



**STANDARD OPERATING PROCEDURE**

**Title:** Operation and Inspection of Smoke Detection System

<b>SOP No.:</b>		<b>Department:</b>	EHS	
		<b>Effective Date:</b>		
<b>Revision No.:</b>		<b>Revision Date:</b>		
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**1.0 OBJECTIVE :**

To lay down a Procedure for Operation and Inspection of Smoke Detection System.

**2.0 SCOPE :**

This SOP is applicable for Operation and Inspection of Smoke Detection System.

**3.0 RESPONSIBILITY:**

Officer / Executive – EHS

**4.0 ACCOUNTABILITY:**

Head – EHS

**5.0 ABBREVIATIONS:**

AC	Alternating Current
EHS	Environment, Health and Safety
MCP	Manual Call Point
PC	Personal Computer
QA	Quality Assurance
SOP	Standard Operating Procedure
EHS	Environment, Health and Safety
SD	Smoke Detector
MSD	Multi (Smoke + Heat) Detector
FACP	Fire Alarm Control Panel

**6.0 PROCEDURE:**

**6.1 FIRE ALARM SYSTEM**

**6.1.1** Fire causes major damage to the product as well as to the plant and machineries, in some Cases it may be fatal. It is better to prevent fire at right time by safe practices and not by fire Fighting that is why Smoke Detection System is installed. This is analogue addressable fire system make: - COOPER Fire Systems, Make: - “Honeywell Fire Lite Alarms”- Model: - “.....” installed.

**6.1.2** Below mentioned are the details related with different components of Fire Alarm System.

**6.1.3 DETECTOR:**

**6.1.3.1** There are three types of Detectors (SD & MSD) which are analogue photoelectric, analogue photo / thermal and analogue heat detectors. The status LED can be programmed It is in order to confirm that it is in communication with the control panel. Whenever detector becomes activated through smoke / Heat it sends signal to the panel. Panel display the same zone and loop with detector no. in which it has been programmed.



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**6.1.3.2** Each loop of the control panel connected with detectors, manual call points and all other addressable items.

**6.1.3.3** Sensing Time: 01 to 03 Second. (Depend on availability of carbon particles in smoke and height of Smoke detectors from source of fire)

**6.1.3.4** The detector gives signal to Hooter. The indicator in the detector LED becomes blink red continuously after sensing the smoke/ Heat.

**6.1.3.5** Detector senses smoke using the light scatter principle.

**6.1.3.6** Clean the detectors at least once a month to remove dust, dirt or debris.

**6.1.4 HOOTER CUM TRANSMITTER:**

**6.1.4.1** The hooter gets signal from detector and transmits the same to Control Panel and sound output  $\pm 3$  dB (set by panel and Low volume: 84 dB, Medium Volume: 92 dB and High Volume: 95dB)

**6.1.5 MANUAL CALL POINT:**

**6.1.5.1** The hooter can be actuated with these MCP's and also they can be silenced with the Silent Button of Main Panel. Every hooter has its own specific MCP.

**6.1.6 FIRE ALARM CONTROL PANEL ( FACP ):**

**6.1.6.1** This is addressable microprocessor based 05 zones and 4 & 2 loops Detectors Fire Alarm Control Panel with Batteries, Charger and Repeater Panel installed in Security Room & Main Panel installed.

**6.1.6.2** The panel shows the specific zone and loop with detector number area of detector which detects smoke / heat.

**6.1.6.3** The panel has inbuilt batteries and require power supply to charge these batteries. It works even 24 hours of the power failure.

**6.1.7 SIREN:**

**6.1.7.1** This siren is of 01 Km range with stand and timer.

**6.1.7.2** The siren blows if the control panel detects any emergency. It is powerful Siren and works on AC supply only. If there is power failure, this panel is connected with UPS. However this area is connected with Diesel Generator set.



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**6.1.8 WHAT TO DO IN CASE OF FIRE ALARM SOUNDS:**

**6.1.9** A safety person shall be available round the clock near main control panel and Security Office with the List of smoke detector and hooter.

**6.1.10** As panel sounds the person available with panel immediately rushes to the location of the detector after identification of detector zone and address with list.

**6.1.11** The person shall check the area. If it is false alarm then he shall find the reason of alarm and clean the detector. The detector and reaffix it in its place and inform to area in charge or head.

**6.1.12** If fire happens then he shall take response action according to the procedure mentioned in the Current version of SOP and On-Site Emergency Plan.

**6.2** Officer / Executive EHS shall prepare a Smoke Detectors and MCP's list individual location wise As per **Annexure-I** and conduct inspection of Smoke Detection System as per **Annexure-II**.

**7.0 ANNEXURES:**

ANNEXURE No.	TITLE OF ANNEXURE	FORMAT No.
Annexure-I	Smoke Detector & Fire Alarm Location List	
Annexure-II	Smoke Detector System Monthly Inspection Report Card	

**ENCLOSURES:** SOP Training Record.

**8.0 DISTRIBUTION:**

- Controlled Copy No. 01      Quality Assurance
- Controlled Copy No. 02      Environment, Health & Safety
- Controlled Copy No. 03      Production
- Controlled Copy No. 08      Quality Control
- Controlled Copy No. 09      Warehouse
- Master Copy                      Quality Assurance

**9.0 REFERENCES:**

Not applicable.

**10.0 REVISION HISTORY:**

**CHANGE HISTORY LOG**

Revision No.	Change Control No.	Details of Changes	Reason for Change	Effective Date	Updated By



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**ANNEXURE-I**  
**SMOKE DETECTOR & FIRE ALARM LOCATION LIST**

**LOCATION / BLOCK:**

S.No.	Fire Zone	Device Address	Area / Location	Type

<b>L</b>	LOOP OF DEVICE
<b>D</b>	DETECTOR
<b>HD</b>	HEAT DETECTOR
<b>MSD</b>	MULTI SMOKE DETECTOR
<b>SD</b>	SMOKE DETECTOR (PHOTO OPTICAL )
<b>PBT</b>	PROB TYPE DETECTOR
<b>MCP</b>	MANUAL CALL POINT
<b>FACP</b>	FIRE ALARM CONTROL PANEL



**PHARMA DEVILS**  
ENVIRONMENT HEALTH SAFETY DEPARTMENT

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**ANNEXURE – II**  
**SMOKE DETECTOR SYSTEM MONTHLY INSPECTION REPORT CARD**

**LOCATION/BLOCK:**

S.No	CHECK POINTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1.	No obstruction to Access or Visibility of the Smoke Detector and Hooter												
2.	Test each smoke detector and Hooter to be ensure it is												
3.	Clean the System to remove dust, dirt and debris.												
4.	Ensure the continuous power supply to Hooter and Panel and whether it is blinking or not.												
5.	Remarks												
6.	Signature & Date												
7.	Schedule : Second Week Of Every Month												
8.	Frequency : Once in a Month												