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| <br><b>NISOC</b> | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |                  |                    |                |            |                |               | <br> |                    |
|                                                                                                  | DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER                                                            |                  |                    |                |            |                |               |                                                                                                                                                                            |                    |
| شماره پیمان:<br>053 - 073 - 9184                                                                 | پروژه<br>BK                                                                                                      | بسته کاری<br>GCS | صادرکننده<br>PEDCO | تسهیلات<br>120 | رشته<br>IN | نوع مدرک<br>DT | سریال<br>0019 | نسخه<br>D01                                                                                                                                                                | شماره صفحه: 1 از 7 |

## طرح نگهداشت و افزایش تولید 27 مخزن

### DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER

#### نگهداشت و افزایش تولید میدان نفتی بینک

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| D01  | DEC.2022 | IFA                       | P.Hajisadeghi | M.Fakharian | M.Mehrshad   |                 |
| D00  | APR.2022 | IFC                       | P.Hajisadeghi | M.Fakharian | M.Mehrshad   |                 |
| Rev. | Date     | Purpose of Issue / Status | Prepared by:  | Checked by: | Approved by: | CLIENT Approval |

Class: 2

CLIENT Doc. Number: F9Z-708939

status:

**IDC:** Inter-Discipline Check

**IFC:** Issued For Comment

**IFA:** Issued For Approval

**AFD:** Approved For Design

**AFC:** Approved For Construction

**AFP:** Approved For Purchase

**AFQ:** Approved For Quotation

**IFI:** Issued For Information

**AB-R:** As-Built for CLIENT Review

**AB-A:** As-Built -Approved



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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER

شماره پیمان:

053 - 073 - 9184

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
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| D01  | 0019  | DT       | IN   | 120     | PEDCO     | GCS       | BK    |

شماره صفحه: 2 از 7

# REVISION RECORD SHEET

| Page | D00 | D01 | D02 | D03 | D04 |
|------|-----|-----|-----|-----|-----|
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DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

GCS

صادرکننده

PEDCO

تسهیلات

120

رشته

IN

نوع مدرک

DT

سریال

0019

نسخه

D01

شماره صفحه: 3 از 7

## REFERENCE DOCUMENTS :

D01

Specification For Instrumentation

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

Process Basis Of Design

BK-GNRAL-PEDCO-000-PR-DB-0001

Piping Material Specification

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

Hazardous Area Classification Layout

BK-GCS-PEDCO-120-SA-PY-0002

Instrument & Control System Design Criteria

BK-GCS-PEDCO-120-IN-DC-0002

Symbol & Legend For PFD and P&ID

BK-GCS-PEDCO-120-PR-PI-0001

P&ID - Gas Compression Inlet Gas Pipeline (Binak)

BK-GCS-PEDCO-120-PR-PI-0002

P&ID - Gas Compression Inlet Gas Pipeline (Golkhari)

