

OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT, ISLAMABAD
FOREIGN SECTION E

(To be completed, filled in, signed and stamped by the principal)

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ANNEXURE 'A'

Material SMOKE, FIRE & GAS DETECTION SYSTEM FOR CHEMICAL /MECHANICAL INVENTORY SHED/LUBE OIL SHEDS & BUILDINGS
Tender Enquiry No PROC-FE/CB/P&P/UCH-5141-A/2022
Due Date
Evaluation Criteria FULL

SCHEDULE OF REQUIREMENT

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
1	Addressable Beacon/Sounder, Isolator: Yes, Max Sound Output Tone :100 dB, Operating Temp : -10 to 55 DegC, IP Rating : IP 21, System Powered, Part No. 00518-518 , Glands and Termination Accessories: Yes Det-tronics or Equivalent	Number	28					
2	Addressable Heat Detector, Type:Heat Sensitive Resistance, Operating Voltage:17V-28 Vdc, System Powered, Alarm LED : Yes, Temp:-40 to 80C, IP Rating: IP44, Base:Yes. Part No. 000515-503 Glands & Term acce: Yes Det-tronics or Equivalent,	Number	8					
3	Addressable Smoke Detector, Type: Optical, Operating Voltage: 17-28VDC, System Powered, Temp: -40 Deg C to 70 Deg C, IP rating 44 Base: Yes, Part No. 000515-502 Glandes and Termination Accessories: Yes. Det-tronics or Equivalent,	Number	112					
4	Beam Detector, Area Coverage: 1500 Sq Meter, Supply Voltage: 24 VDC, System Powered, Temp: -10-+55 Deg C, Standard Range: 5- 50 Meter, Protection: IP50, Make: Carrier Fire & Security, Glands and Termination Accessories: Yes or Equivalent	Number	38					
5	Conduit & Fittings, Size: 1/2"-3/4", Material: GI, Type: Length or Equivalent	Lot	1					
6	Control Cabinet,Size Suitable to Controller.Panel Component:Redundant Power Supplies,Line up&FuseTerminals,Circuit Breakers,Wiring Ducts and Accessories,Earthing bars including SIL.2 EQP Controller(SEE ATTACHMENT) or Equivalent	Number	1					
7	Flame Detector Multi-Spectrum IR, System Powered 24 VDC, Output: EQP, Body Material: AI, Thread: M25, Approvals: SIL, FM, CSA, ATEX, IECEx. Model: X3301 Glands and Termination accessories: Yes. Det-tronics or Equivalent,	Number	1					
8	IR HC Gas Detector, Type: Pointwatch IR, Tread M25, OutPut: EQP, Weather Baffle: Yes, Approvals SIL, FM, CSA, ATEX, IECEx, System Powered 24 VDC, Model: PIRECL Glands and Termination accessories: Yes. Det-tronics or Equivalent,	Number	1					
9	Isolator, Part No. 000515-557, Det-tronics, or Equivalent.	Number	12					
10	Manual Cail Point, Isolator :Yes, Type: Deformable, Temperature : -40 to 60 Deg C, IP Rating: IP 44, Part No. 000515-512 Glands and termination accessories: Yes Det-tronics or Equivalent,	Number	28					
11	Mini Monitor Module, Part No. 000515-562, Glands and Termination Accessories: Yes. Det-tronics or Equivalent.	Number	38					
12	PVC Duct, Size: 1/2"-3/4", Cover: Yes or Equivalent	Lot	1					
13	Swivel Mounting, Material AI, Model: Q9033 Det-tronics or Equivalent	Number	1					
14	LON Cable, Belden 8719, 2 Conductor 16awg (19x29) Tinned Copper, OR Equivalent	Meter	600					
15	Control Cable, 1.5mm 2 Conductor 16 AWG BC, LSZH, Eca, Belden 4200E or Equivalent	Meter	2000					

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 26/01/2022

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NOTE:

