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| **طرح نگهداشت و افزایش تولید 27 مخزن** | | | | | | |
| **MTO FOR POWER & CONTROL CABLES**  **نگهداشت و افزایش تولید میدان نفتی بینک** | | | | | | |
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| D00 | May. 2023 | IFI | H.Shakiba | M.Fakharian | A.M.Mohseni |  |
| **Rev.** | **Date** | **Purpose of Issue/Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **Client Approval** |
| **Class:3** | | **Client Doc. Number: F8Z-709075** | | | | |
| **Status:** | **IDC: Inter-Discipline Check**  **IFC: Issued For Comment**  **IFA: Issued For Approval**  **AFD: Approved For Design**  **AFC: Approved For Construction**  **AFP: Approved For Purchase**  **AFQ: Approved For Quotation**  **IFI: Issued For Information**  **AB-R: As-Built for CLIENT Review**  **AB-A: As-Built –Approved** | | | | | |

**REVISION RECORD SHEET**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |  | **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |
| **1** | X |  |  |  |  | **51** |  |  |  |  |  |
| **2** | X |  |  |  |  | **52** |  |  |  |  |  |
| **3** | X |  |  |  |  | **53** |  |  |  |  |  |
| **4** | X |  |  |  |  | **54** |  |  |  |  |  |
| **5** | X |  |  |  |  | **55** |  |  |  |  |  |
| **6** | X |  |  |  |  | **56** |  |  |  |  |  |
| **7** | X |  |  |  |  | **57** |  |  |  |  |  |
| **8** | X |  |  |  |  | **58** |  |  |  |  |  |
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| **50** |  |  |  |  |  | **100** |  |  |  |  |  |

**Bill of Material**

|  |  |  |  |  |  |
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| **11 KV POWER CABLE** | | | | | |
| Insulation Grade - Service Voltage: 6/10 (12) KV | | | | | |
| Conductor: Plain Annealed Stranded Copper (Class 2) | | | | | |
| Insulation: XLPE Insulation (Color coding as per IEC) | | | | | |
| Semiconducting Material: Yes | | | | | |
| Screening : Semi-Conductor | | | | | |
| Binder Tape: Yes | | | | | |
| Fillers : PVC | | | | | |
| Bedding: Extruded PVC | | | | | |
| Armor: Multi-Core Cables : Galvanized Steel Wire Armor (SWA)  Single-Core Cables : Aluminum Wire Armor (AWA) | | | | | |
| Other Sheath: PVC (UV Resistant & Flame Retardant with Red Color) | | | | | |
| Color of Core: 1Core Cables= Black  3Cores cables= Red, Yellow, Blue | | | | | |
| **Item** | **Description** | **Type** | **QTY.** | **Spare** | **Total** |
| **1** | **CU/XLPE/SWA/PVC (Red, Yellow, Blue)** | | | | |
| 1.1 | 3C×95 mm2 | - | 225 | 75 | 300 |
| **2** | **CU/XLPE/LSH/SWA/PVC (Red, Yellow, Blue)** | | | | |
| 2.1 | 3C×95 mm2 | - | 960 | 90 | 1050 |

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| **3.3 KV POWER CABLE** | | | | | |
| Insulation Grade - Service Voltage: 6/10 (12) KV | | | | | |
| Conductor: Plain Annealed Stranded Copper (Class 2) | | | | | |
| Insulation: XLPE Insulation (Color coding as per IEC) | | | | | |
| Semiconducting Material: Yes | | | | | |
| Screening : Semi-Conductor | | | | | |
| Binder Tape: Yes | | | | | |
| Fillers : PVC | | | | | |
| Bedding: Extruded PVC | | | | | |
| Armor: Multi-Core Cables : Galvanized Steel Wire Armor (SWA)  Single-Core Cables : Aluminum Wire Armor (AWA) | | | | | |
| Other Sheath: PVC (UV Resistant & Flame Retardant with Red Color) | | | | | |
| Color of Core: 1Core Cables= Black  3Cores cables= Red, Yellow, Blue | | | | | |
| **Item** | **Description** | **Type** | **QTY.** | **Spare** | **Total** |
| 1 | **CU/XLPE/SWA/PVC (Red, Yellow, Blue)** | | | | |
| 1.1 | 3C×95 mm2 | - | 80 | 10 | 90 |
| 1.2 | 1C×95 mm2 | - | 40 | 5 | 45 |

