# طرح نگهداشت و افزایش تولید ۲۷ مخزن

# ELECTRICAL LOAD LIST OF WELL PADS

## نگهداشت و افزایش تولید میدان نفتی بینک

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| D03 | Nov.2022 | AFC | H.Shakiba | M.Fakharian | M.Mehrshad | |
| D02 | Apr.2022 | IFA | H.Shakiba | M.Fakharian | M.Mehrshad | |
| D01 | Mar.2022 | IFA | H.Shakiba | M.Fakharian | M.Mehrshad | |
| D00 | Jan.2022 | IFC | H.Shakiba | M.Fakharian | M.Mehrshad | |
| **Rev.** | **Date** | **Purpose of Issue / Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **CLIENT Approval** |

**Class: 2** | **CLIENT Doc. Number: F0Z-707418**

**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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| NISOC | نگهداشت و افزایش تولید میدان نفتی بینک<br>فعالیت‌های رو زمینی در بسته‌های کاری تحت‌الارض<br>عمومی و مشترک<br>ELECTRICAL LOAD LIST OF WELL PADS | شرکت توسعه پتروایران<br>HIRGAN ENERGY |

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | شماره صفحه: ۲ از ۱۰ |
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| ۰۵۳ - ۰۷۳ - ۹۱۸۴ | BK | SSGRL | PEDCO | 110 | EL | LI | 0001 | D03 | |

## REVISION RECORD SHEET

| Page | D00 | D01 | D02 | D03 | D04 |
|---|---|---|---|---|---|
| 1 | X | X | X | X | |
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| 7 | X | X | X | X | |
| 8 | X | X | X | X | |
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| 48 | | | | | |
| 49 | | | | | |
| 50 | | | | | |

| Page | D00 | D01 | D02 | D03 | D04 |
|---|---|---|---|---|---|
| 51 | | | | | |
| 52 | | | | | |
| 53 | | | | | |
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| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
|---|---|---|---|---|---|---|---|---|
| ۰۵۳-۰۷۳-۹۱۸۴ | BK | SSGRL | PEDCO | 110 | EL | LI | 0001 | D03 |



**Service Type:**
N : Normal Load
E : Emergency Load

**Load Duty:**
C : Continuous Load
I : Intermitant Load
S : Stand By Load
LR/FL: Loacked Rotor / Full Load Current

**Load Type:**
M: Motor
F: Non-Motor

**Definition of API Factor**
1.25 for Motor Power < 22kW,
1.15 for Motor Power between, 22kW and 55kW
1.1 for Motor Power > 55kW

**Height derating factor can be determined as follows if no manufacturer data is available:**

| Height Above Sea Level | Height Factor |
|---|---|
| < 1000 m | 1 |
| 1000 < Height < 1500 m | 0.97 |
| 1500 m > | 0.94 |

**Coolant (Cooling) Factor will be finilized by Electromotors Vendor Datd and before that will be considered :0.88**

**Feeder Type:**
F1: Simple 4-Pole MCCB Feeder with Thermal/Magnetic Trips, for I<63A Feeders
F2: Simple 4-Pole MCCB Feeder with Thermal/Magnetic Trips, for 63A=<I<100A Feeders
F3: Simple 4-Pole MCCB Feeder with Thermal/Magnetic Trips, for 100A=<I Feeders
F4: Simple 3-Pole MCCB Feeder with Thermal/Magnetic Trips, for I<63A Feeders
F5: Simple 3-Pole MCCB Feeder with Thermal/Magnetic Trips, for 63A=<I<100A Feeders
F6: Simple 3-Pole MCCB Feeder with Thermal/Magnetic Trips, for 100A=<I Feeders
F7: Simple 2-Pole MCCB Feeder for Feeding Single Phase Loads (Ph+N or 2-Ph)
M1: Direct on Line Motor Starter Feeders for P < 4kW (Switch Fuse + Contactor + Bimetal + R/L Signaling)
M2: Direct on Line Motor Starter Feeders for 4kW ≤ P < 18.5kW (Switch Fuse + Contactor + Bimetal + R/L Signaling + R/L Ammeter)
M3: Direct on Line Motor Starter Feeders for 18.5kW ≤ P <30 (Switch Fuse + Contactor + Bimetal + R/L Signaling + R/L Ammeter + (49, 50G, Phase Control))
M4: Direct on Line Motor Starter Feeders for 30kW ≤ P (Switch Fuse + Contactor + Overload CT + R/L Signaling + R/L Ammeter + Motor Protection Relay (49, 50G, Phase Control))

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | شماره صفحه: ۴ از ۱۰ |
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| ۰۵۳ - ۰۷۳ - ۹۱۸۴ | BK | SSGRL | PEDCO | 110 | EL | LI | 0001 | D03 | |

