

## EPCM-1

**Project No. : 10108**

**Project Name : SATELLITES FIELD DEVELOPMENT PHASE 2**

**Supplier Name: Integrated Flow Solutions**

<b>DeltaAfrik P.O./Contract No:</b>	10108-1004	<b>COMPANY Contract Number</b>		10108	
<b>Supplier Doc No:</b>	IL-25057-01	<b>Supplier Rev:</b>	3	<b>Doc Code(s):</b>	C104 E115
<b>MPN Doc No:</b>	NGBN-CY-VLZZZ-0030573	<b>MPN Rev:</b>	E	<b>Date</b>	14-Oct-14

**Tag Nos: NGBN-VPBJ999202**

**Document Title: INSTRUMENT LIST- Sump Pump Skid IDOHO N**

Status Code	Description	Reviewer Name: Sign + Print + Date
1	Reviewed and Accepted as Final & Certified Manufacture may proceed	
2	Reviewed with Minor Comments and accepted as marked Manufacture may Proceed. Revise and Resubmit.	
3	Reviewed with Major Comments and Returned. Manufacture may not proceed. Revise and address comments and resubmit.	
4	Not Accepted. Rework to address comments and resubmit. Manufacture may not proceed.	
5	For Information Only Review not Required. Manufacture may Proceed.	

**Authorisation to proceed does not relieve Supplier / Contractor / Sub-Contractor of its  
responsibility or liability under the terms of the Purchase Order / Contract.**

