

12345678

A

B

C

D


E

F

PREPARED BY:

مونenco ایران

Monenco Iran



F	ACC. TO CLIENT COMMENT SHEET DATED:04 MAR 2021	NIL	AZM	AKS	JVN	03.06.2021	DESIGNED BY	NIL	SIGNATURE
E	ACC. TO CLIENT COMMENT SHEET DATED:03 FEB 2021	NIL	AZM	AKS	JVN	09.02.2021	DRAWN BY	AZM	
D	DESIGN PROGRESS	NIL	AZM	AKS	JVN	31.01.2021	CHECKED BY	AKS	
C	ACC. TO CLIENT COMMENT SHEET DATED:22 DEC 2020	NIL	AZM	AKS	JVN	22.12.2020	APPROVED BY	JVN	
0	FIRST ISSUE	NIL	AZM	AKS	JVN	21.11.2020	DATE:	21.11.2020 (DD.MM.YYYY)	
REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:	SIZE:	

PROJECT:

KIMUKA

400/220KV SUBSTATION

DWG. TITLE:


400kV PROTECTION SINGLE LINE DIAGRAM

COVER

DWG. NO.: MT-TLD-KETCO-5393-BD-02-SJ-036


SHEET: 1 OF: 6

CLIENT:



KETRACO

Kenya Electricity Transmission Co. Ltd.



