

132 KV SECTION OF
BAHADORAN
400/132/33 KV SUBSTATION
GENERAL SINGLE LINE DIAGRAM

NOTES:

SYMBOLS & LEGEND:

KEY PLAN

REFERENCE DRAWINGS

	DESCRIPTION	DRAWING NO.
1		
2		
3		
4		

3						
4						
5						
6						
7						
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9						
10						
11						
12						
13						
14						
15						
16						
17						

CLIENT:		CONSULTING ENGINEERS:	
 MEHDI ABAD Lead and Zinc Pioneers Co.		 MANICO (Mehdiabad Consulting Engineers Co.)	

CONTRACTOR:	
	

PROJECT:		CONTRACT NO.:	JOB NO.:
Mehdiabad Lead & Zinc Project			

CONTRACTOR DWG NUMBER:		9210-MS-EL-DWG-00-0020-B01	
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DWG TITLE:		GENERAL SINGLE LINE DIAGRAM	
REVISIONS:		REVISIONS:	
REV. NO.		REV. NO.	
1		AO	
SCALE:		9210 MS EL DWG 00 020 B01	



LA 360KV, 20KA, CLASS 4

CVT $\left\{ \begin{array}{l} \frac{400}{\sqrt{3}} / \frac{0.11}{\sqrt{3}} \frac{0.11}{\sqrt{3}} \text{ KV} \\ \text{W.1 : CLASS 0.2+3p 30VA} \\ \text{W.2 : CLASS 0.2+3p 30VA} \end{array} \right.$

LT 0.315mH, 2500A

DSE 2500A, 420KV, 50KA/1Sec

DS 2500A, 420KV, 50KA/1Sec
CB 2500A, 420KV, 50KA/1Sec

DS 2500A, 420KV, 50KA/1Sec

DS 2500A, 420KV, 50KA/1Sec

CT 420KV

CORE 6 : 2000-1500-1000-500/1A 0.2FS5, 10VA
CORE 5 : 2000-1500-1000-500/1A 5P20, 15VA
CORE 4 : 2000-1500-1000-500/1A CL.X, UK>750
CORE 3 : 2000-1500-1000-500/1A 0.2FS5, 10VA
CORE 2 : 2000-1500-1000-500/1A TPY
CORE 1 : 2000-1500-1000-500/1A TPY

CB 2500A, 420KV, 50KA/1Sec
DS 2500A, 420KV, 50KA/1Sec

DS 2500A, 420KV, 50KA/1Sec

DSE 2500A, 420KV, 50KA/1Sec

CVT $\left\{ \begin{array}{l} \frac{400}{\sqrt{3}} / \frac{0.11}{\sqrt{3}} \frac{0.11}{\sqrt{3}} \text{ KV} \\ \text{W.1 : CLASS 0.2+3p 30VA} \\ \text{W.2 : CLASS 0.2+3p 30VA} \end{array} \right.$

LA 360KV, 20KA, CLASS 4

CT -T71 CORE 1 : 400-200/1A CL.X UK>750 V
CORE 2 : 2000-1500-1000-500/1A CL.X UK>750 V
CT -T72 CORE 1 : 1200-600/1A CL.X UK>600 V
CORE 2 : 1200-600/1A CL.5P20 , 15 VA
CT -T73 CORE 1 : 1200-600/1A CL.X UK>750 V
CORE 2 : 1200-600/1A CL.5P20 , 20 VA
CORE 3 : 1200-600/1A CL.X UK>750 V
CT -T81 CORE 1 : 400-200/1A CL.X UK>750 V
CORE 2 : 400-200/1A CL.5P20 , 15 VA
CT -T82 CORE 1 : 400-200/1A CL.X UK>750 V
CORE 2 : 400-200/1A CL.5P20 , 15 VA
CT -T83 CORE 1 : 1200-600/1A CL.5P20 , 20 VA
CORE 2 : 1200-600/1A CL.X UK>750 V
CT -T60 CORE 1 : 1200-600/1A CL.5P20 , 20 VA

