

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک I&C POWER CONSUMPTION SUMMARY								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تجهیزات 120	رشته IN	نوع مدرک LI	سریال 0007	نسخه D02	شماره صفحه: 1 از 6

طرح نگهداشت و افزایش تولید 27 مخزن

I&C POWER CONSUMPTION SUMMARY

نگهداشت و افزایش تولید میدان نفتی بینک

D02	DEC.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	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2

CLIENT Doc. Number: F0Z-708973

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

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 2 از 6
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	LI	0007	D02	

REVISION RECORD SHEET

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2	X	X	X			66					
3	X	X				67					
4	X	X	X			68					
5	X	X	X			69					
6		X	X			70					
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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								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 3 از 6
053 - 073 – 9184	BK	GCS	PEDCO	120	IN	LI	0007	D02	

REFERENCE DOCUMENTS:

I/O LIST FOR CONTROL SYSTM	BK-GCS-PEDCO-120-IN-LI-0002
I/O LIST FOR ESD SYSTEM	BK-GCS-PEDCO-120-IN-LI-0003
I/O LIST FOR F&G SYSTEM	BK-GCS-PEDCO-120-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

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	I&C POWER CONSUMPTION SAMMARY								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	LI	0007	D02	

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.

D02

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 (KW)
1	DCS SYSTEM PANEL (INCLUDING NETWORK SWITCHES)	1	2 hr.	400	0.8	2 Nos. (Redundant)	3.8
2	DCS MARSHALLING PANEL	3			1		
3	ESD SYSTEM PANEL	1	2 hr.	200	0.8	2 Nos. (Redundant)	2.8
4	ESD MARSHALLING PANEL	2			1		
5	ELECRO GAS COMPRESSOR UCP A/B/C SYSTEM AND MARSHALING CABINET	6	2 hr.	3x200	4	2 Nos. (Redundant)	12
6	DEHYDRATION PACKAGE LCP/ANALYZER/BMS (IF ANY AS PER VENDOR DESIGN)	1	2 hr.	20	0.5	2 Nos. (Redundant)	0.5
7	PAGING SYSTEM	1	2 hr.	-	1	2 Nos. (Redundant)	1
8	AIR COMPRESSOR LOCAL UCP A/B	2	2 hr.	2x100	1	2 Nos. (Redundant)	2
9	NITROGEN PACKAGE LOCAL UCP A/B	2	2 hr.	2x100	1	2 Nos. (Redundant)	2
10	OPERATOR WORKSTATION (INCLUDING DCS, ESD, PACKAGE OWSSs)	4	2 hr.	-	0.6	1 No. (Socket)	2.4
11	DCS ENGINEERING WORKSTATION	1	2 hr.	-	0.6	1 No. (Socket)	0.6
12	ESD ENGINEERING WORKSTATION	1	2 hr.	-	0.6	1 No. (Socket)	0.6
13	F&G OPERATOR/ ENGINEERING WORKSTATION	1	2 hr.	-	0.6	1 No. (Socket)	0.6

TOTAL POWER CONSUMPTION (KW)	28.3
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (KW)	34

D02

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

Note 2: Printers and larg screen will be supplied by normal Electrical power.

Note 3: UPS power for HVAC Panel shall be supplied by vendor. Only 400VAC , 3 phase will be supplied by EPC contractor.

Note 4: Power Consumption of panels have been estimatted considering project I/O count. Refer to " I/O List For Control System Doc.No.BK-GCS-PEDCO-120-IN-LI-0002 , I/O List For ESD System Doc.No.BK-GCS-PEDCO-120-IN-LI-0003 , I/O List For F&G System Doc.No.BK-GCS-PEDCO-120-IN-LI-0003.

Note 5 : UPS of CCTV panel is not considered.It will be provided by vendr.