1. **Bid Validity:** - Bid must be valid for 180 days from the date of Technical Bid Opening.
2. **Bid bond:** - US\$ 1,820/- (USD One Thousand Eight Hundred and Twenty Only) or equivalent in Pak Rupees should be submitted with the Technical Bid, which should be valid for 210 days.
3. **Evaluation Criteria:** FULL CONSIGNMENT WISE ON CFR BASIS KARACHI under Single Stage –Two Envelope Bidding Procedure
4. **Terms and conditions:**-Bidders are advised to carefully read all the terms and conditions of the Tender Document available at OGDCL website in the Master Set of Foreign Tender Document (Press-Single Stage Two Envelope)-Updated
5. **Delivery Period:** 20 Weeks from the date of L/C establishment
6. Bidders quoting equivalent parts must provide a certificate from at least three 03 E&P Companies of Foreign Jurisdiction other than the Bidders/Manufacturers own Country, stating that equivalent (quoted parts) are used by them and Performance of such parts is found satisfactory. Copies of Purchase Orders (unpriced) must also be provided. The Certificate(s) / sales record is mandatory and due to non-submission thereof, the Bid will be rejected.

- ATTACHMENT FOR INDENT NO. UCH-6692 (FOR ALL ITEMS)
FOR ITEM NO.6 (SIL2 EQP Controller (SIL, FM,CSA,ATEX,IECEX) EQ3016 Det-tronics or Equivalent, Addressable Smoke & Heat Module(64 No) EQ3750 Detronics or Equivalent, Programing Software, Ground Fault MonitorA and Interposing Relays,(Price should be included in Item No.6)
1. BIDDER TO CONFIRM THAT ALL ITEMS ARE BRAND NEW WITH STANDARD WARRANTY/GURRANTY.
 2. BIDDER TO SUPPLY THE ITMS IN STANDARD PACKING.
 3. EQUIVALENT WILL ONLY BE ACCEPTABLE IF COMPATIBLE WITH THE SYSTEM LIKE BASE/SHAPE/DESIGM/CONFIGURATION AND SPECIFICATIONS.
 4. DURING INSTALLATION, IF ANY ITEM COMPONENT /DEVICE FOUND FAULTY , IT WILLBE REPLACED BY THE BIDDER FREE OF COST.
 5. INSTALLATION/TESTING/COMMISSIONING AT SITE WILL BE THE RESPONSIBILTY OF THE BIDER.
 6. BIDDER SHALL VISIT SITE BEFORE SUBMITTING TECHNICAL AND COMMERCIAL BID TO EVAULATE THE SITE CONDITIONS AND TO MEASURE THE DISTANCES FOR REQUIRED CABLE LENGTHS.
 7. THE BIDDER SHALL SUBMIT THE BID INCLUDING BOM/MOQ COMPLETE IN ALL RESPECTS. CABLE TERMINATION ACCESSORIES ie. RESPECTIVE CABLE GLANDS, THIMBLES/LUGS/FERRULES/CABLE NUMBERINGS ETC SHALL BE AT BIDDRS END.
 8. THE PROJECT SHALL BE TREATED AS "ON TURN KEY BASIS" ie. INSTALLATION, SOIL EXCAVATION AND BACK FILLING WHERE REQUIRED FOR CABLE LAYING, CONFIGURATION, TESTING AND COMMISSIONING, FINALLY HANDING OVER THE SYSTEM TO OGDCL.
 9. THE PROJEC SHALL BE COMPLETED IN ONE GO. INTERMEDIATE BREAKS WILL NOT BE ALLOWED.
 10. BIDDER TO QUOTE INSTALLATION/COMMISSIONING /TESTING CHARGES SEAPARATELY IN THE FINANCIAL BID.

THE PART OF TENDER DOCUMNETS.