BK-GCS-PEDCO-120-PR-PI-0003

P&ID - Slug Catcher System

BK-GCS-PEDCO-120-PR-PI-0004

P&ID - Gas Compression Inlet Knock Out Drum

BK-GCS-PEDCO-120-PR-PI-0005

P&ID - 1st Stage Gas Compression Suction Drums

BK-GCS-PEDCO-120-PR-PI-0006

P&ID - 1st Stage Gas Compression Compressors

BK-GCS-PEDCO-120-PR-PI-0007

P&ID - 1st Stage Gas Compression Air Coolers

BK-GCS-PEDCO-120-PR-PI-0008

P&ID - 2nd Stage Gas Compression Suction Drums

BK-GCS-PEDCO-120-PR-PI-0009

P&ID - 2nd Stage Gas Compression Compressors

BK-GCS-PEDCO-120-PR-PI-0010

P&ID - 2nd Stage Gas Compression Air Coolers

BK-GCS-PEDCO-120-PR-PI-0011

P&ID - 2nd Stage Gas Compression Discharge Drum

BK-GCS-PEDCO-120-PR-PI-0012

P&ID - Gas Compression Dehydration Package

BK-GCS-PEDCO-120-PR-PI-0013

P&ID - Lean Glycol Storage Tank

BK-GCS-PEDCO-120-PR-PI-0014

P&ID - Instrument & Plant Air System

BK-GCS-PEDCO-120-PR-PI-0015

P&ID - Nitrogen Generation System

BK-GCS-PEDCO-120-PR-PI-0016

P&ID - Close Drain System

BK-GCS-PEDCO-120-PR-PI-0017

P&ID - Corrosion Inhibitor Package

BK-GCS-PEDCO-120-PR-PI-0018

P&ID - Methanol Injection Package

BK-GCS-PEDCO-120-PR-PI-0019

P&ID - LP Flare System

BK-GCS-PEDCO-120-PR-PI-0020

P&ID - Oily Water Sewer

BK-GCS-PEDCO-120-PR-PI-0021

P&ID - Fuel Gas System

BK-GCS-PEDCO-120-PR-PI-0022

P&ID - Diesel Oil System

BK-GCS-PEDCO-120-PR-PI-0023

P&ID - Potable Water System

BK-GCS-PEDCO-120-PR-PI-0024

P&ID - Glycol Sump Drum

BK-GCS-PEDCO-120-PR-PI-0025

P&ID - Fire Water Network

BK-GCS-PEDCO-120-SA-PI-0001

P&ID - Total Flooding System For Extension of Existing Elect. Building

BK-GCS-PEDCO-120-SA-PI-0002



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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

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120

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شماره صفحه: 4 از 7

D01

#### GENERAL NOTES:

1- All transmitters shall have output short circuit & reverse polarity protection.

2- Tag plate as per Specification for Instrumentation, shall be stainless steel 304 SS (VTC). Following details shall be engraved on them:

- Tag Number
- Range Limit
- Service
- Manufacture Model

3- Sunshade to be considered for all transmitters.

4- Each transmitter shall have a none-volatile EEprom memory to be used for storing the configuration data and sensor linearization data. This data must be retained in the transmitter to be functional upon power up.

5- Vendor shall identify and detail any deviation from the present instrument datasheet.

6- All transmitters shall be equipped with internal diagnostics software.

7- Push button for span and zero adjustment for all transmitters to be considered by vendor.

8- Indicator scale output configuration for LT tag nos. to be linear.

9- Environmental condition for field instrumentation of Binak oilfield shall be considered as per the following (According to "BK-GNRL-PEDCO-000-PR-DB-0001: Process Basis Of Design"):

Maximum ambient temperature: 50 (°C)  
Minimum ambient temperature: 5 (°C)  
Maximum steel surface exposed to sun: 85 (°C)  
Maximum summer dry bulb: 50 (°C)  
DB/RH for Summer HVAC Design: 41 °C / 61 %  
DB FOR Winter HVAC Design: 6 °C

#### Relative Humidity:

- Maximum Design relative humidity (%): 100
- Minimum Design relative humidity (%): 0