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تکداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



I&C POWER CONSUMPTION SUMMARY

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

GCS

صادرکننده

PEDCO

تسهیلات

120

رشته

IN

نوع مدرک

LI

سریال

0007

نسخه

D02

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)	D02 TOTAL POWER CONSUMPTION (KW)
1	Cabinet Utilities For PCS (Heater, Socket, Fan , Light)	0.16	4	0.64
2	Cabinet Utilities For ESD (Heater, Socket, Fan , Light)	0.16	3	0.48
3	Cabinet Utilities For F&G (Heater, Socket, Fan , Light)	0.16	3	0.48
4	Cabinet Utilities For Gas Compressor UCP(Heater, Socket, Fan , Light)	0.16	6	0.96
5	Cabinet Utilities For Dehydration BMS(if any) (Heater, Socket, Fan , Light)	0.16	1	0.16
6	Cabinet Utilities For Total Flooding UCP(Heater, Socket, Fan , Light)	0.16	1	0.16
7	Cabinet Utilities For Paging Cabinet (Heater, Socket, Fan , Light)	0.16	1	0.16
8	Cabinet Utilities For Air Compressor UCP(Heater, Socket, Fan , Light)	0.16	2	0.32
9	Cabinet Utilities For Nitrogen package UCP(Heater, Socket, Fan , Light)	0.16	2	0.32
10	Control Desk Sockets	0.5	7	3.5
TOTAL POWER CONSUMPTION				7.18

TOTAL POWER CONSUMPTION (KW)	7.18
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY (KW)	8.6



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

D02

 NISOC	 تگداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک									
	I&C POWER CONSUMPTION SUMMARY									
	شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهيلات	رشته	نوع مدرک	سريال		نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	LI	0007	D02	شماره صفحه: 6 از 6	

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 4)	UNIT POWER CONSUMPTION (KW) (Note 1)	FEEDER QTY	TOTAL POWER CONSUMPTION FOR QUIESCENCE MODE(KW)	TOTAL POWER CONSUMPTION FOR ALARM MODE (KW)
1	F&G SYSTEM PANEL	1	24hr.	130	0.6 (for Quiescence& Alarm mode)	2 Nos. (Redundant)	$0.6 + (0.1 \times 2) = 0.8$ KW for 24hr (Note 3)	-
2	F&G MARSHALLING PANEL	2	24hr.		0.1 (for Quiescence mode)			
			5 MIN		0.8 (for alarm mode)		-	$0.6 + (0.8 \times 2) = 2.2$ KW for 5 Min (Note 3)
1	FACP system	1	24hr.	70	0.3 (for Quiescence& Alarm mode)	2 Nos. (Redundant)	$0.3 + (0.05 \times 1) = 0.305$ KW for 24hr (Note 3)	-
2	FACP Detectors		24hr.		0.05 (for Quiescence mode)			
			5 MIN		0.5 (for alarm mode)		-	$0.3 + (0.5 \times 1) = 0.8$ KW for 5 Min (Note 3)
3	FIRE PROTECTION AND TOTAL FLOODING SYSTEM UCP	1	5 MIN	50	0.8	2 Nos. (Redundant)	-	0.8 KW for 5 Min (Note 3)

TOTAL POWER CONSUMPTION FOR 5 MIN BACK UP TIME (KW)	3.8 (Note 3)
TOTAL POWER CONSUMPTION FOR 24 HOURS BACK UP TIME (KW)	1.105 (Note 3)
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY FOR 5 MIN BACK UP TIME (KW)	4.6
TOTAL POWER CONSUMPTION CONSIDERING SPARE CAPACITY FOR 24 HOURS BACK UP TIME (KW)	5.5

D02

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

Note 2: Deleted

Note 3: DC charger shall supply 1KW + Spare, for 24H back up time but also it shall be capable to prepare 3.8KW+ 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 Doc.No.BK-GCS-PEDCO-120-IN-LI-0002 , I/O List For ESD System Doc.No.BK-GCS-PEDCO-120-IN-LI-0003 , I/O List For F&G System Doc.No.BK-GCS-PEDCO-120-IN-LI-0003.

D02