

I/O List for F&G System for Bibi Hakimeh Desalting Unit No.2

AFC

APPROVED FOR CONSTRUCTION

THIS SNAP IS NOT VALID WITHOUT SIGNATURE

Date: 2024/10/07 Name & sign: M.Setayesh
NISOC Ref. Letter: 02/2294/269513


NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

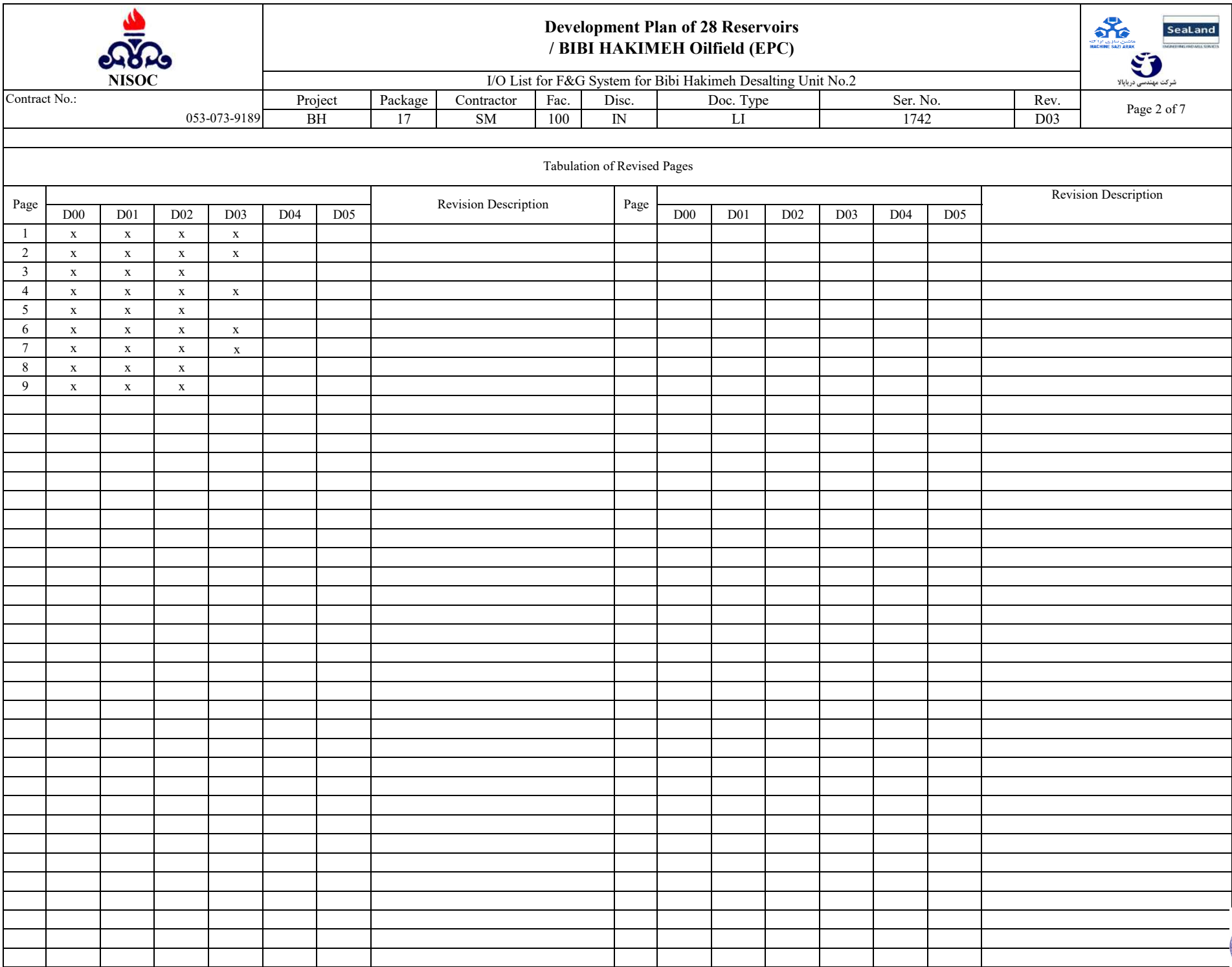
F Number : 709750




Rev.	Status	Date	Document Status	Prepared by:	Checked by:	Approved by:	Client Approval
D00	IFI	05-Nov-2022	Issued For Information	S.Tabesh	B.Shamsedini	A.Samadi	
D01	IFI	26-Aug-2023	Issued For Information	H.Shahebrahimi	B.Shamsedini	A.Samadi	
D02	IFA	29-July-2024	Issued for Approval	S. Astan	B. Yadegari	M. Setayesh	
D03	AFC	07-Sep-2024	Approved for Construction	S. Astan	B. Yadegari	M. Setayesh	

