

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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	BK	GCS	PEDCO	120	HV	CN	0007	D01

طرح نگهداشت و افزایش تولید 27 مخزن

HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)

نگهداشت و افزایش تولید میدان نفتی بینک

D01	DEC. 2024	IFA	K.Ahmadi	M.Fakharian	S.Faramarzpour	
D00	APR. 2024	IFC	K.Ahmadi	M.Fakharian	S.Faramarzpour	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
Class: 2		CLIENT Doc. Number: F0Z-709533				

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																	
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D01	0007	CN	HV	120	PEDCO	GCS	BK											

REVISION RECORD SHEET

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	BK	GCS	PEDCO	120	HV	CN	0007		D01

1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – General Facilities
GENERAL CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of :Hirgan Energy – Design & Inspection(D&I) Companies
VENDOR:	The firm or person who will fabricate the equipment or material.
EXECUTOR:	Executor is the party which carries out all or part of construction and/or commissioning for the project.
THIRD PARTY INSPECTOR (TPI):	The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods.
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR
MAY:	Is used where a provision is completely discretionary.

2.0 SCOPE

The main purpose of this document is to define the HVAC system load calculation has been carried out by computer program (HAP software) as per ASHRAE method in order to evaluate cooling load (summer) and heating load (winter) and also to select HVAC equipment for the calculated cooling and heating load.

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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3.0 NORMATIVE REFERENCES

3.1 LOCAL CODES AND STANDARDS

- IPS Iranian petroleum standards
- INBC Iranian National Building Code

3.2 INTERNATIONAL CODES AND STANDARDS

- ASTM American Society for Testing Materials Relevant Parts
- API 610 Centrifugal Pumps for General Refinery Service, 10th Edition
- ISO 15156 Petroleum and Natural Gas Industries. Materials for use in H2S Containing Environments in Oil and Gas Production
- AMCA Air Movement and Control Association
- ANSI American National Standards Institute.
- ASHRAE American Society of Heating, Refrigeration and Air-conditioning Engineer
- ASTM American Society for Testing and Material
- BOCA Building Officials and Code Administrators international
- BS British Standards
- CIBSE Chartered Institute of Building Services Engineers.
- NFPA National fire protection association
- SBCCI Southern Building Code Congress International
- SMACNA Sheet Metal and Air Conditioning Contractors' National Association
- AWWA American Water Works Association
- ASME The American Society of Mechanical Engineers

Note: The latest issued or revised edition of all above mentioned codes and standards shall be considered as reference.

3.3 ENVIRONMENTAL DATA

Refer to "Process Basis of Design; Doc. No BK-GNRL-PEDCO-000-PR-DB-0001.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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D01	0007	CN	HV	120	PEDCO	GCS	BK																			

4.0 HVAC CALCULATION

4.1 DESIGN WEATHER PARAMETERS:

Design Parameters:

City Name	Binak
Location	IRAN
Latitude	29.7 Deg.
Longitude	-50.4 Deg.
Elevation	26.2 m
Summer Design Dry-Bulb	41.0 °C
Summer Coincident Wet-Bulb	32.0 °C
Summer Daily Range	16.7 °K
Winter Design Dry-Bulb	6.0 °C
Winter Design Wet-Bulb	6.0 °C
Atmospheric Clearness Number	1.00
Average Ground Reflectance	0.20
Soil Conductivity	1.385 W/ (m-°K)
Local Time Zone (GMT +/- N hours)	-3.5 hours
Consider Daylight Savings Time	No
Simulation Weather Data	noneN/A
Current Data is	User Modified
Design Cooling Months	January to December

Design Day Maximum Solar Heat Gains

(The MSHG values are expressed in W/m²)

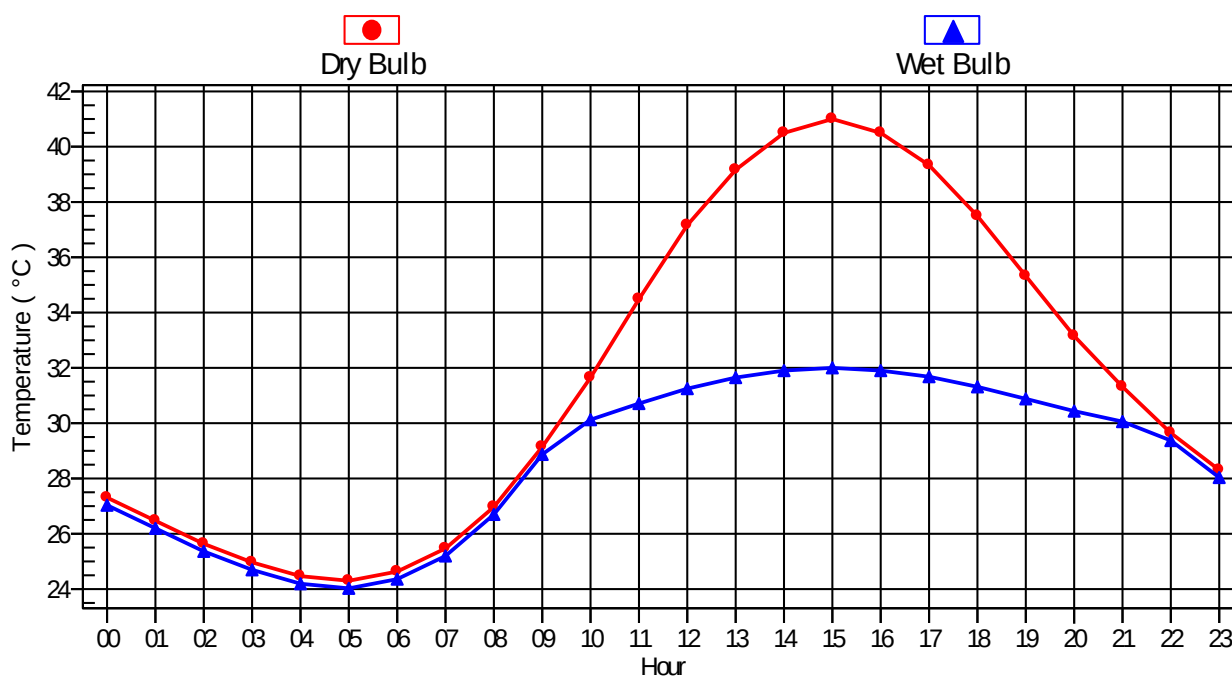
Month	N	NNE	NE	ENE	E	ESE	SE	SSE	S
January	77.5	77.5	95.1	360.4	561.2	730.9	794.1	786.3	762.3
February	89.1	89.1	206.7	484.1	668.9	760.8	782.0	718.9	671.9
March	101.4	120.5	367.4	576.2	723.5	759.6	702.5	590.8	520.1
April	113.0	252.7	487.2	636.6	705.1	688.3	568.6	408.7	322.0
May	124.3	351.1	551.9	666.3	679.9	619.4	469.6	279.8	199.5
June	161.0	389.1	570.0	664.8	662.8	586.8	421.4	228.9	165.7
July	128.9	355.9	541.6	644.7	671.3	606.9	452.1	270.2	196.1
August	118.3	256.1	470.7	606.2	686.0	663.8	546.8	395.4	311.9
September	104.3	109.2	354.3	538.8	681.8	728.9	670.0	569.4	503.5
October	91.2	91.2	226.5	441.2	642.7	746.9	748.8	692.4	650.8
November	78.1	78.1	103.7	341.8	572.3	707.9	785.7	774.1	747.8
December	71.9	71.9	71.9	306.4	524.4	699.0	788.1	799.2	780.7
Month	SSW	SW	WSW	W	WNW	NW	NNW	HOR	Mult
January	779.8	791.7	733.2	577.4	337.4	108.2	77.5	591.4	1.00
February	716.3	777.2	772.2	650.4	482.8	225.6	89.1	714.5	1.00
March	590.5	703.8	755.6	713.7	589.1	369.6	114.3	816.8	1.00
April	413.5	574.6	682.6	707.6	645.8	485.9	241.4	863.3	1.00
May	282.1	471.6	614.4	688.4	669.7	550.4	343.5	875.1	1.00
June	233.1	424.2	577.0	674.2	670.6	567.0	376.4	872.9	1.00
July	274.2	458.7	596.0	677.5	657.5	539.9	345.0	865.3	1.00
August	398.9	554.0	657.3	682.8	624.7	473.1	240.3	846.4	1.00
September	569.0	669.3	728.9	681.0	540.4	354.6	108.6	783.8	1.00
October	697.0	755.4	737.2	647.9	457.7	216.5	91.2	696.8	1.00
November	775.6	786.0	708.0	568.2	351.0	91.0	78.1	582.8	1.00
December	798.2	790.7	685.6	536.9	295.2	71.9	71.9	533.5	1.00

Mult. = User-defined solar multiplier factor.