**1. Mechanical Powe** Mechanical Power for Motors = BHP(KW) x API Factor / (Cooling Factor x Height Factor)

**2. Rated Power(KW** Rated Power = The Nearest Size of The Equipment to Mechanical Power of Motors

**3. Load Factor(%):** Load Factor = (BHP/Rated Power) x 100

**4. Normal Operatio** Normal Operation (A) = Rated Power / (Sqrt(3) x Nominal Voltage x cosØ)

**5. Starting Current(** Starting Current(A) = (LR/LF) x Normal Current

**6. Electrical Power Demand (KW):**

Electrical Absorbed Power Demand (KW) = BHP(KW) x Diversity Factor / Efficiency

Electrical Absorbed Power Demand (KW) = Rated Power(KW) x Diversity Factor / Efficiency

**7. Electrical Reactive Power Demand (KVAR):**

Electrical Reactive Power Demand (KVAR) = Electrical Absorbed Power Demand (KW) x Tangent(Ø

For "Electrical Demand" calculation, following "Diversity Factors" has been considered (based on peak loads):

Continous: 100% Diversity factor.

Intermittent: Normally less than 12 hours/day, As generaly 75%

Standby: Spare/Backup drives or systems, As generaly 10% or biggest standby load (which is bigger)

## Load List of Well-12

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well12-400-NSWG-001 | 1-PU-40 (W12) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well12-400-NSWG-001 | 1-PU-30 (W12) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well12-400-NSWG-001 | Well12-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well12-400-NSWG-001 | Well12-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well12-400-NSWG-001 | Well12-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well12-400-NSWG-001 | Well12-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well12-400-NSWG-001~~ | ~~Well12-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well12-400-NSWG-001 | Well12-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well12-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

| Well12-400-NSWG-001 | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

1. According to basic document, there is a normal switchgear for well-12 which will be fed from 250 KVA transformer 11/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.

## Load List of Well-15

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well15-400-NSWG-001 | 1-PU-40 (W15) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well15-400-NSWG-001 | 1-PU-30 (W15) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well15-400-NSWG-001 | Well15-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well15-400-NSWG-001 | Well15-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well15-400-NSWG-001 | Well15-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well15-400-NSWG-001 | Well15-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well15-400-NSWG-001~~ | ~~Well15-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well15-400-NSWG-001 | Well15-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well15-400-NSWG-001 | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

| Well15-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

1. According to basic document, there is a normal switchgear for well-15 which will be fed from 250 KVA transformer 11/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.

## Load List of Well-05

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well05-400-NSWG-001 | 1-PU-40 (W05) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well05-400-NSWG-001 | 1-PU-30 (W05) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well05-400-NSWG-001 | Well05-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well05-400-NSWG-001 | Well05-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well05-400-NSWG-001 | Well05-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well05-400-NSWG-001 | Well05-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well05-400-NSWG-001~~ | ~~Well05-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well05-400-NSWG-001 | Well05-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well05-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

| Well05-400-NSWG-001A | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

1. According to basic document, there is a normal switchgear for well-05 which will be fed from 250 KVA transformer 11/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.

## Load List of Well-007

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well007-400-NSWG-001 | 1-PU-40 (W007) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well007-400-NSWG-001 | 1-PU-30 (W007) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well007-400-NSWG-001 | Well007-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well007-400-NSWG-001 | Well007-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well007-400-NSWG-001 | Well007-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well007-400-NSWG-001 | Well007-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well007-400-NSWG-001~~ | ~~Well007-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well007-400-NSWG-001 | Well007-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well007-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

| Well007-400-NSWG-001 | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

1. According to basic document, there is a normal switchgear for well007 which will be fed from 250 KVA transformer 11/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.

| نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادرکننده | بسته کاری | پروژه |
|---|---|---|---|---|---|---|---|
| D03 | 0001 | LI | EL | 110 | PEDCO | SSGRL | BK |

## Load List of Well-046

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well046-400-NSWG-001 | 1-PU-40 (W046) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well046-400-NSWG-001 | 1-PU-30 (W046) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well046-400-NSWG-001 | Well046-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well046-400-NSWG-001 | Well046-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well046-400-NSWG-001 | Well046-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well046-400-NSWG-001 | Well046-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well046-400-NSWG-001~~ | ~~Well046-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well046-400-NSWG-001 | Well046-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well046-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

| Well046-400-NSWG-001 | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

1. According to basic document, there is a normal switchgear for well-046 which will be fed from 250 KVA transformer 11/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.

