

SINGLE LINE DIAGRAM FOR LV SWITCHGEAR OF WELL PADS

NOTES	
LEGEND	
REFERENCE DRAWING	DISC. No.
ELECTRICAL LOAD LIST OFF VEHICULAR PADS	BR-880BL-P1000-110-BL-11-0001
ELECTRICAL TYPICAL ROOFING DETAILS FOR LY PAVES OF VEH. PAD	BR-880BL-P1000-110-BL-01-0001
KEY PLAN	

[illegible]

NOTES

- 1- ALL AMMETERS OF MOTORS HAVE TO BE 6x1n.
- 2- CATEGORY DESCRIPTION:
- 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, (FUSE+CONTACTOR+BIMETAL+R/L SIGNALING+R/L AMMETER)
- M3: DIRECT ON LINE MOTOR STARTER FEEDERS FOR 18.5kW ≤ P<30kW, (SWITCH FUSE+CONTACTOR+OVERLOAD RELAY +R/L SIGNALING+R/L AMMETER+EARTH LEAKAGE RELAY+PHASE CONTROL)
- M4: DIRECT ON LINE MOTOR STARTER FEEDERS FOR 30kW ≤ P
(SWITCH FUSE + CONTACTOR + R/L SIGNALING+ R/L AMMETER+MOTOR PROTECTION RELAY
- 3- CORE BALANCE CT RATING OF EARTH LEAKAGE RELAYS SHALL BE ACCORDING TO RELAY MANUFACTURER STANDARD.
- 4- VOLTAGE AND CURRENT TRANSFORMERS SHALL HAVE APPROPRIATE VA.
- 5- THIS SWITCHGEAR SHALL BE DESIGNED, MANUFACTURED, INSPECTED AND TESTED IN ACCORDING WITH THE APPLICABLE SECTION OF IPS-E-EL-100(1) & IPS-E-EL-143(3)
- 6- ALL SWITCH FUSES SHALL BE EQUIPPED WITH STRIKER PIN
- 7- ALL EQUIPMENT SIZING SHALL BE FINALIZED BY MANUFACTURER BASED ON SITE CONDITION. IN ADDITION, TYPE 2 OF COORDINATION SHALL BE FOLLOWED BY VENDOR.
- 8- CONTROL CIRCUIT VOLTAGE FOR OUTGOING IS 230 VAC WHICH WILL BE SUPPLIED FOR EACH LV CUBICLE. IN OTHER WORDS FOR EACH LV CUBICLE ONE ISOLATED DRY TYPE TRANSFORMER SHALL BE CONSIDERED BY VENDOR.
- 9- AN INTERLOCK WILL BE CONSIDERED BETWEEN CAPACITOR BANK & DIESEL GENERATOR BY VENDOR. WHEN DIESEL IS RUNNING, CAPACITOR BANK SHALL NOT BE IN SERVICE.
- 10- ALL INCOMING & OUTGOING FEEDERS WILL BE EQUIPPED WITH EMERGENCY MUSHROOM PUSH BUTTON.
- 11- CABLE SIZING SHALL BE ACCORDING TO "BK-SSGRL-PEDCO-110-EL-CN-0005".
- 12- THIS DRAWING IS VALID FOR ALL 6 NUMBER SWITCHGEAR OF WELLS AS BELOW:
- WELL NUMBER BK-12

- WELL NUMBER W-007

- WELL NUMBER BK-15

- WELL NUMBER BKW-046

- WELL NUMBER BK-05


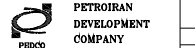
- WELL NUMBER BK-14
- 13- THE INCOMING VOLTAGE OF TRANSFORMER FOR WELL NUMBER BK-14 IS 33 KV & THEREFORE ONLY THIS TRANSFORMER DIFFER FROM OTHER WELLS.
- 14- ALL FUSES SHALL BE EQUIPPED WITH STRIKER PIN
- 15- FOR FEEDER WITH TYPE M4, CURRENT AND VOLTAGE FAULT SHALL BE CONSIDERED SEPARATELY BY VENDOR.
- 16- EMERGENCY STOP & START PUSH BUTTON SHALL BE CONSIDERED ON INCOMINGS & BUS-TIES.
- 17- ACB WITH BUILT-IN PROTECTION BE CONSIDERED FOR INCOMING AND DG FEEDERS
- 18- SELECTOR VOLT SWITCH SHALL BE 7 POSITION
- 19- OUTGOING FEEDERS SHALL BE EQUIPPED WITH ROTARY SWITCH (DISCONNECTOR) TO ON/OFF CBs ON FRONT OF CELL.