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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D01	0007	CN	HV	120	PEDCO	GCS	BK																			

Design Temperature Profile

Design Temperature Profiles for July



 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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	BK	GCS	PEDCO	120	HV	CN	0007	D01

4.2 CONSTRUCTIONS U-VALUE:

CCTV CONTROL ROOM - BINAK GCS & DU

D01

Wall (Ceramic tile)

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.541 W/(m²·°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² ·°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
Ceramic tile	12.500	1000.0	0.34	0.03676	12.5
Cement plaster	20.000	1600.0	0.80	0.06667	32.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
Rock wool	50.000	25.0	0.05	1.19048	1.3
Cement plaster	20.000	1600.0	0.80	0.06667	32.0
Face brick	30.000	2000.0	0.03	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	332.500	-		1.84986	537.8

Wall (gypsum plaster)

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.495 W/(m²·°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² ·°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
Gypsum plaster	20.000	1300.0	1.17	0.03571	26.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
HDPU	50.000	50.0	0.05	1.42857	2.5
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Face brick	30.000	2000.0	0.03	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	320.000	-		2.02023	503.5

Wall (MDF)

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.452 W/(m²·°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² ·°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
MDF	40.000	400.0	1.17	0.40000	16.0
Cement plaster	20.000	1600.0	0.80	0.06667	32.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
Rock wool	50.000	25.0	0.05	1.19048	1.3
Cement plaster	20.000	1600.0	0.80	0.06667	32.0
Face brick	30.000	2000.0	0.03	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	360.000	-		2.21310	541.3

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D01	0007	CN	HV	120	PEDCO	GCS	BK																			

Wall (Stone)-Rock Wool

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.547 W/(m²-°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² -°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
Marble stone	50.000	2700.0	1.26	0.01429	135.0
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
Rock wool	50.000	80.0	0.05	1.19048	4.0
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Face brick	30.000	2000.0	1.00	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	370.000	-		1.82739	629.0

D01

Roof-HDPU

Roof Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.536 W/(m²-°K)

Roof Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² -°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
HW concrete	200.000	2400.0	0.84	0.08000	480.0
HDPU	50.000	60.0	0.84	1.42857	3.0
LW concrete	100.000	2000.0	0.84	0.07407	200.0
Waterproofing/isogume or similar	4.000	1000.0	1.67	0.01739	4.0
Cement plaster	20.000	750.0	0.80	0.06666	15.0
Terrazzo tile	25.000	2000.0	0.84	0.01852	50.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	399.000	-		1.86449	752.0

U.W.-1

Window Details:

Detailed Input Yes
Height 1.20 m
Width 1.00 m
Frame Type Vinyl
Internal Shade Type None
Overall U-Value 2.819 W/(m²-°K)
Overall Shade Coefficient 0.700

Glass Details:

Gap Type 6mm Argon

Glazing	Glass Type	Transmissivity	Reflectivity	Absorptivity
Outer Glazing	6mm clear	0.792	0.079	0.129
Glazing #2	6mm clear	0.792	0.079	0.129
Glazing #3	not used	1.000	0.000	0.000

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 – 073– 9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 10 از 48
HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

M.D.-1

Door Details:

Gross Area 2.4 m²
Door U-Value 5.800 W/(m²-°K)

Glass Details:

Glass Area 0.0 m²
Glass U-Value 3.293 W/(m²-°K)
Glass Shade Coefficient 0.880
Glass Shaded All Day? No

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)								شماره صفحه: 11 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	HV	CN	0007	D01	

CCTV CONTROL ROOM - BINAK PU

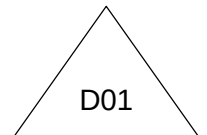
Wall (gypsum plaster)

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.495 W/(m²-°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² -°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
Gypsum plaster	20.000	1300.0	1.17	0.03571	26.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
HDBU	50.000	50.0	0.05	1.42857	2.5
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Face brick	30.000	2000.0	0.03	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	320.000	-		2.02023	503.5



Wall (marmarit stone)

Wall Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.484 W/(m²-°K)

Wall Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² -°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
Marmarit stone	50.000	2700.0	1.26	0.01429	135.0
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Wall brick	200.000	2000.0	0.20	0.28000	400.0
HDBU	50.000	40.0	0.05	1.42857	2.0
Cement plaster	20.000	750.0	0.80	0.06667	15.0
Face brick	30.000	2000.0	0.03	0.03000	60.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	370.000	-		2.06548	627.0

Roof-HDBU

Roof Details

Outside Surface Color Medium
Absorptivity 0.675
Overall U-Value 0.536 W/(m²-°K)

Roof Layers Details (Inside to Outside)

Layers	Thickness mm	Density kg/m ³	Specific Ht. kJ / (kg - °K)	R-Value (m ² -°K)/W	Weight kg/m ²
Inside surface resistance	0.000	0.0	0.00	0.12064	0.0
HW concrete	200.000	2400.0	0.84	0.08000	480.0
HDBU	50.000	60.0	0.84	1.42857	3.0
LW concrete	100.000	2000.0	0.84	0.07407	200.0
Waterproofing/isogume or similar	4.000	1000.0	1.67	0.01739	4.0
Cement plaster	20.000	750.0	0.80	0.06666	15.0
Terrazzo tile	25.000	2000.0	0.84	0.01852	50.0
Outside surface resistance	0.000	0.0	0.00	0.05864	0.0
Totals	399.000	-		1.86449	752.0

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

U.W.-1

Window Details:

Detailed Input Yes
 Height 1.20 m
 Width 0.70 m
 Frame Type Vinyl
 Internal Shade Type None
 Overall U-Value 2.819 W/(m²-°K)
 Overall Shade Coefficient 0.700

Glass Details:

Gap Type 6mm Argon

Glazing	Glass Type	Transmissivity	Reflectivity	Absorptivity
Outer Glazing	6mm clear	0.792	0.079	0.129
Glazing #2	6mm clear	0.792	0.079	0.129
Glazing #3	not used	1.000	0.000	0.000

U.W.-2

Window Details:

Detailed Input Yes
 Height 1.20 m
 Width 1.50 m
 Frame Type Vinyl
 Internal Shade Type None
 Overall U-Value 2.845 W/(m²-°K)
 Overall Shade Coefficient 0.700

Glass Details:

Gap Type 6mm Argon

Glazing	Glass Type	Transmissivity	Reflectivity	Absorptivity
Outer Glazing	6mm clear	0.792	0.079	0.129
Glazing #2	6mm clear	0.792	0.079	0.129
Glazing #3	not used	1.000	0.000	0.000

M.D.-1

Door Details:

Gross Area 2.2 m²
 Door U-Value 5.800 W/(m²-°K)

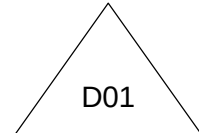
Glass Details:

Glass Area 0.0 m²
 Glass U-Value 3.293 W/(m²-°K)
 Glass Shade Coefficient 0.880
 Glass Shaded All Day? No

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 13 از 48
HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

4.3 SPACE INPUT DATA:

CCTV CONTROL ROOM - BINAK GCS



00-Control Room

1. General Details:

Floor Area 46.6 m²
Avg. Ceiling Height 3.2 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 11.90 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 500.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
ENE	18.9	0	0	0
SSE	24.6	0	0	0
NNW	24.6	0	0	0

3.1. Construction Types for Exposure NNW

Wall Type Wall (MDF)

3.2. Construction Types for Exposure ENE

Wall Type Wall (MDF)

3.3. Construction Types for Exposure WSW

Wall Type Wall (MDF)

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	46.6	0	0

4.1. Construction Types for Exposure H

Roof Type Roof-HDPU

5. Infiltration:

Design Cooling 0.00 ACH
Design Heating 0.00 ACH
Energy Analysis 0.00 ACH

Infiltration occurs at all hours.

6. Floors:

Type Slab Floor On Grade
Floor Area 46.6 m²
Total Floor U-Value 0.568 W/(m²-°K)
Exposed Perimeter 21.6 m
Edge Insulation R-Value 0.00 (m²-°K)/W

7. Partitions:

7.1. 1st Partition Details:

Partition Type Wall Partition
Area 6.6 m²
U-Value 0.761 W/(m²-°K)
Uncondit. Space Max Temp 35.0 °C
Ambient at Space Max Temp 41.0 °C
Uncondit. Space Min Temp 12.5 °C
Ambient at Space Min Temp 6.0 °C

7.2. 2nd Partition Details:

(No partition data).

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	 HIRGAN ENERGY						
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)							شماره صفحه: 14 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	
								D01

01-Rack Room

1. General Details:

Floor Area 10.0 m²
Avg. Ceiling Height 3.2 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 10.20 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 2500.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SSE	12.6	0	0	0
WSW	7.9	0	0	0

3.1. Construction Types for Exposure ENE

Wall Type Wall (Stone)-Rock Wool

3.2. Construction Types for Exposure SSE

Wall Type Wall (Stone)-Rock Wool

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	10.0	0	0

4.1. Construction Types for Exposure H

Roof Type Roof

5. Infiltration:

Design Cooling 0.00 ACH
Design Heating 0.00 ACH
Energy Analysis 0.00 ACH

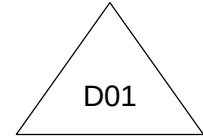
Infiltration occurs at all hours.

