





|  |  |               |                |            |                |                     |                  |   |                    |
|--|--|---------------|----------------|------------|----------------|---------------------|------------------|---|--------------------|
| <br><b>NISOC</b> | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>         بسته‌های کاری تحت‌الارض</p> <p>احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا<br/>         ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک</p> |               |                |            |                |                     |                  | <br>  |                    |
|  | <p align="center">DATASHEETS FOR LBV</p>   |               |                |            |                |                     |                  |   |                    |
| شماره پیمان:<br>053 - 073 - 9184   | نسخه<br>D03  | سریال<br>0012 | نوع مدرک<br>DT | رشته<br>IN | تسهیلات<br>320 | صادر کننده<br>PEDCO | بسته کاری<br>PPL | پروژه<br>BK   | شماره صفحه: 1 از 6 |

## طرح نگهداشت و افزایش تولید 27 مخزن

### DATASHEETS FOR LBV نگهداشت و افزایش تولید میدان نفتی بینک

|      |          |                           |               |             |                |                 |
|------|----------|---------------------------|---------------|-------------|----------------|-----------------|
|      |          |                           |               |             |                |                 |
|      |          |                           |               |             |                |                 |
| D03  | FEB.2024 | AFC                       | P.Hajisadeghi | M.Fakharian | S.Faramarzpour |                 |
| D02  | OCT.2023 | AFC                       | P.Hajisadeghi | M.Fakharian | S.Faramarzpour |                 |
| D01  | JUN.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: 1      CLIENT Doc. Number: F9Z-708589

**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

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



DATASHEETS FOR LBV

|                  |         |          |      |         |            |           |       |                    |
|------------------|---------|----------|------|---------|------------|-----------|-------|--------------------|
| شماره پیمان:     | توضیحات | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | شماره صفحه: 2 از 6 |
| 053 - 073 - 9184 |         | DT       | IN   | 320     | PEDCO      | PPL       | BK    |                    |

REVISION RECORD SHEET

| Page | D00 | D01 | D02 | D03 | D04 | Page | D00 | D01 | D02 | D03 | D04 |
|------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 1    | X   | X   | X   | X   |     | 65   |     |     |     |     |     |
| 2    | X   | X   | X   | X   |     | 66   |     |     |     |     |     |
| 3    | X   | X   | X   |     |     | 67   |     |     |     |     |     |
| 4    | X   | X   | X   | X   |     | 68   |     |     |     |     |     |
| 5    | X   | X   | X   | X   |     | 69   |     |     |     |     |     |
| 6    | X   | X   | X   | X   |     | 70   |     |     |     |     |     |
| 7    |     |     |     |     |     | 71   |     |     |     |     |     |
| 8    |     |     |     |     |     | 72   |     |     |     |     |     |
| 9    |     |     |     |     |     | 73   |     |     |     |     |     |
| 10   |     |     |     |     |     | 74   |     |     |     |     |     |
| 11   |     |     |     |     |     | 75   |     |     |     |     |     |
| 12   |     |     |     |     |     | 76   |     |     |     |     |     |
| 13   |     |     |     |     |     | 77   |     |     |     |     |     |
| 14   |     |     |     |     |     | 78   |     |     |     |     |     |
| 15   |     |     |     |     |     | 79   |     |     |     |     |     |
| 16   |     |     |     |     |     | 80   |     |     |     |     |     |
| 17   |     |     |     |     |     | 81   |     |     |     |     |     |
| 18   |     |     |     |     |     | 82   |     |     |     |     |     |
| 19   |     |     |     |     |     | 83   |     |     |     |     |     |
| 20   |     |     |     |     |     | 84   |     |     |     |     |     |
| 21   |     |     |     |     |     | 85   |     |     |     |     |     |
| 22   |     |     |     |     |     | 86   |     |     |     |     |     |
| 23   |     |     |     |     |     | 87   |     |     |     |     |     |
| 24   |     |     |     |     |     | 88   |     |     |     |     |     |
| 25   |     |     |     |     |     | 89   |     |     |     |     |     |
| 26   |     |     |     |     |     | 90   |     |     |     |     |     |
| 27   |     |     |     |     |     | 91   |     |     |     |     |     |
| 28   |     |     |     |     |     | 92   |     |     |     |     |     |
| 29   |     |     |     |     |     | 93   |     |     |     |     |     |
| 30   |     |     |     |     |     | 94   |     |     |     |     |     |
| 31   |     |     |     |     |     | 95   |     |     |     |     |     |
| 32   |     |     |     |     |     | 96   |     |     |     |     |     |
| 33   |     |     |     |     |     | 97   |     |     |     |     |     |
| 34   |     |     |     |     |     | 98   |     |     |     |     |     |
| 35   |     |     |     |     |     | 99   |     |     |     |     |     |
| 36   |     |     |     |     |     | 100  |     |     |     |     |     |
| 37   |     |     |     |     |     | 101  |     |     |     |     |     |
| 38   |     |     |     |     |     | 102  |     |     |     |     |     |
| 39   |     |     |     |     |     | 103  |     |     |     |     |     |
| 40   |     |     |     |     |     | 104  |     |     |     |     |     |
| 41   |     |     |     |     |     | 105  |     |     |     |     |     |
| 42   |     |     |     |     |     | 106  |     |     |     |     |     |
| 43   |     |     |     |     |     | 107  |     |     |     |     |     |
| 44   |     |     |     |     |     | 108  |     |     |     |     |     |
| 45   |     |     |     |     |     | 109  |     |     |     |     |     |
| 46   |     |     |     |     |     | 110  |     |     |     |     |     |
| 47   |     |     |     |     |     | 111  |     |     |     |     |     |
| 48   |     |     |     |     |     | 112  |     |     |     |     |     |
| 49   |     |     |     |     |     | 113  |     |     |     |     |     |
| 50   |     |     |     |     |     | 114  |     |     |     |     |     |
| 51   |     |     |     |     |     | 115  |     |     |     |     |     |
| 52   |     |     |     |     |     | 116  |     |     |     |     |     |
| 53   |     |     |     |     |     | 117  |     |     |     |     |     |
| 54   |     |     |     |     |     | 118  |     |     |     |     |     |
| 55   |     |     |     |     |     | 119  |     |     |     |     |     |
| 56   |     |     |     |     |     | 120  |     |     |     |     |     |
| 57   |     |     |     |     |     | 121  |     |     |     |     |     |
| 58   |     |     |     |     |     | 122  |     |     |     |     |     |
| 59   |     |     |     |     |     | 123  |     |     |     |     |     |
| 60   |     |     |     |     |     | 124  |     |     |     |     |     |
| 61   |     |     |     |     |     | 125  |     |     |     |     |     |
| 62   |     |     |     |     |     | 126  |     |     |     |     |     |
| 63   |     |     |     |     |     | 127  |     |     |     |     |     |
| 64   |     |     |     |     |     | 128  |     |     |     |     |     |