NOTE: ABOVE TERMS & CONDITIONS (T&C's) WILL BE

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COMPLIANCE SHEET OF CONTROLLER				
CONTROLLER SPECIFICATIONS				Compliance (Yes/No)
1	Application		Building Fire Alarm System	
2	Type		Standalone EQP (EQ3016)	
3	Redundant		Yes (Required Redundant Controller)	
4	Display		4 Line 20 Character Alphanumeric display	
5	Trouble & Fault LEDs		Yes (Red LED for Alarm, Yellow for fault & Green for Power)	
6	Logic Support		Yes (Programmable Function Block like Add, Subtract, Boolean)	
7	Real Time System Clock		Yes	
8	Internal Alarm Sounder		Yes	
9	No. of Input/Output at Controller	Built in 08 Programmable Inputs & 08 Programmable Relay Outputs		
10	Input Voltage		24Vdc nominal (18 to 30Vdc)	
11	Input Power		9 Watts nominal (12 Watts max.)	
12	Protocol		RS 485 Modbus , TCP/IP , Optional ControlNet	
13	Communication Network		LON (SLC)	
14	Temperature Range		- 40°F to +185°F	
15	Humidity Range		5 to 95% RH (Non-Condensing)	
16	Compatibility		Addressable and Digital I/O	
17	External Watch Dog Timer		by User Logic	
18	IO Failure		Alarm Indication	
19	Programming		Acc. To IEC 61131-3	
20	Mounting		Din Rail /Panel Mounting	
21	Approvals		SIL2, FM , CSA , ATEX , IECEx , CE	
22	No. of Field Devices support		246	
23	LON Network length		10,000 meters	
24	Software			
i	Automatic serial port configuration:	baud rate, databits, stop bits, parity		
ii	Integral OPC	A wide variety of status and diagnostic information can be shared with DCS, PLC		
iii	Monitoring	120,000 events/alarms		
iv	Project Base development	Different project can be develop and Integral project backup / restore utility		
v	Security	Multi Level Security upto 64 user accounts		
Notes :				
a.	As per requirement of FM 3010 & NFPA 72. US coast guard type approval			
b.	Vendor will provide licensed programming software with controller			
c.	All necessary communication & configuration cables for Controller & its Modules will be vendor's responsibility.			
d.	Ground Fault Monitoring module must be provided with power system			
e.	Make & Model of Controller will be specified by supplier			

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COMPLIANCE SHEET OF LON CABLE

LON Cable Specification				Compliance (Yes/No)
1	Service		Fire Alarm System	
2	Installation		As per application	
3	Direct Burial		Yes	
4	Operating Conditions			
5	Maximum Temperature	°C	-20 to +80	
6	Maximum Voltage		upto 600 V Analog signal & upto 600 V digital control	
7	Cable Technical Data			
9	No. of Conductors		2	
10	Conductor Size / Type		16 AWG, Tinned Copper	
11	No. of Pairs		Single	
12	Insulation Material		PE - Polyethylene with 0.032" thickness	
14	Outer Jacket Material		PVC	
16	Outer Sheath Material		Bi-Laminate (Alum+Poly)	
17	Outer Sheath Color		Black & Clear	
18	Cable Gland Size		M16 (a suitable size)	
19	Bedding Thickness	mm	Vendor to specify	
20	Bending Radius		3.25 in (stationary)	
24	Flammability / Fire Resistance		UL1685 UL Loading, FT1, IEC 60332-1-2	
Notes :				
*	Cable Gland will be selected subject to cable outer diameter			
a.	Vendor shall provide details for the maximum length to be supplied on per drum			
b.	Make & Model of Instrument Cable will be specified by supplier			

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COMPLIANCE SHEET OF MINI MONITOR MODULE

MINI MONITOR MODULE SPECIFICATIONS			Compliance (Yes/No)
1	Application	Indoor	
2	Operating Voltage	20 - 28 V dc	
3	Quiescent current	200 micro Amp @ 24V	
4	Housing	White flame-retardant polycarbonate	
5	Terminal	Nickel plated stainless steel	
6	Device	Loop powered device	
7	Three Color LED	Red for Alarm, Green for Power and Yellow for fault / short circuit	
8	End of Line Resistor (If required)	20 K ohm	
9	Mounting	Din Rail /Panel Mounting	
10	Pre Alarm Status	Yes	
11	Approvals	UL, ULC, FM, CSFM	
Notes :			
a.	Make & Model will be specified by supplier		
b.			