SYMBOL	DESIGNATION	SYMBOL	DESIGNATION	SYMBOL	DESIGNATION
	CIRCUIT BREAKER		3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITH LINE MATCHING UNIT		MOTOR OPERATED DISCONNECTING SWITCH WITH EARCHING SWITCH
	CURRENT TRANSFORMER		3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITHOUT LINE MATCHING UNIT		3 PHASE CAPACITIVE VOLTAGE OPEN DELTA SECONDRY
	SURGE ARRESTER WITH SURGE COUNTER		SINGLE PHASE CAPACITIVE VOLTAGE TRANSFORMER		ON LOAD DISCONNECTING SWITCH
	MOTOR OPERATED DISCONNECTING SWITCH		LINE TRAP		

FUTURE

DISPATCH CODE : BZ924

TO MEHREGAN S.S.

DISPATCH CODE : BL915

TO NAKHLESTAN S.S.

400/132/33 KV
200 MVA
YNyn0d11

Gr. TR. 1
33 KV
ONAN ZN

TO 132KV SWITCHYARD
SHEET 5

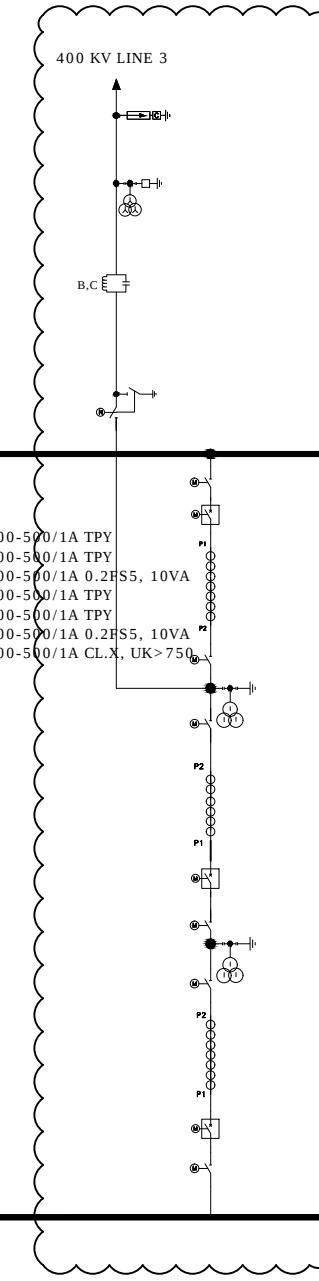
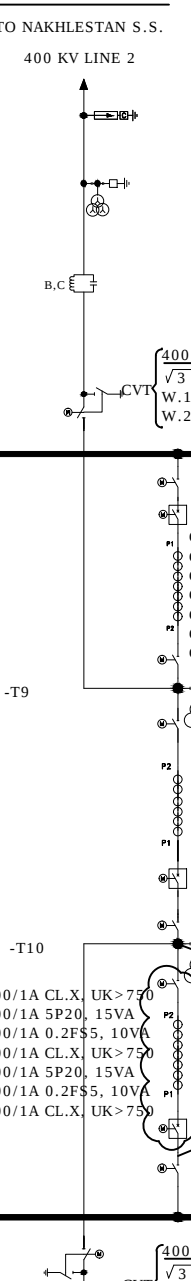
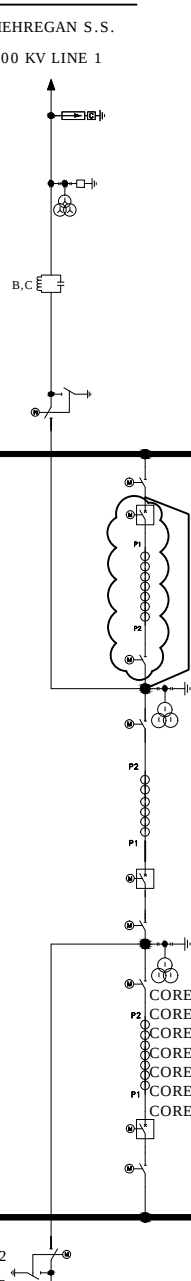
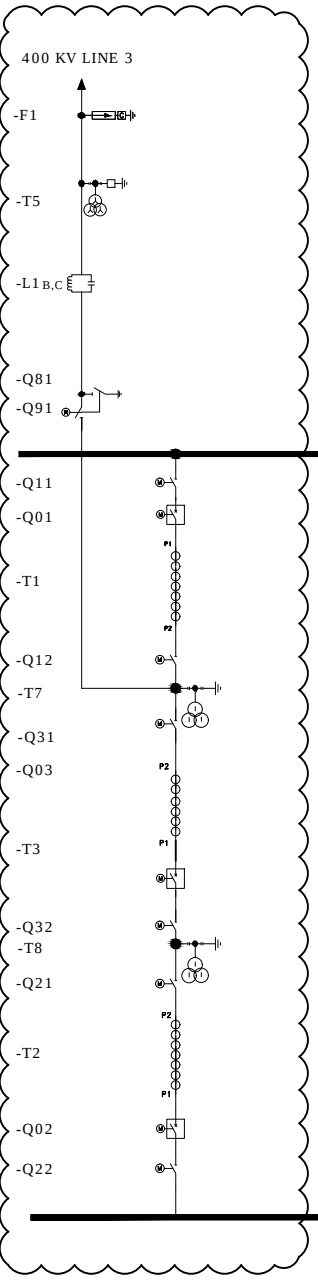
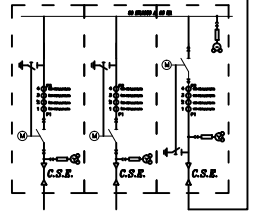
33/0.4 KV
400 KVA
Dym11

