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| **طرح نگهداشت و افزایش تولید 27 مخزن** | | | | | | |
| **MTO FOR TRANSMISSION OVER HEAD LINE - BK14**  **نگهداشت و افزایش تولید میدان نفتی بینک** | | | | | | |
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|  |  |  |  |  |  |  |
| D02 | Aug. 2023 | IFI | H.Shakiba | M.Fakharian | A.M.Mohseni |  |
| D01 | Nov. 2022 | IFI | H.Shakiba | M.Fakharian | M.Mehrshad |  |
| D00 | Sep. 2022 | IFI | H.Shakiba | M.Fakharian | M.Mehrshad |  |
| **Rev.** | **Date** | **Purpose of Issue/Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **Client Approval** |
| **Class: 3** | | **Client Doc. Number: F8Z-708199** | | | | |
| **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 | X | X |  |  | **51** |  |  |  |  |  |
| **2** | X | X | X |  |  | **52** |  |  |  |  |  |
| **3** | X |  |  |  |  | **53** |  |  |  |  |  |
| **4** | X |  |  |  |  | **54** |  |  |  |  |  |
| **5** | X |  |  |  |  | **55** |  |  |  |  |  |
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1. **INTRODUCTION**

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

As a part of the Project, required modifications on BK14 workover well (with electric power supply) shall be done.

**GENERAL DEFINITION**

The following terms shall be used in this document.

|  |  |
| --- | --- |
| CLIENT: | National Iranian South Oilfields Company (NISOC) |
| PROJECT: | Binak Oilfield Development – Construction of Well Location, Wellhead Facilities, Electrification Facilities, & Flowlines for W046S |
| EPD/EPC CONTRACTOR: | Petro Iran Development Company (PEDCO) |
| EPC CONTRACTOR: | Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies |
| VENDOR: | The firm or person who will fabricate the equipment or material. |
| EXECUTOR: | Executor is the party which carries out all or part of construction and/or commissioning for the project. |
| THIRD PARTY INSPECTOR (TPI): | The firm appointed by EPC CONTRACTOR and approved by GC & Company (in writing) for the inspection of goods. |
| SHALL: | Is used where a provision is mandatory. |
| SHOULD: | Is used where a provision is advisory only. |
| WILL: | Is normally used in connection with the action by COMPANY rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR. |
| MAY: | Is used where a provision is completely discretionary. |

1. **Scope**

This document covers the MTO for Over Head Line to BK-14.

It shall be used in conjunction with data/requisition sheets for present document subject.

1. **NORMATIVE REFERENCES**

## Local Codes and Standards

* IPS-E-EL-100 Engineering Standard for Electrical System Design
* IPS-E-EL-160 Engineering Standard for Overhead Transmission & Distribution Lines

## International Codes and Standards

* آیین نامه بارگذاری برج ها- جلد 50.211 استاندارد جامع مهندسی و طراحی خطوط انتقال نیروی برق ایران
* نقشه پهنه بندی کشور- جلد 50.221 استاندارد جامع مهندسی و طراحی خطوط انتقال نیروی برق ایران

## The Project Documents

* BK-BK14-PEDCO-110-SU-DW-0001 Over Head Line Plan and Profile – BK14
* BK-SSGRL-PEDCO-110-EL-RT-0005 33KV Over Head Line Study Report
* BK-SSGRL-PEDCO-110-EL-DT-0013 Data Sheets for 33 KV Over Head Line Equipment

## ENVIRONMENTAL DATA

Refer to "Electrical System Design Criteria”; Doc. No. “BK-GNRAL-PEDCO-000-EL-DC-0001".