NOTES

LEGEND

REFERENCE DRAWING	DRG. No.
ELECTRICAL LOAD LIST OF WELLS PAGE	BK-SSGRL-PEDCO-110-EL-U-0001
ELECTRICAL TYPICAL RELEVANT DIAGRAM FOR LV PHASES OF WELLS PAGE	BK-SSGRL-PEDCO-110-EL-DO-0001

KEY PLAN

DOO	JAN.2020	IPN	K.SHAHBA	M.FARHANI	M.AGHVANI	***	*****	REV. 01	2020-01-01	REV. 02	2020-01-01
DOE	JUL.2020	IPN	K.SHAHBA	M.FARHANI	M.AGHVANI	***	*****	REV. 01	2020-07-01	REV. 02	2020-07-01
DOI	APR.2022	IPN	K.SHAHBA	M.FARHANI	M.AGHVANI	***	*****	REV. 01	2022-04-01	REV. 02	2022-04-01
DDO	FEB.2022	IPC	K.SHAHBA	M.FARHANI	M.AGHVANI	***	*****	REV. 01	2022-02-01	REV. 02	2022-02-01
REV.	DATE	P.O.I.F	PREP.	CHK.	APP.	AUT.	THE ORIGINAL AND ALL COPIES OF THIS DRAWING TOGETHER WITH THE COPYRIGHT THEREIN ARE THE SOLE PROPERTY OF N.I.S.O.C./ FIELDS				
PROJECT NAME: BINAQ OILFIELD DEVELOPMENT/SUB-SURFACE WORK PACKAGES GENERAL											
PROJECT NO.: 971020											
EPC CONTRACTOR:			EPD/EPC CONTRACTOR (GC):								
											
DATE			SCALE			DRAWING BY			CHECKED BY		
NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED											
APPROVED FOR CONSTRUCTION BY: DATE:											
SCALE			DRAWING NO.			SHEET NO.			REV.		
NWS			AS			02 OF 06			003		
BINAQ OILFIELD DEVELOPMENT/SUB-SURFACE WORK PACKAGES GENERAL											
003-070-9104			P			2			P		
2024-09			02 OF 06			003					

LEGEND	
	WITHDRAWABLE AIR CIRCUIT BREAKER WITH MOTORIZED & MANUALLY CHARGED STORED ENERGY MECHANISM
	CONTACTOR (CONTACT OPEN IN THE UNOPERATED POSITION)(N.O.)
	PUSH BUTTON STATION START-STOP WITH AMMETER (W/P)
	ZERO SEQUENCE CURRENT TRANSFORMER (CORE-BALANCE)
	26 SYNCHRONIZING CHECK RELAY
	27 UNDER VOLTAGE RELAY
	46 REVERSE PHASE OR PHASE BALANCE CURRENT RELAY
	47 PHASE SEQUENCE OR PHASE BALANCE VOLTAGE RELAY
	49 THERMAL OVERLOAD RELAY
	60 INSTANTANEOUS OVER CURRENT RELAY
	61 TIME DELAYED OVER CURRENT RELAY
	60N INSTANTANEOUS EARTH FAULT RELAY
	61N INVERSE TIME EARTH FAULT RELAY
	60d INSTANTANEOUS EARTH FAULT RELAY (BY ZERO SEQUENCE CT)
	61d INSTANTANEOUS EARTH FAULT RELAY (BY ZERO SEQUENCE CT)
	69 OVER VOLTAGE RELAY
	63 LIQUID AND GAS PRESSURE RELAY
	64 GROUND DETECTOR RELAY
	74 TRIP CIRCUIT SUPERVISION
	86 LOCK OUT RELAY
	94 INTERTRIP RECEIVE RELAY
	81 FREQUENCY PROTECTION
	THERMAL OVERLOAD RELAY (49)
	PHC PHASE SEQUENCE OR PHASE BALANCE RELAY (47)
	MOULDED CASE CIRCUIT BREAKER, MANUALLY OPERATED WITH THERMAL MAGNETIC OVER CURRENT RELAY
	OPERATING DEVICE GENERAL SYMBOL
	PUSH BUTTON STATION START-STOP WITH AMMETER (EX.)
	LOAD BREAK SWITCH
	PUSH BUTTON STATION START-STOP (W/P)
	PUSH BUTTON STATION START-STOP (EX.)
	SWITCH FUSE
	VS VOLTMETER SELECTOR SWITCH
	AS AMMETER SELECTOR SWITCH
	SELECTOR SWITCH
	LED TYPE SIGNAL LAMP
	TRANSFORMER
	CURRENT TRANSFORMER
	M MOTOR
	AW ALARM WINDOW WITH RESET & ACKNOWLEDGE
	CABLE GLAND
	CABLE SEALING END
	WITHDRAWABLE PART
	MECHANICAL INTERLOCK
	POWER CABLE
	CONTROL CABLE
	MPS MOTOR PROTECTION RELAY
	START PUSH BUTTON
	EMERGENCY STOP, MUSHROOM TYPE