Rev.	BY	CHK	APP	Rev. Description	Rev. Date	Customer: DeltaAfrik Engineering Limited Customer PO: 10108-1004 End User: Project: Satellite Field Development Project-Phase 2 Equipment IDOHO N Sump Pump Skid Skid Tag: NGBN-VPBJ999202 IFS Job Number: 25057 IFS Document Number: IL-25057-01										Num.	NOTE	
																1	Qty 1 Shown Qty 1 Required	
																2	All Instrument Tags Shall Be Prefixed by NGBN-	
3	WJS	WJS	CM	Per Engineering	14-Oct-2014													
2	WJS	WJS	CM	As Built	3-Apr-2014													
1	WJS	WJS	CM	Approved For Construction	13-Nov-2013													
0	WJS	WJS	CM	For Construction	5-Dec-2012													
A	WJS	WJS	CM	For Approval	27-Sep-2012													
INSTRUMENT LIST																		
Seq.	Tag Number	Description of Service/Device Type	Process Connection Size/Type/ Rating	Electrical Connections	Hazardous area/ NEMA/IP Rating	Signal Type	Range		Set Point	Engineering Units	P&ID Reference MPN / IFS	Hook-Up Detail Reference	Manufacturer	Model Number	Comments			
							Minimum (4mA / LRV)	Maximum (20mA / URV)	High High High Low Low Low									
1	SDV-966205-01	Gas Inlet Shutdown Valve	2" 150# RF	N/A	N/A	N/A	0	100	N/A	%	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Valbart	Valbart Trunnion Ball Valve	API 6D, Reduced Port, Trunnion Mounted, Bare Stem Fire Safe 607/6FA, Multi Piece, B7M, 2HM Bolts with Coating with Coating per GP 29-02-13 ASME B16.5, Fine Grain Microstructure Seat Pockets & stem sealing areas with CRA MTR's per EN 10204 3.1 for Body & cover MTR's per EN 10204 2.2 for other parts Leak Test per API 6D including low pressure gas seal leak test. NDE/PMI tests included			
		Gas Inlet Shutdown Valve Actuator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Bettis	CBB725-SR80-CW	Actuator - Scotch Yoke Type, Pneumatic, Fail Closed, Marine Environment Construction			
	SDY-966205-01	Gas Inlet Shutdown Valve Solenoid	1/4" FNPT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Versa	CAP-3301-316-356B	Solenoid - 3 Way Type, Pneumatic Pilot, Block and Bleed Action, Manual Reset, Instrument Tubing to be 317SS			
	ZSO-966205-01 ZSC-966205-01	Gas Inlet Shutdown Valve Limit Switches	N/A	(3) 3/4" FNPT (1) 1/2" FNPT	Class 1 Div. 2 Grp. C,&D NEMA 4X	DI	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Westlock	366-SBY2M0600	Limit Switches - Valve Top With Beacon, 2 SPDT Sealed Switches, Class 1 Division 1 Aluminum Enclosure Design			
		Gas Inlet Shutdown Valve Pressure Indicating Controller Instrument Air Filter Regulator	1/4" FNPT	N/A	N/A	N/A	0	150	Set = 80	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Fisher	67CFSR	Instrument Air Regulator - 1/4" Ports, Stainless Steel Construction, 40 Micron Filter, Output Gauge, Instrument Tubing to be 317SS			
2	LV-966205-02	Gas Inlet Valve	2" 150# RF	N/A	N/A	N/A	ON	OFF	N/A	%	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Valbart	Valbart Trunnion Ball Valve	API 6D, Reduced Port, Trunnion Mounted, Bare Stem Fire Safe 607/6FA, Multi Piece, B7M, 2HM Bolts with Coating with Coating per GP 29-02-13 ASME B16.5, Fine Grain Microstructure Seat Pockets & stem sealing areas with CRA MTR's per EN 10204 3.1 for Body & cover MTR's per EN 10204 2.2 for other parts Leak Test per API 6D including low pressure gas seal leak test. NDE/PMI tests included			
		Gas Inlet Shutdown Valve Actuator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Bettis	CBB725-SR80-CW	Actuator - Scotch Yoke Type, Pneumatic, Fail Closed, Marine Environment Construction			
	LY-966205-02	Gas Inlet Shutdown Valve Solenoid	1/4" FNPT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Versa	CAP-3301-316-356B	Solenoid - 3 Way Type, Pneumatic Pilot, Block and Bleed Action, Manual Reset, Instrument Tubing to be 317SS			
	ZSO-96205-02 ZSC-96205-02	Gas Inlet Shutdown Valve Limit Switches	N/A	(3) 3/4" FNPT (1) 1/2" FNPT	Class 1 Div. 2 Grp. C,&D NEMA 4X	DI	N/A	N/A	N/A	N/A	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Westlock	366-SBY2M0600	Limit Switches - Valve Top With Beacon, 2 SPDT Sealed Switches, Class 1 Division 1 Aluminum Enclosure Design			
		Gas Inlet Shutdown Valve Pressure Indicating Controller Instrument Air Filter Regulator	1/4" FNPT	N/A	N/A	N/A	0	150	Set = 80	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Fisher	67CFSR	Instrument Air Regulator - 1/4" Ports, Stainless Steel Construction, 40 Micron Filter, Output Gauge, Instrument Tubing to be 317SS			
3	PCV-966205-02	GAS INLET PRESSURE REDUCING VALVE	1" 300# RF	N/A	N/A	N/A	25	75	Set Point: 50	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Fisher	95H	Pressure Reducing Valve- Carbon Steel Body,316SS Wetted Material, 1" 300RF, 50 psig Setpoint			
4	PG-966205-01	SUMP PUMP PBJ999202A/B INLET PRESSURE GAUGE	1/2" NPT	N/A	N/A	N/A	0	150	N/A	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Ashcroft	45-1009-SL-04L-XSG-XNH-0/150#	Pressure Gauge - 4-1/2" Dial, 1/2" NPT Process Connection, Stainless Steel Case, Glycerin Filled, Shatterproof Lens, 0-150 psig			
5	PSV-966205-03	SUMP PUMP PBJ999202A/B INLET PRESSURE RELIEF VALVE	1" 150# x 2" 150#	N/A	N/A	N/A	N/A	N/A	High High: 125	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Crosby	1E2 JOS-E-15-A	Pressure Relief Valve-Conventional, Carbon Steel Body, Metal Seat, SS Trim			
6	PG-991206-02	SUMP PUMP PBJ999202A OUTLET PRESSURE GAUGE	1/2" NPT	N/A	N/A	N/A	0	60	N/A	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Ashcroft	45-1009-SL-04L-XSG-XNH-0/60#	Pressure Gauge - 4-1/2" Dial, 1/2" NPT Process Connection, Stainless Steel Case, Glycerin Filled, Shatterproof Lens, 0-60 psig			
7	PG-991206-03	SUMP PUMP PBJ999202B OUTLET PRESSURE GAUGE	1/2" NPT	N/A	N/A	N/A	0	60	N/A	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Ashcroft	45-1009-SL-04L-XSG-XNH-0/60#	Pressure Gauge - 4-1/2" Dial, 1/2" NPT Process Connection, Stainless Steel Case, Glycerin Filled, Shatterproof Lens, 0-60 psig			
8	FG-991206-01	SUMP PUMP PBJ999202A/B OUTLET FLOW GAUGE	2" 150# RF	N/A	N/A	N/A	6.3	63	N/A	GPM	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Brooks	3809EB5DAMAA1A1	Flow Gauge- 316SS Body, 2" 150# RF Process Connections, Polyurethane Covered Aluminum Indicator Housing			
9	PDI-991206-01	Duplex Filter Health	1/2" FNPT	N/A	N/A	N/A	0	1	N/A	PSID	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Orange Research	1516DG-1C-4.5B-0/1psid, 1,3	Differential Pressure Indicator - 4.5" Dial, 1/2" FNPT Process Connections, Stainless Steel Pressure Body, Glycerin Filled, Instrument Tubing 317SS			

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INSTRUMENT LIST															
Seq.	Tag Number	Description of Service/Device Type	Process Connection Size/Type/ Rating	Electrical Connections	Hazardous area/ NEMA/IP Rating	Signal Type	Range		Set Point	Engineering Units	P&ID Reference MPN / IFS	Hook-Up Detail Reference	Manufacturer	Model Number	Comments
							Minimum (4mA / LRV)	Maximum (20mA / URV)	High High High Low Low Low						
10	SP-966202-01-212	Pump Gas Filter Regulator	1/4" FNPT	N/A	N/A	N/A	0	125	Set Point: 50	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Fisher	67CFSR	Pressure Regulator-5 Micron Filter, Stainless Steel Body, Stainless Steel Internals, 250 psig Max Pressure
11	SP-966202-01-211	Pump Gas Filter Regulator	1/4" FNPT	N/A	N/A	N/A	0	125	Set Point: 50	PSIG	NGBN-CY-VDPID-0050388 P-25057-01	N/A	Fisher	67CFSR	Pressure Regulator-5 Micron Filter, Stainless Steel Body, Stainless Steel Internals, 250 psig Max Pressure