طرح نگهداشت و افزایش تولید 27 مخزن

CALCULATION NOTE FOR PUMPS

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D05	FEB.2023	AFD	M.Aryafar	M.Fakharian	M.Mehrshad	
D05	DEC.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D04	AUG.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D03	JUL.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D02	MAR.2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D01	JAN. 2022	IFA	M.Aryafar	M.Fakharian	M.Mehrshad	
D00	DEC. 2021	IFC	M.Aryafar	M.Fakharian	M.Mehrshad	

Class: 2 | **CLIENT Doc. Number: F0Z-708739**

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

REVISION RECORD SHEET

PAGE	D00	D01	D02	D03	D04	D05	D06
1	X	X	X			X	
2	X	X	X			X	
3	X		X			X	
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8	X	X	X	X		X	
9	X	X	X	X		X	
10	X	X	X	X		X	
11	X	X	X	X		X	
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CONTENTS

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.

As a part of the Project, a New Gas Compressor Station (adjacent to existing Binak GCS) shall be constructed to gather of 15 MMSCFD (approx.) associated gases and compress & transfer them to Siahmakan GIS.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Surface Fcilities; New Gas Compressor Station
EPD/EPC 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

This document provides the pump hydraulic calculation for BINAK Gas Compressor Station.

NORMATIVE REFERENCES

2.1 THE PROJECT DOCUMENTS

- BK-GNRAL-PEDCO-000-PR-DB-0001 Process Basis of Design
- BK-GNRAL-PEDCO-000-PR-DC-0001 Process Design Criteria

2.2 ENVIRONMENTAL DATA

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

2.3 ORDER OF PRECEDENCE

In case of any conflict between the contents of this document or any discrepancy between this document and other project documents or reference standards, this issue must be reported to the CLIENT. The final decision in this situation will be made by CLIENT.

3.0 LIST OF PUMPS

List of pumps are summarized in below table and details of calculations are presented as follow.

Equipment Tag Number	***Equipment Description***	***P&ID No.***
P-2203A/B	Sump Pumps	BK-GCS-PEDCO-120-PR-PI-0017
P-2202 A/B	Closed Drain Pumps	BK-GCS-PEDCO-120-PR-PI-0017
P-2101A/B	Slug Pumps	BK-GCS-PEDCO-120-PR-PI-0004
P-2209	Potable Water Pumps	BK-GCS-PEDCO-120-PR-PI-0024
P-2206	Diesel oil Pumps	BK-GCS-PEDCO-120-PR-PI-0023
P-2201A/B	LP Flare K.O .Drum Pumps	BK-GCS-PEDCO-120-PR-PI-0020
P-2102	Glycol Manual Pump	BK-GCS-PEDCO-120-PR-PI-0014
P-2103 A/B	Glycol Transfer Pumps	BK-GCS-PEDCO-120-PR-PI-0014
P-2104	Glycol Drain Pumps	BK-GCS-PEDCO-120-PR-PI-0025

4.0 CALCULATION REPORT

Equipment Tag Number	*Equipment Description*	*PUMP ΔP bar*	*Hydraulic Power Consumption kw*	*Normal Flow Rate m3/hr*
P-2203A/B	Sump Pumps	2	0.3	5
P-2202 A/B	Closed Drain Pumps	7	0.6	3
P-2101A/B	Slug Pumps	14	4.3	10
P-2209	Potable Water Pumps	3	0.5	5
P-2206 A/B	Diesel oil Pumps	2	0.3	5
P-2201A/B	LP Flare K.O .Drum Pumps	1.5	0.1	2
P-2102	Glycol Manual Pump	1.5	0.1	3
P-2103 A/B	Glycol Transfer Pumps	2	0.3	5
P-2104	Glycol Drain Pumps	2	0.2	3

Detail of pump calculation are given in the attached file: **Attachment 1**

Note: It should be noted that calculation of close drain pumps and flare K.O.drum pumps are presented for two different destinations to select the worst case basis.