400/132/33 KV
200 MVA,50 MVA
YNyn0d11

Gr. TR. 2
33 KV
ONAN ZN

TO 132KV SWITCHYARD
SHEET 5

33/0.4 KV
400 KVA
Dym11



NOTES:

SYMBOLS & LEGEND:

KEY PLAN

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
1					
2					
3					
4					

CLIENT: Mehdiabad Lead and Zinc Pioneers Co. CONSULTING ENGINEERS: MANICO (Mehdiabad Consulting Engineers Co.)

CONTRACTOR: Mehdiabad Lead and Zinc Pioneers Co. CONTRACT NO.: JOB NO.:

PROJECT: Mehdiabad Lead & Zinc Project CONTRACT NO.: JOB NO.:

CONTRACTOR DWG NUMBER: 9210-MS-EL-DWG-00-0020-B01 DWG TITLE: GENERAL SINGLE LINE DIAGRAM

DESIGNED	NAME	DATE
DRAWN	NAME	DATE
CHECKED	NAME	DATE
APPROVED	NAME	DATE

SHT NO.	SHT SIZE	SCALE	AREA CODE	ISSUED	DOC. TYPE	EQ. NO.	REV. NO.	REV.
4	A0		9210	MS	EL	DWG	00	020 B01

FILE LOCATION & NAME:

SHEET SIZE : A0

SYMBOL	DESIGNATION
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	SURGE ARRESTER WITH SURGE COUNTER
	MOTOR OPERATED DISCONNECTING SWITCH
	3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITH LINE MATCHING UNIT
	3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITHOUT LINE MATCHING UNIT
	SINGLE PHASE CAPACITIVE VOLTAGE TRANSFORMER
	MOTOR OPERATED DISCONNECTING SWITCH WITH HAND OPERATED EARTHING SWITCH

SCOPE OF WORK

FUTURE

LA : 120 kV, 10 kA, CLASS 3

$\frac{132}{\sqrt{3}} / \frac{0.11, 0.11}{\sqrt{3}} \text{ KV}$
W.1 : CLASS 0.2+3p 30VA
W.2 : CLASS 0.2+3p 30VA

