



BHEL, BHOPAL

ANNEXURE D**FIRE DETECTION & SUPPRESSION SYSTEM AT ITS BUILDING & ADVANCED IT CENTRE****1.0** The annual maintenance contract covers

- Fire Detection System (Conventional Type) installed at ITS Building
- Fire Detection System (Conventional Type) installed at Advanced IT centre
- 1 independent fire suppression system for server room
- 1 independent fire suppression system for UPS room

Both fire suppression systems are integrated with conventional fire detection system (with cross-zoning) and connected through separate gas release panel for both areas. Each fire suppression system comprises of individual control panel, bank of cylinder filled with NOVEC 1230, piping network, discharge hose and other accessories, nozzles, gas release panel, smoke detectors, manual gas release station, manual gas abort station, fire alarm control panel, response indicators, Hooter, cabling, power supply cum battery charger, battery backup, relay circuit for AC tripping etc.

1.1 Detector Details:

System	No. of Zones	No of Detectors	Cross-Zoning
IFX Building	20	80	Zone-9 & 10 Zone-11 & 12 Zone-13 & 14 Zone-15 & 16
Advanced IT Centre	16	96	NA

Fire detection system in Server room and UPS room of IFX building is integrated with NOVEC-1230 gas based suppression system, which includes cross-zoning.

1.2 Nozzles Details:

System	Zone	No. Of Nozzles
Server room	Main room	4
	Above ceiling	4
	Below Floor	4
UPS room	Main Room	1
	Above Ceiling	1

1.3 Novec 1230 Cylinder Details:

System	Role	Capacity	No. of Cylinders
Server Room	Master	106 Kg	1
	Slave		5
UPS Room	Master	112 Kg	1

1.4 Alarm Signal/Hooter Details:

Detection System	Location of Hooters
IFX Building	IFX Building
	CISF Office
Advanced IT Centre	Advanced IT Centre
	IFX Building
	CISF office



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ANNEXURE A**1.5 Area Details:**

System	Zone	Total Volume (m ³)
Server room	Room Void	634.5
	Ceiling Void	314.8
	Floor Void	94
UPS room	Room Void	126.1
	Ceiling Void	54.8

1.6 Panel Details:

Module	Details	Location
M1	Main Control panel (Conventional Panel made by Technico, Kolkata) (2 panels)	ITS Building

- 1.7** Maintaining the system in proper operational condition by regular and systematic examination (once in every quarter). The scope includes repair or replacement of faulty components, Checking of detector, Manual release station, manual abort station, hooter, response indicator of fire alarm system, nozzles, pressure gauge, solenoid valve, gas release switch, and gas release panel should be carried out on quarterly basis;
- 1.8** This scope also includes the topping up of cylinder with Nitrogen if the pressure of cylinder falls below 36 bar
- 1.9** Checking the functions of Cross Zoning
- 1.10** Checking of alarm signal to CISF/Fire control room.
- 1.11** Checking and ensuring the triggering of Fire suppression system installed at IFX server room and UPS room.