6. Floors:

Type Floor Above Unconditioned Space
Floor Area 10.0 m²
Total Floor U-Value 0.568 W/(m²-°K)
Unconditioned Space Max Temp. 35.0 °C
Ambient at Space Max Temp. 41.0 °C
Unconditioned Space Min Temp. 12.5 °C
Ambient at Space Min Temp. 6.0 °C

7. Partitions:

(No partition data).



2.4. People:

Occupancy 0.0 Person
Activity Level Office Work
Sensible 71.8 W/person
Latent 60.1 W/person
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	 HIRGAN ENERGY																
شماره پیمان:	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)	شماره صفحه: 15 از 48																
053 - 073 - 9184	<table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>PEDCO</td><td>120</td><td>HV</td><td>CN</td><td>0007</td><td>D01</td></tr></table>		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	HV	CN	0007	D01
	پروژه		بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه									
BK	GCS	PEDCO	120	HV	CN	0007	D01											

02-Entrance

1. General Details:

Floor Area 4.8 m²
Avg. Ceiling Height 3.2 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 7.00 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 500.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
WSW	3.8	0	0	1

3.1. Construction Types for Exposure SSE

Wall Type Wall (gypsum plaster)
Door Type M.D.-1

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	4.8	0	0

4.1. Construction Types for Exposure H

Roof Type Roof-HDPU

5. Infiltration:

Design Cooling 74.33 L/s
Design Heating 74.33 L/s
Energy Analysis 74.33 L/s

Infiltration occurs at all hours.

6. Floors:

Type Slab Floor On Grade
Floor Area 4.8 m²
Total Floor U-Value 0.568 W/(m²-°K)
Exposed Perimeter 1.2 m
Edge Insulation R-Value 0.00 (m²-°K)/W

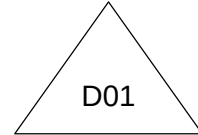
7. Partitions:

7.1. 1st Partition Details:

Partition Type Wall Partition
Area 6.0 m²
U-Value 0.761 W/(m²-°K)
Uncondit. Space Max Temp 35.0 °C
Ambient at Space Max Temp 41.0 °C
Uncondit. Space Min Temp 12.5 °C
Ambient at Space Min Temp 6.0 °C

7.2. 2nd Partition Details:

(No partition data).



2.4. People:

Occupancy 0.0 Person
Activity Level Office Work
Sensible 71.8 W/person
Latent 60.1 W/person
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053-073-9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 16 از 48
HVAC CALCULATION NOTE FOR CCTV CONTROL ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

03-Pantry

1. General Details:

Floor Area	4.2	m ²
Avg. Ceiling Height	3.2	m
Building Weight	341.8	kg/m ²

1.1. OA Ventilation Requirements:

Space Usage	User-Defined
OA Requirement 1	0.0 L/s/person
OA Requirement 2	0.00 L/(s-m ²)
Space Usage Defaults	ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type	Recessed (Unvented)
Wattage	10.70 W/m ²
Ballast Multiplier	1.25
Schedule	Lighting

2.2. Task Lighting:

Wattage	0.00 W/m ²
Schedule	None

2.3. Electrical Equipment:

Wattage	600.0 Watts
Schedule	Electrical Eq.

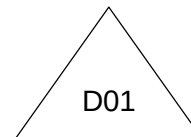
3. Walls, Windows, Doors:

2.4. People:

Occupancy	0.0 Person
Activity Level	Office Work
Sensible	71.8 W/person
Latent	60.1 W/person
Schedule	None

2.5. Miscellaneous Loads:

Sensible	1000 W
Schedule	Electrical Eq.
Latent	700 W
Schedule	Electrical Eq.



Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NNW	6.3	1	0	0
WSW	6.6	0	0	0

3.1. Construction Types for Exposure WSW

Wall Type	Wall (Ceramic tile)
1st Window Type	U.W.-1

3.2. Construction Types for Exposure SSE

Wall Type	Wall (Ceramic tile)
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4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	4.2	0	0

4.1. Construction Types for Exposure H

Roof Type	Roof-HDPU
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5. Infiltration:

Design Cooling	21.83	L/s
Design Heating	21.83	L/s
Energy Analysis	21.83	L/s

Infiltration occurs at all hours.

6. Floors:

Type	Slab Floor On Grade	
Floor Area	4.2	m ²
Total Floor U-Value	0.568	W/(m ² ·°K)
Exposed Perimeter	4.1	m
Edge Insulation R-Value	0.00	(m ² ·°K)/W

7. Partitions:

7.1. 1st Partition Details:

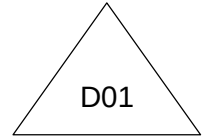
Partition Type	Wall Partition	
Area	6.6	m ²
U-Value	0.761	W/(m ² ·°K)
Uncondit. Space Max Temp	35.0	°C
Ambient at Space Max Temp	41.0	°C
Uncondit. Space Min Temp	12.5	°C
Ambient at Space Min Temp	6.0	°C

7.2. 2nd Partition Details:

(No partition data).

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 17 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

CCTV CONTROL ROOM - BINAK DU



00-Control Room

1. General Details:

Floor Area	46.6	m ²
Avg. Ceiling Height	3.2	m
Building Weight	341.8	kg/m ²

1.1. OA Ventilation Requirements:

Space Usage	User-Defined
OA Requirement 1	0.0 L/s/person
OA Requirement 2	0.00 L/(s-m ²)
Space Usage Defaults	ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type	Recessed (Unvented)
Wattage	11.90 W/m ²
Ballast Multiplier	1.25
Schedule	Lighting

2.2. Task Lighting:

Wattage	0.00 W/m ²
Schedule	None

2.3. Electrical Equipment:

Wattage	500.0 Watts
Schedule	Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
ESE	18.9	0	0	0
NNE	24.6	0	0	0
SSW	24.6	0	0	0

3.1. Construction Types for Exposure NNW

Wall Type	Wall (MDF)
-----------------	------------

3.2. Construction Types for Exposure ENE

Wall Type	Wall (MDF)
-----------------	------------

3.3. Construction Types for Exposure WSW

Wall Type	Wall (MDF)
-----------------	------------

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	46.6	0	0

4.1. Construction Types for Exposure H

Roof Type	Roof-HDPU
-----------------	-----------

5. Infiltration:

Design Cooling	0.00	ACH
Design Heating	0.00	ACH
Energy Analysis	0.00	ACH

Infiltration occurs at all hours.

6. Floors:

Type	Slab Floor On Grade	
Floor Area	46.6	m ²
Total Floor U-Value	0.568	W/(m ² ·°K)
Exposed Perimeter	21.6	m
Edge Insulation R-Value	0.00	(m ² ·°K)/W

7. Partitions:

7.1. 1st Partition Details:

Partition Type	Wall Partition	
Area	6.6	m ²
U-Value	0.761	W/(m ² ·°K)
Uncondit. Space Max Temp	35.0	°C
Ambient at Space Max Temp	41.0	°C
Uncondit. Space Min Temp	12.5	°C
Ambient at Space Min Temp	6.0	°C

7.2. 2nd Partition Details:

(No partition data).

01-Rack Room

1. General Details:

Floor Area	10.0	m ²
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 18 از 48
HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

Avg. Ceiling Height 3.2 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 10.20 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 2500.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SSW	12.6	0	0	0
WNW	7.9	0	0	0

3.1. Construction Types for Exposure ENE

Wall Type Wall (Stone)-Rock Wool

3.2. Construction Types for Exposure SSE

Wall Type Wall (Stone)-Rock Wool

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	10.0	0	0

4.1. Construction Types for Exposure H

Roof Type Roof

5. Infiltration:

Design Cooling 0.00 ACH
Design Heating 0.00 ACH
Energy Analysis 0.00 ACH

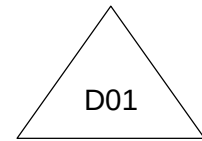
Infiltration occurs at all hours.

6. Floors:

Type Floor Above Unconditioned Space
Floor Area 10.0 m²
Total Floor U-Value 0.568 W/(m²-°K)
Unconditioned Space Max Temp. 35.0 °C
Ambient at Space Max Temp. 41.0 °C
Unconditioned Space Min Temp. 12.5 °C
Ambient at Space Min Temp. 6.0 °C

7. Partitions:

(No partition data).



2.4. People:

Occupancy 0.0 Person
Activity Level Office Work
Sensible 71.8 W/person
Latent 60.1 W/person
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 19 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	
							D01	

02-Entrance

1. General Details:

Floor Area 4.8 m²
Avg. Ceiling Height 3.2 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 7.00 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 500.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
W/NW	3.8	0	0	1

3.1. Construction Types for Exposure SSE

Wall Type Wall (gypsum plaster)
Door Type M.D.-1

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	4.8	0	0

4.1. Construction Types for Exposure H

Roof Type Roof-HDPU

5. Infiltration:

Design Cooling 74.33 L/s
Design Heating 74.33 L/s
Energy Analysis 74.33 L/s

Infiltration occurs at all hours.

