s) with 2	X 13 Mus noses	Comingation		
	2 Hydrant Valves	- acrated and listed		Monthly	
3	All Cut-off valves to be	perated and fisted		Annually	
4	Overhaul all cut off valv	es			
HYDR	ANTS MAINTENANCE	aliching of brass	parts	Weekly	
1 Physical checking and po		Jilshing of brass parts		Annually	
2	Painting of stand posts	AINTENANCE	7		
HOSE	REELS & NOZZLES M	an to be inspecte	d externally	Weekly	
1	Hose Boxes/Hose statio	Alesa stations in	ternally &	Monthly	
2	Cleaning of Hose boxes	/Hose stations in	iterinary		
	externally	ings / branch nin	nes.	Fortnight	ly
3	Polishing of hose coupl	ings / branch pro	drying	After eac	h Use
4	Washing of Hose pipes	in clean water &	NCIES		
VISUA	L INSPECTION / TEST	INGFREQUE	THE PART OF THE PA		
CONT	ROL EQUIPMENT		Visual Inst	ection	Testing
S. No	Compone	nt	V ISUUT TIIS		Annual
1	Functions		Week	lv	Annual
2	Fuses	Week		kly Annual	
3	Lamps and LED's				
4	Primary(Main) Power	supply	-		
MAIN	TENANCE OF SPRINKLER MARY OF SPRINKLER	CLER SYSTEM	<u>II</u> DECTION T	ESTING A	ND MAINTENANCE:
SUMI	MARY OF SPRINKLER	ACTIVITY	I ECTION, 2	FREC	QUENCY
	ITEM	ACIIVILI		Weekly	y / Monthly
	ol Valves	Inspection		Quarterly	
Alarm	Devices	Inspection		Monthly	
Gauge	es(Wet Pipe Systems)	Inspection		nually (Prior to Freezing Weather)	
Buildings		Inoperior		Annually	
Hanger/Seismic Bracing		Inspection		Annually	
	& Fittings	Inspection		Annually	
Sprinklers		Inspection		Annually	
Spare Sprinklers		Inspection		Monthly	
Fire Brigade Connections		Inspection		Monthly	
Fire	es(All Types)	Inspection Test		Quarterly Quarterly	
Fire I					
Valv	m Devices		1		
Valve	m Devices	Test		-	
Valve Aları Mair	m Devices n Drain	Test Test	1	Vanes and E	5 Years
Valve Alarr Main Gaug	m Devices n Drain	Test		Years and E	



- 1) The Supply of Spare Sprinklers shall be inspected annually for the following:
 - a) The Proper number and type of sprinklers
 - b) A sprinkler wrench for each type of sprinkler

2) Pipe and Fittings:

Sprinkler pipe and fittings shall be inspected annually from the floor level. Pipe and fittings shall be in good condition and free of mechanical damage, leakage, corrosion and misalignment. Sprinkler piping shall not be subjected to external loads by materials either on the pipe or hung from the pipe.

Exception No.1: Pipe and fittings installed in concealed spaces such as above suspended ceilings shall not require inspection.

Exception No.2: Pipe installed in areas that are inaccessible for safely considerations due to process operations shall be inspected during each scheduled shutdown.

3) Hangers:

Sprinkler pipe hangers and seismic braces shall be inspected annually from the floor level. Hangers shall not be damaged or loose. Hangers that are damaged or loose shall be replaced or refastened.

Exception No.1: Hangers installed in concealed spaces such as above suspended ceilings shall not require inspection.

Exception No.2: Hangers installed in areas that are inaccessible for safety considerations due to process operations shall be inspected during each scheduled shut down.

4) Gauges:

Gauges on wet pipe sprinkler systems shall be inspected monthly to ensure that they are in good condition and that normal water supply pressure is being maintained.

5) Annually, prior to the onset of freezing weather, buildings with wet pipe systems shall be inspected to verify that windows, skylights, doors, ventilators, other couplings and closures, blind spaces, unused attics, stair towers, roof houses and low spaces under buildings do not expose water-filled sprinkler piping to freezing and to verify that adequate heat.

6) Alarm Devices:

Alarm devices shall be inspected quarterly to verify that they are free of physical damage.

7) Sprinklers:

Where sprinklers have been in service for 50 years, they shall be replaced or representative samples from one or more sample areas shall be submitted to a recognized testing laboratory acceptable to the authority having jurisdiction for field service testing. Test procedures shall be repeated at 10 years intervals.



MAINTENANCE OF FIRE EXTINGUISHERS:

1) Introduction:

- This chapter is concerned with the rules governing inspection, maintenance and recharging of Fire Extinguishers. These factors are of prime importance in ensuring operation at the time of Fire.
- The procedure for inspection and maintenance of Fire Extinguishers varies considerably. Minimal knowledge is necessary to perform a monthly "quick check" or inspection in order to follow the inspection procedure. A trained person who has undergone the instructions necessary to reliably perform maintenance and has the manufacturer's service manual shall service the Fire Extinguishers not more than 1 year apart.
- iii) The owner or designated agent or occupant of a property in which fire extinguishers are located shall be responsible for such inspection, maintenance and recharging.
- iv) Maintenance, servicing and recharging shall be performed by trained persons having the appropriate servicing manual, the proper types of tools, recharge materials, lubricants and manufacturer's recommended replacement parts 'specifically listed for use in the Fire Extinguishers.
- v) Tags or Labels shall not be placed on front of Fire Extinguisher.

Exception: Labels indicating Fire Extinguisher use or classification, or both.

