

# NEGIN ABHAR ALLOY STEEL

## 63/20 KV SUBSTATION

### GENERAL SINGLE LINE DIAGRAM

06	1400-06-08	IFC	N.N.	M.Y.V.	M.Y.V.
05	1400-02-14	AP	N.N.	M.Y.V.	M.Y.V.
04	1400-01-20	AN	N.N.	M.Y.V.	M.Y.V.
03	1399-12-02	AN	N.N.	M.Y.V.	M.Y.V.
02	1399-11-18	AN	N.N.	M.Y.V.	M.Y.V.
01	1399-09-26	AN	N.N.	M.Y.V.	M.Y.V.
00	1399-06-20	CM	N.N.	M.Y.V.	M.Y.V.
Rev.	Date	PURPOSE OF ISSUE	Drawn by	Checked by	Approved by
PROJECT:					
NEGIN ABHAR ALLOY STEEL COMPLEX 63/20KV SUBSTATION & 63KV TRANSMISSION LINE					
EPC CONSTRUCTION:		CLIENT:	CONSULTING ENGINEERS:		
					
<small>نیروکاران گروپ Nirookaran Group Nirookaran Group Company</small>		<small>NEGIN ABHAR ALLOY STEEL COMPLEX</small>	<small>MOJDEHANI</small>		
Drawing Title: NEGIN ABHAR 63/20KV SUBSTATION GENERAL SINGLE LINE DIAGRAM COVER SHEET					
SIZE:	A3	REV.	06	DRAWING NUMBER	
PAGE:	1 OF 4	SCALE:	-	NGA-01-BA-52EL-DWG-0007	

TABLE OF CONTENT

ROW	SHEET	REVISION						TITLE	REMARK
		6	1	2	3	4	5		
1	01	6	1	2	3	4	5	COVER SHEET	
2	02	6	1	2	3	4	5	TABLE OF CONTENT	
3	03	6	1	2	3	4	5	DETAIL OF SLD'S	
4	04	6	1	2	3	4	5	63/20KV SINGLE LINE DIAGRAM	
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									

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PROJECT:  
 NEGIN ABHAR ALLOY STEEL COMPLEX 63/20KV SUBSTATION & 63KV TRANSMISSION LINE

EPC CONSTRUCTION: 	CLIENT: 	CONSULTING ENGINEERS: 
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Drawing Title: NEGIN ABHAR 63/20KV SUBSTATION GENERAL SINGLE LINE DIAGRAM TABLE OF CONTENT