|                                                                                                                                                                                                                                                                     |    |                                                                                                                           |               |                         |             |                         |             |                                                                                    |          |                    |
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| <br><b>NISOC</b>                                                                                                                                                                    |    | <b>نگهداشت و افزایش تولید میدان نفتی بینک</b><br><b>سطح الارض</b><br><b>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</b> |               |                         |             |                         |             |  |          |                    |
|                                                                                                                                                                                                                                                                     |    | DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER                                                                     |               |                         |             |                         |             |                                                                                    |          |                    |
| شماره پیمان: 053 - 073 - 9184                                                                                                                                                                                                                                       |    | پروژه BK                                                                                                                  | بسته کاری GCS | صادر کننده PEDCO        | تسهیلات 120 | رشته IN                 | نوع مدرک DT | سریال 0019                                                                         | نسخه D01 | شماره صفحه: 5 از 7 |
| DATA SHEETS FOR LEVEL TRANSMITTER (DPT TYPE)                                                                                                                                                                                                                        |    |                                                                                                                           |               |                         |             |                         |             |                                                                                    |          | D01                |
| GENERAL DATA                                                                                                                                                                                                                                                        | 1  | Tag No.                                                                                                                   |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 2  | P & ID No.                                                                                                                |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 3  | Equipment No.                                                                                                             |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 4  | Area Clacification                                                                                                        |               |                         |             |                         |             | Zone 2, IIB T4                                                                     |          |                    |
|                                                                                                                                                                                                                                                                     | 5  | RFI Protection                                                                                                            |               | Tropicalisation         |             | NEEDED                  |             | NEEDED                                                                             |          |                    |
| OPERATING CONDITIONS                                                                                                                                                                                                                                                | 6  | Fluid                                                                                                                     |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 7  | Phase                                                                                                                     |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 8  | Operating Pressure                                                                                                        |               | Design Pressure (barg)  |             | SEE PAGE 6,7            |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 9  | Operating Temperature                                                                                                     |               | Design Temperature (°C) |             | SEE PAGE 6,7            |             | SEE PAGE 6,7                                                                       |          |                    |
| TRANSMITTER                                                                                                                                                                                                                                                         | 10 | Element Type                                                                                                              |               |                         |             |                         |             | Differential Pressure                                                              |          |                    |
|                                                                                                                                                                                                                                                                     | 11 | Process Connection                                                                                                        |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 12 | Element Material                                                                                                          |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 13 | Enclosure Material                                                                                                        |               |                         |             |                         |             | Die-Cast Aluminium                                                                 |          |                    |
|                                                                                                                                                                                                                                                                     | 14 | Instrument Range                                                                                                          |               |                         |             |                         |             | SEE PAGE 6,7                                                                       |          |                    |
|                                                                                                                                                                                                                                                                     | 15 | Write Protection                                                                                                          |               |                         |             |                         |             | SEE PAGE 6,7 (Note 2)                                                              |          |                    |
|                                                                                                                                                                                                                                                                     | 16 | Power Supply                                                                                                              |               |                         |             |                         |             | 24 VDC-Loop powered                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 17 | Output Signal                                                                                                             |               |                         |             |                         |             | (4-20 mA) HART communication protocol                                              |          |                    |
|                                                                                                                                                                                                                                                                     | 18 | Electrical Connection                                                                                                     |               |                         |             |                         |             | ISO M20 x 1.5                                                                      |          |                    |
|                                                                                                                                                                                                                                                                     | 19 | Electrical Certification                                                                                                  |               |                         |             |                         |             | Eex ia -IIB T4                                                                     |          |                    |
|                                                                                                                                                                                                                                                                     | 20 | Ingress Protection                                                                                                        |               |                         |             |                         |             | IP-65 as minimum                                                                   |          |                    |
|                                                                                                                                                                                                                                                                     | 21 | Accuracy                                                                                                                  |               |                         |             |                         |             | +/- 0.1 % Full Scale                                                               |          |                    |
|                                                                                                                                                                                                                                                                     | 22 | Repeatability                                                                                                             |               |                         |             |                         |             | +/- 0.1% or better                                                                 |          |                    |
|                                                                                                                                                                                                                                                                     | 23 | Span and Zero Adjustment                                                                                                  |               |                         |             |                         |             | Required                                                                           |          |                    |
| DIAPHRAGM SEAL                                                                                                                                                                                                                                                      | 24 | Over Range Protection                                                                                                     |               |                         |             |                         |             | 1.3 of F.S                                                                         |          |                    |
|                                                                                                                                                                                                                                                                     | 25 | Type                                                                                                                      |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 26 | Size (In)                                                                                                                 |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 27 | Fill Fluid                                                                                                                |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 28 | Diaphragm Material                                                                                                        |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 29 | Capillary Material                                                                                                        |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 30 | Instrument Connection                                                                                                     |               |                         |             |                         |             | N/A                                                                                |          |                    |
| OPTIONS                                                                                                                                                                                                                                                             | 31 | Capillary Length                                                                                                          |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 32 | Integral Indicator                                                                                                        |               |                         |             |                         |             | Required                                                                           |          |                    |
|                                                                                                                                                                                                                                                                     | 33 | Mounting Brackets                                                                                                         |               |                         |             |                         |             | Required, 2" Support Pipe                                                          |          |                    |
|                                                                                                                                                                                                                                                                     | 34 | Manifold                                                                                                                  |               | Body Material           |             | SEE PAGE 6,7            |             | 316SS                                                                              |          |                    |
|                                                                                                                                                                                                                                                                     | 35 | Connection                                                                                                                |               |                         |             |                         |             | N/A                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 36 | Manifold Model                                                                                                            |               | Manifold Manufacturer   |             | VTA                     |             | VTA                                                                                |          |                    |
|                                                                                                                                                                                                                                                                     | 37 | Local Indication Requirement                                                                                              |               |                         |             |                         |             | Required in Digital Display, LCD type                                              |          |                    |
|                                                                                                                                                                                                                                                                     | 38 | NACE Requirement                                                                                                          |               | Manufacture             |             | SEE PAGE 6,7            |             |                                                                                    |          |                    |
| PURCHASING DATA                                                                                                                                                                                                                                                     | 39 | Model                                                                                                                     |               | Order                   |             | will be finalized later |             | will be finalized later                                                            |          |                    |
|                                                                                                                                                                                                                                                                     | 40 | Supplier                                                                                                                  |               | Manufacturer            |             | will be finalized later |             | will be finalized later                                                            |          |                    |
|                                                                                                                                                                                                                                                                     | 41 |                                                                                                                           |               |                         |             |                         |             |                                                                                    |          |                    |
| <b>NOTES :</b> VTA : VENDOR TO ADVISE<br>(1) Reference Document: General Specification for Instrumentation "BK-GNRAL-PEDCO-000-IN-SP-0001"<br>(2) The transmitters which shall be write protected are identified by note 2 in sheet 7. (Also see note 2 in sheet 7) |    |                                                                                                                           |               |                         |             |                         |             |                                                                                    |          |                    |