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COMPLIANCE SHEET OF FLAME DETECTOR			Compliance (Yes/No)
Flame Detector Specification			
1	Application	Generator room	
2	Sensor	Multispectrum	
3	Type	Standalone with live communication with controller	
4	Trouble & Fault LEDs	Yes	
5	Sensitivity Levels	Multi	
6	Logic Support	Static & Programmable	
7	Input Voltage	24Vdc nominal (18 to 30Vdc)	
8	Input Power	4 Watts(without heater) & 17 watts (with heater)	
9	Output	EQP / LON	
10	Response Time	Methane 32" plume @ 5 sec from 38.1 meters	
11	Temperature Range	-40°F to +167°F	
12	Humidity Range	0 to 95% relative humidity	
13	Spectral Sensitivity Range	4 - 5 microns	
14	Field of View	90° horizontal by 75° vertical, at a minimum of 70% of the on-axis detection distance.	
15	IO Failure	Alarm Indication	
16	Detection range	Up to 125 feet for methane	
17	Approvals	SIL 2, FM , CSA , ATEX, CE, IECEx	
18	Dimension	Vendor to advise	
19	Conduit Entry Size	3/4 inch NPT or M25	
20	Communication with Controller	Through LON Network	
21	Warranty	5 Years	
22	Automatic Optical Integrity Check	Available	
23	Testing	Onsite testing with Magnet	
24	Swivel Mounting	Yes	
Notes :			
*	Detector Sensitivity level can be adjustable at field with flame inspector		
a.	All testing and commissioning tool will be provided by vendor		
b.	SS tags and cable glands will be provided with Flame Detector		
c.	Make & Model will be specified by supplier		

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Building	Area		Detectors					MCP	Sounder	Loop No.	Total Devices
			Smoke	Heat	Beam	Flame	Gas				
Admin Building Uch II	Rooms	20	20					2	2	ASH Loop 1	51
	Lobby	4			4						
	Kitchen	1		1							
Control Room UCH II	Rooms	1	3					1	1		
	Kitchen	1		1							
HSE	Rooms	2	3					1	1		
	Kitchen			1							
Generator Room	Room	1			1	1		1	1		
Boiler Room	Kitchen	1		1				1	1		
	Rooms	2	3								
Telimeetry Workshop	Rooms	4	6					1	1		
Mechanical Workshop	Rooms	3	5					1	1		
	Lobby	1			2						
	Kitchen	1		1							
LAB	Rooms	5	7					1	1		
	Lobby	1			1						
Shed Uch I					2			1	1		
Shed Store 2					2			1	1		
Shed Store 1					2			1	1		
Shed Uch II					2			1	1		
Tranport Building	Rooms	2	2					1	1		
Security Office	Rooms	5	6					1	1		
Electrical Workshop	Rooms	6	8					1	1		
	Lobby	1			2						
Instrument Workshop	Rooms	1	2					1	1		
	Shed	1			2						
Materail Management	Rooms	2	4					1	1		
Shed A					2			1	1		
Shed B	Rooms	3	4					1	1		
	Shed	1			2						
Shed C					2			1	1		
Shed D					2			1	1		
Admin Building UCH I	Rooms	16	18					2	2	ASH Loop 4	29
	Lobby	5			6						
	Kitchen	1		1							