DSE 145 KV ,2500 A, 40 kA/1Sec

CORE 4 : 1200-600/1A CL.X, UK>600
CORE 3 : 1200-600/1A 5P20,15VA
CORE 2 : 1200-600/1A 0.2FS5, 10VA
CORE 1 : 1200-600/1A CL.X, UK>600

CB 145 KV ,2500 A, 40 kA/1Sec

DS 145 KV ,2500 A, 40 kA/1Sec

B.B.1 145 KV , 3000 A ,40 kA/1Sec

B.B.2 145 KV , 3000 A ,40 kA/1Sec

DS 145 KV ,2000 A, 40 kA/1Sec

CB 145 KV ,2000 A, 40 kA/1Sec

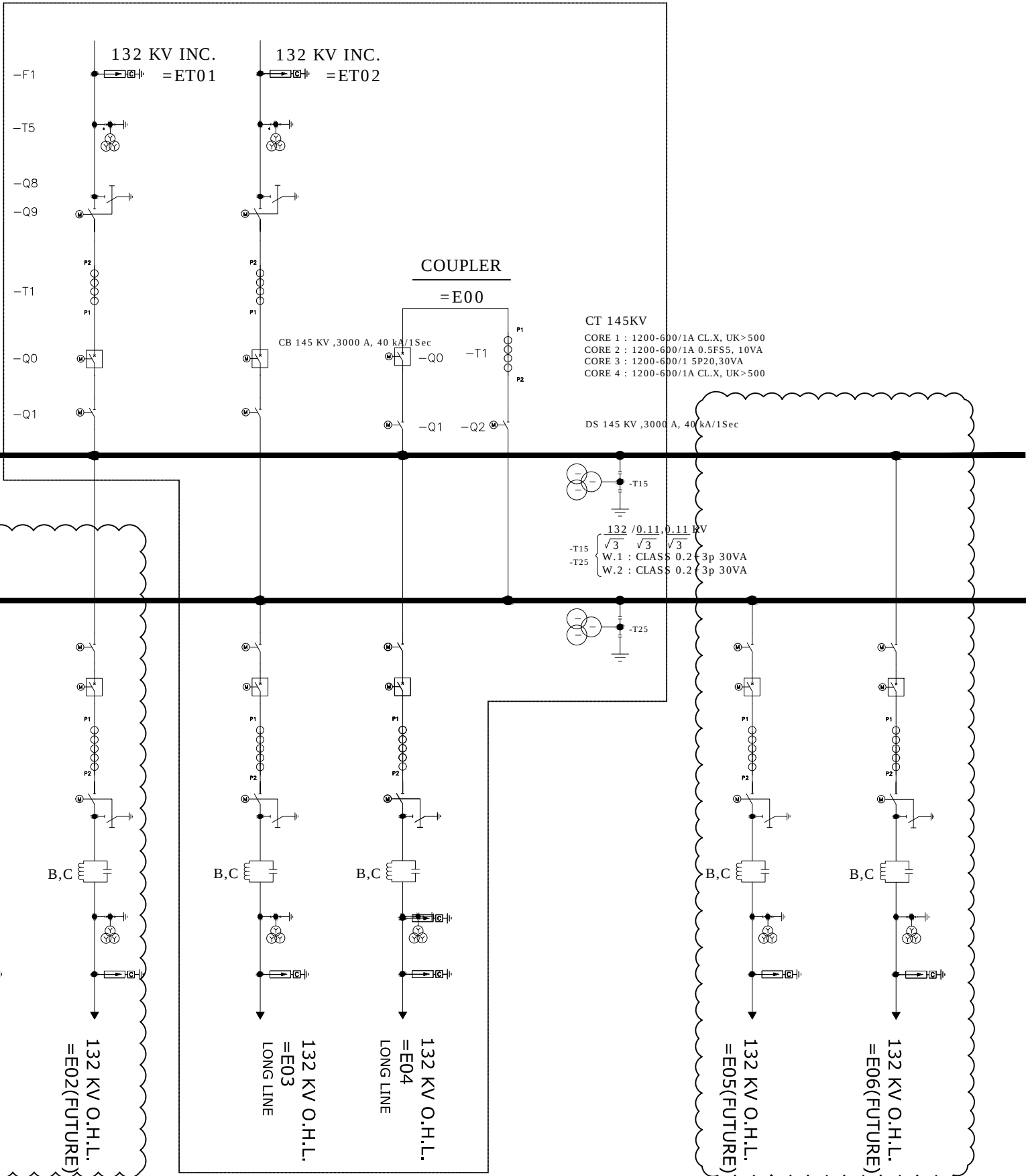
CORE 1 : 1200-600/1A CL.X, UK>500
CORE 2 : 1200-600/1A 5P20,15VA
CORE 3 : 1200-600/1A 0.2FS5, 10VA
CORE 4 : 1200-600/1A 0.2FS5, 10VA
CORE 5 : 1200-600/1A CL.X, UK>500