6. Floors:

Type Slab Floor On Grade
Floor Area 4.8 m²
Total Floor U-Value 0.568 W/(m²-°K)
Exposed Perimeter 1.2 m
Edge Insulation R-Value 0.00 (m²-°K)/W

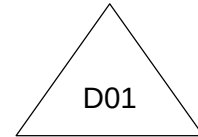
7. Partitions:

7.1. 1st Partition Details:

Partition Type Wall Partition
Area 6.0 m²
U-Value 0.761 W/(m²-°K)
Uncondit. Space Max Temp 35.0 °C
Ambient at Space Max Temp 41.0 °C
Uncondit. Space Min Temp 12.5 °C
Ambient at Space Min Temp 6.0 °C

7.2. 2nd Partition Details:

(No partition data).



2.4. People:

Occupancy 0.0 Person
Activity Level Office Work
Sensible 71.8 W/person
Latent 60.1 W/person
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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	BK	GCS	PEDCO	120	HV	CN	0007	
							D01	

03-Pantry

1. General Details:

Floor Area	4.2	m ²
Avg. Ceiling Height	3.2	m
Building Weight	341.8	kg/m ²

1.1. OA Ventilation Requirements:

Space Usage	User-Defined
OA Requirement 1	0.0 L/s/person
OA Requirement 2	0.00 L/(s-m ²)
Space Usage Defaults	ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type	Recessed (Unvented)
Wattage	10.70 W/m ²
Ballast Multiplier	1.25
Schedule	Lighting

2.2. Task Lighting:

Wattage	0.00 W/m ²
Schedule	None

2.3. Electrical Equipment:

Wattage	600.0 Watts
Schedule	Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NNE	6.3	1	0	0
WNW	6.6	0	0	0

3.1. Construction Types for Exposure WSW

Wall Type	Wall (Ceramic tile)
1st Window Type	U.W.-1

3.2. Construction Types for Exposure SSE

Wall Type	Wall (Ceramic tile)
-----------------	---------------------

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	4.2	0	0

4.1. Construction Types for Exposure H

Roof Type	Roof-HDPU
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5. Infiltration:

Design Cooling	21.83	L/s
Design Heating	21.83	L/s
Energy Analysis	21.83	L/s

Infiltration occurs at all hours.

6. Floors:

Type	Slab Floor On Grade	
Floor Area	4.2	m ²
Total Floor U-Value	0.568	W/(m ² ·°K)
Exposed Perimeter	4.1	m
Edge Insulation R-Value	0.00	(m ² ·°K)/W

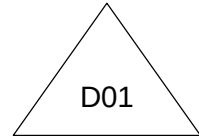
7. Partitions:

7.1. 1st Partition Details:

Partition Type	Wall Partition	
Area	6.6	m ²
U-Value	0.761	W/(m ² ·°K)
Uncondit. Space Max Temp	35.0	°C
Ambient at Space Max Temp	41.0	°C
Uncondit. Space Min Temp	12.5	°C
Ambient at Space Min Temp	6.0	°C

7.2. 2nd Partition Details:

(No partition data).



2.4. People:

Occupancy	0.0 Person
Activity Level	Office Work
Sensible	71.8 W/person
Latent	60.1 W/person
Schedule	None

2.5. Miscellaneous Loads:

Sensible	1000 W
Schedule	Electrical Eq.
Latent	700 W
Schedule	Electrical Eq.

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شماره پیمان: 053 - 073-9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 21 از 48
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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

CCTV CONTROL ROOM - BINAK PU

00-Guard House

1. General Details:

Floor Area	4.7	m ²
Avg. Ceiling Height	2.8	m
Building Weight	341.8	kg/m ²

1.1. OA Ventilation Requirements:

Space Usage	User-Defined
OA Requirement 1	0.0 L/s/person
OA Requirement 2	0.00 L/(s-m ²)
Space Usage Defaults	ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type	Recessed (Unvented)
Wattage	11.90 W/m ²
Ballast Multiplier	1.25
Schedule	Lighting

2.2. Task Lighting:

Wattage	0.00 W/m ²
Schedule	None

2.3. Electrical Equipment:

Wattage	100.0 Watts
Schedule	Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
N	5.7	1	0	1
S	5.7	1	0	0
E	6.4	1	0	0

3.1. Construction Types for Exposure N

Wall Type	Wall (gypsum plaster)
1st Window Type	U.W.-1
Door Type	M.D.-1

3.2. Construction Types for Exposure S

Wall Type	Wall (gypsum plaster)
1st Window Type	U.W.-2

3.3. Construction Types for Exposure E

Wall Type	Wall (gypsum plaster)
1st Window Type	U.W.-2

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	4.7	0	0

4.1. Construction Types for Exposure H

Roof Type	Roof-HDPU
-----------	-----------

5. Infiltration:

Design Cooling	2.00	ACH
Design Heating	2.00	ACH
Energy Analysis	2.00	ACH

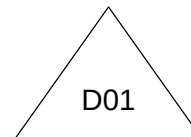
Infiltration occurs at all hours.

6. Floors:

Type	Slab Floor On Grade	
Floor Area	4.7	m ²
Total Floor U-Value	0.568	W/(m ² ·°K)
Exposed Perimeter	10.5	m
Edge Insulation R-Value	0.00	(m ² ·°K)/W

7. Partitions:

(No partition data).



 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	 HIRGAN ENERGY 						
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	BK	GCS	PEDCO	120	HV	CN	0007	
							D01	

01-Rack Room

1. General Details:

Floor Area 2.6 m²
Avg. Ceiling Height 2.8 m
Building Weight 341.8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 0.0 L/s/person
OA Requirement 2 0.00 L/(s-m²)
Space Usage Defaults . ASHRAE Standard 62.1-2010

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 10.20 W/m²
Ballast Multiplier 1.25
Schedule Lighting

2.2. Task Lighting:

Wattage 0.00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 1000.0 Watts
Schedule Electrical Eq.

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
N	3.2	0	0	0
W	6.4	0	0	1
S	3.2	0	0	0

3.1. Construction Types for Exposure N

Wall Type Wall (marmarit stone)

3.2. Construction Types for Exposure W

Wall Type Wall (marmarit stone)
Door Type M.D.-1

3.3. Construction Types for Exposure S

Wall Type Wall (marmarit stone)

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	2.6	0	0

4.1. Construction Types for Exposure H

Roof Type Roof-HDPU

5. Infiltration:

Design Cooling 0.00 ACH
Design Heating 0.00 L/(s-m²)
Energy Analysis 0.00 L/s

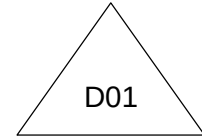
Infiltration occurs at all hours.

6. Floors:

Type Floor Above Unconditioned Space
Floor Area 2.6 m²
Total Floor U-Value 0.568 W/(m²-°K)
Unconditioned Space Max Temp. 35.0 °C
Ambient at Space Max Temp. 41.0 °C
Unconditioned Space Min Temp. 12.5 °C
Ambient at Space Min Temp. 6.0 °C

7. Partitions:

(No partition data).



2.4. People:

Occupancy 0.0 Person
Activity Level Office Work
Sensible 71.8 W/person
Latent 60.1 W/person
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
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	BK	GCS	PEDCO	120	HV	CN	0007	
							D01	

4.4 SYSTEM INPUT DATA:

CCTV CONTROL ROOM - BINAK GCS & DU

1. General Details:

Air System Name System
Equipment Type Terminal Units
Air System Type Split DX Fan Coil
Number of zones 2
Ventilation Direct Ventilation

2. Ventilation System Components:

(Common Ventilation System not used: no inputs)

3. Zone Components:

Space Assignments:

Zone 1: Zone 1	
00-Control Room	x1
02-Entrance	x1
03-Pantry	x1
Zone 2: Zone 2	
01-Rack Room	x1

Thermostats and Zone Data:

Zone	Cooling T-Stat Occ. (°C)	Cooling T-Stat Unocc. (°C)	Heating T-Stat Occ. (°C)	Heating T-Stat Unocc. (°C)	T-Stat Throttling Range (°C)
1	24.0	27.0	22.0	18.0	0.83
2	30.0	30.0	10.0	10.0	0.83

Thermostat Schedule Fan
Unoccupied Cooling is Available

Common Terminal Unit Data:

Cooling Coil:

Design Supply Temperature 14.4 °C
Coil Bypass Factor 0.100
Cooling Source Air-Cooled DX
Schedule JFMAMJJASOND

Heating Coil:

Design Supply Temperature 35.0 °C
Heating Source Air Source Heat Pump
Schedule JFMAMJJASOND
Fan Control Fan On
Ventilation Sizing Method Sum of Space OA Airflows