Class: I

Status:
IDC: Inter-Discipline Check
IFC: Issued For Comment
IFA: Issued For Approval
IFR: Issued for Rivew
AFD: Approved For Design
AFC: Approved For Construction
AFP: Approved For Purchase
IFI: Issued For Information
AB-R: As-Built for COMPANY Review
AB-A: As-Built –Approved


ATRIN RAD MEHR
سهای خاص
شماره ثبت: ۴۱۴۵۵۰



 NISOC	Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)							  شرکت مهندسی دریایالا	
	I/O List for F&G System for Bibi Hakimeh Desalting Unit No.2								
Contract No.: ----- 053-073-9189	Project BH	Package 17	Contractor SM	Fac. 100	Disc. IN	Doc. Type LI	Ser. No. 1742	Rev. D03	Page 3 of 7

General Notes:

1- All Interface signals between ESD/F&G system will be considered after issue of F&G cause & Effect.

2- signal of Cause& Effect will be added after issue of F&G Cause & Effect

3-I/O related to desalting No.2 building will be added in the next revision after finalizing of related layout.

LEGEND:

Location:	L	: Local	I/O Type:	AI	: Analog Input
	LP	: Local Panel		AO	: Analog Output
	ITR	: Instrument Technical Room		DI	: Digital Input
	CCR	: Central Control Room		DO	: Digital Output
	MCC	: Motor Control Center		DOR	: Digital Output Redundant
	DCS	: Distributed Control System		AIR	: Analog Input Redundant
	ESD	: Emergency Shutdown System		AOR	: Analog Output Redundant
	UCP	: Unit Control Panel		DIR	: Digital Input redundant
	AUX	: Auxiliary Console		SDI	: Serial Digital Input
	IRP	: Interposing Relay Panel		SDO	: Serial Digital Output
	PLC	: Programmable Logic Controller		SAI	: Serial Analog Input
	RIO	: Remote I/O DCS		SAO	: Serial Analog Output
	MTU	: Master Terminal Unit			
	RTU	: Remote Terminal Unit			
	Common UCP	: Common Unit Control Panel			
	PCS	: Process Control System			
	FGS	: Fire and Gas System			

Signal Type: 4-20mA (Loop Powered)

DC24V

Reference Documents:

- Fire & Gas Detector Location Layout for Bibi Hakimeh Desalting Unit No.2(Process Area)	BH-17-SM-100-SA-PY-1850-D02
- Specification for Fire & Gas System	BH-17-SM-100-IN-SP-0059
-Specification for Fire & Gas Sensor and Devices	BH-17-SM-100-IN-SP-0054
-Control/ESD/F&G System Overall Block Diagram for PU2 & DU2	BH-17-SM-100-IN-BD-0706
-Fire & Gas Cause and Effect Diagram for Bibi Hakimeh Production Unit No.2	BH-17-SM-100-SA-DG-1852



Development Plan of 28 Reservoirs
/ BIBI HAKIMEH Oilfield (EPC)



