

نگهداشت و افزایش تولید میدان نفتی بینک بستههای کاری تحتالارض





احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان/واحد بهره برداری بینک

NISOC

3118-74-70.

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نسخه سريال نوع مدرک رشته تسهيلات صادرکننده بسته کاری پروژه شماره پيمان: BK PPL PEDCO 320 IN DT 0005 D01

شماره صفحه: ۱ از۲

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D01	MAY. 2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad					
D00	MAR. 2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad					
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval				
Class: 2	Class: 2 CLIENT Doc. Number: F9Z-708584									

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



نگهداشت و افزایش تولید میدان نفتی بینک بستههای کاری تحتالارض



NISOC

احداث خطوط انتقال گاز /مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان /واحد بهره برداری بینک

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES
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شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه	شماره صفحه: ۲ از ۲
۹۱۸٤ – ۲۳۰ – ۲۰۰۰	BK	PPL	PEDCO	320	IN	DT	0005	D01	()() () () () ()

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نگهداشت و افزایش تولید میدان نفتی بینک بستههای کاری تحتالارض

شرکت ومد شروایران HIRGAN ENTERGY

NISOC

احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان/واحد بهره برداری بینک

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نسخه سريال نوع مدرک رشته تسهيلات صادرکننده بسته کاری پروژه شماره پيمان:

- ۱۸۱۸ BK PPL PEDCO 320 IN DT 5.00 D01

شماره صفحه: ۳ از ۲

REFERENCE DOCUMENTS:

Instrument & Control System Design Criteria

BK-PPL-PEDCO-320-IN-DC-0001_D00

P&ID - Gas Pipeline (to Siahmakan G.I. Station)

BK-PPL-PEDCO-320-PR-PI-0001_D02

P&ID - Condensate Pipeline (to Binak PU)

BK-PPL-PEDCO-320-PR-PI-0002_D02

Piping Material Specification

BK-GCS-PEDCO-120-PI-SP-0001_D01

Specification For Instrumentation

BK-GNRAL-PEDCO-000-IN-SP-0001_D03

Specification For Pressure Safety Valves(PSV)

BK-GNRAL-PEDCO-000-IN-SP-0007_D00

Instrument Hook-Up Diagram

BK-PPL-PEDCO-320-IN-DG-0002_D00





نگهداشت و افزایش تولید میدان نفتی بینک بسته های کاری تحت الارض

سرکت تومد پروایران HIRGAN ENERGY

NISOC

٠٥٣ - ٢٧٠ - ٩١٨٤

احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان/واحد بهره برداری بینک

DATASHEETS	FOR	PRESSURE &	SAFETY	RELIEF	VALVES
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نوع مدرك شماره پیمان: صادر کننده تسهيلات نسخه بسته کاری رشته سريال پروژه **PPL** BK **PEDCO** 320 IN DT 0005 D01

شماره صفحه: ٤ از ٦

GENERAL NOTES:

- 1- The pressure relief valves and its accessories shall be supplied pre-assembled. Valves shall be supplied as a whole, complete with all the accessories like cap, lifting lever, test gag, etc. All threaded and flanged openings shall be suitably covered to prevent entry of foreign material.
- 2- Effective discharge coefficient of pressure relief valves shall be 0.975 for gas and vapor and 0.62 for liquid services as a maximum.
- 3- The valve size shall be based on size calculations for the worst of all cases that might cause the valve to blow. For flanged pressure relief valves the orifice letter designation and the corresponding relieving area indicated in the EPC Contractor's data sheet will be as per API-526.
- 4- For a valve of given inlet and outlet sizes and letter designation, relieving area of the valves offered by Vendor, shall meet those in API-526 as a minimum.
- 5- The set pressure, over pressure and relieving pressure of the PSV depending upon maximum allowable working pressure and accumulation as per API Standard 520 Part I, and ASME Section VIII Division I or ASME Section I as the case may be.
- 6- If the set pressure is less than maximum allowable working pressure (MAWP), the overpressure could be more than accumulation. However, if PSV set pressure is same as MAWP, the accumulation and overpressure cannot exceed the accumulation. The relieving pressure would be set pressure plus overpressure.
- 6- ASME SECTION VIII DIV 1 stated a 10 % allowable over pressure over set pressure to achieve full lift of a single relief valve for blocked case. If the set pressure as maximum allowable working pressure (MAWP) set, the accumulation and over pressure is same and it is 10% over MAWP.
- 7- Emission shall be less than 85 dBA at 1 m distance from the valve.
- 8- For flanged valves, inlet and outlet sizes and ratings and center to flange face dimensions shall be in accordance with API-526. Dimensional tolerances shall be as mentioned there. If the design of pressure relief valve is such that liquid can collect on the discharge side of the disk, the valve shall be equipped with a drain at the lowest point where liquid can collect.
- 9- Valves shall, in general, be of the direct spring loaded full nozzle with minimum inlet flange rating of 300#, unless otherwise specified.
- 10- Nozzles of the forged type are preferable.
- 11- All valves shall be provided with a cap over the adjusting bolt.
- 12- Valve spring design shall not permit an adjustment of more than 5% above or 5% below that for which the valve is marked; unless the setting is within the spring design range established by the manufacturer or is determined to be acceptable to the manufacturer. The allowable tolerances in set pressures are as below:
- ±0.14 bar for set pressures up to and including 4.8 barg.
- ±3% for set pressures above 4.8 barg.
- 13- Materials of construction shall be suitable for the environmental conditions and the process conditions identified in the relevant instrument datasheets. Provision of corrosion resistant materials shall be considered for conventional valves for corrosive fluid. Materials to be used shall be in accordance with project piping material specification and relevant datasheets
- 14. In general, unless specifically identified otherwise in this specification and attachments, process wetted materials which are in contact with Corrosive Services (H2S, CO2, H2O), shall comply with the requirements of .. NACE MR0175/ISO 15156. Body material shall normally be carbon steel and generally adhered to and consistent with project document "Piping Material Specification".
- 15. According to "Specification For Pressure Safety Valves(PSV)", Valve bonnet or spring housing material shall be the same as the valve body material
- 16-According to "Process Basic of Design" Document, Environmental Condition For Field Instrumentation of BINAK Complex Shall Be Considered As Per The Following:

Maximum ambient temperature: 50 (°C)

Minimum ambient temperature: 5 (°C)

Maximum steel surface exposed to sun: 85 (°C)

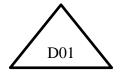
Maximum summer dry bulb: 50 (°C)

Maximum Design relative humidity (%): 100

Minimum Design relative humidity (%): 0

Maximum Design relative humidity (%): 100

Minimum Design relative humidity (%): 0





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نگهداشت و افزایش تولید میدان نفتی بینک بستههای کاری تحتالارض

احداث





شماره صفحه: ٥ از ٦

احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان/واحد بهره برداری بینک

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نوع مدرك شماره پیمان: بسته کاری صادر كننده تسهيلات سر يال نسخه پروژه DT ٤٨١٥ - ٣٧٠ - ٣٥٠٤ BK 0005 PPL PEDCO 320 D01