SIZE: A3	REV. 06	DRAWING NUMBER
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SYMBOL	DESCRIPTION	FEEDER	EQUIPMENT CODE	SPECIFICATION AND DETAIL
	CIRCUIT BREAKER	F01,....,F08	-Q0	72.5KV, 1250A, 40KA, 1SEC.
	DISCONNECTING SWITCH WITH MOTOR OPERATED EARTHING SWITCH	F01,F03 F05,F07	-Q8 & -Q9	72.5KV, 1250A, 40KA, 1SEC.
	MOTOR OPERATED DISCONNECTING SWITCH	F01,....,F08	-Q1	72.5KV, 1250A, 40KA, 1SEC.
		F12,F22,F32	-Q12	72.5KV, 1600A, 40KA, 1SEC.
	CAPACITIVE VOLTAGE TRANSFORMER	F01,F03 F05,F07	-T1 (3 PHASE)	$\frac{63}{\sqrt{3}} / \frac{0.11}{\sqrt{3}} / \frac{0.11}{\sqrt{3}}$ KV 0.2+3P , 50VA 0.2+3P , 50VA
		F12,F22,F32	-T11, -T12 (1 PHASE)	$\frac{63}{\sqrt{3}} / \frac{0.11}{\sqrt{3}} / \frac{0.11}{\sqrt{3}}$ KV 0.2+3P , 50VA 0.2+3P , 50VA
	WITHDRAWABLE VOLTAGE TRANSFORMER	JT1,....,JT4	-T15 (3 PHASE)	$\frac{20}{\sqrt{3}} / \frac{0.11}{\sqrt{3}} / \frac{0.11}{\sqrt{3}}$ KV 0.2+3P , 30VA 0.2+3P , 30VA
		JM1,....,JM4	-T21,-T22,.... (3 PHASE)	3P , 30VA
	CURRENT TRANSFORMER	F02,F04 F06,F08	-T3	CORE 1: 600-400/1A, CL.0.2Fs=5, 30VA CORE 2: 600-400/1A, CL.X, Vk>600V RCT<4 CORE 3: 600-400/1A, CL.5P20, 30VA
		F01,F03 F05,F07	-T2	CORE 1: 1200-600-300/1A, CL.0.2Fs=5, 30VA CORE 2: 1200-600-300/1A, CL.5P20, 30VA CORE 3: 1200-600-300/1A, CL.5P20, 30VA
		JT1,....,JT4	-T11	CORE 1: 1600-1200-800/1A, CL.0.2Fs5, 20VA CORE 2: 1600-1200-800/1A, CL.5P20, 20VA CORE 3: 1600-1200-800/1A, CL.X, Vk>500
		J01,....,J020	-T1	CORE 1: 800-400/1A, CL.0.2Fs=5, 15VA CORE 2: 800-400/1A, CL.5P20, 15VA
		JQ	-T5	CORE 1: 2500-1600-1200/1A, CL.0.2Fs=5, 15VA CORE 2: 2500-1600-1200/1A, CL.5P20, 15VA
		EARTHING	-T12	CORE 1: 2000-1600-1200/1A, CL.5P20, 20VA CORE 2: 2000-1600-1200/1A, CL.X, Vk>500 CORE 3: 50/1A, 0.2Fs=5, 20VA
	CORE BALANCE CURRENT TRANSFORMER	J01,....,J020	-T6	CORE 1: 50/1A, CL.3Fs=10, 2VA
	LIGHTNING ARRESTER	F02,F04,....	-F2	24KV, 10KA, CLASS 2
	LIGHTNING ARRESTER WITH COUNTER	F01,....,F08	-F1	72.5KV, 10KA, CLASS 2 WITH 3 SURGE COUNTER
	WITHDRAWABLE CIRCUIT BREAKER	JT1,....,JT4	-Q0	24KV, 1250A, 25KA, 3SEC.
		J01,....,J020	-Q0	24KV, 1250A, 25KA, 3SEC.
		JQ	-Q0	24KV, 2500A, 25KA, 3SEC.
	HAND OPERATED EARTHING SWITCH	JT1,....,JT4	-Q8	24KV, 25KA, 3SEC.
		J01,....,J020	-Q8	
		JM1,....,JM4	-Q81,-Q82,-Q83,-Q84	
	POWER TRANSFORMER	F02,F04 F06,F08	-PTR-1 -PTR-2 -PTR-3 -PTR-4	63/20KV, 30MVA, YNd11, UK=13% 63/20KV, 30MVA, YNd11, UK=13% 63/20KV, 30MVA, YNd11, UK=13% 63/20KV, 30MVA, YNd11, UK=13%
	AUXILIARY/EARTHING TRANSFORMER	F02,F04 F06,F08	-A/E TR-1 -A/E TR-2 -A/E TR-3 -A/E TR-4	20/0.4KV, 250KVA, 1000A, ZNyn11, UK=6% 20/0.4KV, 250KVA, 1000A, ZNyn11, UK=6% 20/0.4KV, 250KVA, 1000A, ZNyn11, UK=6% 20/0.4KV, 250KVA, 1000A, ZNyn11, UK=6%

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	DISCONNECTING SWITCH WITH MOTOR OPERATED EARTHING SWITCH
	MOTOR OPERATED DISCONNECTING SWITCH
	3PH. CAPACITIVE VOLTAGE TRANSFORMER
	1PH. CAPACITIVE VOLTAGE TRANSFORMER
	VOLTAGE TRANSFORMER
	CURRENT TRANSFORMER
	LIGHTNING ARRESTER
	LIGHTNING ARRESTER WITH COUNTER
	WITHDRAWABLE CIRCUIT BREAKER
	HAND OPERATED EARTHING SWITCH
	CABLE & CABLE TERMINATION
	INDICATING NEON LAMP
	TEMPORARY EARTHING POINT
	POWER TRANSFORMER
	AUXILIARY/EARTHING TRANSFORMER

NOTES

- 1-CT & CVT SPECIFICATION WILL BE FINALIZED AFTER CALCULATION
- 2- EXISTENCE OF LINE TRAP WILL BE FINALIZED AFTER ZANGAN REGIONAL ELECTRICITY GUIDELINES.
- 3- FUTURE EXTENSION WORKS ARE SHOWN AS FOLLOW:

FUTURE EXTENSION WORK

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EPC CONTRACTOR:	CLIENT:	CONSULTING ENGINEERS:			
NEGIN ABHAR ALLOY STEEL COMPLEX					