نگهداشت و افزایش تولید میدان نفتی بینک  
بسته‌های کاری تحت‌الارض

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



DATASHEETS FOR LBV

|                  |       |           |           |         |      |          |       |      |                    |
|------------------|-------|-----------|-----------|---------|------|----------|-------|------|--------------------|
| شماره پیمان:     | پروژه | بسته کاری | صادرکننده | تسهيلات | رشته | نوع مدرک | سريال | نسخه | شماره صفحه: 3 از 6 |
| 053 - 073 - 9184 | BK    | PPL       | PEDCO     | 320     | IN   | DT       | 0012  | D03  |                    |

**REFERENCE DOCUMENTS :**

|   |                                   |
|---|-----------------------------------|
| Instrument & Control System Design Criteria     | BK-PPL-PEDCO-320-IN-DC-0001_D01   |
| P&ID - Gas Pipeline (to Siahmakan G.I. Station) | BK-PPL-PEDCO-320-PR-PI-0001_D04   |
| P&ID - Condensate Pipeline (to Binak PU)        | BK-PPL-PEDCO-320-PR-PI-0002_D05   |
| Piping Material Specification                   | BK-PPL-PEDCO-320-PI-SP-0001_D03   |
| Pipeline Material Specification                 | BK-PPL-PEDCO-320-PL-SP-0001_D05   |
| Specification For LBV                           | BK-GNRAL-PEDCO-000-IN-SP-0013_D02 |
| Instrument Hook-Up Diagram                      | BK-PPL-PEDCO-320-IN-DG-0002_D01   |
| Process Basis Of Design                         | BK-GNRAL-PEDCO-000-PR-DB-0001_D08 |



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
بسته‌های کاری تحت‌الارض

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



#### DATASHEETS FOR LBV

| شماره پیمان:     | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | شماره صفحه: 4 از 6 |
|------------------|-------|-----------|------------|---------|------|----------|-------|------|--------------------|
| 053 - 073 - 9184 | BK    | PPL       | PEDCO      | 320     | IN   | DT       | 0012  | D03  |                    |

#### GENERAL NOTES:

- Calculations shall be provided for each completely piped actuated valve assembly the stroking times i.e. to close and to open
- The duty, failure action and stroke time shall all be approved by the Purchaser.
- The actuator shall be designed to operate the valve through its full stroke
- The full stroke time for on-off valve which is less or equal than 4" size, shall be max. 4 second and for valves greater than 4", 1 second shall be added to the 4 sec for each increment of 1" in valve size. The maximum fully stroke time shall be 10 seconds

5. NACE consideration shall be regarded according to NACE MR-0175/ISO15156.

6. Hydro-test duration shall be in accordance with API 6D.

7. Valves excluding check valves shall be capable of sealing at these pressures in either direction. Valves shall be designed to withstand a sustained internal vacuum of 1 (one) barg (i.e. full vacuum) in both open and closed positions.