DSE 145 KV ,2000 A, 40 kA/1Sec

LT 145KV,0.5mH, 2000A

$\frac{132}{\sqrt{3}} / \frac{0.11, 0.11}{\sqrt{3}} \text{ KV}$
W.1 : CLASS 0.2+3p 30VA
W.2 : CLASS 0.2+3p 30VA

LA : 120 kV, 10 kA, CLASS 3



NOTES:

SYMBOLS & LEGEND:

KEY PLAN

REFERENCE DRAWINGS

CLIENT:		CONSULTING ENGINEERS:	
MEHDIABAD Lead and Zinc Pioneers Co.		MANICO (Mehdiabad Consulting Engineers Co.)	
CONTRACTOR:			
PROJECT:		CONTRACT NO.:	JOB NO.:
Mehdiabad Lead & Zinc Project			
CONTRACTOR DWG NUMBER:		9210-MS-EL-DWG-00-0020-B01	
DWG TITLE:		GENERAL SINGLE LINE DIAGRAM	
DESIGNED	NAME	DATE	
DRAWN	NAME	DATE	
CHECKED	NAME	DATE	
APPROVED	NAME	DATE	
SHT NO.	SHT SIZE	SCALE	AREA CODE/ISSUED/DOCP/DOC. TYPE/EG. NO./REV. NO./REV.
5	A0		9210 MS EL DWG 00 020 B01

SYMBOL	DESIGNATION
	CIRCUIT BREAKER
	CURRENT TRANSFORMER
	SURGE ARRESTER WITH SURGE COUNTER
	MOTOR OPERATED DISCONNECTING SWITCH
	3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITH LINE MATCHING UNIT
	3 PHASE CAPACITIVE VOLTAGE TRANSFORMER WITHOUT LINE MATCHING UNIT
	SINGLE PHASE CAPACITIVE VOLTAGE TRANSFORMER
	MOTOR OPERATED DISCONNECTING SWITCH WITH HAND OPERATED EARTHING SWITCH

FUTURE

LA : 120 kV, 10 kA, CLASS 3

$\frac{132}{\sqrt{3}} / 0.11, 0.11 \text{ kV}$
W.1 : CLASS 0.2+3p 30VA
W.2 : CLASS 0.2+3p 30VA

DSE 145 KV ,2500 A, 40 kA/1Sec

CORE 4 : 1200-600/1A CL.X, UK>600
CORE 3 : 1200-600/1A 5P20,15VA
CORE 2 : 1200-600/1A 0.2FS5, 10VA
CORE 1 : 1200-600/1A CL.X, UK>600

CB 145 KV ,2500 A, 40 kA/1Sec

DS 145 KV ,2500 A, 40 kA/1Sec

B.B.1 145 KV , 3000 A ,40 kA/1Sec

B.B.2 145 KV , 3000 A ,40 kA/1Sec

DS 145 KV ,2000 A, 40 kA/1Sec

CB 145 KV ,2000 A, 40 kA/1Sec

CORE 1 : 1200-600/1A CL.X, UK>500
CORE 2 : 1200-600/1A 5P20,15VA
CORE 3 : 1200-600/1A 0.2FS5, 10VA
CORE 4 : 1200-600/1A 0.2FS5, 10VA
CORE 5 : 1200-600/1A CL.X, UK>500