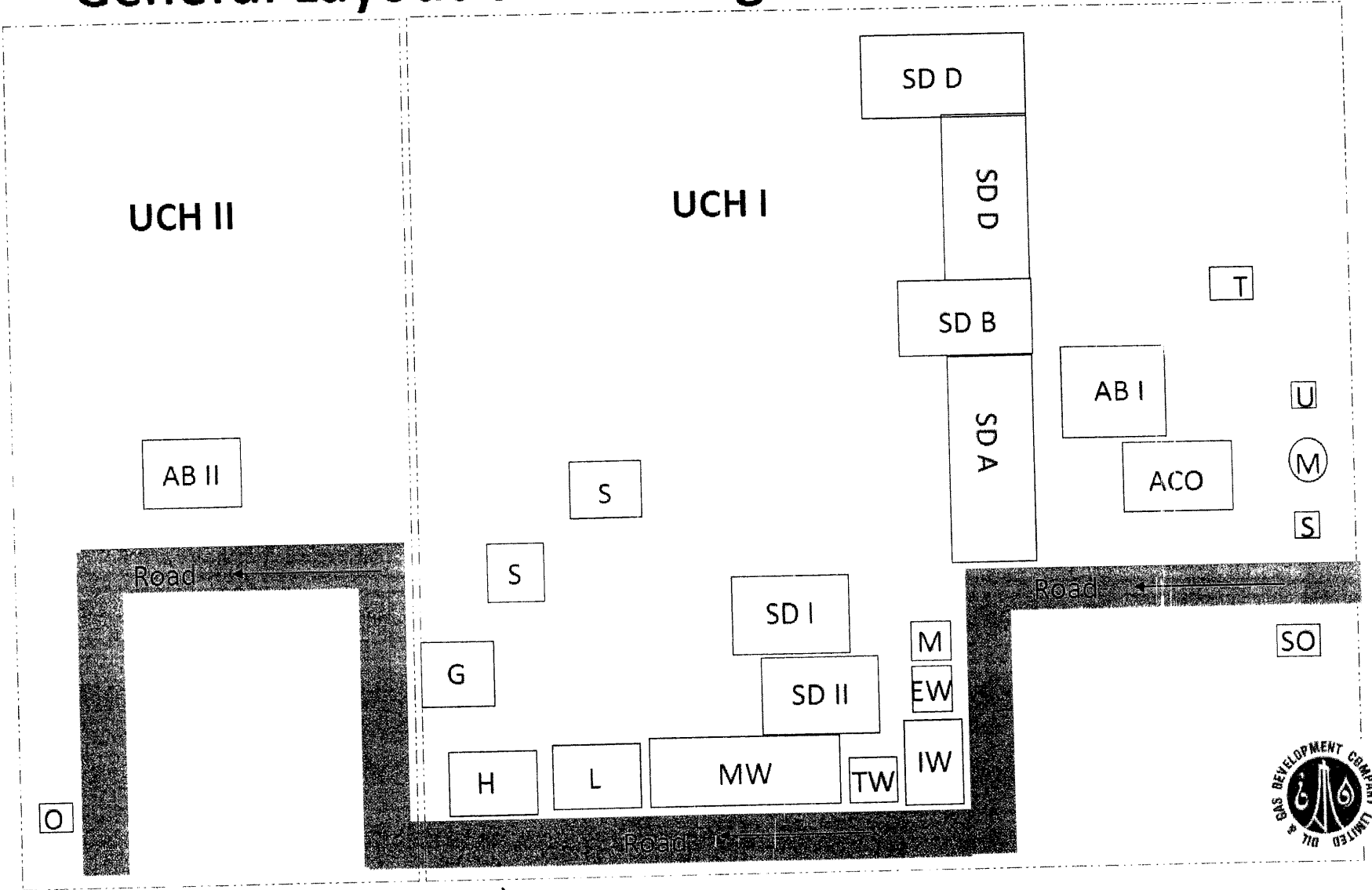
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Accounts Office	Rooms	8	8					1	1	ASH Loop 4	19	
	Lobby	1			1							
Dispensary	Rooms	4	5					1	1			
	Lobby	1			1							
Total Detectors			104	6	35	1	1	26	26			
										No of Total Devices	199	
											Spare nodes available for further expansion	57

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General Layout of Buildings UCH I – II





- ABI: Admin Block Uch I
- ABII: Admin block Uch II
- ACO: Accounts Office
- TPT: Transport Building
- U: Union Office
- M: Masjid
- SO: Security Office
- SD: Shed
- S: Store Shed
- MM: Material Management
- EW: Electrical Workshop
- IW: Instrument Workshop
- TW: Telemetry Workshop
- MW: Mechanical Workshop
- L: Lab
- H: HSEQ Building
- G: Generator Room
- O: Operators Room

