


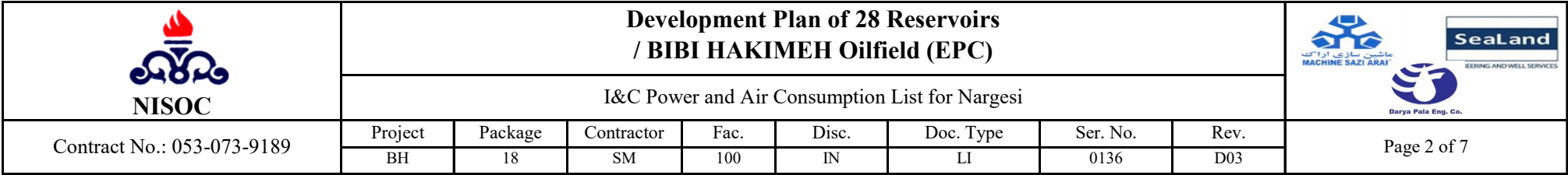
I&C Power and Air Consumption List for Nargesi

Rev.	Status	Date	Document Status	Prepared by:	Checked by:	Approved by:	Client Approval
D00	IFC	29.09.2021	Issued For Comment	M.A	S.Mo	A.R.Ma	
D01	IFA	28.02.2023	Issued For Approval (Generally Revised)	H.Esmaeillou	B.Shamsedini	A.Samadi	
D02	IFA	11.07.2023	Issued For Approval	H.Esmaeillou	B.Shamsedini	A.Samadi	
D03	IFA	16-Oct-24	Issued For Approval	A.Babalou	B.Yadegari	M.Setayesh	





Status: IDC: Inter-Discipline Check IFC: Issued For Comment IFA: Issued For Approval IFR: Issued for Riview 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	<div data-bbox="2152 1338 2388 1381">  <p>ATRIN RAD MEHR سهامی خاص شماره ثبت: ۴۱۴۵۵۰</p> </div>
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 NISOC	Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)								   Darya Pala Eng. Co.
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Contract No.: 053-073-9189	Project BH	Package 18	Contractor SM	Fac. 100	Disc. IN	Doc. Type LI	Ser. No. 0136	Rev. D03	

References:

Doc Number	Title
BH-17-SM-100-IN-DC-0052	Instrument & Control/Safety System Design Criteria
BH-17-SM-100-IN-SP-0053	General Specification for Instrumentation
BH-18-SM-100-IN-LI-0131	I/O List for Control System for Nargesi
BH-18-SM-100-IN-LI-0132	I/O List for ESD System for Nargesi
BH-18-SM-100-SA-PY-0363	Fire & Gas Detector Location Layout for Nargesi(Process Area)
BH-18-SM-100-IN-LI-0130	Instrument Index for Nargesi
BH-17-SM-100-IN-RT-2422	Existing Instrumentation & Control System Report For BBH & Nargesi
IPS-E-PR- 330	Engineering Standard For Process Design Of Compressed Air Systems
IPS-G-IN- 200	General Standard For Instrument Air System





Exclusions:

Power & Air consumption of following items has not been included in this document :

HVAC panel
Safety panels such as CO2 panel,...
Telecom consumers
Local Panel of Packages

Abbreviations

CCR	Central Control Room
PDP	Power Distribution Panel
FACP	Fire Alarm Control Panel
UCP	Unit Control Panel
F&G Sys	Fire And Gas System
PCS	Process Control System
ESD	Emergency Shut Down

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Instrument Air Consumption List

Item	Consumer Description	Qty.	Consumption per Consumer (Nm3/h)	Total Air Consumption Per Type	Remark
1	Control Valve	7	1.52	10.64	(Note-3)
2	On-off Valve including ESDV	7	1.52	10.64	(Note-2)
4	H2S Analyzer	1	5	5	(Note-4)





Total Air Required with Contingency Reserve (20%)	32	Nm3/h
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Notes :

- 1 Instrument air consumption for packaged skids is not included. It is estimated by Mechanical/Process based on information provided by package skid vendor.
- 2 Deleted.
- 3 Refer to IPS-E-PR- 330 and IPS-G-IN-200
- 4 Air consumption is estimated based on previous projects and not from actual vendor data . This document shall be revised to indicate actual vendor data upon availability.