|                                                                                                               |                   |                                                                                                                          |               |              |         |                            |                           |                   |                                                                                                                                                                                               |                             |                       |                  |                 |      |                                             |                                                     |        |
|---------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------|---------------|--------------|---------|----------------------------|---------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------|------------------|-----------------|------|---------------------------------------------|-----------------------------------------------------|--------|
| <div></div> <div>NISOC</div> |                   | <div>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div> |               |              |         |                            |                           |                   | <div></div> <div></div> |                             |                       |                  |                 |      |                                             |                                                     |        |
|                                                                                                               |                   | DATA SHEETS FOR DIFF. PRESSURE TYPE LEVEL TRANSMITTER                                                                    |               |              |         |                            |                           |                   |                                                                                                                                                                                               |                             |                       |                  |                 |      |                                             |                                                     |        |
| شماره پیمان:                                                                                                  |                   | پرورده                                                                                                                   | بسته کاری     | صادرکننده    | تسهیلات | رشته                       | نوع مدرک                  | سریال             | نسخه                                                                                                                                                                                          | شماره صفحه: 6 از 7          |                       |                  |                 |      |                                             |                                                     |        |
| 053 - 073 – 9184                                                                                              |                   | BK                                                                                                                       | GCS           | PEDCO        | 120     | IN                         | DT                        | 19                | D01                                                                                                                                                                                           |                             |                       |                  |                 |      |                                             |                                                     |        |
| <div><div>D01</div><div>LEVEL TRANSMITTERS (DPT TYPE) LIST</div></div>                                        |                   |                                                                                                                          |               |              |         |                            |                           |                   |                                                                                                                                                                                               |                             |                       |                  |                 |      |                                             |                                                     |        |
| Item No.                                                                                                      | Tag No.           | P&ID No.                                                                                                                 | Equipment No. | Fluid        | Phase   | Design Pressure (barg)     | Operating Pressure (barg) | Design Temp. (°C) | Operating Temp. (°C)                                                                                                                                                                          | Process Connection (Note 4) | Instrument Range (mm) | Element Material | Density (Kg/m3) | Nace | Diaphragm Seal & Capillary Tube Requirement | 5 WAY Manifold(1/2" NPTx1/2" NPT)/ TUBE Requirement | Remark |
| 1                                                                                                             | LIT-2111          | BK-GCS-PEDCO-120-PR-PI-0004-D04 (1 of 2)                                                                                 | V-2104        | GAS          | G       | F.V/9                      | 5.3                       | 85                | 31.86                                                                                                                                                                                         | 2 x 1/2" NPT                | 4000                  | 316 SS           | 6.21            | Yes  | NO                                          | Yes                                                 |        |
| 2                                                                                                             | LIT-2112 (Note 2) | BK-GCS-PEDCO-120-PR-PI-0004-D04 (1 of 2)                                                                                 | V-2104        | GAS          | G       | F.V/9                      | 5.3                       | 85                | 31.86                                                                                                                                                                                         | 2 x 1/2" NPT                | 4000                  | 316 SS           | 6.21            | Yes  | NO                                          | Yes                                                 |        |
| 3                                                                                                             | LIT-2113          | BK-GCS-PEDCO-120-PR-PI-0004 (2 of 3)                                                                                     | V-2106        | GAS          | G       | 9.0                        | 0.5                       | 85                | 23.22/8.82                                                                                                                                                                                    | 2 x 2" 300# RF FLANGED      | 3100                  | 316 SS           |                 | Yes  | Yes                                         | Yes                                                 |        |