Terminal Units Data:

Zone All
Terminal Type Fan Coil
Minimum Airflow 0.00 L/s/person
Fan Performance 0 Pa
Fan Overall Efficiency 50 %

4. Sizing Data (Computer-Generated):

System Sizing Data:

Sizing Data:

Cooling Supply Temperature 14.4 °C
Heating Supply Temperature 35.0 °C

Hydronic Sizing Specifications:

Chilled Water Delta-T 5.6 °K
Hot Water Delta-T 11.1 °K

Safety Factors:

Cooling Sensible 10 %
Cooling Latent 10 %
Heating 10 %

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شماره پیمان:	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 24 از 48	
053 - 073 - 9184	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

CCTV CONTROL ROOM - BINAK PU

1. General Details:

Air System Name System
 Equipment Type Terminal Units
 Air System Type Split DX Fan Coil
 Number of zones 2
 Ventilation Direct Ventilation

2. Ventilation System Components:

(Common Ventilation System not used: no inputs)

3. Zone Components:

Space Assignments:

Zone 1: Zone 1	
00-Guard House	x1
Zone 2: Zone 2	
01-Rack Room	x1

Thermostats and Zone Data:

Zone	Cooling T-Stat Occ. (°C)	Cooling T-Stat Unocc. (°C)	Heating T-Stat Occ. (°C)	Heating T-Stat Unocc. (°C)	T-Stat Throttling Range (°C)
1	24.0	27.0	22.0	18.0	0.83
2	30.0	30.0	10.0	10.0	0.83

Thermostat Schedule Fan

Unoccupied Cooling is Available

Common Terminal Unit Data:

Cooling Coil:
 Design Supply Temperature 14.4 °C
 Coil Bypass Factor 0.100
 Cooling Source Air-Cooled DX
 Schedule JFMAMJJASOND

Heating Coil:
 Design Supply Temperature 35.0 °C
 Heating Source Air Source Heat Pump
 Schedule JFMAMJJASOND
 Fan Control Fan On
 Ventilation Sizing Method Sum of Space OA Airflows

Terminal Units Data:

Zone All
 Terminal Type Fan Coil
 Minimum Airflow 0.00 L/s/person
 Fan Performance 0 Pa
 Fan Overall Efficiency 50 %

4. Sizing Data (Computer-Generated):

System Sizing Data:

Sizing Data:
 Cooling Supply Temperature 14.4 °C
 Heating Supply Temperature 35.0 °C

Hydronic Sizing Specifications:
 Chilled Water Delta-T 5.6 °K
 Hot Water Delta-T 11.1 °K

Safety Factors:

Cooling Sensible 10 %
 Cooling Latent 10 %
 Heating 10 %

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 25 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

4.5 AIR SYSTEM SIZING SUMMARY:

CCTV CONTROL ROOM - BINAK GCS

D01

Air System Information

Air System Name System
Equipment Class TERM
Air System Type SPLT-FC

Number of zones 2
Floor Area 65.6 m²
Location Binak, IRAN

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m ²)	Zone L/(s-m ²)
Zone 1	6.7	627	627	Jul 1500	3.5	55.6	11.28
Zone 2	2.9	155	155	Jul 0800	0.0	10.0	15.51

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (kW)	Sens Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB (°C)	Water Flow @ 5.6 °K (L/s)	Time of Peak Load
Zone 1	11.4	6.8	24.5 / 20.3	15.7 / 15.3	-	Jun 1600
Zone 2	3.8	2.9	30.6 / 21.0	15.0 / 14.2	-	Aug 2000

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Heating Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @11.1 °K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
Zone 1	3.9	21.7 / 26.7	-	639	0.000	0.000	0
Zone 2	0.3	21.4 / 23.1	-	157	0.000	0.000	0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s-m ²)
Zone 1							
00-Control Room	1	2.2	Jul 0800	192	1.2	46.6	4.12
02-Entrance	1	2.5	Jul 1500	221	1.9	4.8	45.99
03-Pantry	1	2.6	Jul 1600	227	0.7	4.2	53.93
Zone 2							
01-Rack Room	1	2.9	Aug 2100	157	0.1	10.0	15.73

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 26 از 48
HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

CCTV CONTROL ROOM - BINAK DU

D01

Air System Information

Air System Name System
Equipment Class TERM
Air System Type SPLT-FC

Number of zones 2
Floor Area 65.6 m²
Location Binak, IRAN

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m ²)	Zone L/(s-m ²)
Zone 1	7.0	637	637	Jul 1500	3.9	55.6	11.45
Zone 2	2.9	157	157	Aug 2200	0.1	10.0	15.73

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (kW)	Sens Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB (°C)	Water Flow @ 5.6 °K (L/s)	Time of Peak Load
Zone 1	11.3	6.8	24.7 / 20.3	15.8 / 15.5	-	Jul 1500
Zone 2	3.8	2.9	30.6 / 21.0	15.1 / 14.2	-	Jun 2100

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Heating Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @11.1 °K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
Zone 1	3.9	21.7 / 26.7	-	637	0.000	0.000	0
Zone 2	0.3	21.4 / 23.1	-	157	0.000	0.000	0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s-m ²)
Zone 1							
00-Control Room	1	2.2	Jul 0800	192	1.2	46.6	4.12
02-Entrance	1	2.5	Jul 1500	221	1.9	4.8	45.98
03-Pantry	1	2.6	Jul 1500	224	0.7	4.2	53.34
Zone 2							
01-Rack Room	1	2.9	Aug 2200	157	0.1	10.0	15.73

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شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS) <table><tr><td>نسخه</td><td>سریال</td><td>نوع مدرک</td><td>رشته</td><td>تسهیلات</td><td>صادر کننده</td><td>بسته کاری</td><td>پروژه</td></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 27 از 48
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه											
D01	0007	CN	HV	120	PEDCO	GCS	BK											

CCTV CONTROL ROOM - BINAK PU

Air System Information

Air System Name System
Equipment Class TERM
Air System Type SPLT-FC

Number of zones 2
Floor Area 7.3 m²
Location Binak, IRAN

D01

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone L/s Sizing Sum of space airflow rates
Space L/s Sizing Individual peak space loads

Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m ²)	Zone L/(s-m ²)
Zone 1	1.5	127	127	Sep 1400	0.8	4.7	27.05
Zone 2	1.3	67	67	Jul 1600	0.1	2.6	25.93

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (kW)	Sens Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB (°C)	Water Flow @ 5.6 °K (L/s)	Time of Peak Load
Zone 1	1.8	1.4	24.6 / 18.6	15.2 / 14.6	-	Sep 1400
Zone 2	1.4	1.2	30.8 / 20.4	15.4 / 14.5	-	Aug 1600

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Heating Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @11.1 °K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
Zone 1	0.7	21.6 / 26.5	-	127	0.000	0.000	0
Zone 2	0.3	19.5 / 22.9	-	67	0.000	0.000	0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s-m ²)
Zone 1							
00-Guard House	1	1.5	Sep 1400	127	0.8	4.7	27.05
Zone 2							
01-Rack Room	1	1.3	Jul 1600	67	0.1	2.6	25.93

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 28 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

4.6 VENTILATION SIZING SUMMARY

CCTV CONTROL ROOM - BINAK GCS

D01

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m ²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s-m ²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
00-Control Room	1	46.6	5.0	192.1	0.00	0.00	0.0	0.0	0.0
02-Entrance	1	4.8	0.0	220.7	0.00	0.00	0.0	0.0	0.0
03-Pantry	1	4.2	0.0	226.5	0.00	0.00	0.0	0.0	0.0
Zone 2									
01-Rack Room	1	10.0	0.0	157.3	0.00	0.00	0.0	0.0	0.0
Totals (incl. Space Multipliers)				796.7					0.0

CCTV CONTROL ROOM - BINAK DU

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m ²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s-m ²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
00-Control Room	1	46.6	5.0	191.9	0.00	0.00	0.0	0.0	0.0
02-Entrance	1	4.8	0.0	220.7	0.00	0.00	0.0	0.0	0.0
03-Pantry	1	4.2	0.0	224.0	0.00	0.00	0.0	0.0	0.0
Zone 2									
01-Rack Room	1	10.0	0.0	157.3	0.00	0.00	0.0	0.0	0.0
Totals (incl. Space Multipliers)				793.9					0.0

CCTV CONTROL ROOM - BINAK PU

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m ²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s-m ²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
00-Guard House	1	4.7	2.0	127.1	0.00	0.00	0.0	0.0	0.0
Zone 2									
01-Rack Room	1	2.6	0.0	67.4	0.00	0.00	0.0	0.0	0.0
Totals (incl. Space Multipliers)				194.6					0.0

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 29 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	D01