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12345678




KIMUKA





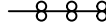









400/220KV SUBSTATION

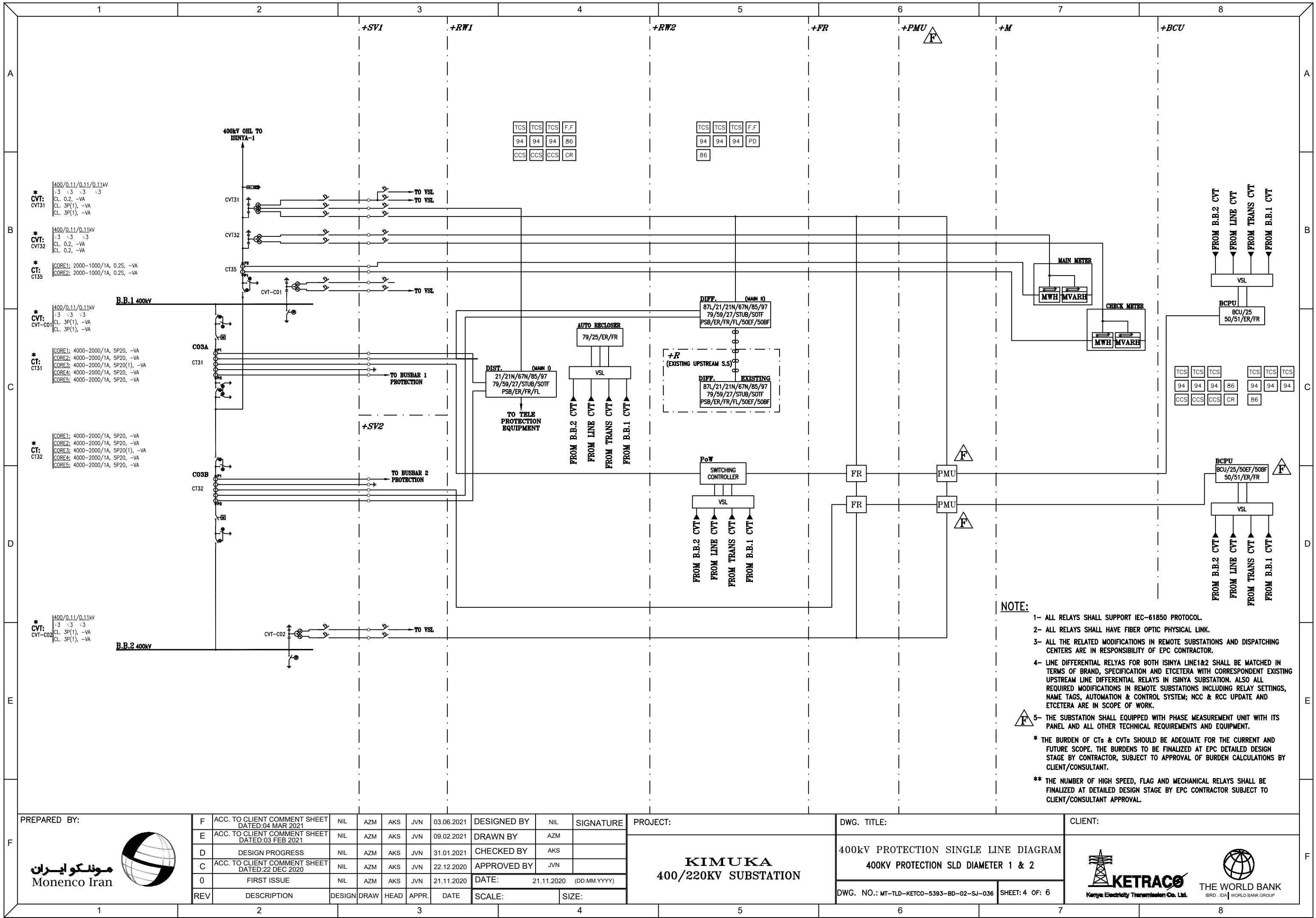
400kV PROTECTION SINGLE LINE DIAGRAM

1	2	3	4	5	6	7	8
A							A
B							B
C							C
D							D
E							E
F							F

DESIGNATION OF	TITLE	REVISION						
1	COVERING SHEET	0	A	B	C	D	E	F
2	LIST OF DRAWINGS	0	A	B	C	D	E	F
3	LEGEND	0	A	B	C	D	E	F
4	400KV PROTECTION SLD DIAMETER 1 & 2	0	A	B	C	D	E	F
5	400KV PROTECTION SLD DIAMETER 3 & 4	0	A	B	C	D	E	F
6	400KV PROTECTION SLD BUSBAR	0	A	A	A	B	B	C