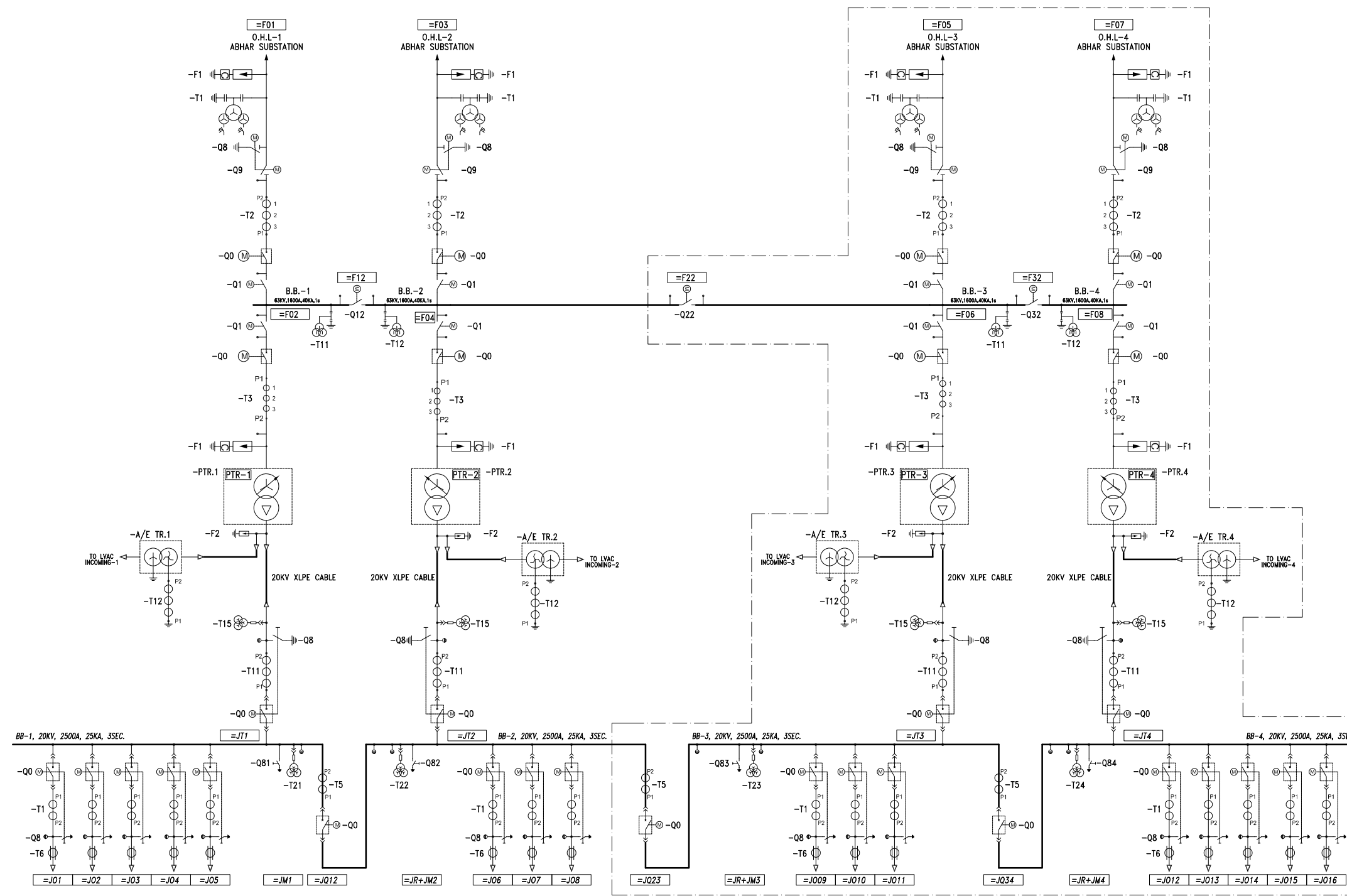
Drawing Title: NEGIN ABHAR 63/20KV SUBSTATION GENERAL SINGLE LINE DIAGRAM DETAIL OF SLD'S

SIZE:	REV.	DRAWING NUMBER
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FUTURE EXTENSION WORK



SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	DISCONNECTING SWITCH WITH MOTOR OPERATED EARTHING SWITCH
	MOTOR OPERATED DISCONNECTING SWITCH
	3PH. CAPACITIVE VOLTAGE TRANSFORMER
	1PH. CAPACITIVE VOLTAGE TRANSFORMER
	VOLTAGE TRANSFORMER
	CURRENT TRANSFORMER
	LIGHTNING ARRESTER
	LIGHTNING ARRESTER WITH COUNTER
	WITHDRAWABLE CIRCUIT BREAKER
	HAND OPERATED EARTHING SWITCH
	CABLE & CABLE TERMINATION
	INDICATING NEON LAMP
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 NEGIN ABHAR ALLOY STEEL COMPLEX 63/20KV SUBSTATION & 63KV TRANSMISSION LINE

EPC CONTRACTOR: گروه نیروکاران شرکت توسعه و عمران فارس Niroukaran Group Niroukaran Group Company	CLIENT:  NEGIN ABHAR ALLOY STEEL COMPLEX	CONSULTING ENGINEERS:  مشانیر MOOSHANIR
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Drawing Title: NEGIN ABHAR 63/20KV SUBSTATION GENERAL SINGLE LINE DIAGRAM 63/20KV SINGLE LINE DIAGRAM

SIZE: A3	REV: 06	DRAWING NUMBER
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