8. Vendor shall guarantee and demonstrate the required stroking speed, during the Functional Test (FAT)

9. The gas-over-oil actuator shall basically comprise of the following components:

- Actuating control box
- Actuator cylinders
- Gas-over-oil tank
- Hand pump with pertinent change-over valve
- Metering valve
- Sensing tank and double check valves.
- Double check valves to be considered.

10. All accessories shall be mounted on a 316SS sub-plate. Tubing shall be suitably sized TP 316L stainless steel with stainless steel double ferrule compression fittings.

11. The actuator design shall be of cylinder type suitable for direct mounting on the valve as specified in Requisition. The actuator shall be capable of withstanding all envisaged line vibrations and movements.

12. All accessory equipment, shall be mounted, fully piped, connected and supplied with the actuator.

13. The actuator shall be equipped with suitable mechanical valve position indicator.

14. Two gas-over-oil pressure tanks which have different hydraulic oil levels are required. The difference between two oil level surfaces must be at least equal to the amount of oil required for a complete valve travel. Two gas-over-oil accumulator tanks (one for open and one for close actuation) complying with relevant accessories and circuit shall be considered. One N2 capacity tank for start up/back up shall be considered by vendor.

15. All actuators and accessories shall be clearly and permanently identified by nameplate. The nameplate shall be in stainless steel and affixed to the VALVE, actuator and accessories.

16. All actuator parts shall have suitable surface treatment to protect them against corrosion.

17. The actuator should be provided with a suitable hand-operated control valve for local operation of the valve.

18. emergency hand pump, local push buttons or lever, local position indicator and emergency power gas storage tank for complete operations (one open & one close stroke).

19. Self-control circuits shall be equipped with suitable control device for operating speed adjustment.

20. 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

21. project specification for Painting (BK-GNRL-PEDCO-000-PI-SP-0006) shall be considered by supplier.