4.7 AIR SYSTEM DESIGN LOAD SUMMARY:

CCTV CONTROL ROOM - BINAK GCS

D01

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 41.0 °C / 32.0 °C			HEATING OA DB / WB 6.0 °C / 6.0 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	1 m ²	135	-	1 m ²	-	-
Wall Transmission	102 m ²	520	-	102 m ²	649	-
Roof Transmission	66 m ²	516	-	66 m ²	499	-
Window Transmission	1 m ²	45	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	185	-	2 m ²	223	-
Floor Transmission	66 m ²	15	-	66 m ²	220	-
Partitions	19 m ²	126	-	19 m ²	139	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	21	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	4100 W	4100	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	1845	3917	-	1852	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	887	492	10%	364	0
>> Total Zone Loads	-	9752	5409	-	3999	0
Zone Conditioning	-	9632	5409	-	4200	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 L/s	0	-	0 L/s	0	-
Ventilation Load	0 L/s	0	0	0 L/s	0	0
Ventilation Fan Load	0 L/s	0	-	0 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	9632	5409	-	4200	0
Terminal Unit Cooling	-	9632	5441	-	0	0
Terminal Unit Heating	-	0	-	-	4200	-
>> Total Conditioning	-	9632	5441	-	4200	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

CCTV CONTROL ROOM - BINAK DU

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 41.0 °C / 32.0 °C			HEATING OA DB / WB 6.0 °C / 6.0 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	1 m ²	85	-	1 m ²	-	-
Wall Transmission	102 m ²	545	-	102 m ²	649	-
Roof Transmission	66 m ²	522	-	66 m ²	499	-
Window Transmission	1 m ²	47	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	193	-	2 m ²	223	-
Floor Transmission	66 m ²	17	-	66 m ²	220	-
Partitions	19 m ²	131	-	19 m ²	139	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	21	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	4100 W	4100	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	1909	3831	-	1852	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	893	483	10%	364	0
>> Total Zone Loads	-	9822	5315	-	3999	0
Zone Conditioning	-	9656	5315	-	4186	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 L/s	0	-	0 L/s	0	-
Ventilation Load	0 L/s	0	0	0 L/s	0	0
Ventilation Fan Load	0 L/s	0	-	0 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	9656	5315	-	4186	0
Terminal Unit Cooling	-	9656	5386	-	0	0
Terminal Unit Heating	-	0	-	-	4186	-
>> Total Conditioning	-	9656	5386	-	4186	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

D01

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
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HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

CCTV CONTROL ROOM - BINAK PU

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1400 COOLING OA DB / WB 40.5 °C / 31.9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	4 m ²	436	-	4 m ²	-	-
Wall Transmission	22 m ²	99	-	22 m ²	107	-
Roof Transmission	7 m ²	48	-	7 m ²	46	-
Window Transmission	4 m ²	168	-	4 m ²	199	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	4 m ²	267	-	4 m ²	255	-
Floor Transmission	7 m ²	4	-	7 m ²	27	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	3	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1100 W	1100	-	0	0	-
People	2	144	120	0	0	0
Infiltration	-	145	334	-	141	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	241	45	10%	78	0
>> Total Zone Loads	-	2655	500	-	853	0
Zone Conditioning	-	2616	500	-	1030	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 L/s	0	-	0 L/s	0	-
Ventilation Load	0 L/s	0	0	0 L/s	0	0
Ventilation Fan Load	0 L/s	0	-	0 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2616	500	-	1030	0
Terminal Unit Cooling	-	2616	504	-	0	0
Terminal Unit Heating	-	0	-	-	1030	-
>> Total Conditioning	-	2616	504	-	1030	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

D01

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 32 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

4.8 ZONE DESIGN LOAD SUMMARY:

CCTV CONTROL ROOM - BINAK GCS

D01

Zone 1	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 24.0 °C			OCCUPIED T-STAT 22.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	1 m ²	99	-	1 m ²	-	-
Wall Transmission	81 m ²	457	-	81 m ²	605	-
Roof Transmission	56 m ²	462	-	56 m ²	477	-
Window Transmission	1 m ²	47	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	195	-	2 m ²	223	-
Floor Transmission	56 m ²	0	-	56 m ²	220	-
Partitions	19 m ²	133	-	19 m ²	139	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	19	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1600 W	1600	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	1967	3770	-	1852	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	634	477	10%	357	0
>> Total Zone Loads	-	6972	5247	-	3926	0

Zone 2	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800 COOLING OA DB / WB 27.0 °C / 26.7 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 30.0 °C			OCCUPIED T-STAT 10.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	21 m ²	121	-	21 m ²	45	-
Roof Transmission	10 m ²	59	-	10 m ²	21	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	10 m ²	-4	-	10 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	128 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2500 W	2500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	268	0	10%	7	0
>> Total Zone Loads	-	2946	0	-	73	0

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 33 از 48	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

CCTV CONTROL ROOM - BINAK DU

D01

Zone 1	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 24.0 °C			OCCUPIED T-STAT 22.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	1 m ²	89	-	1 m ²	-	-
Wall Transmission	81 m ²	463	-	81 m ²	605	-
Roof Transmission	56 m ²	462	-	56 m ²	477	-
Window Transmission	1 m ²	47	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	195	-	2 m ²	223	-
Floor Transmission	56 m ²	0	-	56 m ²	220	-
Partitions	19 m ²	133	-	19 m ²	139	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	19	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1600 W	1600	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	1967	3834	-	1852	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	633	483	10%	357	0
>> Total Zone Loads	-	6967	5318	-	3926	0

Zone 2	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800 COOLING OA DB / WB 27.0 °C / 26.7 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 30.0 °C			OCCUPIED T-STAT 10.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	21 m ²	122	-	21 m ²	45	-
Roof Transmission	10 m ²	61	-	10 m ²	21	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	10 m ²	-9	-	10 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	128 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2500 W	2500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	268	0	10%	7	0
>> Total Zone Loads	-	2944	0	-	73	0

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 HIRGAN ENERGY 	
شماره پیمان: 053 - 073 - 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								شماره صفحه: 34 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	HV	CN	0007	D01	

CCTV CONTROL ROOM - BINAK PU

D01

Zone 1	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Sep 1400 COOLING OA DB / WB 39.4 °C / 31.4 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 24.0 °C			OCCUPIED T-STAT 22.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	4 m ²	530	-	4 m ²	-	-
Wall Transmission	11 m ²	77	-	11 m ²	87	-
Roof Transmission	5 m ²	30	-	5 m ²	40	-
Window Transmission	4 m ²	154	-	4 m ²	199	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	158	-	2 m ²	204	-
Floor Transmission	5 m ²	0	-	5 m ²	27	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	100 W	100	-	0	0	-
People	2	144	120	0	0	0
Infiltration	-	135	323	-	141	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	133	44	10%	70	0
>> Total Zone Loads	-	1462	488	-	768	0

Zone 2	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C		
	OCCUPIED T-STAT 30.0 °C			OCCUPIED T-STAT 10.0 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	11 m ²	28	-	11 m ²	21	-
Roof Transmission	3 m ²	14	-	3 m ²	6	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	100	-	2 m ²	51	-
Floor Transmission	3 m ²	4	-	3 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1000 W	1000	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	115	0	10%	8	0
>> Total Zone Loads	-	1262	0	-	85	0

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053-073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 35 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

4.9 SPACE DESIGN LOAD SUMMARY:

CCTV CONTROL ROOM - BINAK GCS

D01

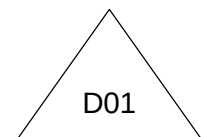
TABLE 1.1.A. COMPONENT LOADS FOR SPACE " 00-Control Room " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800 COOLING OA DB / WB 27.0 °C / 26.7 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	68 m ²	325	-	68 m ²	492	-
Roof Transmission	47 m ²	425	-	47 m ²	400	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	47 m ²	0	-	47 m ²	184	-
Partitions	7 m ²	13	-	7 m ²	48	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	693 W	387	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	201	30	10%	112	0
>> Total Zone Loads	-	2209	330	-	1237	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " 00-Control Room " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² -°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
ENE EXPOSURE						
WALL	19	0.452	-	98	-	137
SSE EXPOSURE						
WALL	25	0.452	-	111	-	178
NNW EXPOSURE						
WALL	25	0.452	-	116	-	178
H EXPOSURE						
ROOF	47	0.536	-	425	-	400

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 36 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

TABLE 1.2.A. COMPONENT LOADS FOR SPACE " 02-Entrance " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	1 m ²	10	-	1 m ²	11	-
Roof Transmission	5 m ²	40	-	5 m ²	41	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	195	-	2 m ²	223	-
Floor Transmission	5 m ²	0	-	5 m ²	14	-
Partitions	6 m ²	41	-	6 m ²	43	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	1521	2914	-	1431	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	231	291	10%	176	0
>> Total Zone Loads	-	2538	3205	-	1940	0

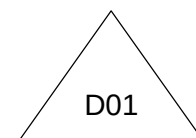
TABLE 1.2.B. ENVELOPE LOADS FOR SPACE " 02-Entrance " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² ·°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
WSW EXPOSURE						
WALL	1	0.495	-	10	-	11
DOOR	2	5.800	-	195	-	223
H EXPOSURE						
ROOF	5	0.536	-	40	-	41