| 4                                                                                                             | LIT-2114          | BK-GCS-PEDCO-120-PR-PI-0004 (2 of 3)                                                                                     | TK-2101       | HC+H2O       | L       | 0.6                        | 0.5                       | 85                | AMB                                                                                                                                                                                           | 2 x 2" 300# RF FLANGED      | 11000                 | 316 SS           |                 | Yes  | Yes                                         | Yes                                                 |        |
| 5                                                                                                             | LIT-2115          | BK-GCS-PEDCO-120-PR-PI-0004 (2 of 3)                                                                                     | TK-2101       | HC+H2O       | L       | 0.6                        | 0.5                       | 85                | AMB                                                                                                                                                                                           | 2 x 2" 300# RF FLANGED      | 800                   | 316 SS           |                 | Yes  | Yes                                         | Yes                                                 |        |
| 6                                                                                                             | LIT-2117 (Note 2) | BK-GCS-PEDCO-120-PR-PI-0005-D04                                                                                          | V-2105        | GAS          | G       | 9.0                        | 5.1                       | 85                | 36.92                                                                                                                                                                                         | 2 x 1/2" NPT                | 1200                  | 316 SS           | 6.16            | Yes  | NO                                          | Yes                                                 |        |
| 7                                                                                                             | LIT-2119          | BK-GCS-PEDCO-120-PR-PI-0005-D04                                                                                          | V-2105        | GAS          | G       | 9.0                        | 5.1                       | 85                | 36.92                                                                                                                                                                                         | 2 x 1/2" NPT                | 1200                  | 316 SS           | 6.16            | Yes  | NO                                          | Yes                                                 |        |
| 8                                                                                                             | LIT-2161 (Note 2) | BK-GCS-PEDCO-120-PR-PI-0014-D04                                                                                          | TK-2102       | Lean Glycol  | L       | FULL OF LIQUID+160mbarg/-7 | 0.1                       | 85                | AMB                                                                                                                                                                                           | 2 x 1/2" NPT                | 3200                  | 316 SS           | 1115            | No   | NO                                          | Yes                                                 |        |
| 9                                                                                                             | LIT-2162          | BK-GCS-PEDCO-120-PR-PI-0014-D04                                                                                          | TK-2102       | Lean Glycol  | L       | FULL OF LIQUID+160mbarg/-7 | 0.1                       | 85                | AMB                                                                                                                                                                                           | 2 x 1/2" NPT                | 3200                  | 316 SS           | 1115            | No   | NO                                          | Yes                                                 |        |
| 10                                                                                                            | LIT-2221          | BK-GCS-PEDCO-120-PR-PI-0017-D04 (2 of 2)                                                                                 | V-2202        | Closed drain | L       | F.V/7.5                    | ATM                       | 85                | AMB                                                                                                                                                                                           | 2 x 1/2" NPT                | 2400                  | 316 SS           | 980             | Yes  | NO                                          | Yes                                                 |        |
| 11                                                                                                            | LIT-2251 (Note 2) | BK-GCS-PEDCO-120-PR-PI-0020-D04 (2 of 3)                                                                                 | V-2201        | LP Flare     | L       | F.V/7.5                    | 0.5                       | 85                | 32                                                                                                                                                                                            | 2 x 1/2" NPT                | 800                   | 316 SS           | 980             | Yes  | NO                                          | Yes                                                 |        |
| 12                                                                                                            | LIT-2271          | BK-GCS-PEDCO-120-PR-PI-0022-D04                                                                                          | V-2205        | Fuel Gas     | L       | F.V/9                      | 5                         | 85                | 36.78                                                                                                                                                                                         | 2 x 2" 300# RF FLANGED      | 1400                  | 316 SS           |                 | Yes  | Yes                                         | Yes                                                 |        |
| 13                                                                                                            | LIT-2281A         | BK-GCS-PEDCO-120-PR-PI-0023-D04 (1 of 2)                                                                                 | V-2206 A      | Diesel Oil   | L       | ATM+FULL OF WATER          | ATM                       | 85                | AMB                                                                                                                                                                                           | 2 x 1/2" NPT                | 1000                  | 316 SS           | 850             | No   | NO                                          | Yes                                                 |        |