DSE 145 KV ,2000 A, 40 kA/1Sec

LT 145KV,0.5mH, 2000A

$\frac{132}{\sqrt{3}} / 0.11, 0.11 \text{ kV}$
W.1 : CLASS 0.2+3p 30VA
W.2 : CLASS 0.2+3p 30VA

LA : 120 kV, 10 kA, CLASS 3

132 KV INC.
=ET01

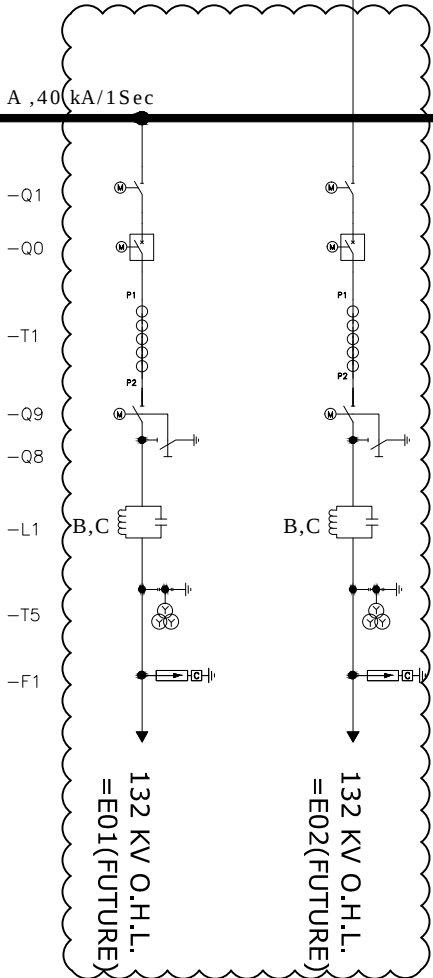
132 KV INC.
=ET02

COUPLER
=E00

CT 145KV
CORE 1 : 1200-600/1A CL.X, UK>500
CORE 2 : 1200-600/1A 0.5FS5, 10VA
CORE 3 : 1200-600/1 5P20,30VA
CORE 4 : 1200-600/1A CL.X, UK>500

DS 145 KV ,3000 A, 40 kA/1Sec

$\frac{132}{\sqrt{3}} / 0.11, 0.11 \text{ kV}$
W.1 : CLASS 0.2+3p 30VA
W.2 : CLASS 0.2+3p 30VA



132 KV O.H.L.
=E02(FUTURE)

132 KV O.H.L.
=E03
LONG LINE

132 KV O.H.L.
=E04
LONG LINE

132 KV O.H.L.
=E05(FUTURE)

132 KV O.H.L.
=E06(FUTURE)

NOTES:

SYMBOLS & LEGEND:

KEY PLAN

REFERENCE DRAWINGS

CLIENT:		CONSULTING ENGINEERS:	
MEHDI ABAD Lead and Zinc Pioneers Co.		MANICO (Mehdi Abad Consulting Engineers Co.)	
CONTRACTOR:			
PROJECT:		CONTRACT NO.:	JOB NO.:
Mehdiabad Lead & Zinc Project			
CONTRACTOR DWG NUMBER:		9210-MS-EL-DWG-00-0020-B01	
DWG TITLE:		GENERAL SINGLE LINE DIAGRAM	
DESIGNED	NAME	DATE	
DRAWN	NAME	DATE	
CHECKED	NAME	DATE	
APPROVED	NAME	DATE	
SHT NO.	SHT SIZE	SCALE	
6	A0		
AREA CODE	ISSUED	DOC. TYPE	EQ. NO./REV. NO./REV.
9210	MS	EL	DWG 00 020 B01

SHEET SIZE : A0