	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 - 073- 9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 37 از 48
HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

TABLE 1.3.A. COMPONENT LOADS FOR SPACE " 03-Pantry " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1600 COOLING OA DB / WB 40.5 °C / 31.9 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C		
		Sensible (W)	Latent (W)		Sensible (W)	Latent (W)
SPACE LOADS	Details			Details		
Window & Skylight Solar Loads	1 m ²	121	-	1 m ²	-	-
Wall Transmission	12 m ²	85	-	12 m ²	101	-
Roof Transmission	4 m ²	35	-	4 m ²	36	-
Window Transmission	1 m ²	47	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	4 m ²	0	-	4 m ²	22	-
Partitions	7 m ²	45	-	7 m ²	48	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	600 W	600	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	433	867	-	420	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	237	157	10%	68	0
>> Total Zone Loads	-	2605	1723	-	749	0

TABLE 1.3.B. ENVELOPE LOADS FOR SPACE " 03-Pantry " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING TRANS	COOLING SOLAR	HEATING TRANS
	(m ²)	(W/(m ² ·°K))	Coeff.	(W)	(W)	(W)
NNW EXPOSURE						
WALL	5	0.541	-	33	-	44
WINDOW 1	1	2.819	0.700	47	121	54
WSW EXPOSURE						
WALL	7	0.541	-	52	-	57
H EXPOSURE						
ROOF	4	0.536	-	35	-	36



	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 - 073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 38 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	D01

TABLE 2.1.A. COMPONENT LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800 COOLING OA DB / WB 27.0 °C / 26.7 °C OCCUPIED T-STAT 30.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 10.0 °C		
		Sensible (W)	Latent (W)		Sensible (W)	Latent (W)
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	21 m ²	121	-	21 m ²	45	-
Roof Transmission	10 m ²	59	-	10 m ²	21	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	10 m ²	4	-	10 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2500 W	2500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	268	0	10%	7	0
>> Total Zone Loads	-	2946	0	-	73	0

TABLE 2.1.B. ENVELOPE LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	Area	U-Value	Shade	COOLING TRANS	COOLING SOLAR	HEATING TRANS
	(m ²)	(W/(m ² ·°K))	Coeff.	(W)	(W)	(W)
SSE EXPOSURE						
WALL	13	0.547	-	68	-	28
WSW EXPOSURE						
WALL	8	0.547	-	53	-	17
H EXPOSURE						
ROOF	10	0.536	-	59	-	21

D01

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 39 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

CCTV CONTROL ROOM - BINAK DU

TABLE 1.1.A. COMPONENT LOADS FOR SPACE " 00-Control Room " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 27.0 °C / 26.7 °C			HEATING OA DB / WB 6.0 °C / 6.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	68 m ²	323	-	68 m ²	492	-
Roof Transmission	47 m ²	425	-	47 m ²	400	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	47 m ²	0	-	47 m ²	184	-
Partitions	7 m ²	13	-	7 m ²	48	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	693 W	387	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	5	359	300	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	201	30	10%	112	0
>> Total Zone Loads	-	2207	330	-	1237	0

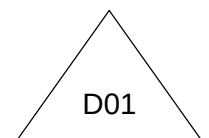
TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " 00-Control Room " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² -°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
ESE EXPOSURE						
WALL	19	0.452	-	98	-	137
NNE EXPOSURE						
WALL	25	0.452	-	110	-	178
SSW EXPOSURE						
WALL	25	0.452	-	115	-	178
H EXPOSURE						
ROOF	47	0.536	-	425	-	400

D01

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 40 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

TABLE 1.2.A. COMPONENT LOADS FOR SPACE " 02-Entrance " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	-	-
Wall Transmission	1 m ²	9	-	1 m ²	11	-
Roof Transmission	5 m ²	40	-	5 m ²	41	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	195	-	2 m ²	223	-
Floor Transmission	5 m ²	0	-	5 m ²	14	-
Partitions	6 m ²	41	-	6 m ²	43	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	1521	2964	-	1431	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	231	296	10%	176	0
>> Total Zone Loads	-	2538	3260	-	1940	0

TABLE 1.2.B. ENVELOPE LOADS FOR SPACE " 02-Entrance " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² ·°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
WNW EXPOSURE						
WALL	1	0.495	-	9	-	11
DOOR	2	5.800	-	195	-	223
H EXPOSURE						
ROOF	5	0.536	-	40	-	41



 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 41 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

TABLE 1.3.A. COMPONENT LOADS FOR SPACE " 03-Pantry " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1600 COOLING OA DB / WB 40.5 °C / 31.9 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	1 m ²	89	-	1 m ²	-	-
Wall Transmission	12 m ²	78	-	12 m ²	101	-
Roof Transmission	4 m ²	35	-	4 m ²	36	-
Window Transmission	1 m ²	47	-	1 m ²	54	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	4 m ²	0	-	4 m ²	22	-
Partitions	7 m ²	46	-	7 m ²	48	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	600 W	600	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	447	870	-	420	0
Miscellaneous	-	1000	700	-	0	0
Safety Factor	10% / 10%	234	157	10%	68	0
>> Total Zone Loads	-	2576	1727	-	749	0

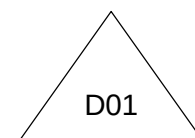
TABLE 1.3.B. ENVELOPE LOADS FOR SPACE " 03-Pantry " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² ·°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
NNE EXPOSURE						
WALL	5	0.541	-	35	-	44
WINDOW 1	1	2.819	0.700	47	89	54
WNW EXPOSURE						
WALL	7	0.541	-	42	-	57
H EXPOSURE						
ROOF	4	0.536	-	35	-	36

D01

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053-073-9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 42 از 48	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

TABLE 2.1.A. COMPONENT LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 0800 COOLING OA DB / WB 27.0 °C / 26.7 °C OCCUPIED T-STAT 30.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 10.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	0	-
Wall Transmission	21 m ²	122	-	21 m ²	45	-
Roof Transmission	10 m ²	61	-	10 m ²	21	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	10 m ²	9	-	10 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2500 W	2500	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	268	0	10%	7	0
>> Total Zone Loads	-	2944	0	-	73	0

TABLE 2.1.B. ENVELOPE LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	Area (m ²)	U-Value (W/(m ² ·°K))	Shade Coeff.	COOLING	COOLING	HEATING
				TRANS	SOLAR	TRANS
				(W)	(W)	(W)
SSW EXPOSURE						
WALL	13	0.547		74		28
WNW EXPOSURE						
WALL	8	0.547		49		17
H EXPOSURE						
ROOF	10	0.536		61		21



	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: 053 - 073-9184	<table><tr><th colspan="8">HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D01</td><td>0007</td><td>CN</td><td>HV</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0007	CN	HV	120	PEDCO	GCS	BK	شماره صفحه: 43 از 48
HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D01	0007	CN	HV	120	PEDCO	GCS	BK																			

CCTV CONTROL ROOM - BINAK PU

TABLE 1.1.A. COMPONENT LOADS FOR SPACE " 00-Guard House " IN ZONE " Zone 1 "						
DESIGN COOLING			DESIGN HEATING			
COOLING DATA AT Sep 1400 COOLING OA DB / WB 39.4 °C / 31.4 °C OCCUPIED T-STAT 24.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 22.0 °C			
		Sensible (W)	Latent (W)		Sensible (W)	Latent (W)
SPACE LOADS	Details			Details		
Window & Skylight Solar Loads	4 m ²	530	-	4 m ²	-	-
Wall Transmission	11 m ²	77	-	11 m ²	87	-
Roof Transmission	5 m ²	30	-	5 m ²	40	-
Window Transmission	4 m ²	154	-	4 m ²	199	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	158	-	2 m ²	204	-
Floor Transmission	5 m ²	0	-	5 m ²	27	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	2	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	100 W	100	-	0	0	-
People	2	144	120	0	0	0
Infiltration	-	135	323	-	141	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	133	44	10%	70	0
>> Total Zone Loads	-	1462	488	-	768	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " 00-Guard House " IN ZONE " Zone 1 "						
	Area	U-Value	Shade	COOLING TRANS	COOLING SOLAR	HEATING TRANS
	(m ²)	(W/(m ² -°K))	Coeff.	(W)	(W)	(W)
N EXPOSURE						
WALL	3	0.495	-	10	-	20
WINDOW 1	1	2.845	0.700	30	32	38
DOOR	2	5.800	-	158	-	204
S EXPOSURE						
WALL	4	0.495	-	31	-	30
WINDOW 1	2	2.799	0.700	62	296	81
E EXPOSURE						
WALL	5	0.495	-	37	-	36
WINDOW 1	2	2.799	0.700	62	202	81
H EXPOSURE						
ROOF	5	0.536	-	30	-	40

D01

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 44 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	D01