شرکت مهندسی دریاپالا

I/O List for F&G System for Bibi Hakimeh Desalting Unit No.2

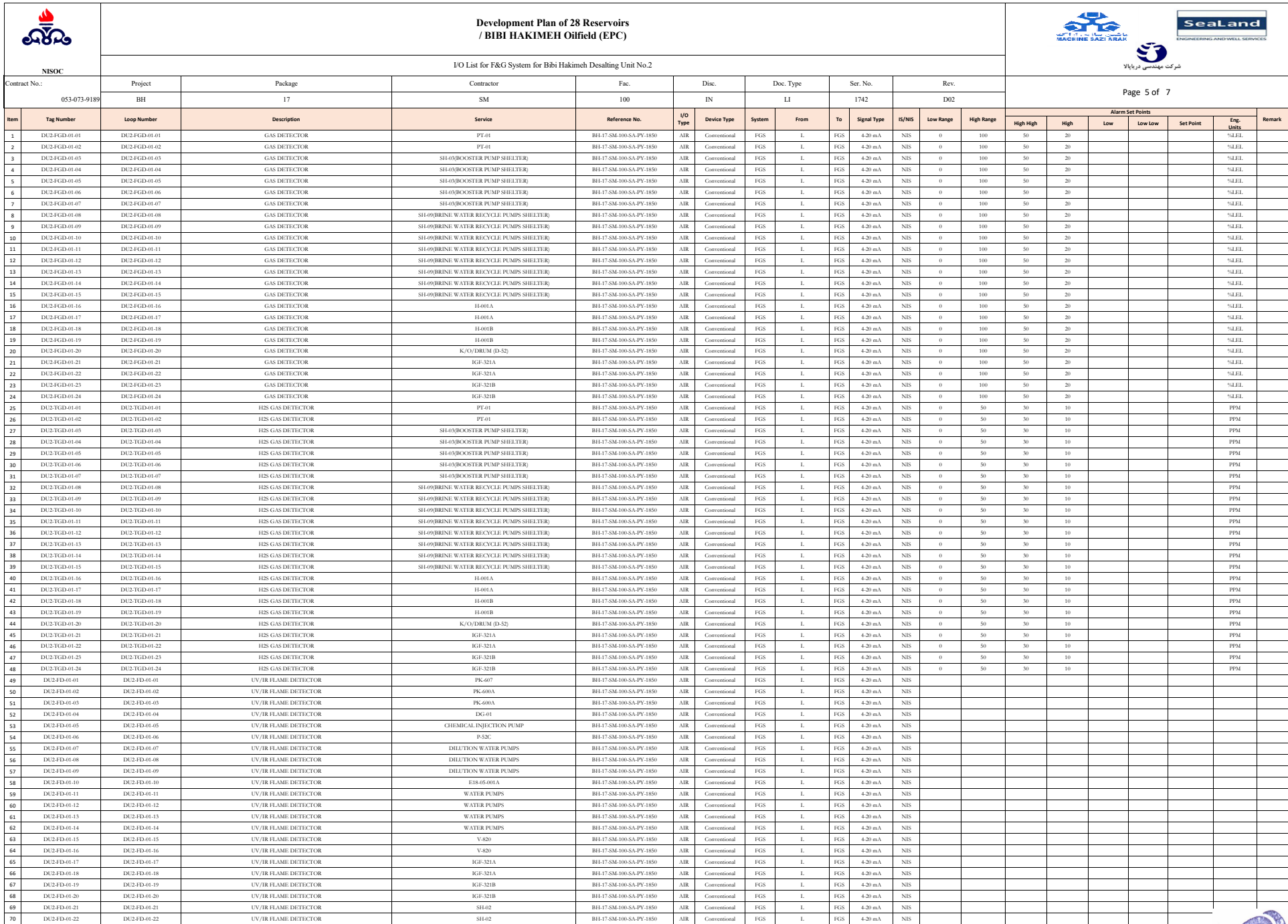
Contract No.:	Project	Package	Contractor	Fac.	Disc.	Doc. Type	Ser. No.	Rev.
053-073-9189	BH	17	SM	100	IN	LI	1742	D03




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I/O List for FGS

FGS															
AI				AO				DI				DO			
Single		Redandunt		Single		Redandunt		Single		Redandunt		Single		Redandunt	
IS	NIS	IS	NIS	IS	NIS	IS	NIS	IS	NIS	IS	NIS	IS	NIS	IS	NIS
0	0	0	83	0	0	0	0	0	0	0	21	0	0	0	44

ATIRIN RAD MEHR
سهامی خاص
شماره ثبت: ۴۱۴۵۵۰



		<div>Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)</div>										<div></div>									
NISOC		I/O List for F&G System for Bibi Hakimeh Desalting Unit No.2																		Page 6of 7	
Contract No.:	Project	Package	Contractor	Fac.	Disc.	Doc. Type		Ser. No.		Rev.		Alarm Set Points									
053-073-9189	BH	17	SM	100	IN	LI		1742		D02		High High	High	Low	Low Low	Set Point	Eng. Units	Remark			
71	DU2-FD-01-23	DU2-FD-01-23	UV/IR FLAME DETECTOR	K/O/DRUM (D-52)	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
72	DU2-FD-01-24	DU2-FD-01-24	UV/IR FLAME DETECTOR	H-001A	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
73	DU2-FD-01-25	DU2-FD-01-25	UV/IR FLAME DETECTOR	H-001A	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
74	DU2-FD-01-26	DU2-FD-01-26	UV/IR FLAME DETECTOR	H-001B	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
75	DU2-FD-01-27	DU2-FD-01-27	UV/IR FLAME DETECTOR	H-001B	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
76	DU2-FD-01-28	DU2-FD-01-28	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
77	DU2-FD-01-29	DU2-FD-01-29	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
78	DU2-FD-01-30	DU2-FD-01-30	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
79	DU2-FD-01-31	DU2-FD-01-31	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
80	DU2-FD-01-32	DU2-FD-01-32	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
81	DU2-FD-01-33	DU2-FD-01-33	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
82	DU2-FD-01-34	DU2-FD-01-34	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
83	DU2-FD-01-35	DU2-FD-01-35	UV/IR FLAME DETECTOR	SH-09	BI1-17-SM-100-SA-PV-1850	AIR	Conventional	FGS	L	FGS	4.20 mA	NIS									
84	DU2-LHD-01-01	DU2-LHD-01-01	LINEAR HEAT DETECTOR	TRANSFORMER	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
85	DU2-LHD-01-02	DU2-LHD-01-02	LINEAR HEAT DETECTOR	TRANSFORMER	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
86	DU2-LHD-01-03	DU2-LHD-01-03	LINEAR HEAT DETECTOR	DIRTY OIL SURGE TANK TK-59	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
87	DU2-RG-01-01	DU2-RG-01-01	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BOOSTER PUMP SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
88	DU2-RG-01-02	DU2-RG-01-02	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, FIRE FIGHTING SHED	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
89	DU2-RG-01-03	DU2-RG-01-03	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BRINE WATER RECYCLE PUMPS SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
90	DU2-RG-01-04	DU2-RG-01-04	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PIPE RACK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
91	DU2-RG-01-05	DU2-RG-01-05	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, LIGHTING TOWER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
92	DU2-RG-01-06	DU2-RG-01-06	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, DILUTION TANK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
93	DU2-RG-01-07	DU2-RG-01-07	YELLOW FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PK-321	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
94	DU2-RF-01-01	DU2-RF-01-01	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BOOSTER PUMP SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
95	DU2-RF-01-02	DU2-RF-01-02	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, FIRE FIGHTING SHED	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
96	DU2-RF-01-03	DU2-RF-01-03	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BRINE WATER RECYCLE PUMPS SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
97	DU2-RF-01-04	DU2-RF-01-04	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PIPE RACK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
98	DU2-RF-01-05	DU2-RF-01-05	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, LIGHTING TOWER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
99	DU2-RF-01-06	DU2-RF-01-06	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, DILUTION TANK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
100	DU2-RF-01-07	DU2-RF-01-07	RED FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PK-321	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
101	DU2-RT-01-01	DU2-RT-01-01	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BOOSTER PUMP SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
102	DU2-RT-01-02	DU2-RT-01-02	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, FIRE FIGHTING SHED	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
103	DU2-RT-01-03	DU2-RT-01-03	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, BRINE WATER RECYCLE PUMPS SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
104	DU2-RT-01-04	DU2-RT-01-04	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PIPE RACK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
105	DU2-RT-01-05	DU2-RT-01-05	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, LIGHTING TOWER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
106	DU2-RT-01-06	DU2-RT-01-06	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, DILUTION TANK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
107	DU2-RT-01-07	DU2-RT-01-07	BLUE FLASHING/ROTATING BEACON	FLAMMABLE GAS DETECTION, PK-321	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
108	DU2-MCP-01-01	DU2-MCP-01-01	MANUAL ALARM CALL POINT	CLOSE BUILDINGS	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
109	DU2-MCP-01-02	DU2-MCP-01-02	MANUAL ALARM CALL POINT	NEAR SH-06	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
110	DU2-MCP-01-03	DU2-MCP-01-03	MANUAL ALARM CALL POINT	SH-09(BOOSTER PUMP SHELTER)	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
111	DU2-MCP-01-04	DU2-MCP-01-04	MANUAL ALARM CALL POINT	PT-01	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
112	DU2-MCP-01-05	DU2-MCP-01-05	MANUAL ALARM CALL POINT	NEAR WATER PUMPS	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
113	DU2-MCP-01-06	DU2-MCP-01-06	MANUAL ALARM CALL POINT	ALONG THE ROAD	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
114	DU2-MCP-01-07	DU2-MCP-01-07	MANUAL ALARM CALL POINT	ALONG THE ROAD	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
115	DU2-MCP-01-08	DU2-MCP-01-08	MANUAL ALARM CALL POINT	SH-10(BRINE WATER RECYCLE PUMPS SHELTER)	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
116	DU2-MCP-01-09	DU2-MCP-01-09	MANUAL ALARM CALL POINT	SH-09(BRINE WATER RECYCLE PUMPS SHELTER)	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
117	DU2-MCP-01-10	DU2-MCP-01-10	MANUAL ALARM CALL POINT	NEAR TK-54	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
118	DU2-MCP-01-11	DU2-MCP-01-11	MANUAL ALARM CALL POINT	PK-321	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
119	DU2-MCP-01-12	DU2-MCP-01-12	MANUAL ALARM CALL POINT	PK-322	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
120	DU2-MCP-01-13	DU2-MCP-01-13	MANUAL ALARM CALL POINT	K/O/DRUM (D-52)	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
121	DU2-MCP-01-14	DU2-MCP-01-14	MANUAL ALARM CALL POINT	H-001A/B	BI1-17-SM-100-SA-PV-1850	DIR	Conventional	FGS	L	FGS	24 Vdc	NIS									
122	DU2-HOR-01-01	DU2-HOR-01-01A	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, BOOSTER PUMP SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
123	DU2-HOR-01-01	DU2-HOR-01-01B	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, BOOSTER PUMP SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
124	DU2-HOR-01-02	DU2-HOR-01-02A	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, FIRE FIGHTING SHED	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
125	DU2-HOR-01-02	DU2-HOR-01-02B	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, FIRE FIGHTING SHED	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
126	DU2-HOR-01-03	DU2-HOR-01-03A	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, BRINE WATER RECYCLE PUMPS SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
127	DU2-HOR-01-03	DU2-HOR-01-03B	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, BRINE WATER RECYCLE PUMPS SHELTER	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
128	DU2-HOR-01-04	DU2-HOR-01-04A	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, PIPE RACK	BI1-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	L	FGS	24 Vdc	NIS									
129	DU2-HOR-01-04	DU2-HOR-01-04B	TWO TONE SOUNDER	FLAMMABLE GAS DETECTION, PIPE RACK	BI1-17-SM-100-SA-PV-1850	DOR</															

		Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)										<div> <div>شرکت مهندسی آترین</div></div>									
		I/O List for F&G System for Bibi Hakimeh Desalting Unit No.2										Page 57of 7									
Contract No.: 053-073-9189		Project BH	Package 17	Contractor SM	Fac. 100	Disc. IN	Doc. Type LI		Ser. No. 1742	Rev. D02											
Item	Tag Number	Loop Number	Description	Service	Reference No.	I/O Type	Device Type	System	From	To	Signal Type	IS/NIS	Low Range	High Range	Alarm Set Points					Remark	
															High High	High	Low	Low Low	Set Point		Eng. Units
137	DU2-XAB-CO	DU2-XAB-CO	COMMON FIRE STATUS ON CONCERNED FIRE ZONE	F&G MATRIX PANEL	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Control Room	FGS	24 Vdc	NIS									
138	DU2-GDA-CO	DU2-GDA-CO	COMMON FLAMMABLE GAS STATUS ON CONCERNED FIRE ZONE	F&G MATRIX PANEL	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Control Room	FGS	24 Vdc	NIS									
139	DU2-TDA-CO	DU2-TDA-CO	COMMON TOXIC GAS STATUS ON CONCERNED FIRE ZONE	F&G MATRIX PANEL	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Control Room	FGS	24 Vdc	NIS									
140	DU2-FDA-CO	DU2-FDA-CO	COMMON FIRE STATUS ON CONCERNED FIRE ZONE	F&G MATRIX PANEL	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Control Room	FGS	24 Vdc	NIS									
141	DU2-MCA-CO	DU2-MCA-CO	COMMON MANUAL CALL POINT STATUS ON CONCERNED FIRE ZONE	F&G MATRIX PANEL	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Control Room	FGS	24 Vdc	NIS									
142	DU2-BATT-02-01	DU2-BATT-02-01	BATTERY BOOST CHARGE STOPING	Battery Room	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Battery room	FGS	25 Vdc	NIS									
143	DU2-BATT-02-02	DU2-BATT-02-02	BATTERY FEEDER ISOLATION	Battery Room	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	Battery room	FGS	26 Vdc	NIS									
144	DU2-RD-02-HVAC-OFF	DU2-RD-02-HVAC-OFF	HVAC OFF COMMAND	Switchgear and Transformer Room	BH-17-SM-100-SA-PV-1850	DOR	Conventional	FGS	HVAC	FGS	28 Vdc	NIS									