Case no.	Age (years)	Sex	Occupation	Family size
1	25	Male	Student	3
2	35	Male	Teacher	4
3	45	Female	Homemaker	5
4	55	Male	Retired	3
5	65	Female	Homemaker	4
6	75	Male	Retired	3
7	85	Female	Homemaker	4
8	95	Male	Retired	3
9	105	Female	Homemaker	4
10	115	Male	Retired	3
11	125	Female	Homemaker	4
12	135	Male	Retired	3
13	145	Female	Homemaker	4
14	155	Male	Retired	3
15	165	Female	Homemaker	4
16	175	Male	Retired	3
17	185	Female	Homemaker	4
18	195	Male	Retired	3
19	205	Female	Homemaker	4
20	215	Male	Retired	3

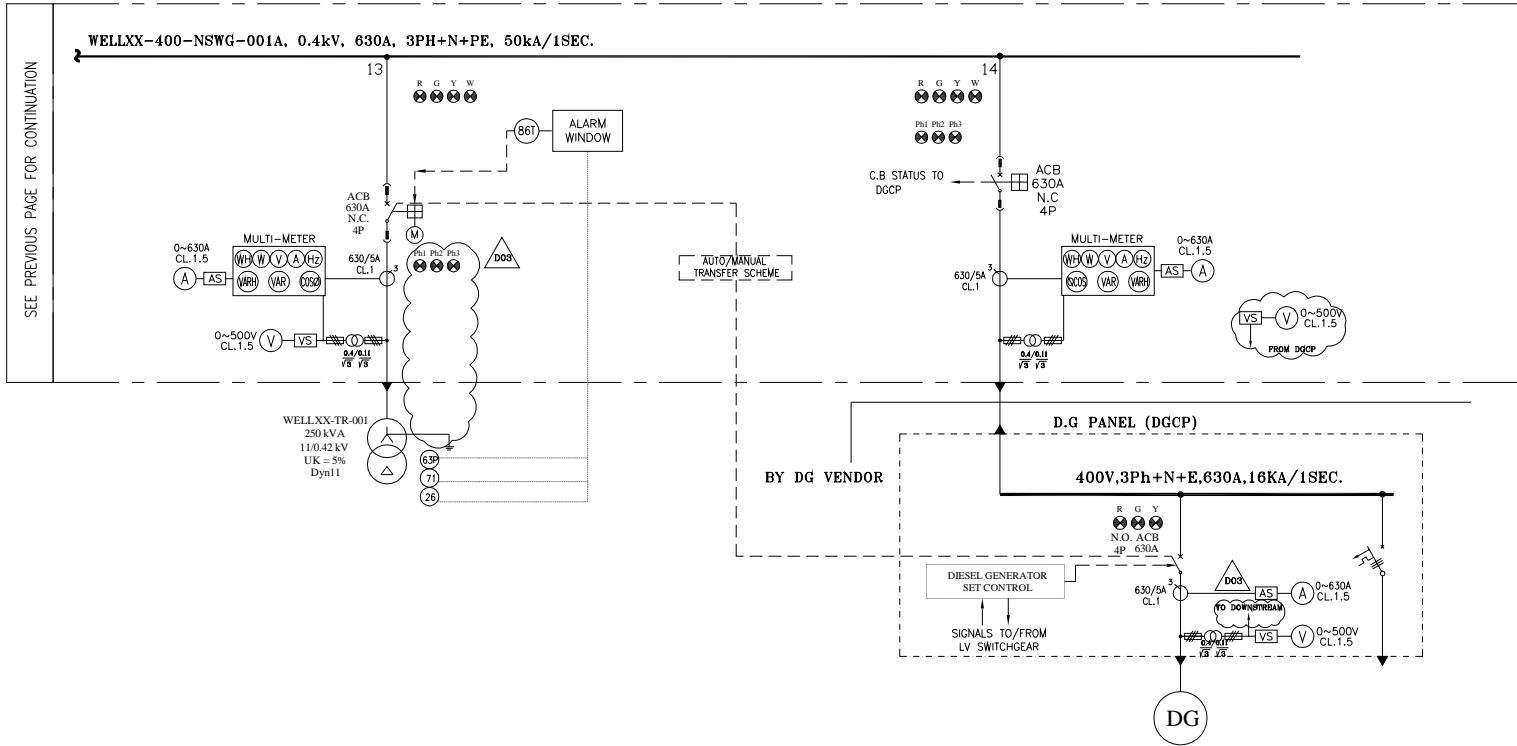
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Country	Year	Population	GDP	GDP per capita
China	1990	1,190,000,000	220,000,000,000	185
China	2000	1,260,000,000	1,000,000,000,000	794
China	2005	1,310,000,000	2,800,000,000,000	2,138
China	2006	1,330,000,000	3,100,000,000,000	2,331
China	2007	1,350,000,000	3,400,000,000,000	2,519
China	2008	1,360,000,000	3,700,000,000,000	2,721
China	2009	1,370,000,000	4,000,000,000,000	2,920
China	2010	1,380,000,000	4,300,000,000,000	3,116
China	2011	1,390,000,000	4,600,000,000,000	3,309
China	2012	1,400,000,000	4,900,000,000,000	3,500
China	2013	1,410,000,000	5,200,000,000,000	3,695
China	2014	1,420,000,000	5,500,000,000,000	3,873
China	2015	1,430,000,000	5,800,000,000,000	4,056
China	2016	1,440,000,000	6,100,000,000,000	4,236
China	2017	1,450,000,000	6,400,000,000,000	4,414
China	2018	1,460,000,000	6,700,000,000,000	4,589
China	2019	1,470,000,000	7,000,000,000,000	4,762
China	2020	1,480,000,000	7,300,000,000,000	4,932
China	2021	1,490,000,000	7,600,000,000,000	5,101
China	2022	1,500,000,000	7,900,000,000,000	5,267