D03

Add a note that  
LBV shall be Full  
Bore and suitable  
for Pigging

Noted

|   |                                     |  |           |                     |                                 |   |                         |                   |      |
|---|-------------------------------------|--|-----------|---------------------|---------------------------------|---|-------------------------|-------------------|------|
| <br>NISOC                       |                                     | نگهداشت و افزایش تولید میدان نفتی بینک<br>بسته های کاری تحت الارض        |           |                     |                                 | <br>شرکت توسعه و پالایش |                         |                   |      |
| 053 - 073 - 9184  |                                     | DATASHEETS FOR LBV   |           |                     |                                 | شماره صفحه: 6 از 6  |                         |                   |      |
| شماره پیمان:  |                                     | پروژه  | بسته کاری | صادر کننده          | نهاییات                         | رشته  | نوع مدرک                | سریال             | نسخه |
|   |                                     | BK   | PPL       | PEDCO               | 320                             | IN  | DT                      | 0012              | D03  |
| Item  | Data Category                       | Technical Features   |           |                     |                                 | Project Data & Requirements   |                         |                   |      |
| 1   | General Data                        | Tag No.  |           |                     |                                 | LBV-3201  |                         |                   |      |
| 2   |                                     | P&ID No.   |           |                     |                                 | BK-PPL-PEDCO-320- PR-PI-0001_D05 ( page 2 of 3)   |                         |                   |      |
| 3   |                                     | Service  |           |                     |                                 | From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)   |                         |                   |      |
| 4   |                                     | Fluid Phase  |           |                     |                                 | Gas   |                         |                   |      |
| 5   |                                     | Fluid State  |           |                     |                                 | Hydrocarbhone Gas   |                         |                   |      |
| 6   |                                     | Area Classification  |           |                     |                                 | Zone 2, IIB T4  |                         |                   |      |
| 7   |                                     | Line No.   |           |                     |                                 | GAS-113-0007-FN27-8"-PT   |                         |                   |      |
| 8   |                                     | Ambient Temperature C  |           |                     |                                 | Refer to Note 20 in General Note  |                         |                   |      |
| 9   | Service Process Data                | FLOW RATE (Kg/hr.) Max. / Normal / Min.                                  |           |                     |                                 | 18887.891 / 17170.81 / -  |                         |                   |      |
| 10  |                                     | INLET/OUTLET PRESSURE Barg   |           |                     |                                 | 43.1  |                         |                   |      |
| 11  |                                     | OPERATING FLUID TEMPERATURE °C   |           |                     |                                 | 15 ~ 31.3   |                         |                   |      |
| 12  |                                     | DENSITY (kg/m3) Mix./Gas./Liq  |           |                     |                                 | 59.21 / 58.27 / 547.4   |                         |                   |      |
| 13  |                                     | VISCOSITY (GAS/LIQ.) cP  |           |                     |                                 | 0.013/0.13  |                         |                   |      |
| 14  |                                     | VAPOR PRESSURE Pv Bar (a)  |           |                     |                                 | -   |                         |                   |      |
| 15  |                                     | CRITICAL PRESSURE Barg   |           |                     |                                 | 104.9 barg  |                         |                   |      |
| 16  |                                     | DESIGN TEMPERATURE / MAX. TEMPERATURE                                    |           |                     |                                 | 85/31.3   |                         |                   |      |
| 17  |                                     | DESIGN PRESSURE / MAX.PRESSURE Barg                                      |           |                     |                                 | 62/43.1   |                         |                   |      |
| 18  |                                     | SHUT OFF PRESSURE (barg)   |           |                     |                                 | 62  |                         |                   |      |
| 19  | Body and Valve Trim                 | VALVE TYPE   |           |                     |                                 | ball valve, Gear Type, Trunnion Mounted (see note 9 in below table)                                       |                         |                   |      |
| 20  |                                     | BODY MATERIAL  |           |                     |                                 | ASTM A216 WCB   |                         |                   |      |
| 21  |                                     | NACE TO MR - 01 75   |           |                     |                                 | YES   |                         |                   |      |
| 22  |                                     | BODY SIZE  |           | LINE RATED PRESSURE |                                 | 8"  |                         | 600               |      |
| 23  |                                     | MAX. PRES. & TEMP.   |           |                     |                                 | VTA   |                         | VTA               |      |
| 24  |                                     | END CONNECTIONS & RATINGS  |           |                     |                                 | 8" BW with Pop. Piece at ends, L=500mm (THK=11.1mm)   |                         |                   |      |
| 25  |                                     | SEAT TYPE  |           |                     |                                 | Soft Seat (VTC)   |                         |                   |      |
| 26  |                                     | SEAT MATERIAL  |           |                     |                                 | AISI 316L + RPTFE   |                         |                   |      |