2) Checking:

- i) A quick check that a Fire Extinguisher is available and will operate. It is intended to give reasonable assurance that the Fire Extinguisher is fully charged and operable. This is done by verifying that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious or physical damage or condition to prevent its operation.
- ii) A thorough examination of fire extinguisher. It is intended to give maximum assurance that a fire extinguisher will operate effectively and safely. It includes a thorough examination and any necessary repair or replacements. It will normally reveal if hydrostatic testing or internal maintenance is required.
- iii) The replacement of extinguishing agent (also includes the expellant for certain types of fire extinguishers).

3) Inspection:

- Fire Extinguishers shall be inspected when initially placed in service and thereafter at approximately 30-day intervals. Fire Extinguishers shall be inspected at more frequent intervals when circumstances require.
- ii) Periodic inspection of fire extinguishers shall include a check of at least the following items:
 - a) Location in designated place

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b) No obstruction to access or visibility

c) Operating instructions on nameplate legible and facing outward

d) Safety seals and tamper indicators not broken or missing

e) Fullness determined by weighing or hefting

f) Examination for obvious physical damage, corrosion, leakage or clogged nozzle

g) Pressure gauge reading or indicator in the operable range or position

h) Condition of tires, wheels, carriage, hose and nozzle checked

4) Inspection Record Keeping:

 Personal making inspections shall keep records of all fire extinguishers inspected, including those found to require corrective action.

ii) At least monthly, the date the inspection was performed and the initials of the

person performing the inspection shall be recorded.

iii) Records shall be kept on a tag or label attached to the fire extinguisher, on an inspection check list maintained on file, or in an electronic system that provides a permanent record.

5) Maintenance:

i) Fire extinguishers shall be subjected to maintenance at intervals of not more than 1 year. At the time of Hydrostatic test or when specifically indicated by

an inspection.

j) Stored pressure types containing a loaded stream agent shall be disassembled on an annual basis and subjected to complete maintenance. Prior to disassembly, the fire extinguisher shall be fully discharged to check the operation of the discharge valve and pressure gauge. The loaded stream charge shall be permitted to be recovered and re-used, provided it is subjected to agent analysis in accordance with manufacturer's instructions.

k) A Conductivity test shall be conducted annually on all carbon di oxide hose assemblies. Hose assemblies found to be nonconductive shall be replaced. Carbon di oxide hose assemblies that pass a conductivity test shall have the test information recorded on suitable metallic label or equally durable material that has a minimum size of ½ in. X 3 in. (1.3Cm X 6Cm)

The label shall be affixed to the hose by means of a heatless process. The label shall include the following information:

a) Every month in a year the test to be performed, indicated by perforation,

such as is done by a hand punch.

b) Name or initials of person performing test and the name of the agency performing test.



ROUT	TINE MAINTENANCE				
1	Check all moving parts are working properly			Weekly	
2	Check the nozzle for any obstruction			Weekly	
3	Check for leakage of extinguishing medium from the glands and			Weekly	
4	Polish brass parts			Weekly	
5	Clean superficially			Weekly	
6	Weigh gas cartridges, it there is loss of more than 10% of original mass, send it for recharging			Monthly	
7	Grease the cap threads and plunger			Monthly	
8	Check the vent holes for clogging			Monthly	
9	Check the sealing washer & replace if necessary			Monthly	
10	Operation Test - Half the number of	f water type extinguishers		Annually	
11	Operation Test – Half the number of	of dry power type extinguishers		Annually	
12	Examine the inside surface of the cylinder for condition of plating, rusting		ating,	Annually	
	LLING SCHEDULE AND SCHEDUNGUISHER:	JLE FOR OPERATION			
1	Carbon Di oxide Ty	'ype Once		n 5 Years	
2	Dry Chemical Typ	pe Once		n 5 Years	
SECH 1	Carbon Di oxide Type	1 Year	2	236 Kg/Cm2	
	Dry Chemical Type	3 Years		25 Kg/Cm2	
WAT	ER RESORVOIR INSPECTION, T		ANCE:		
1	Level Checking	3.7.7.8		Weekly	
2	Cleaning			nce in a Year	
3	Leakage Checking		100	Daily	
4	Maintenance		As per r	As per requirement	



DOS & DONTS

Save your life, save your property



Project: M/s. Aparna Cyber Life, Nallagandla.

PMC: JLL

Dos & Don'ts for the Systems Installed

SPRINKLER & HYDRANT SYSTEM:

Dos:

- 1. Regular checking is required for isolation valve for its open condition.
- 2. All sprinkler caps to be removed after charging the system.
- 3. Care should be taken while moving ladders as it may touch the sprinkler bulb.

Don'ts:

- 1. Sprinklers should not be disturbed when the system is charged.
- 2. Do not drain the system without isolating the butterfly valve.
- 3. Do not attend any leaks without vendor involvement.
- 4. Do not flame any sprinkler to test after charging the system.
- 5. Electronic equipment should be covered from water while attending the leaks.

FIRE ALARM SYSTEM:

Dos:

- 1. Keen observation is required for fire alarm panel for its normal condition.
- Audibility of Hooters should be checked while execution.

Don'ts:

- 1. Do not cut any cables in the room alarm panel is located.
- 2. Never switch off the panel to avoid hooter.
- 3. Don't try to clean the panels without vendor involvement.
- 4. Untrained personnel should never touch FAS Panel.

PUBLIC ADDRESS SYSTEM:

Dos:

- 1. PA system should always treat as emergency system.
- 2. Regular checking required for volume controllers.
- 3. Cleaning can be done for speakers.

Don'ts:

- 1. Do not switch off the Amplifiers.
- Voice should be clear while announcements.

FIRE EXTINGUISHERS:

Do's and Don'ts should be followed as per the instructions given on Fire Extinguishers.