(VENDOR TITLE BLOCK)*

SEE PREVIOUS PAGE FOR CONTINUATION



CATEGORY	IN.1
CODE	WELLXX-TR-001
CONSUMPTION	250KVA
C.B TYPE/RATING	(ACB+M)/630A
FUSE TYPE/RATING	N/A
CONTACTOR RATING (A)	N/A
OVER LOAD SETTING RANGE	N/A
CABLE SIZE	-
DESCRIPTION OF FEEDER	INCOMING FROM TRANSFORMER

CATEGORY	DGCB	P2
CODE	WELLXX-DG-001	-
CONSUMPTION	GENERATOR: 198.6 KVA	4KW
C.B TYPE/RATING	ACB 630A	20A
FUSE TYPE/RATING	N/A	N/A
CONTACTOR RATING (A)	N/A	N/A
OVER LOAD SETTING RANGE	N/A	N/A
CABLE SIZE	-	-
DESCRIPTION OF FEEDER	DIESEL GENERATOR	EMERGENCY LOAD GENERATION SET



NOTES

- SINCE THIS INCOMING CIRCUIT BREAKERS ARE BUILT IN TYPE, THEREFORE ALL REQUIRED RELAY INCLUDING CURRENT & VOLTAGE SHALL BE CONSIDERED INSIDE CB.
- ACCORDING TO NOTE 1 (ABOVE) REQUIRED RELAYS FOR INCOMING ARE AS BELOW:
 - BASED ON IPB-B-BL-100(2) SECTION 7.3.2.2 FOR GENERATOR:
 - 00, 01, 00N, 01N, 27, 00, 01, 49
 - BASED ON IPB-B-BL-100(2) FOR INCOMING:
 - 00, 01, 00N, 01N, 27, 00, 01, 49
- ACCORDING TO NOTE 1 (ABOVE), SINCE CB ARE BUILT IN TYPE, THEREFORE THERE IS NO NEED TO CT & PT & THEY ARE INSIDE CB.
- A VOLT-METER (WITH SELECTOR SWITCH) SHALL BE CONSIDERED BY SWITCHGEAR VENDOR TO SHOW THE VOLTAGE OF DIESEL GENERATOR.

LEGEND

REFERENCE DRAWING	DRG. No.
ELECTRICAL LOAD LIST OF WELLS PAGE	BK-BISOL-PECO-110-BL-U-0001
ELECTRICAL TYPICAL SCHEMATIC DIAGRAM FOR LV PANELS OF WELLS PAGE	BK-BISOL-PECO-110-BL-U-0001

KEY PLAN

DDO	JAN.2023	IPA	E.EMAMI	E.FARHANI	E.ROSHDI	REV.	000	*****	REV. DATE	BY	DATE	BY	DATE
DDO	JUL.2022	IPA	E.EMAMI	E.FARHANI	E.ROSHDI	REV.	001	*****	REV. DATE	BY	DATE	BY	DATE
DDO	APR.2022	IPA	E.EMAMI	E.FARHANI	E.ROSHDI	REV.	002	*****	REV. DATE	BY	DATE	BY	DATE
DDO	FEB.2022	IPC	E.EMAMI	E.FARHANI	E.ROSHDI	REV.	003	*****	REV. DATE	BY	DATE	BY	DATE
REV.	DATE	P.O.I.F	PREP.	CHK.	APP.	AUT.	اخذ و كليه نسخ ان عقد و حق اقتباس مکتوبه به ذكره غير مجوز میباشد. THE ORIGINAL AND ALL COPIES OF THIS DRAWING TOGETHER WITH THE COPYRIGHT THEREIN ARE THE SOLE PROPERTY OF N.I.S.O.C. / FIELDS						
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