| 27  |                                     | TRIM MATERIAL  |           |                     |                                 | AISI 316L+STELLTE6  |                         |                   |      |
| 28  |                                     | PLUG / BALL MATERIAL   |           |                     |                                 | AISI 316L+STELLTE6  |                         |                   |      |
| 29  |                                     | STEM MATERIAL  |           |                     |                                 | VTA   |                         |                   |      |
| 30  |                                     | STEM GUIDE MATERIAL  |           |                     |                                 | VTA   |                         |                   |      |
| 31  |                                     | STUFFING BOX PACKING (GLAND)   |           |                     |                                 | VTA   |                         |                   |      |
| 32  |                                     | BOLTING  |           |                     |                                 | Based on PMS requirements   |                         |                   |      |
| 33  |                                     | VALVE SEALING MATERIAL   |           | SEAT SEAL MATERIAL  |                                 | ANTI STATIC (VTC)   |                         | ANTI STATIC (VTC) |      |
| 34  |                                     | ANTI BLOW-OUT DEVICE OF THE STEM   |           |                     |                                 | YES   |                         |                   |      |
| 35  |                                     | LEAKAGE CLASS  |           |                     |                                 | ANSI B16.104 Class VI (TSO )  |                         |                   |      |
| 36  |                                     | FIRE SAFE  |           |                     |                                 | YES ( API 6FA)  |                         |                   |      |
| 37  | MFR.                                |  | MODEL     |                     | will be finalized later         |   | will be finalized later |                   |      |
| 38  | Actuator                            | TYPE OF ACTUATOR   |           |                     |                                 | DOUBLE ACTING GAS - OVER OIL  |                         |                   |      |
| 39  |                                     | MOUNTING TYPE  |           | SUPPLY              |                                 | DIRECT  |                         | CRUDE OIL         |      |
| 40  |                                     | NACE TO MR - 01 75   |           |                     |                                 | YES   |                         |                   |      |
| 41  |                                     | OPENING TIME   |           |                     |                                 | 8 Sec. ( VENDOR TO CONFIRM)   |                         |                   |      |
| 42  |                                     | CLOSING TIME   |           |                     |                                 | 8 Sec. ( VENDOR TO CONFIRM)   |                         |                   |      |
| 43  |                                     | MAX. ALLOW. PRESSURE   |           | MIN. REQ. PRESSURE  |                                 | VTA   |                         | VTA               |      |
| 44  |                                     | MIN. REQ. TORQUE   |           | MAX. REQ. TORQUE    |                                 | VTA   |                         | VTA               |      |
| 45  |                                     | GAS / OIL CONSUMPTION  |           |                     |                                 | VTA   |                         |                   |      |
| 46  |                                     | HANDWHEEL  |           |                     |                                 | Note 17 in General Note   |                         |                   |      |
| 47  |                                     | CONNECTION SIZE  |           |                     |                                 | VTA   |                         |                   |      |
| 48  |                                     | VALVE ACTION ON FAILURE  |           |                     |                                 | FAIL TO CLOSE   |                         |                   |      |
| 49  |                                     | VALVE POSITION   |           |                     |                                 | Mechanical Position Indicator (see note 11 in below table)  |                         |                   |      |
| 50  | LINE PRESSURE LOSS DETECTION SYSTEM |  |           |                     | Rate of pressure drop           |   |                         |                   |      |
| 51  | SPEED CONTROLLER                    |  |           |                     | speed adjustment                |   |                         |                   |      |
| 52  | MFR.                                |  | TYPE      |                     | will be finalized later         |   | will be finalized later |                   |      |
| 53  | Control Panel                       | ACTION   |           |                     |                                 | SHUT DOWN THE VALVE IN HIGH PRESSURE AND RATE OF PRESSURE DROP  |                         |                   |      |
| 54  |                                     | ENCLOSURE  |           |                     |                                 | SS316   |                         |                   |      |
| 55  |                                     | TUBING / FITTING MATERIAL  |           |                     |                                 | SS316   |                         |                   |      |
| 56  |                                     | REATING CLASS  |           |                     |                                 | #600  |                         |                   |      |
| 57  |                                     | LEAKAGE CLASS  |           |                     |                                 | ANSI B16.104 Class VI   |                         |                   |      |
| 58  |                                     | TUBING / FITTING MATERIAL NACE TO MR - 01 75                             |           |                     |                                 | YES   |                         |                   |      |
| 59  |                                     | MANUALL OPEN / CLOSE   |           |                     |                                 | YES   |                         |                   |      |
| 60  |                                     | PROCESS CONNECTION   |           |                     |                                 | 3/4" NPTF ON VALVE BODY   |                         |                   |      |
| 61  |                                     | MOUNTING   |           |                     |                                 | LOCAL   |                         |                   |      |