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Power Consumption List (UPS - 110VAC)									
Item No	Panel or Instrument Name	Power source/ Location	Cubicle QTY	110VAC UPS Typical Load, (Watt)	Total UPS Power Required, (Watt)	Heat Dissipation			Remark
						Total Watt	Coincidence factor	Total Heat Dissipation (Watt)	
1	PCS System & Marshaling	PDP / CCR	2	1250	2500	2500	50%	1250	Note-2
2	ESD System & Marshaling	PDP / CCR	1	1500	1500	1500	50%	750	Note-2
3	ESD Matrix Panel	PDP / CCR	1	200	200	200	50%	100	
4	Work Station	PDP / CCR	5	300	1500	1500	50%	750	
5	Printer	PDP / CCR		200	0	0	20%	0	
6	Interposing Relay Panel	PDP / MCC	1	300	300	300			
7	Network Panel	PDP / CCR	1	800	800	800	50%	400	
8	PDP	PDP / CCR	1	300	300	300	50%	150	
9	BMS Unit Control Panel	PDP / CCR	1	1500	1500	1500	50%	750	
10	Analyzer AT-1301	PDP / Field	1	300	300	-	-	-	Note-1
11	Air compressor A/B - UCP	PDP / CCR	2	1500	3000	3000	50%	1500	
12	Flare LCP	PDP / Field		800	0	-	-	-	
13	Air Dryer A/B - UCP	PDP / CCR		4000	0	0	50%	0	
Total UPS - 110VAC (Watt) - Without Spare						11900			
Total Heat Dissipation (Watt) - Without Spare						4150			
Notes :									
1 Power consumption is estimated based on previous projects and not from actual vendor data. These data shall be revised to indicate actual vendor data upon availability.									
2 Since there is a space constraint in the existing control room, then design of control panels will be based on one-sided system and one-sided marshalling (in a common cabinet) with using the side of the panels.									
3 Power Consumption of each panel is consist of Relay, Isolator parrier, card ,chanel, madules, fan , lighitings,.... And this value is priliminary and will be finalized after receiving vendor data.									

 NISOC	Development Plan of 28 Reservoirs / BIBI HAKIMEH Oilfield (EPC)								 ماشین سازی اراک MACHINE SAZI ARAK	 ENGINEERING AND WELL SERVICES
	I&C Power and Air Consumption List for Nargesi								 Darya Pals Eng. Co.	
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Power Consumption List (24 VDC)

Item No.	Panel or Instrument Name	Power source/ Location	Qty	Normal Loads @ 24VDC			Full Alarm Loads @ 24VDC			Heat Dissipation			Remark
				Load (mA)	Total DC Load Required (mA)	Total DC Power Required (Watt)	Load (mA)	Total DC Load Required (mA)	Total DC Power Required (Watt)	Load (Watt)	Coincidence factor	Total Heat Dissipation (Watt)	
1	Gas Detector	F&G Sys./ CCR	14	81	1134	27	405	5670	136	136	50%	68	
2	H2S GAS DETECTOR	F&G Sys./ CCR	14	52	728	17	260	3640	87	87	50%	44	
3	LINEAR HEAT DETECTOR	F&G Sys./ CCR	0	50	0	0	60	0	0	0	50%	0	
4	UV/IR FLAME DETECTOR	F&G Sys./ CCR	13	85	1105	27	150	1950	47	47	50%	23	
5	Manual Call Point (Weather Proof Type)	F&G Sys./ CCR	16	5	80	2	10	160	4	4	50%	2	
6	Hydrogen Gas Detector/Sensor	F&G Sys./ CCR	2	200	400	10	300	600	14	14	50%	7	
7	Audible Alarm Sounder (Weather Proof)	F&G Sys./ CCR	5	0	0	0	200	1000	24	24	50%	12	
8	Fire Flashing Beacon (BLUE) Weather Proof Type	F&G Sys./ CCR	5	0	0	0	600	3000	72	72	50%	36	
9	Fire Flashing Beacon (RED) -Weather Proof Type	F&G Sys./ CCR	5	0	0	0	600	3000	72	72	50%	36	
10	Flammable Gas Flashing Beacon (Yellow) Weather Proof Type	F&G Sys./ CCR	5	0	0	0	600	3000	72	72	50%	36	
11	F&G System & Marshaling	Battery Charger/CCR	2	-	-	-	-	-	-	-	-	-	
12	F&G Matrix Panel	Battery Charger/CCR	1	-	-	200	-	-	200	200	50%	100	
13	FACP	Battery Charger/Switchgear	2	6500	13000	312	15000	30000	720	720	50%	360	

Total Continues Loads @ 24VDC (Watt)	595
Total Intermittent Loads @ 24VDC (Watt)	446
Total Full Alarm Loads @ 24VDC (Watt) (Batteries will be able to supply the system for a period of five minuts)	1448
Total Full Heat Dissipation	724

Notes :

- Power Consumption of each panel is consist of Relay, Isolator parrier, card ,chanel, madules, fan , lightings,.... And this value is priliminary and will be finalized after receiving vendor data.



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Darya Pala Eng. Co.

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Contractor
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