1. **ATTACHMENT1 (OHL MTO)**

D02

| **MTO for Transmission Over Head Line - BK14** | | | |
| --- | --- | --- | --- |
| **Item** | **Description** | **Unit** | **Qty** |
|  | Basic Body with all accessories e.g., Stub, Legs, Anti-Climbing Thorn, Ladder, … for Lattice 1Circuit Tower – **Suspension** Type A | Set | - |
|  | Basic Body with all accessories e.g., Stub, Legs, Anti-climbing thorn, Ladder, … for Lattice 1Circuit Tower – **Tension** Type B | Set | 4 |
|  | Basic Body With all Accessories e.g., Stub, Legs, Anti-Climbing Thorn, Ladder, … for Lattice 1Circuit Tower – **Dead End** **Tension** Type C | Set | 2 |
|  | Phase Conductor – ACSR/Hyena | m | 3000 |
|  | Shield Wire – 7No.8/AW | m | 1000 |
|  | 70 KN Porcelain/Ceramic Type Disc Insulator - 33kV | No. | 250 |
|  | 70 KN “I” Type Tension Accessories for Hyena Conductor | Set | 45 |
|  | 70 KN “I” Type Suspension Accessories for Hyena Conductor | Set | - |
|  | 70 KN “I” Type Jumper Accessories for Hyena Conductor | Set | 6 |
|  | Damper for Hyena Conductor | No. | 40 |
|  | Mid Span Joint for Hyena Conductor | No | 2 |
|  | Repair Sleeve for Hyena Conductor | No | 1 |
|  | 70 KN Tension Accessories for 7No.8 | Set | 16 |
|  | 70 KN Suspension Accessories for 7No.8 | Set | - |
|  | Damper for 7No8 | No | 14 |
|  | Mid Span Joint for 7No8 | No | 1 |
|  | Repair Sleeve for 7No8 | No | 1 |
|  | Warning Colored Ball with Armor Rod for 7No.8 | Set | 2 |
|  | Danger & Phase Plate for Towers | No | 6 |
|  | 35mm2 Copper Wire | m | 270 |
|  | Earthing Rod 1.5m-16mm | Set | 6 |
|  | Clamp for Connecting the Ground Wire to the Stub | Set | 24 |
|  | Clamp for Connecting the Ground Wire to Rod | Set | 6 |
|  | Clamp for Connecting the Ground Wire to Ground Wire | Set | 6 |

1. **ATTACHMENT2 (GANTRY & T-OFF)**

D02

| **MTO for Substation (Gantry in T-off for BK14/Goreh/Binak and Gantry in well No. BK14)** | | | |
| --- | --- | --- | --- |
| **Item** | **Description** | **Unit** | **Qty** |
|  | Load Break Switch, 36kV, 630A, 25kA/1s (Outdoor Type) | Set | 5 |
|  | Earthing Switch, Complete with Manually Operated Mechanism | Set | 3 |
|  | Cut Out Fuse, 36kV, 3Phase | Set | 3 |
|  | Surge Arrester, 36kV, 10kA, Cl.2 | No. | 9 |
|  | 70kN Porcelain/Ceramic Type Disc Insulator - 33kV | No. | 84 |
|  | 70 KN “I” Type Tension Accessories for Hyena Conductor | Set | 21 |
|  | Tubular busbar conductor 80/6mm | m | 15 |
|  | 36kV Post Insulator, Strength Class C6 | No. | 15 |
|  | 36kV Cable Sealing End, Heat Shrinkable, with Lug and Accessories | No. | 3 |
|  | Gantries with 2 Column & 1 Beam | Set | 5 |
|  | All Equipment (e.g. Beam, Support, Adaptor, Clamp and …) for MV Equipment and Fixing of Them | Set | 5 |
|  | Earthing Mat, Galvanized Steel for Disconnect & Earthing Switches, 600x500 mm | Set | 3 |
|  | 35mm2 Bare Copper Conductor (Grid and Riser) | m | 150 |
|  | Earthing Rod 1.5m-16mm | Set | 18 |
|  | Clamp for Connecting the Ground Wire to the Structure | Set | 15 |
|  | Clamp for Connecting the Ground Wire to Rod | Set | 18 |
|  | Clamp & Other Necessary Equipment for Connecting the Ground Wire to Ground Wire | Set | 20 |