| 62  |                                     | FLUID  |           |                     |                                 | GAS   |                         |                   |      |
| 63  |                                     | SUPLY PRESSURE DES/ MINIMUM-NOR.   |           |                     |                                 | VTA   |                         |                   |      |
| 64  |                                     | TEMPERATURE NORM. / DESIGN   |           | °C                  |                                 | 0 +35 / (0 - +85)   |                         |                   |      |
| 65  |                                     | ELECTRICAL CONNECTION  |           |                     |                                 | N.A.  |                         |                   |      |
| 66  |                                     | CABLE GLAND  |           |                     |                                 | N.A.  |                         |                   |      |
| 67  | PROTECTION CLASS                    |  |           |                     | IP 65                           |   |                         |                   |      |
| 68  | R.O.D SET POINT (Psig / Min )       |  |           |                     | VTA                             |   |                         |                   |      |
| 69  | HIGH/LOW SET POINT                  |  |           |                     | See note 6 in below table       |   |                         |                   |      |
| 70  | MFR.                                |  | MODEL     |                     | will be finalized later         |   | will be finalized later |                   |      |
| 71  | Limit Switch                        | TAG No   |           |                     |                                 |   |                         |                   |      |
| 72  |                                     | SWITCH TYPE  |           |                     |                                 |   |                         |                   |      |
| 73  |                                     | VOLTAGE SUPPLY   |           |                     |                                 |   |                         |                   |      |
| 74  |                                     | CONTACT RATING   |           |                     |                                 |   |                         |                   |      |
| 75  |                                     | CABLE GLAND  |           |                     |                                 |   |                         |                   |      |
| 76  |                                     | ELECTR. CONNECTION SIZE  |           |                     |                                 |   |                         |                   |      |
| 77  |                                     | PROTECTION CLASS   |           |                     |                                 |   |                         |                   |      |
| 78  |                                     | VALVE TEST SYSTEM  |           |                     |                                 | NO  |                         |                   |      |
| 79  |                                     | VOLUME TANK, N2 START UP TANK, GAS-OVER-OIL PRESSURE TANKS & ACCUMULATOR |           |                     |                                 | YES, Completed with all required accessories with   |                         |                   |      |
| 80  |                                     | DRAIN VALVE  |           |                     |                                 | VTA   |                         |                   |      |
| 81  | CONTROL PANEL                       |  |           |                     | YES                             |   |                         |                   |      |
| 82  | HAND PUMP                           |  |           |                     | Hand pump with pertinent change |   |                         |                   |      |
| 83  | TUBING / FITTING                    |  |           |                     | SS316                           |   |                         |                   |      |
| 84  | GAS FILTER REGULATOR                |  |           |                     | YES / VTA                       |   |                         |                   |      |
| ( * ) : TO BE ADVISED & FILLED BY VENDOR  |                                     |  |           |                     |                                 |   |                         |                   |      |
| 1. VALVE TYPE SHALL BE IN ACCORDANCE WITH PROJECT P&ID  |                                     |  |           |                     |                                 |   |                         |                   |      |
| 2. ACCORDING TO API 6D MATERIAL SPECIFICATION AS MINIMUM.   |                                     |  |           |                     |                                 |   |                         |                   |      |
| 3. BORE TO MATCH PIPELINE ID  |                                     |  |           |                     |                                 |   |                         |                   |      |
| 4. ACTUATOR TESTED AT 1.5 TIMES THE MAX SUPPLY  |                                     |  |           |                     |                                 |   |                         |                   |      |
| 5. CONTROL PANEL SHALL BE CAPABLE TO METER THE PIPE LINE PRESSURE   |                                     |  |           |                     |                                 |   |                         |                   |      |
| 6. SET POINT SHALL BE ADJUSTABLE - %20 AS MINIMUM   |                                     |  |           |                     |                                 |   |                         |                   |      |
| 7. NO ELECTRICAL SIGNAL THE VALVE HAS   |                                     |  |           |                     |                                 |   |                         |                   |      |
| 8. IN ACCORDING TO TIPPING MATERIAL SPECIFICATION AS MINIMUM  |                                     |  |           |                     |                                 |   |                         |                   |      |
| 9. VALVE SHALL BE INSTALLED INSIDE CONCRETE PIT. EXTENDED STEM(1.5 m) IS REQUIRED TO BE CONSIDERED BY VENDOR.   |                                     |  |           |                     |                                 |   |                         |                   |      |
| 10. THE ACTUATOR SHALL HAVE MODULAR DESIGN AND SHALL EMPLOY SCOTCH YOKE MECHANISM PREFERABLY WITH 90° ROTATION. |                                     |  |           |                     |                                 |   |                         |                   |      |
| 12. MECHANICAL POSITION INDICATOR SHALL BE PROVIDED BY VENDOR , SHOWING VALVE POSITION LOCALLY.                 |                                     |  |           |                     |                                 |   |                         |                   |      |