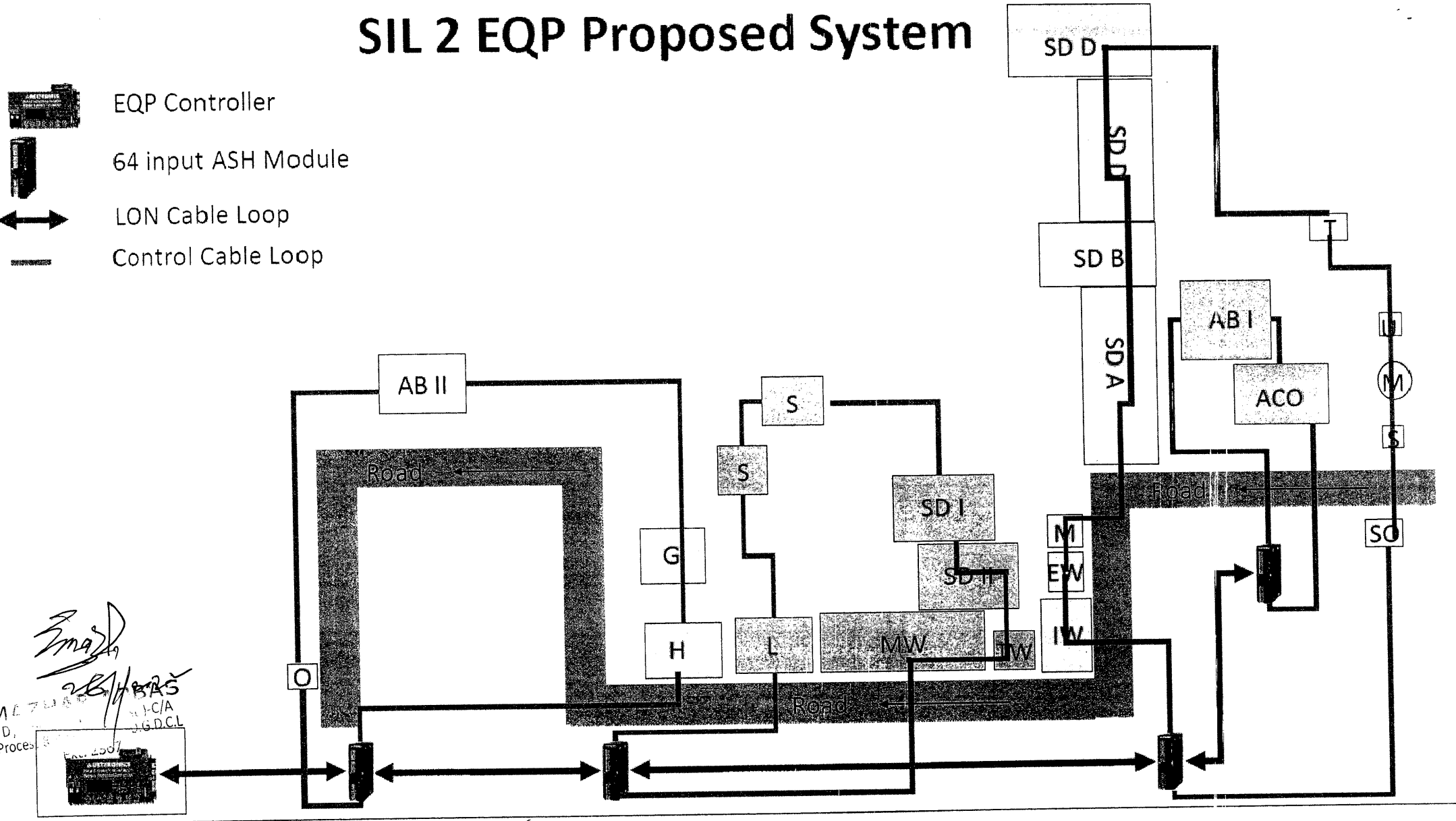


Signature
 Dy. Chief Engineer (P) & Plant
 Process & Plant
 EXC. 2991



SIL 2 EQP Proposed System

-  EQP Controller
-  64 input ASH Module
-  LON Cable Loop
-  Control Cable Loop



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