<div>PREPARED BY:</div> <div><div>مونکو ایران</div><div>Monenco Iran</div><div></div></div>	F	ACC. TO CLIENT COMMENT SHEET DATED:04 MAR 2021	NIL	AZM	AKS	JVN	03.06.2021	DESIGNED BY	NIL	SIGNATURE	PROJECT:	DWG. TITLE:	CLIENT:
	E	ACC. TO CLIENT COMMENT SHEET DATED:03 FEB 2021	NIL	AZM	AKS	JVN	09.02.2021	DRAWN BY	AZM		KIMUKA 400/220KV SUBSTATION	400kV PROTECTION SINGLE LINE DIAGRAM LIST OF DRAWINGS	<div><div>KETRACO</div><div>Kenya Electricity Transmission Co. Ltd.</div></div> <div><div>THE WORLD BANK</div><div>IBRD · IDA WORLD BANK GROUP</div></div>
	D	DESIGN PROGRESS	NIL	AZM	AKS	JVN	31.01.2021	CHECKED BY	AKS				
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	1	2	3	4	5	6	7	8																																																																																				
A	<div>2</div> TIME DELAY RELAY		<div>87B</div> BUSBAR DIFFERENTIAL PROTECTION		<div>ER</div> EVENT RECORDER		<div>ACTIVE ENERGY METER (BOTH DIRECTIONS) (MULTI TARRIF,CLASS 0.2)</div>	A																																																																																				
	<div>21/21N</div> DISTANCE RELAY WITH THREE ZONES		<div>87L</div> LINE DIFFERENTIAL PROTECTION		<div>FR</div> FAULT RECORDER		<div>REACTIVE ENERGY METER (BOTH DIRECTIONS) (MULTI TARRIF,CLASS 0.2)</div>																																																																																					
	<div>24</div> OVER FLUX RELAY		<div>87NT</div> RESTRICTED EARTH FAULT PROTECTION RELAY FOR TRANSFORMER		<div>F.F.</div> FUSE FAILURE RELAY																																																																																							
B	<div>25</div> SYNCHRO—CHECK RELAY		<div>87NR</div> RESTRICTED EARTH FAULT PROTECTION RELAY FOR REACTOR		<div>F.L</div> FAULT LOCATOR		<div>C.U.</div> CENTRAL UNIT																																																																																					
	<div>27</div> UNDER(ZERO) VOLTAGE RELAY		<div>87NTV</div> RESTRICTED EARTH FAULT PROTECTION RELAY FOR EARTHING TRANSFORMER		<div>PD</div> POLE DISCORDANCE		<div>B.U.</div> BAY UNIT																																																																																					
	<div>46BC</div> UNBALANCY PROTECTION / BROKEN CONDUCTOR		<div>87T</div> TRANS. DIFFERENTIAL PROT.(BIASED DIFF.)		<div>PSB</div> POWER SWING BLOCKING		<div>BCPU</div> BAY CONTROL AND PROTECTION UNIT																																																																																					
	<div>49</div> THERMAL OVER LOAD PROTECTION		<div>87R</div> REACTOR DIFFERENTIAL PROTECTION RELAY		<div>50EF</div> END FAULT / SHORT ZONE PROTECTION		<div>POW</div> POINT ON WAVE SWITCH																																																																																					
	<div>50</div> INSTANTANEOUS OVER CURRENT RELAY		<div>87HVC</div> TRANSFORMER HV CIRCUIT DIFFERENTIAL PROTECTION		<div>SOTF</div> SWITCH ON TO FAULT		<div>BCR</div> BAY CONTROL ROOM																																																																																					
C	<div>50BF</div> CIRCUIT BREAKER FAILURE RELAY(WITH 2—STAGE)		<div>87LVC</div> TRANSFORMER LV CIRCUIT DIFFERENTIAL PROTECTION		<div>STUB</div> STUB PROTECTION		<div>PMU PHASE MEASUREMENT UNIT</div>	B																																																																																				
	<div>50NS</div> INSTANTANEOUS SENSITIVE EARTH FAULT RELAY		<div>94</div> TRIP RELAY		<div>TCS</div> TRIP CIRCUIT SUPERVISION RELAY		<div>PANELS</div>																																																																																					
	<div>50/51</div> INSTANTANEOUS AND INVERSE TIME OVER CURRENT RELAY		<div>94X</div> AUX. TRIP RELAY WITH HIGH SPEED CONTACT		<div>CCS</div> CLOSE CIRCUIT SUPERVISION RELAY		<div>+RW</div> CONTROL AND PROTECTION PANEL																																																																																					
	<div>50N/51N</div> INSTANTANEOUS AND INVERSE EARTH FAULT RELAY		<div>94Y</div> AUX. TRIP RELAY WITH FLAG		<div>VSL</div> VOLTAGE SELECTION LOGIC		<div>+W</div> CONTROL PANEL																																																																																					