| | | | |
|---|---|---|---|
| NISOC | تگهداشت و افزایش تولید میدان نفتی بینک<br>فعالیت‌های رو زمینی در بسته‌های کاری تحت‌الارض<br>عمومی و مشترک<br>ELECTRICAL LOAD LIST OF WELL PADS | | شماره صفحه: ۱۰ از ۱۰ |

| شماره پیمان: | پروژه | بسته کاری | صادرکننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه |
|---|---|---|---|---|---|---|---|---|
| ۰۵۳-۰۷۳-۹۱۸۴ | BK | SSGRL | PEDCO | 110 | EL | LI | 0001 | D03 |

## Load List of Well-14

| Item NO | Rev | Bus | Equipment Number | Load Description | Service Type | Load Duty | Diversity Factor for Demand Load | NO Phases | Rated Voltage (V) | Load Type | Starting Method | BHP (Kw) | API Factor | Coolant Factor | Height Factor | Mechanical Power (Kw) | Rated Power (Kw) | Eff. (%) | Power Factor | Load Factor (%) | LR/FL | Current Normal Operation(A) | Absorbed Peak Active Power (Kw) | Absorbed Peak Reactive Power (Kvar) | Absorbed Peak Apparent Power (KVA) | Feeder Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D03 | Well14-400-NSWG-001 | 1-PU-40 (W14) | Electrical Submersible Pump & Equipment | N | C | 1 | 3 | 0.4 | F | VFD | - | - | - | - | - | 75 | 90 | 85 | 100.0 | 1 | 142 | 83.33 | 51.65 | 98.04 | F3 |
| 2 | D03 | Well14-400-NSWG-001 | 1-PU-30 (W14) | Auxiliary Submersible Pump | N | C | 1 | 3 | 0.4 | M | DOL | 3 | - | - | - | - | 3 | 81 | 85 | 100.0 | 7 | 6.3 | 3.70 | 2.30 | 4.36 | M1 |
| 3 | D00 | Well14-400-NSWG-001 | Well14-110-CHG-001 | 110VDC Charger 1 | N | S | 0.1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 0.30 | 0.19 | 0.35 | F1 |
| 4 | D00 | Well14-400-NSWG-001 | Well14-110-CHG-002 | 110VDC Charger 2 | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 3 | 100 | 85 | 100 | 1 | 5.1 | 3.00 | 1.86 | 3.53 | F1 |
| 5 | D03 | Well14-400-NSWG-001 | Well14-DP01 | Distribution Panel for Switchgear & Outdoor Area | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 18.5 | 90 | 85 | 100 | 1 | 34.9 | 20.56 | 12.74 | 24.18 | F1 |
| 6 | D00 | Well14-400-NSWG-001 | Well14-DP02 | Distribution Panel for Guard House | N | C | 1 | 3 | 0.4 | F | - | - | - | - | - | - | 6 | 90 | 85 | 100 | 1 | 11.3 | 6.67 | 4.13 | 7.84 | F1 |
| 7 | ~~D03~~ | ~~Well14-400-NSWG-001~~ | ~~Well14-DP03~~ | ~~Distribution Panel for Outdoor Area~~ | ~~N~~ | ~~C~~ | ~~1~~ | ~~3~~ | ~~0.4~~ | ~~F~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~-~~ | ~~0~~ | ~~90~~ | ~~85~~ | ~~100~~ | ~~1~~ | ~~0.0~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~F1~~ |
| 8 | D02 | Well14-400-NSWG-001 | Well14-WS01 | Welding Socket | N | I | 0.75 | 3 | 0.4 | F | - | - | - | - | - | - | 37 | 100 | 85 | 100 | 1 | 62.8 | 27.75 | 17.20 | 32.65 | F2 |

| Well14-400-NSWG-001 | | | |
|---|---|---|---|
| Max Intermittent (KW) | Max Standby (KW) | Max Intermittent (KVAR) | Max Standby (KVAR) |
| 37.00 | 3.00 | 22.93 | 1.86 |

| Well14-400-NSWG-001 | | | | | |
|---|---|---|---|---|---|
| Continuous | | Intermittent | | Standby | |
| Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) | Avtive Power (Kw) | Reactive Power (Kvar) |
| 117.26 | 72.67 | 27.75 | 17.20 | 0.30 | 0.19 |
| Power Calculation | | Avtive Power (Kw) | Reactive Power (Kvar) | Apparent power (KVA) | Power Factor |
| Maximum Normal Running Load (Demand) | | 145.01 | 89.87 | 170.60 | 0.85 |
| Peak Load | | 145.309 | 90.055 | 170.95 | 0.85 |
| **Peak Load With 20% Spare (KVA)** | | | | **205.142** | |

1. According to basic document, there is a normal switchgear for well-14 which will be fed from 250 KVA transformer 33/0.42 KV.

2. Power factor will be calculated while all capacitor banks are out of service.