

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک I&C POWER CONSUMPTION SAMMARY-EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری W007S	صادر کننده PEDCO	تجهیزات 110	رشته IN	نوع مدرک LI	سریال 0007	نسخه D04	شماره صفحه: 1 از 8

طرح نگهداشت و افزایش تولید 27 مخزن

I&C POWER CONSUMPTION SAMMARY- EXTENSION OF BINAK B/C MANIFOLD

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D04	AUG.2023	IFA	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D03	FEB.2023	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D02	SEP.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D01	APR.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	FEB.2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad	

Class: 1

CLIENT Doc. Number: F0Z-708008

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For Purchase

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	I&C POWER CONSUMPTION SAMMARY-EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 2 از 8
053 - 073 - 9184	BK	W007S	PEDCO	120	IN	LI	0007	D04	

REVISION RECORD SHEET

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1	X	X	X	X	X	65					
2	X	X	X	X	X	66					
3	X	X				67					
4	X	X	X	X	X	68					
5	X	X	X	X	X	69					
6		X	X	X		70					
7				X	X	71					
8				X	X	72					
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک I&C POWER CONSUMPTION SAMMARY-EXTENSION OF BINAK B/C MANIFOLD								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	W007S	PEDCO	120	IN	LI	0007	D04	شماره صفحه: 3 از 8

REFERENCE DOCUMENTS:

I/O LIST FOR CONTROL SYSTM-EXTENTION OF BINAK BK MANIFOLD
 I/O LIST FOR ESD SYSTEM-EXTENTION OF BINAK BK MANIFOLD
 I/O LIST FOR F&G SYSTEM-EXTENTION OF BINAK BK MANIFOLD
 SPECIFICATION FOR INSTRUMENTATION
 SPECIFICATION FOR CONTROL SYSTEM
 SPECIFICATION FOR ESD SYSTEM
 SPECIFICATION FOR ESD SYSTEM
 SPECIFICATION FOR INSTRUMENT AND CONTROL OF PACKAGE UNIT SYSTEM(PU
 BLOCK DIAGRAM CONFIGURATION FOR CONT./ESD/F&G SYS. - EXT. OF BINAK B/C MANI.

BK-W007S-PEDCO-110-IN-LI-0002
 BK-W007S-PEDCO-110-IN-LI-0003
 BK-W007S-PEDCO-110-IN-LI-0004
 BK-GNRAL-PEDCO-000-IN-SP-0001
 BK-GNRAL-PEDCO-000-IN-SP-0002
 BK-GNRAL-PEDCO-000-IN-SP-0003
 BK-GNRAL-PEDCO-000-IN-SP-0012
 BK-GNRAL-PEDCO-000-IN-SP-0004
 BK-W007S-PEDCO-110-IN-DG-0001

 NISOC	تکهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	I&C POWER CONSUMPTION SUMMARY-EXTENSION OF BINAK B/C MANIFOLD								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	W007S	PEDCO	120	IN	LI	0007	D04	شماره صفحه: 4 از 8

شماره صفحه: 4 از 8

INST./CONTROL UPS 110 VAC POWER CONSUMPTION TABLE

- Table (1) is represents AC UPS power consumption for inst./control system. The estimation is based on the design of control systems, comprising of various equipment located in Control Room/Field.

ITEM	DESCRIPTION		PANEL QTY (Note 1)	BACK UP TIME	ESTIMATTED I/O (NOTE 2)	UNIT POWER CONSUMPTION (W)	FEEDER QTY	TOTAL POWER CONSUMPTION (W)
1	DCS SYSTEM PANEL (AS PER APPENDEX "A")	Power Supply for CPUs (2 No. redundant)	1	2 hr.	31	500	2 Nos. (Redundant)	860
		220/24 VDC Power Supply		2 hr.		160	2 Nos. (Redundant)	
		Socket - 110 VAC		-		200	-	
2	DCS MARSHALING PANEL (AS PER APPENDEX "B")	220/24 VDC Power Supply (2 No. redundant)	3	2 hr.	-	140	2 Nos. (Redundant)	340
		Socket - 110 VAC		-		200	-	
3	ESD SYSTEM PANEL (AS PER APPENDEX "A")	Power Supply for CPUs (2 No. redundant)	1	2 hr.	26	500	2 Nos. (Redundant)	878
		220/24 VDC Power Supply		2 hr.		178	2 Nos. (Redundant)	
		Socket - 110 VAC		-		200	-	
4	ESD MARSHALING PANEL (AS PER APPENDEX "B")	220/24 VDC Power Supply	2	2 hr.	-	110	2 Nos. (Redundant)	310
		Socket - 110 VAC		-		200	-	
5	OPERATOR WORKSTATION (INCLUDING DCS, ESD)		1	2 hr.	-	741	1 No. (Socket)	741
6	DCS ENGINEERING WORKSTATION		1	2 hr.	-	713	1 No. (Socket)	713
7	ESD ENGINEERING WORKSTATION		1	2 hr.	-	713	1 No. (Socket)	713
8	PRINTER (Note 2)		2	2 hr.	-	600	3 No. (Socket)	1200