شماره پيمان:

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### LEVEL TRANSMITTERS (DPT TYPE) LIST

| Item No. | Tag No.   | P&ID No.                                 | Equipment No. | Fluid         | Phase | Design Pressure (barg) | Operating Pressure (barg) | Design Temp. (°C) | Operating Temp. (°C) | Process Connection (Note 4) | Instrument Range (mm) | Element Material | Density (Kg/m3) | Nace | Diaphragm Seal & Capillary Tube Requirement | 5 WAY Manifold(1/2" NPTx1/2" NPT)/ TUBE Requirement | Remark |
|----------|-----------|------------------------------------------|---------------|---------------|-------|------------------------|---------------------------|-------------------|----------------------|-----------------------------|-----------------------|------------------|-----------------|------|---------------------------------------------|-----------------------------------------------------|--------|
| 14       | LIT-2281B | BK-GCS-PEDCO-120-PR-PI-0023-D04 (2 of 2) | V-2206 A      | Diesel Oil    | L     | ATM+FULL OF WATER      | ATM                       | 85                | AMB                  | 2 x 1/2" NPT                | 1300                  | 316 SS           | 850             | No   | NO                                          | Yes                                                 |        |
| 15       | LIT-2291  | BK-GCS-PEDCO-120-PR-PI-0024-D04          | TK-2209       | Potable Water | L     | ATM+FULL OF WATER      | ATM                       | 85                | AMB                  | 2 x 1/2" NPT                | 2500                  | 316 SS           | 1024            | No   | NO                                          | Yes                                                 |        |
| 16       | LIT-2293  | BK-GCS-PEDCO-120-PR-PI-0025-D04          | V-2107        | Glycol        | L     | F.V/3.5                | ATM                       | 85                | AMB                  | 2 x 1/2" NPT                | 1000                  | 316 SS           | 1115            | No   | NO                                          | Yes                                                 |        |
| 17       | LIT-2301  | BK-GCS-PEDCO-120-SA-PI-0001-D04 (1 of 2) | TK-2301-A     | Fire Water    | L     | FULL OF WATER          | 1                         | 85                | AMB                  | 2 x 1/2" NPT                | 11000                 | 316 SS           | 1000            | No   | NO                                          | Yes                                                 |        |
| 18       | LIT-2302  | BK-GCS-PEDCO-120-SA-PI-0001-D04 (1 of 2) | TK-2301-B     | Fire Water    | L     | FULL OF WATER          | 1                         | 85                | AMB                  | 2 x 1/2" NPT                | 11000                 | 316 SS           | 1000            | No   | NO                                          | Yes                                                 |        |

**NOTE:**

(1) G: GAS    L: LIQUID

(2) Transmitters shall be of the smart transmitter type with HART communication protocol, except those connected to the ESD/HIPPS/FGS system that will be preferably of conventional electronic type. If smart type transmitters are selected for ESD application they shall be configured as "write protected".

(3) Instrument range shall be finalized & filled by vendor.

(4) LT connection to Vessel and required accessories to be considered as per Hook up drawing.