| **LV POWER CABLE** | | | | | |
| --- | --- | --- | --- | --- | --- |
| Insulation Grade - Service Voltage: 600/1000 V | | | | | |
| Conductor: Plain Annealed Stranded Copper (Class 2) | | | | | |
| Insulation: XLPE | | | | | |
| Binder Tape: If Required | | | | | |
| Fillers : PVC | | | | | |
| Bedding: Extruded PVC | | | | | |
| Armor: Multi-Core Cables : Galvanized Steel Wire Armor (SWA)  Single Core Cables : Aluminum Wire Armor (AWA) | | | | | |
| Other Sheath: PVC (UV Resistant & Flame Retardant with Black Color) | | | | | |
| Color of Core: (A): 1Core Cables (Single Phase)= Black  (B): 1Core + Neutral (Single Phase)= Red & Black  (C): 1Core + Neutral + Earth (Single Phase)= Red, Black & G/Y  (D): 2Cores Cables (for DC Cable)= Red & Black  (E): 3Cores Cables (Three Phase)= Red, Yellow, Blue (3 Phases)  (F): 3Cores + Neutral (Three Phase)= Red, Yellow, Blue, Black  (G): 3Cores + Earth (Three Phase)= Red, Yellow, Blue, G/Y  (H): 3Cores + Neutral + Earth (Three Phase)= Red, Yellow, Blue, Black & G/Y | | | | | |
| **Item** | **Description** | **Type** | **QTY.** | **Spare** | **Total** |
| **1** | **CU/XLPE/AWA/PVC** | | | | |
| 1.1 | 1C×300 mm2 | A | 560 | 80 | 640 |
| 1.2 | 1C×240 mm2 | A | 840 | 100 | 940 |
| **2** | **CU/XLPE/SWA/PVC** | | | | |
| 2.1 | 2C×50 mm2 | D | 80 | 10 | 90 |
| 2.2 | 2C×16 mm2 | D | 60 | 10 | 70 |
| 2.3 | 2C×10 mm2 | D | 40 | 5 | 45 |
| **3** | **CU/XLPE/SWA/PVC** | | | | |
| 3.1 | 3C×120 mm2 | E | 80 | 10 | 90 |
| 3.2 | 3C×16 mm2 | E | 350 | 50 | 400 |
| 3.3 | 3C×4 mm2 | E | 1105 | 150 | 1255 |
| **4** | **CU/XLPE/ LSH/SWA/PVC** | | | | |
| 4.1 | 3C×35 mm2 | E | 2090 | 200 | 2290 |
| 4.2 | 3C×25 mm2 | E | 2960 | 250 | 3210 |
| 4.3 | 3C×4 mm2 | E | 3210 | 300 | 3510 |
| **5** | **CU/XLPE/AWA/PVC** | | | | |
| 5.1 | 3C×240+120 mm2 | F | 1015 | 150 | 1165 |
| 5.2 | 3C×185+95 mm2 | F | 255 | 35 | 290 |
| 5.3 | 3C×150+70 mm2 | F | 730 | 100 | 830 |
| 5.4 | 3C ×120+70 mm2 | F | 590 | 60 | 650 |
| 5.5 | 3C ×95+50 mm2 | F | 505 | 60 | 565 |
| 5.6 | 3C ×70+35 mm2 | F | 100 | 15 | 115 |
| 5.7 | 4C×35 mm2 | F | 180 | 20 | 200 |
| 5.8 | 4C×25 mm2 | F | 200 | 20 | 220 |
| 5.9 | 4C×16 mm2 | F | 655 | 100 | 755 |
| 5.10 | 4C×10 mm2 | F | 1090 | 150 | 1240 |
| 5.11 | 4C×6 mm2 | F | 1285 | 150 | 1435 |
| 5.12 | 4C×4 mm2 | F | 160 | 20 | 180 |
| **6** | **CU/XLPE/ LSH/SWA/PVC** | | | | |
| 6.1 | 3C ×120+70 mm2 | F | 700 | 100 | 800 |
| 6.2 | 3C ×70+35 mm2 | F | 665 | 100 | 765 |

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| **CONTROL CABLE** | | | | | |
| Insulation Grade - Service Voltage: 600/1000 V | | | | | |
| Conductor: Plain Annealed Stranded Copper (Class 2) | | | | | |
| Insulation: PVC | | | | | |
| Binder Tape: If Required | | | | | |
| Fillers : PVC | | | | | |
| Bedding: Extruded PVC | | | | | |
| Armor: Galvanized Steel Wire Armor (SWA) | | | | | |
| Other Sheath: PVC (UV Resistant & Flame Retardant with Black Color) | | | | | |
| Color of Core: Black with White Identification Numbers | | | | | |
| **Item** | **Description** | **Type** | **QTY.** | **Spare** | **Total** |
| **1** | **CU/PVC/LSH/PVC/SWA/PVC (Black-Numbered)** | | | | |
| 1.1 | 12C×2.5 mm2 | - | 1050 | 150 | 1200 |
| 1.2 | 10C×2.5 mm2 | - | 6730 | 300 | 7030 |
| 1.3 | 7C×2.5 mm2 | - | 2900 | 250 | 3150 |
| 1.4 | 3C×2.5 mm2 | - | 1050 | 150 | 1200 |
| 1.5 | 10C×1.5 mm2 | - | 560 | 100 | 660 |
| **2** | **CU/PVC/SWA/PVC (Black-Numbered)** | | | | |
| 1.1 | 12C×2.5 mm2 | - | 350 | 50 | 400 |
| 1.2 | 7C×2.5 mm2 | - | 1640 | 200 | 1840 |
| 1.3 | 3C×2.5 mm2 | - | 200 | 20 | 220 |

Notes:

1. This document shall be Based on below references:

Document Title: “Electrical Power & Control Cable Schedule”

Document No.: “BK-GCS-PEDCO-120-EL-LI-0002”

1. Document Title: “Data Sheets for Power & Control Cables”

Document No.: “BK-GCS-PEDCO-120-EL-DT-0010”

1. Document Title: “Specification for Power & Control Cables”

Document No.: “BK-GNRAL-PEDCO-000-EL-SP-0014”