LBV shall be Flanged End, RF, 600#, Full Bore

Noted

Sour Gas

Noted

Noted

Yes, Calibration Kit for Valve and actuator Testing and Calibration shall be considered

Pipeline Material Specification




According to API 6D

Noted

Yes, Drain Valve is needed

Noted

Noted

|  |  |  |           |            |   |   |                   |
|--|--|--|-----------|------------|---|---|-------------------|
| <br><b>NISOC</b> |  | <b>تجهیزات و افزایش تولید میدان نفتی بینک</b><br><b>بسته های کاری تحت الارض</b>  |           |            |   | <br> |                   |
|  |  | <b>احداث خطوط انتقال گاز/امپات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاهمکان/واحد بهره برداری بینک</b> |           |            |   |   |                   |
|  |  | <b>DATASHEETS FOR LBV</b>  |           |            |   |   |                   |
| شماره پیمان: 053 - 073 - 9184  |  | پروژه  | بسته کاری | صادر کننده | تهیه کننده  | رشته  | نوع مدرک          |
|  |  | BK   | PPL       | PEDCO      | 320   | IN  | DT                |
|  |  |  |           |            |   | 0012  | D03               |
|  |  |  |           |            |   | شماره صفحه: 6 از 6  |                   |
| <b>Item</b>  | <b>Data Category</b>   | <b>Technical Features</b>  |           |            |   | <b>Project Data &amp; Requirements</b>  |                   |
| 1  | <b>General Data</b>  | Tag No.  |           |            |   | LBV-3202  |                   |
| 2  |  | P&ID No.   |           |            |   | BK-PPL-PEDCO-320-PR-PL-0001_D05 ( page 2 of 3)  |                   |
| 3  |  | Service  |           |            |   | From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)   |                   |
| 4  |  | Fluid Phase  |           |            |   | Gas   |                   |
| 5  |  | Fluid State  |           |            |   | Hydrocarbome Gas  |                   |
| 6  |  | Area Classification  |           |            |   | Zone 2, IIB T4  |                   |
| 7  |  | Line No.   |           |            |   | GAS-113-0009-FN27-8"-PT   |                   |
| 8  |  | Ambient Temperature C  |           |            |   | Refer to Note 20 in General Note  |                   |
| 9  | <b>Service Process Data</b>  | FLOW RATE (Kg/hr.) Max. / Normal / Min.  |           |            |   | 18887.891 /17170.81/ -  |                   |
| 10   |  | INLET/OUTLET PRESSURE Barg   |           |            |   | 43  |                   |
| 11   |  | OPERATING FLUID TEMPERATURE °C   |           |            |   | 15~31.3   |                   |
| 12   |  | DENSITY (kg/m3) Mix./Gas./Liq  |           |            |   | 47.16/47.11/578.4   |                   |
| 13   |  | VISCOSITY (GAS/LIQ.) cP  |           |            |   | 0.013/0.13  |                   |
| 14   |  | VAPOR PRESSURE Pv Bar (a)  |           |            |   | -   |                   |
| 15   |  | CRITICAL PRESSURE Barg   |           |            |   | 104.9 barg  |                   |
| 16   |  | DESIGN TEMPERATURE / MAX. TEMPERATURE  |           |            |   | 85 / 31.3   |                   |
| 17   | DESIGN PRESSURE / MAX.PRESSURE Barg                                      |  |           |            | 62 / 43 Barg  |   |                   |
| 18   | SHUT-OFF PRESSURE (barg)   |  |           |            | 62  |   |                   |
| 19   | <b>Body and Valve Trim</b>   | VALVE TYPE   |           |            |   | ball valve, Gear Type, Trunnion Mounted (see note 9 in below table)   |                   |
| 20   |  | BODY MATERIAL  |           |            |   | ASTM A216 WCB   |                   |
| 21   |  | NACE TO MR - 01 75   |           |            |   | YES   |                   |
| 22   |  | BODY SIZE  |           |            |   | 8"  | 600               |
| 23   |  | MAX. PRES. & TEMP.   |           |            |   | VTA   | VTA               |
| 24   |  | END CONNECTIONS & RATINGS  |           |            |   | 8" BW with Top Piece at ends, L=500mm (24K+11mm)  |                   |
| 25   |  | SEAT TYPE  |           |            |   | Soft Seat (VTC)   |                   |
| 26   |  | SEAT MATERIAL  |           |            |   | AISI 316L + RPTFE   |                   |
| 27   |  | TRIM MATERIAL  |           |            |   | AISI 316L+STELLTE6  |                   |
| 28   |  | PLUG / BALL MATERIAL   |           |            |   | AISI 316L+STELLTE6  |                   |
| 29   |  | STEM MATERIAL  |           |            |   | VTA   |                   |
| 30   |  | STEM GUIDE MATERIAL  |           |            |   | VTA   |                   |
| 31   |  | STUFFING BOX PACKING (GLAND)   |           |            |   | VTA   |                   |
| 32   |  | BOLTING  |           |            |   | Based on PMS requirements   |                   |
| 33   |  | VALVE SEALING MATERIAL   |           |            |   | SEAT SEAL MATERIAL  | ANTI STATIC (VTC) |
| 34   |  | ANTI BLOW-OUT DEVICE OF THE STEM   |           |            |   | YES   |                   |
| 35   | LEAKAGE CLASS  |  |           |            | ANSI B16.104 Class VI (TSO )  |   |                   |
| 36   | FIRE SAFE  |  |           |            | YES ( API 6FA)  |   |                   |
| 37   | MFR.   |  |           |            | will be finalized later   |   |                   |
| 38   | TYPE OF ACTUATOR   |  |           |            | DOUBLE ACTING GAS - OVER OIL  |   |                   |
| 39   | MOUNTING TYPE  |  |           |            | DIRECT  |   |                   |
| 40   | NACE TO MR - 01 75   |  |           |            | YES   |   |                   |
| 41   | OPENING TIME   |  |           |            | 8 Sec.( VENDOR TO CONFIRM)  |   |                   |
| 42   | CLOSING TIME   |  |           |            | 8 Sec.( VENDOR TO CONFIRM)  |   |                   |
| 43   | MAX. ALLOW. PRESSURE   |  |           |            | MIN. REQ. PRESSURE  | VTA   |                   |
| 44   | MIN. REQ. TORQUE   |  |           |            | MAX. REQ. TORQUE  | VTA   |                   |
| 45   | GAS / OIL CONSUMPTION  |  |           |            | VTA   |   |                   |
| 46   | HANDWHEEL  |  |           |            | Note 17 in General Note   |   |                   |
| 47   | CONNECTION SIZE  |  |           |            | VTA   |   |                   |
| 48   | VALVE ACTION ON FAILURE  |  |           |            | FAIL TO CLOSE   |   |                   |
| 49   | VALVE POSITION   |  |           |            | Mechanical Position Indicator (see note 11 in below table)                    |   |                   |
| 50   | LINE PRESSURE LOSS DETECTION SYSTEM                                      |  |           |            | Rate of pressure drop   |   |                   |
| 51   | SPEED CONTROLLER   |  |           |            | speed adjustment  |   |                   |
| 52   | MFR.   |  |           |            | will be finalized later   |   |                   |
| 53   | <b>Control Panel</b>   | ACTION   |           |            |   | SHUT DOWN THE VALVE IN HIGH PREESSURE AND RATE OF PRESSURE  |                   |
| 54   |  | ENCLOSURE  |           |            |   | SS316   |                   |
| 55   |  | TUBING / FITTING MATERIAL  |           |            |   | SS316   |                   |
| 56   |  | REATING CLASS  |           |            |   | #600  |                   |
| 57   |  | LEAKAGE CLASS  |           |            |   | ANSI B16.104 Class VI   |                   |
| 58   |  | TUBING / FITTING MATERIAL NACE TO MR - 01 75   |           |            |   | YES   |                   |
| 59   |  | MANUALL OPEN / CLOSE   |           |            |   | YES   |                   |
| 60   |  | PROCESS CONECTION  |           |            |   | 3/4" NPTF ON VALVE BODY   |                   |
| 61   |  | MOUNTING   |           |            |   | LOCAL   |                   |
| 62   |  | FLUID  |           |            |   | GAS   |                   |
| 63   |  | SUPPLY PRESSURE DES/ MINIMUM-NOR.  |           |            |   | VTA   |                   |
| 64   |  | TEMPERATURE NORM. / DESIGN   |           |            |   | 0 - +35 / ( 0 - +85)  |                   |
| 65   |  | ELECTRICAL CONNECTION  |           |            |   | N.A.  |                   |
| 66   |  | CABLE GLAND  |           |            |   | N.A.  |                   |
| 67   | PROTECTION CLASS   |  |           |            | IP 65   |   |                   |
| 68   | R.O.D SET POINT (Psig / Min )  |  |           |            | VTA   |   |                   |
| 69   | HIGH/LOW SET POINT   |  |           |            | See note 6 in below table   |   |                   |
| 70   | MFR.   |  |           |            | will be finalized later   |   |                   |
| 71   | TAG No.  |  |           |            |   |   |                   |
| 72   | SWITCH TYPE  |  |           |            |   |   |                   |
| 73   | VOLTAGE SUPPLY   |  |           |            |   |   |                   |
| 74   | CONTACT RATING   |  |           |            |   |   |                   |
| 75   | CABLE GLAND  |  |           |            |   |   |                   |
| 76   | ELECTR. CONNECTION SIZE  |  |           |            |   |   |                   |
| 77   | PROTECTION CLASS   |  |           |            |   |   |                   |
| 78   | VALVE TEST SYSTEM  |  |           |            | NO  |   |                   |
| 79   | VOLUME TANK, N2 START UP TANK, GAS-OVER-OIL PRESSURE TANKS & ACCUMULATOR |  |           |            | YES, Completed with all required accessories with 1 stroke capacity (Note 14) |   |                   |
| 80   | DRAIN VALVE  |  |           |            | YES   |   |                   |
| 81   | CONTROL PANEL  |  |           |            | YES   |   |                   |
| 82   | HAND PUMP  |  |           |            | Hand pump with pertinent change-over valve                                    |   |                   |
| 83   | TUBING / FITTING   |  |           |            | SS316   |   |                   |
| 84   | GAS FILTER REGULATOR   |  |           |            | YES / VTA   |   |                   |
|  |  | (*) : TO BE ADVISED & FILLED BY VENDOR   |           |            |   |   |                   |
|  |  | 1. VALVE TYPE SHALL BE IN ACCORDANCE WITH PROJECT P&ID   |           |            |   |   |                   |
|  |  | 2. ACCORDING TO PIPELINE MATERIAL SPECIFICATION AS MINIMUM   |           |            |   |   |                   |
|  |  | 3. BORE TO MATCH PIPELINE ID   |           |            |   |   |                   |
|  |  | 4. ACTUATOR TESTED AT 1.5 TIMES THE MAX SUPPLY   |           |            |   |   |                   |
|  |  | 5. CONTROL PANEL SHALL BE CAPABLE TO METER THE PIPE LINE PRESSURE  |           |            |   |   |                   |
|  |  | 6. SET POINT SHALL BE ADJUSTABLE ± %20 AS MINIMUM  |           |            |   |   |                   |
|  |  | 7. NO ELECTRICAL SIGNAL THE VALVE HAS  |           |            |   |   |                   |
|  |  | 8. IN ACCORDING TOPPING MATERIAL SPECIFICATION AS MINIMUM  |           |            |   |   |                   |
|  |  | 9. ACCORDING TO TOPPING MATERIAL SPECIFICATION AS MINIMUM  |           |            |   |   |                   |
|  |  | 10. VALVE SHALL BE INSTALLED INSIDE CONCRETE PIT. EXTENDED STEM(1.5 m) IS REQUIRED TO BE CONSIDERED BY VENDOR              |           |            |   |   |                   |
|  |  | 11. THE ACTUATOR SHALL HAVE MODULAR DESIGN AND SHALL EMPLOY SCOTCH YOKE MECHANISM PREFERABLY WITH 90° ROTATION             |           |            |   |   |                   |
|  |  | 12. MECHANICAL POSITION INDICATOR SHALL BE PROVIDED BY VENDOR , SHOWING VALVE POSITION LOCALLY.                            |           |            |   |   |                   |

LBV shall be Flanged End, RF, 600#, Full Bore

Sour Gas

Yes, Calibration Kit for Valve and actuator Testing and Calibration shall be considered

Pipeline Material Specification

According to API 6D