



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
فعالیت های رو زمینی در بسته های کاری تحت الارض

ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات  
برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک

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



شماره پیمان:

053 - 073 - 9184

پروژه

بسته کاری

صادرکننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

W007S

PEDCO

110

IN

LI

0007

D03

شماره صفحه: 1 از 6

## طرح نگهداشت و افزایش تولید 27 مخزن

### I&C POWER CONSUMPTION SUMMARY - 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
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



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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0007	LI	IN	110	PEDCO	W007S	BK

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	<b>I&amp;C POWER CONSUMPTION SUMMARY - EXTENSION OF BINAK B/C MANIFOLD</b>								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری W007S	صادرکننده PEDCO	تسهیلات 110	رشته IN	نوع مدرک LI	سریال 0007	نسخه D03	شماره صفحه: 3 از 6

**REFERENCE DOCUMENTS:**

I/O LIST FOR CONTROL SYSTM-EXTENTION OF BINAK BK MANIFOLD	BK-W007S-PEDCO-110-IN-LI-0002
I/O LIST FOR ESD SYSTEM-EXTENTION OF BINAK BK MANIFOLD	BK-W007S-PEDCO-110-IN-LI-0003
I/O LIST FOR F&G SYSTEM-EXTENTION OF BINAK BK MANIFOLD	BK-W007S-PEDCO-110-IN-LI-0004
SPECIFICATION FOR INSTRUMENTATION	BK-GNRAL-PEDCO-000-IN-SP-0001
SPECIFICATION FOR CONTROL SYSTEM	BK-GNRAL-PEDCO-000-IN-SP-0002
SPECIFICATION FOR ESD SYSTEM	BK-GNRAL-PEDCO-000-IN-SP-0003
SPECIFICATION FOR ESD SYSTEM	BK-GNRAL-PEDCO-000-IN-SP-0012
SPECIFICATION FOR INSTRUMENT AND CONTROL OF PACKAGE UNIT SYSTEM(PU)	BK-GNRAL-PEDCO-000-IN-SP-0004
BLOCK DIAGRAM CONFIGURATION FOR CONT./ESD/F&G SYS. - EXT. OF BINAK B/C MANI	BK-W007S-PEDCO-110-IN-DG-0001

D03



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

شماره پیمان: 053 - 073 - 9184	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 6
	BK	W007S	PEDCO	110	IN	LI	0007	D03	

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	ESTIMATED I/O (NOTE3)	UNIT POWER CONSUMPTION (KW) (Note 1)	FEEDER QTY	TOTAL POWER CONSUMPTION (KW)
1	DCS ( SYSTEM & MARSHALING ) PANEL (INCLUDING NETWORK SWITCHES)	1	2 hr.	42	1	2 Nos. (Redundant)	1
2	ESD ( SYSTEM & MARSHALING ) PANEL	1	2 hr.	18	0.7	2 Nos. (Redundant)	0.7
3	OPERATOR WORKSTATION (INCLUDING DCS, ESD)	1	2 hr.	-	0.6	1 No. ( Socket)	0.6
4	DCS ENGINEERING WORKSTATION	1	2 hr.	-	0.6	1 No. ( Socket)	0.6
5	ESD ENGINEERING WORKSTATION	1	2 hr.	-	0.6	1 No. ( Socket)	0.6
6	PRINTERS (Note 2)	1 ( Note 2)	2 hr.	-	0.6	1 No. ( Socket)	0.6

TOTAL POWER CONSUMPTION (KW)	4.1
TOTAL POWER CONSUMPTION (KW) + 20 % SPARE	4.92
ADDITIONAL POWER CONSUMPTION REQUIRED FOR EXISTING SYSTEMS (DUE TO CLIENT REQUEST NOTE 5)	1
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (KW)	5.92

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

Note 2 : Printers Are Not Working In The Same Time.

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: Spare capacity has not been considered in I&C power consumption calculation. Required spare shall be considered in UPS battery sizing electrical.

Note 5: 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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شماره پیمان:

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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0007	LI	IN	110	PEDCO	W007S	BK

شماره صفحه: 5 از 6

## 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 (KW) (Note 1)	QTY. (Note 1)	TOTAL POWER CONSUMPTION (KW)
1	CABINET UTILITIES FOR PCS (HEATER, SOCKET, FAN , LIGHT)	0.16	1	0.16
2	CABINET UTILITIES FOR ESD (HEATER, SOCKET, FAN , LIGHT)	0.16	1	0.16
3	CONTROL DESK SOCKETS	0.5	3	1.5
<b>TOTAL POWER CONSUMPTION</b>				<b>1.82</b>

<b>TOTAL POWER CONSUMPTION (KW)</b>	<b>1.82</b>
<b>TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (KW)</b>	<b>2.184</b>

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

Note 2 : Spare capacity has not been considered in I&C power consumption calculation. Required spare shall be considered in UPS battery sizing by electrical.

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



شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

W007S

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تسهیلات

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شماره صفحه: 6 از 6

## INST./CONTROL UPS 24 VDC POWER CONSUMPTION TABLE

D03

- Table (3) is represents 24 DC UPS power consumption for FACP system and related detectors. The estimation is based on the design of FACP systems, comprising of various equipment located in Control Room/Electrical room.

ITEM	DESCRIPTION	PANEL QTY (Note 1)	BACK UP TIME	ESTIMATED I/O (NOTE 4)	UNIT POWER CONSUMPTION (KW) (Note 1)	FEEDER QTY	TOTAL POWER CONSUMPTION FOR QUIESCENCE MODE(KW)	TOTAL POWER CONSUMPTION FOR ALARM MODE (KW)
1	FACP system	1 No.	24hr.	54	0.4 ( for Quiescence & Alarm mode)	2 Nos. (Redundan t)	0.4+(0.02 x 54) = 1.48 KW for 24hr (Note 3)	-
2	FACP Detectors	54 No. (Note 5)	24hr.		0.02 (for Quiescence mode)			
			5 Min		0.2 (for alarm mode)			

<b>TOTAL POWER CONSUMPTION FOR 5 Min BACK UP TIME (KW)</b>	<b>2.6 (Note 3)</b>
<b>TOTAL POWER CONSUMPTION FOR 5 Min BACK UP TIME (KW) + 20 % SPARE</b>	<b>3.12 (Note 3)</b>
<b>TOTAL POWER CONSUMPTION FOR 24 HOURS BACK UP TIME (KW)</b>	<b>1.48 (Note 3)</b>
<b>TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (KW)+ 20 % SPARE</b>	<b>1.776 (Note 3)</b>

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

Note 2: Spare capacity has not been considered in I&C power consumption calculation. Required spare shall be considered by electrical .

Note 3: 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 4: 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 5: Twenty percent of detectors (11 No. of 54 No.) are amounted to work in the same time during alarm mode.