TABLE 2.1.A. COMPONENT LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 41.0 °C / 32.0 °C OCCUPIED T-STAT 30.0 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 6.0 °C / 6.0 °C OCCUPIED T-STAT 10.0 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	0 m ²	0	-	0 m ²	0	-
Wall Transmission	11 m ²	28	-	11 m ²	21	-
Roof Transmission	3 m ²	14	-	3 m ²	6	-
Window Transmission	0 m ²	0	-	0 m ²	0	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	2 m ²	100	-	2 m ²	51	-
Floor Transmission	3 m ²	4	-	3 m ²	0	-
Partitions	0 m ²	0	-	0 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	0 W	1	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1000 W	1000	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	115	0	10%	8	0
>> Total Zone Loads	-	1262	0	-	85	0

TABLE 2.1.B. ENVELOPE LOADS FOR SPACE " 01-Rack Room " IN ZONE " Zone 2 "						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m ²)	(W/(m ² ·°K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
N EXPOSURE						
WALL	3	0.484	-	7	-	6
W EXPOSURE						
WALL	4	0.484	-	14	-	8
DOOR	2	5.800	-	100	-	51
S EXPOSURE						
WALL	3	0.484	-	8	-	6
H EXPOSURE						
ROOF	3	0.536	-	14	-	6

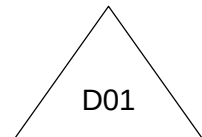
D01

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 45 از 48	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	HV	CN	0007		D01

5.0 Equipment Selection

5.1 AIR CONDITIONING UNIT

CCTV CONTROL ROOM - BINAK GCS



Item	Service Area		
	Control Room & Entrance	Rack Room	Pantry
Calculated Sensible Cooling Load(w)	2209+2538	2946	2605
Calculated Latent Cooling Load(w)	330+3205	0	1723
Calculated Total Cooling Load(w)	2539+5743	2946	4328
Calculated Total Cooling Load (btu/hr)	8671+19613	10061	14781
Calculated Sensible Heating Load(w)	1237+1940	73	749
Calculated Sensible Heating Load (btu/hr)	4225+6625	249	2558
Split Unit ID Indoor Unit ID	1202-SUI-...-01	1202-SUI-...-02	1202-SUI-...-03
Split Unit Outdoor Unit ID	1202-SUO-...-01	1202-SUO-...-02	1202-SUO-...-03
Equipment QTY.	1	1	1
Equipment Type	Wall Mounted Split Unit	Wall Mounted Split Unit	Wall Mounted Split Unit
Calculated Cooling Load+ 10% Over Cap. (btu/hr) Each	31112	11067	16259
Calculated Heating Load+ 10% Over Cap. (btu/hr) Each	11935	274	2814
Selected Eq. Nominal Cooling Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Selected Eq. Actual Cooling Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Selected Eq. Actual Heating Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Power Supply (V/PH/Hz)	230/1/50	230/1/50	230/1/50
Max. Power Consumption (w) Each Eq. (Cooling/Heating)	By Vendor	By Vendor	By Vendor
REMARKE	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point. (In fact vendor shall de-rate split cooling load for standard rating at 35°C /27°C in comparison with 50°C /24°C).

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 – 073– 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 46 از 48
	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته HV	نوع مدرک CN	سریال 0007	

CCTV CONTROL ROOM - BINAK DU

Item	Service Area		
	Control Room & Entrance	Rack Room	Pantry
Calculated Sensible Cooling Load(w)	2207+2538	2944	2576
Calculated Latent Cooling Load(w)	330+3260	0	1727
Calculated Total Cooling Load(w)	2537+5798	2944	4303
Calculated Total Cooling Load (btu/hr)	8664+19801	10054	14696
Calculated Sensible Heating Load(w)	1237+1940	73	749
Calculated Sensible Heating Load (btu/hr)	4361+6625	249	2558
Split Unit ID Indoor Unit ID	1202-SUI-...-01	1202-SUI-...-02	1202-SUI-...-03
Split Unit Outdoor Unit ID	1202-SUO-...-01	1202-SUO-...-02	1202-SUO-...-03
Equipment QTY.	1	1	1
Equipment Type	Wall Mounted Split Unit	Wall Mounted Split Unit	Wall Mounted Split Unit
Calculated Cooling Load+ 10% Over Cap. (btu/hr) Each	31312	11059	16166
Calculated Heating Load+ 10% Over Cap. (btu/hr) Each	12085	274	2814
Selected Eq. Nominal Cooling Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Selected Eq. Actual Cooling Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Selected Eq. Actual Heating Cap. (btu/hr) Each	By Vendor	By Vendor	By Vendor
Power Supply (V/PH/Hz)	230/1/50	230/1/50	230/1/50
Max. Power Consumption (w) Each Eq. (Cooling/Heating)	By Vendor	By Vendor	By Vendor
REMARKE	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point. (In fact vendor shall de-rate split cooling load for standard rating at 35°C /27°C in comparison with 50°C /24°C).

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک															
شماره پیمان: 053 - 073- 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)	شماره صفحه: 47 از 48														
	<table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>PEDCO</td><td>120</td><td>HV</td><td>CN</td><td>0007</td><td>D01</td></tr></table>		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	HV	CN
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه									
BK	GCS	PEDCO	120	HV	CN	0007	D01									

CCTV CONTROL ROOM - BINAK PU

D01

Item	Service Area	
	Guard House	Rack Room
Calculated Sensible Cooling Load(w)	1462	1262
Calculated Latent Cooling Load(w)	488	0
Calculated Total Cooling Load(w)	1950	1262
Calculated Total Cooling Load (btu/hr)	6660	4310
Calculated Sensible Heating Load(w)	768	85
Calculated Sensible Heating Load (btu/hr)	2623	290
Split Unit ID Indoor Unit ID	1202-SUI-...-01	1202-SUI-...-02
Split Unit Outdoor Unit ID	1202-SUO-...-01	1202-SUO-...-02
Equipment QTY.	1	1
Equipment Type	Wall Mounted Split Unit	Wall Mounted Split Unit
Calculated Cooling Load+ 10% Over Cap. (btu/hr) Each	7326	4741
Calculated Heating Load+ 10% Over Cap. (btu/hr) Each	2885	319
Selected Eq. Nominal Cooling Cap. (btu/hr) Each	By Vendor	By Vendor
Selected Eq. Actual Cooling Cap. (btu/hr) Each	By Vendor	By Vendor
Selected Eq. Actual Heating Cap. (btu/hr) Each	By Vendor	By Vendor
Power Supply (V/PH/Hz)	230/1/50	230/1/50
Max. Power Consumption (w) Each Eq. (Cooling/Heating)	By Vendor	By Vendor
REMARKE	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3	Outdoor and Indoor Unit (With Thermostat & All Standard Accessory)-T3

Note: Cooling capacity shall be rated for site outdoor temperature and indoor set point. (In fact vendor shall de-rate split cooling load for standard rating at 35°C /27°C in comparison with 50°C /24°C).

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان: 053 – 073– 9184	HVAC CALCULATION NOTE FOR CCTV ROOM (DU,PU,GCS)							شماره صفحه: 48 از 48
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	HV	CN	0007	D01

5.2 EXHAUST FAN SELECTION

CCTV CONTROL ROOM - BINAK GCS & DU

WC

$$\text{Air Flow} = 4 (\text{area, m}^2) \times 3.15 (\text{height, m}) \times 15 \text{ ACH} \div 60 \text{ min}$$

$$= 3.15 \text{ m}^3/\text{min}$$

$$= 52.5 \text{ L/S} \sim 75 \text{ L/S}$$

$$= 160 \text{ cfm}$$

Pantry

$$\text{Air Flow} = 4.16 (\text{area, m}^2) \times 3.15 (\text{height, m}) \times 6 \text{ ACH} \div 60 \text{ min}$$

$$= 1.31 \text{ m}^3/\text{min}$$

$$= 21.83 \text{ L/S} \sim 100 \text{ L/S}$$

$$= 212 \text{ cfm}$$

Item		Service Area	
		WC	Pantry
Equipment QTY.		1	1
Air Flow(L/S)		75	100
Air Flow(CFM)		160	212
Component Pressure Drop	Diffuser (In.WG.)	0.00	0.00
	Sand Trap Louver (In.WG.)	0.00	0.00
	Door Louver (In.WG.)	0.00	0.00
	Ducting (In.WG.)	0.0025	0.00
Total External Pressure Drop *	(In.WG.)	0.03936	0.00
	(Pa)	0.6221	0.00
Exhaust Fan ID		1202-EF-...-01	1202-EF-...-02
Exhaust Fan type		Ceiling Mounted	Wall Mounted/Axial
Power Supply (V/PH/Hz)		230/1/50	230/1/50
Power Consumption (w) Each Eq.		By Vendor	By Vendor
REMARKE		(ϕ =200 mm)	Equipped With Exhaust Air Louver

*Total Pressure Drop Include Louver and etc. Should Be Specified By Vendor.