TOTAL POWER CONSUMPTION FOR NEW SYSTEMS(W)	5755
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY FOR NEW SYSTEMS (W)	6906
ADDITIONAL POWER CONSUMPTION REQUIRED FOR EXISTING SYSTEMS (DUE TO CLIENT REQUEST NOTE 3)	1500
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY FOR EXISTING AND NEW SYSTEMS(KW)	8406

D04

Note 1 : Shall Be Finalized After Purchase Through Vendor Final Documents.

Note 2 : Power Consumption of panels have been estimated considering project I/O count. Refer to "I/O List For Control System - Extension of Binak B/C Manifold Doc.No.BK-W007S-PEDCO-110-IN-LI-0002 , I/O List For ESD System - Extension of Binak B/C Manifold Doc.No.BK-W007S-PEDCO-110-IN-LI-0003 , I/O List For F&G System Doc.No.BK-GCS-PEDCO-120-IN-LI-0004".

Note 3: Through 110 VAC to 24 VDC convertor which shall be provided by UPS vendor. According to IPS-E-IN-180 (first edition may 2013) part 6.1, back up time for additional power consumption required for existing system shall be considered 2 hours.

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	I&C POWER CONSUMPTION SAMMARY-EXTENSION OF BINAK B/C MANIFOLD									
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهيزات	رشته	نوع مدارک	سريال		نسخه
053 - 073 - 9184	BK	W007S	PEDCO	120	IN	LI	0007	D04	شماره صفحه: 8 از 5	

INST./CONTROL NON- UPS 230 VAC POWER CONSUMPTION TABLE

- Table (2) is represents AC UPS power consumption for inst./control system. The estimation is based on the design of control systems, comprising of various equipment located in Control Room.

ITEM	DESCRIPTION	UNIT POWER CONSUMPTION (W) (Note 1)	QTY. (Note 1)	TOTAL POWER CONSUMPTION (W) + 500 W for 1 Socket per system
1	Cabinet Utilities For DCS (Heater, Fan , Light)	200	1	700
2	Cabinet Utilities For ESD (Heater, Fan , Light)	200	1	700
3	Control Desk Sockets	500	3	1500
TOTAL POWER CONSUMPTION				2900

TABLE 2

TOTAL POWER CONSUMPTION (W)	2900
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (W)	3480

Note 1 : Shall Be Finalized After Purchase Through Vendor Final Documents.

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شماره پیمان: 053 - 073 - 9184	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدارک	سریال	نسخه	شماره صفحه: 8 از 8
	BK	W007S	PEDCO	120	IN	LI	0007	D04	

INST./CONTROL UPS 24 VDC POWER CONSUMPTION TABLE

- Table (3) is represents 24V DC UPS power consumption for F&G system. The estimation is based on the design of F&G systems, comprising of various equipment located in Control Room/Field.

ITEM	DESCRIPTION	PANEL QTY (Note 1)	BACK UP TIME	ESTIMATED I/O (NOTE 3)	UNIT POWER CONSUMPTION (W) (Note 1)	FEEDER QTY	TOTAL POWER CONSUMPTION FOR QUIESCENCE MODE(W) (Note 2,4)	TOTAL POWER CONSUMPTION FOR ALARM MODE (W) (Note 2,4)
1	FACP system	1	24hr. for Quiescence	-	400 (for Quiescence)	2 Nos. (Redundant)	540	-
2	FACP Detectors	54	24hr. for Quiescence		140 (for Quiescence mode)			
			5 MIN for alarm mode		500 (for alarm mode)		-	900

TOTAL POWER CONSUMPTION FOR 5 MIN BACK UP TIME (W) (Note 3)	900
TOTAL POWER CONSUMPTION FOR 24 HOURS BACK UP TIME (W) (Note 3)	540
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITYFOR 5 MIN BACK UP TIME (W)	1080.0
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY FOR 24 HOURS BACK UP TIME (W)	648.0

Note 1 : Shall Be Finalized After Purchase Through Vendor Final Documents.

Note 2: DC charger shall supply 2.6 KW + Spare, for 24H back up time but also it shall be capable to prepare 1.48 KW+ Spare, as a peak power consumption in alarming conditions for 5 Min back up time. it shall be considered during battery sizing in related documents.

Note 3: Power Consumption of panels have been estimatted considering project I/O count. Refer to "I/O List For Control System - Extension of Binak B/C Manifold Doc.No.BK-W007S-PEDCO-110-IN-LI-0002 , I/O List For ESD System - Extension of Binak B/C Manifold Doc.No.BK-W007S-PEDCO-110-IN-LI-0003 , I/O List For F&G System Doc.No.BK-GCS-PEDCO-120-IN-LI-0004.

Note 4: F&G system power shall meet NFPA 72. F&G system shall be powered from the 24 VDC uninterrupted power supply which is totally independent and provided by battery for a period of 24 hours back-up (24 hours back up for system normal operating without alarming devices and at the end of this time 5 minutes for activation of all alarming devices). Battery charging shall be automatic, with double battery chargers.

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I&C POWER CONSUMPTION SAMMARY-EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: 053 - 073 - 9184	پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدارک	سریال	نسخه
	BK	W007S	PEDCO	120	IN	LI	0007	D04
شماره صفحه: 8 از 7								

D03

(APPENDIX "A")

ITEM	DESCRIPTION		QTY	UNIT POWER CONSUMPTION (W) (Note1) (1.5 contingency)	TOTAL POWER CONSUMPTION (W)
1	DCS SYSTEM PANEL (As per last DCS I/O List)	Interface Base Plates	4	8.25	33
2		Commucation Processor Module	2	3.6	7.2
3		DI Module 32 Channel	1	5.25	5.25
4		DO Module 32 Channel	1	10.2	10.2
5		AI Module 16 Channel	3	2.25	6.75
6		AO Module 8 Channel	1	9	9
7		Industrial Ethernet Switch	1	15	15
8		AO-R : 6	Spare	1 SET	72
				TOTAL :	156.4

1	ESD SYSTEM PANEL (As per last DCS I/O List)	Interface Base Plates	4	8.25	33
2		DI Module 24 Channel	2	15	30
3		DO Module 10 Channel	2	9	18
4		AI Module 6 Channel	4	6.75	27
5		AO-R : 6	Spare	1 SET	70
				TOTAL :	178

Note 1 : Shall Be Finalized After Purchase Through Vendor Final Documents. (As per Siemens base)



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تکهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



I&C POWER CONSUMPTION SUMMARY-EXTENSION OF BINAK B/C MANIFOLD

شماره پیمان:

053 - 073-9184

پروژه

BK

بسته کاری

W007S

صادر کننده

PEDCO

تجهیزات

120

رشته

IN

نوع مدارک

LI

سریال

0007

نسخه

D04

شماره صفحه: 8 از 8

D03

(APPENDIX "B")

ITEM	DESCRIPTION		QTY	UNIT POWER CONSUMPTION (W) (Note 1)	TOTAL POWER CONSUMPTION (W)
1	DCS MARSHALING PANEL	Barrier	19	2.55	48.45
2		Relay Coils	12	1	12
3		Spare	1 set	70	70
				TOTAL :	130.45

1	ESD MARSHALING PANEL	Barrier	6	2.55	15.3
2		Relay Coils	20	1	20
3		Spare	1 set	70	70
				TOTAL :	105.3

Note 1 : Shall Be Finalized After Purchase Through Vendor Final Documents. (As per Siemens base)