Dam Category		*01 = *Y1 = 11AZ	BK	PPL PEDCO 320 IN	D1 0005	D01			
Tay Number	Item	Data Category		Fechnical Features	D01	Project Data & R	equirements		
Profession Pr	1		Tag Number			PSV-320	01		
Service					ВК	-PPL-PEDCO-320- PF	R-PI-0001 (1 of 3)		
The Control of the Line No.						Pig Launc	her .		
Section Se				Outlet Line No.	FI-113-0002-				
Perform Pe		CENERAL.		outet Eme 1101					
Part	—	GENERAL							
No. Part				nwa n					
Note				arge			D 14		
Part				S P					
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BASIS Design Type			Nozzie (Full, Semi)	Idea Drede Dre					
13		BASIS	Design Type						
Mathematical Mat				Conventional, Bellow, Pilot Op.					
15 15	-								
10							•		
Pressure Barg Opending Op	15				5-5	0	85		
100 100	16		_	Operating		58.30			
Poun	17		Pressure Barg	Operating		50.90			
PROCESS CONDITIONS Sp. Gr.@ reliet Tmp kg/m3 24.58 1.94	18			RelievingTemp. °C	58.3	30	103.9		
PROCESS CONDITIONS (note 2) Pr	19		Required Capacity kg/h			1799.99	93		
PROCESS CODITION Such pressure Barg Constant O.5 Constant Constant O.5 Constant O.89 Co	20		Molecular Mass	Sp. Gr.@ relief Tmp kg/m3	24.5	58	1.94		
PROCESS CONDITIONS	21		Oper. Pressure barg	Set Pressure barg	50.9	90	62		
PROCESS CONDITIONS (note 2)	22			Constant		0.5			
The content	23		Back Pressure Barg	Variable		0			
	24	(note 2)		Total					
			% Allowable Overpressure			21%			
27						1.21			
28			Compressibility Factor (Z)			0.839			
Part				(Ki/Kg)					
Density @ Oper. kg/m3 temp-ature & pressure 0.01.37 0.00.13									
Operating Viscosity cP				•					
Barometric Pressure (pisa)				rature & pressure					
33			1 0						
				Sizing Posis	ADLE				
SELECTION Scenarios Sce					APIS		-		
Selection Sel				essurising systems Code					
SELECTION Basis of Selection fire							1		
Calculated Area cm² 0.294									
Selected Area cm² 0.709	-	SELECTION		2					
Accumulation AC % 121 1									
				cm ²					
A2									
CONNECTIONS Rating & Facing : Inlet Outlet #600 RF #150 RF			_						
Add Add	-	CONNECTIONS							
45 AFATERIALS (VTC) Seat and Disc (Trim) SS 316+RPTFE (Note 14) 46 MATERIALS (VTC) Guide and Rings SS 316 (Note 14) 48 Spring ASTM A105 (Note 15) 49 Bellows N/A 50 Screwed cap Screwed cap 51 Lifting Lever: Plain or Packed N/A 52 Yes 53 Yes 54 With Rupture Disc No 55 No 55 Hydro Test Required 56 Required 57 Compliance Standard According to MR-0175 / ISO15156 58 Manufacturer will be finalized later 59 PURCHASE Model	_	5511120110		Outlet	#600				
46 MATERIALS (VTC) Nozzle SS 316 (Note 14) 47 Guide and Rings SS 316 (Note 14) 48 Spring ASTM A105 (Note 15) 49 Bellows N/A 50 Cap without Lever: Screwed or Bolted Screwed cap Lifting Lever: Plain or Packed N/A 52 Yes Sage Yes With Rupture Disc No Flame Arrestor No Hydro Test Required Seat Leakage Test Required 55 Compliance Standard According to MR-0175 / ISO15156 58 Manufacturer will be finalized later 59 Model will be finalized later							·		
MATERIALS (VTC) Guide and Rings SS 316 (Note 14) 48	45		` '			SS 316+RPTFE (Note 14)			
	46	MATERIALS (VTC)				SS 316 (Note 14)			
Bellows N/A Screwed cap N/A Screwed cap Screwed cap Screwed cap Screwed cap N/A Screwed cap Screwed ca	47	MATEMALS (VIC)	Guide and Rings			SS 316 (Note 14)			
Cap without Lever: Screwed or Bolted Screwed cap	48		Spring			ASTM A105 (Note 15)		
Lifting Lever: Plain or Packed N/A Test Gage Yes With Rupture Disc No Flame Arrestor No Hydro Test Required Seat Leakage Test Required Compliance Standard According to MR-0175 / ISO15156 Seat Leakage Test Will be finalized later Seat Leakage Test Will be finalized later Will be fin	49		Bellows			N/A			
Test Gage With Rupture Disc Flame Arrestor No Hydro Test Seat Leakage Test Compliance Standard Manufacturer Model Yes No No Required Required According to MR-0175 / ISO15156 Will be finalized later Will be finalized later	50		Cap without Lever: Screwed	or Bolted		Screwed cap			
S354With Rupture DiscNo54Flame ArrestorNo55Hydro TestRequired56Seat Leakage TestRequired57Compliance StandardAccording to MR-0175 / ISO1515658Manufacturerwill be finalized later59PURCHASEModelwill be finalized later	51		Lifting Lever: Plain or Pack	ed		N/A			
Flame Arrestor No Hydro Test Seat Leakage Test Compliance Standard Manufacturer Model No Required According to MR-0175 / ISO15156 will be finalized later	52		Test Gage			Yes			
Flame Arrestor Flame Arrestor Hydro Test Seat Leakage Test Compliance Standard Manufacturer Model No Required According to MR-0175 / ISO15156 will be finalized later	53	ODETONIC	With Rupture Disc			No			
Hydro Test Required Seat Leakage Test Required Sompliance Standard According to MR-0175 / ISO15156 Seat Leakage Test Manufacturer Will be finalized later Seat Leakage Test Manufacturer Will be finalized later Seat Leakage Test Required	54	OPTIONS	Flame Arrestor						
56Seat Leakage TestRequired57Compliance StandardAccording to MR-0175 / ISO1515658Manufacturerwill be finalized later59PURCHASEModelwill be finalized later			Hydro Test				ed		
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Main Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable



نگهداشت و افزایش تولید میدان نفتی بینک بسته های کاری تحتالارض

گاز سیاهمکان/واحد بهره برداری بینک

بسته های کاری بحت الارص احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق



DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدر ک	سريال	نسخه	شماره صفحه: 3 از 3
•0T - •YT - 91A£		BK	PPL	PEDCO	320	IN	DT 🖍	0005	D01	() (

Item **Data Category Technical Features Project Data & Requirements** D01 PSV-3202 Tag Number BK-PPL-PEDCO-320- PR-PI-0001 (3 of 3) 2 **P&ID NO and Page:** 3 Service Pig Receiver GAS-113-0014-FN05-1"-PT FL-113-0004-AN07-2"-PT Outlet Line No. Inlet Line No. To Existing Flare System **GENERAL** Discharge to 6 **Protect Equipment** Receiver Area Clacification for Discharge Zone 2, IIB T4 8 Yes **Sour Service** 9 NACE MR0175/ISO 15156 Compliance Yes Full Nozzle 10 Nozzle (Full, Semi) 11 Safety, Relief, Safety-Relief Relief **BASIS Design Type** Conventional, Bellow, Pilot Op. **12** Conventional 13 Closed **Bonnet Type** 14 Fluid / Phase / State Gas / 1-phase / Vapor Ambient Temperature °C 15 5-50 85 Temperature °C **16** 31.3 **Operating 17 Pressure Barg** 40 Operating 18 Oper. Temperature °C 31.30 48.51 RelievingTemp. °C 19 Required Capacity kg/h 1132.12 20 **Molecular Mass** 24.58 2.58 Sp. Gr.@ relief Tmp kg/m3 21 Oper. Pressure barg 62 40 Set Pressure barg Constant 0.5 PROCESS CONDITIONS 23 **Back Pressure Barg** Variable 0 (note 2) Total 0.5 24 % Allowable Overpressure 25 21% **Over Pressure Factor 26** 1.21 27 Compressibility Factor (Z) 0.846 28 Latent Heat of Vaporization (Kj/Kg) 557.5 Ratio of Specific Heats(Cp/Cv) 29 1.448 **30** Density @ Oper. kg/m3 temprature & pressure 49.09 31 Operating Viscosity cP Barometric Pressure (psia) **32** 14.37 33 **Design Code Sizing Basis** API 520 -**34** pressure relieving and de-pressurising systems Code **API 521 35 Design of Construction API 521** Scenarios **36** fire **37 Basis of Selection** fire **SELECTION** 38 Calculated Area 0.188 cm² **39** Selected Area cm² 0.709 Accumulation AC % 40 121 **Orifice Designation** 41 D Size: Inlet Outlet 1" 2" **CONNECTIONS** 43 Rating & Facing : Inlet Outlet #600 RF #150 RF **Body and Bonnet** ASTM A105 (Note 14) Seat and Disc (Trim) 45 SS 316+RPTFE (Note 14) SS 316 (Note 14) 46 Nozzle MATERIALS (VTC) 47 SS 316 (Note 14) **Guide and Rings** 48 Spring ASTM A105 (Note 15) 49 **Bellows** N/A Screwed cap 50 Cap without Lever: Screwed or Bolted **51** Lifting Lever: Plain or Packed N/A 52 Test Gage Yes **53** With Rupture Disc No **OPTIONS** 54 Flame Arrestor No **Hydro Test** 55 Required Seat Leakage Test **56** Required 57 Compliance Standard According to MR-0175 / ISO15156 **58** Manufacturer will be finalized later Model **59 PURCHASE** will be finalized later Serial No. 60 will be finalized later

Main Notes:

VTA: Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable