

Annexure – C to TENDER

Technical Specifications for LPG GAS DETECTION SYSTEM

- 1) Control panel
- 2) Detectors
- 3) Horn cum flasher
- 4) Auto dialler with speech processor
- 5) Cables
- 6) Installation Testing & Commissioning
- 7) General condition

Control panel:

- 1) Control panel should be microcontroller, SMD components based system.
- 2) It should be actuated for LPG /Propane Gas for the level of 5% and 25% LEL (1000&5000 PPM)
- 3) Should have two types of alarm level
 - a) Level 1: for 5 % or 1000ppm
 - b) Level 2: for 25 % or 5000ppm
- 4) It should have minimum 4 channels with wall / rack mounting panel with built in charger and Battery backup facility.
- 5) Should have facility for continuous monitoring and annunciation for Sensor and Cable.
- 6) Should be ABS weather proof, water and dust proof enclosure.
- 7) Should have full status display ie 4LEDS,(in built audio buzzer,flasher relay diffusion or suction)
- 8) Audio buzzer level minimum 80db.
- 9) It should have a facility to connect auto dialler unit with speech processor.
- 10) The relay contact rating should be minimum 1A @ 230V AC/ 24DC.
- 11) The following control & indicating facility should be available
 - 1.Act, 2.RST, 3.Battery in / out.
- 10) Working supply: Single phase, 230VAC 50Hz.
- 11) Battery backup should with stand minimum 8Hrs.
- 12) Working Temp:0 to 50°C and 0 to 95% Rh

DETECTOR UNIT:

1. These detector units should be with built in micro controller system.
2. Should detect LPG gas leakage and sent to main panel
3. Should be with full status display
4. Should be weather proof and flame and water proof enclosure.
5. These DU are should supplied with necessary mounting brocket for installation.

AUTO DIALER UNIT WITH SPEECH PROCESSOR:

1. The Auto dialer unit used in this system should activate through wired emergency switches and also by remote. The unit used should have facility for connection of minimum of 20 telephonenumber and minimum of 32 digits number each.
2. The display used in this unit should LCD with 12 characters.
3. The unit used in this system should have facility for three different natures of emergencies of voice message.
4. The dialing method used should be of for both pulse & tone.
5. The Memory system used in this unit should be of Non-Volatile Memory (EEPROM) and the circuit used in this unit should be of state of the art (SOLID STAT, CMOS)
6. The choice of calling cycle should be of minimum of two (02) times or infinite times until unit is reset.
7. The unit should have detection status of telephone line for takes priority on incoming & outgoing calls. The unit should have a facility for internal playback speaker for voice message and visual LCD display for checking the telephone numbers.
8. The unit should have facility for remote indication in emergency switch to indicate dialing through AUTO GUARD on activation. The unit should be of user friendly and should have facility for user itself enters nos. voice message.
9. The unit housing should M.S. box with Staving Paint and lockable.

CABLE:

1. 6 cores 1 Sq.mm armored (ISI) FRLS copper cable to be used for connection DU with main panel.
2. Supply and laying of above said cables in ground/ Underground/Wall is supplier scope. Cable termination also supplier scope.

INSTALLATION, TESTING AND COMMISSIONING :

Installation, testing and commissioning of the system is supplier scope.
Proper training is to be given to BHEL staff.
Three copies of operational manual should be supplied with system.

BILL OF MATERIAL: LPG GAS DETECTION SYSTEM (LPG YARD AREA)

SL. NO	ITEM DESCRIPTION	QTY	UNIT PRICE in Rs.	TOTAL PRICE in Rs.
01	CONTROL PANEL	1		
	5 Channel wall/rack mounting Gas /Alarm control panel with built –in charger and battery backup, LED display, ABS weather proof enclosure with relay O/P			
02	DETECTORS	5		
	Gas detector unit in WP Junction Box calibrated to ISO Butane,0-100%LEL,Weather Proof FLP Flame Proof Enclosure & Glands			
03	ACCESSORIES	1		
	Horn cum flasher			
04	Auto dialer with speech processor (CE Approved)	1		
05	Supply of 6 core 1 SQ.MM armored (ISI) FRLS Copper cable with all accessories	650 MTR APPRX		
06	Installation, Testing & Commissioning	L.Sum		