D	<div>51</div> INVERSE TIME OVER CURRENT RELAY		<div>95CT</div> CT SUPERVISION		<div>SBEF</div> STANDBY EARTH FAULT PROTECTION		<div>+SV</div> MARSHALING CUBICLE																																																																																					
	<div>59</div> OVER VOLTAGE RELAY		<div>95VT</div> VOLTAGE SUPERVISION				<div>+M</div> MEASUREMENT PANEL																																																																																					
	<div>67</div> DIRECTIONAL OVER CURRENT RELAY WITH INVERSE TIME CHARACTRISTIC		<div>97</div> FUSE FAILURE (IN DISTANCE RELAY)				<div>+BCU</div> BAY CONTROL UNIT PANEL																																																																																					
	<div>67N</div> DIRECTIONAL EARTH FAULT RELAY		<div>2/MECH</div> TRANSFORMER MECHANICAL PROTECTION				<div>+PMU PHASE MEASUREMENT UNIT PANEL</div>	C																																																																																				
	<div>79</div> AUTO RECLOSER RELAY 1&3 PHASE		<div>BCU</div> BAY CONTROL UNIT				<div>FIBER OPTIC CABLE</div>																																																																																					
E	<div>85</div> CARRIER INTERFACE/REMOTE TRIP		<div>C.R</div> CLOSE RELAY				<div>MINIATURE CIRCUIT BREAKER</div>																																																																																					
	<div>86</div> LOCKOUT RELAY		<div>DTT</div> DIRECT TRANSFER TRIP				<div>REVISION MARK</div>																																																																																					
F	<div>PREPARED BY:</div> <div></div>	<table><tr><td>F</td><td>ACC. TO CLIENT COMMENT SHEET DATED:04 MAR 2021</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>03.06.2021</td><td>DESIGNED BY</td><td>NIL</td><td>SIGNATURE</td></tr><tr><td>E</td><td>ACC. TO CLIENT COMMENT SHEET DATED:03 FEB 2021</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>09.02.2021</td><td>DRAWN BY</td><td>AZM</td><td></td></tr><tr><td>D</td><td>DESIGN PROGRESS</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>31.01.2021</td><td>CHECKED BY</td><td>AKS</td><td></td></tr><tr><td>C</td><td>ACC. TO CLIENT COMMENT SHEET DATED:22 DEC 2020</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>22.12.2020</td><td>APPROVED BY</td><td>JVN</td><td></td></tr><tr><td>0</td><td>FIRST ISSUE</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>21.11.2020</td><td>DATE:</td><td>21.11.2020</td><td>(DD.MM.YYYY)</td></tr><tr><td>REV</td><td>DESCRIPTION</td><td>DESIGN</td><td>DRAW</td><td>HEAD</td><td>APPR.</td><td>DATE</td><td>SCALE:</td><td></td><td>SIZE:</td></tr></table>	F	ACC. TO CLIENT COMMENT SHEET DATED:04 MAR 2021	NIL	AZM	AKS	JVN	03.06.2021	DESIGNED BY	NIL	SIGNATURE	E	ACC. TO CLIENT COMMENT SHEET DATED:03 FEB 2021	NIL	AZM	AKS	JVN	09.02.2021	DRAWN BY	AZM		D	DESIGN PROGRESS	NIL	AZM	AKS	JVN	31.01.2021	CHECKED BY	AKS		C	ACC. TO CLIENT COMMENT SHEET DATED:22 DEC 2020	NIL	AZM	AKS	JVN	22.12.2020	APPROVED BY	JVN		0	FIRST ISSUE	NIL	AZM	AKS	JVN	21.11.2020	DATE:	21.11.2020	(DD.MM.YYYY)	REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:		SIZE:	<table><tr><td colspan="4">PROJECT:</td><td colspan="2">DWG. TITLE:</td><td colspan="2">CLIENT:</td></tr><tr><td colspan="4" rowspan="3"><div>KIMUKA</div><div>400/220KV SUBSTATION</div></td><td colspan="2">400kV PROTECTION SINGLE LINE DIAGRAM</td><td colspan="2" rowspan="3"><div>KETRACO Kenya Electricity Transmission Co. Ltd.</div><div>THE WORLD BANK IBRD . IDA WORLD BANK GROUP</div></td></tr><tr><td colspan="2">LEGEND</td></tr><tr><td colspan="2">DWG. NO.: MT—TLD—KETCO—5393—BD—02—SJ—036</td></tr><tr><td colspan="4"></td><td colspan="2">SHEET: 3 OF: 6</td><td colspan="2"></td></tr></table>	PROJECT:				DWG. TITLE:		CLIENT:		<div>KIMUKA</div> <div>400/220KV SUBSTATION</div>				400kV PROTECTION SINGLE LINE DIAGRAM		<div>KETRACO Kenya Electricity Transmission Co. Ltd.</div> <div>THE WORLD BANK IBRD . IDA WORLD BANK GROUP</div>		LEGEND		DWG. NO.: MT—TLD—KETCO—5393—BD—02—SJ—036						SHEET: 3 OF: 6				
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400/220KV SUBSTATION

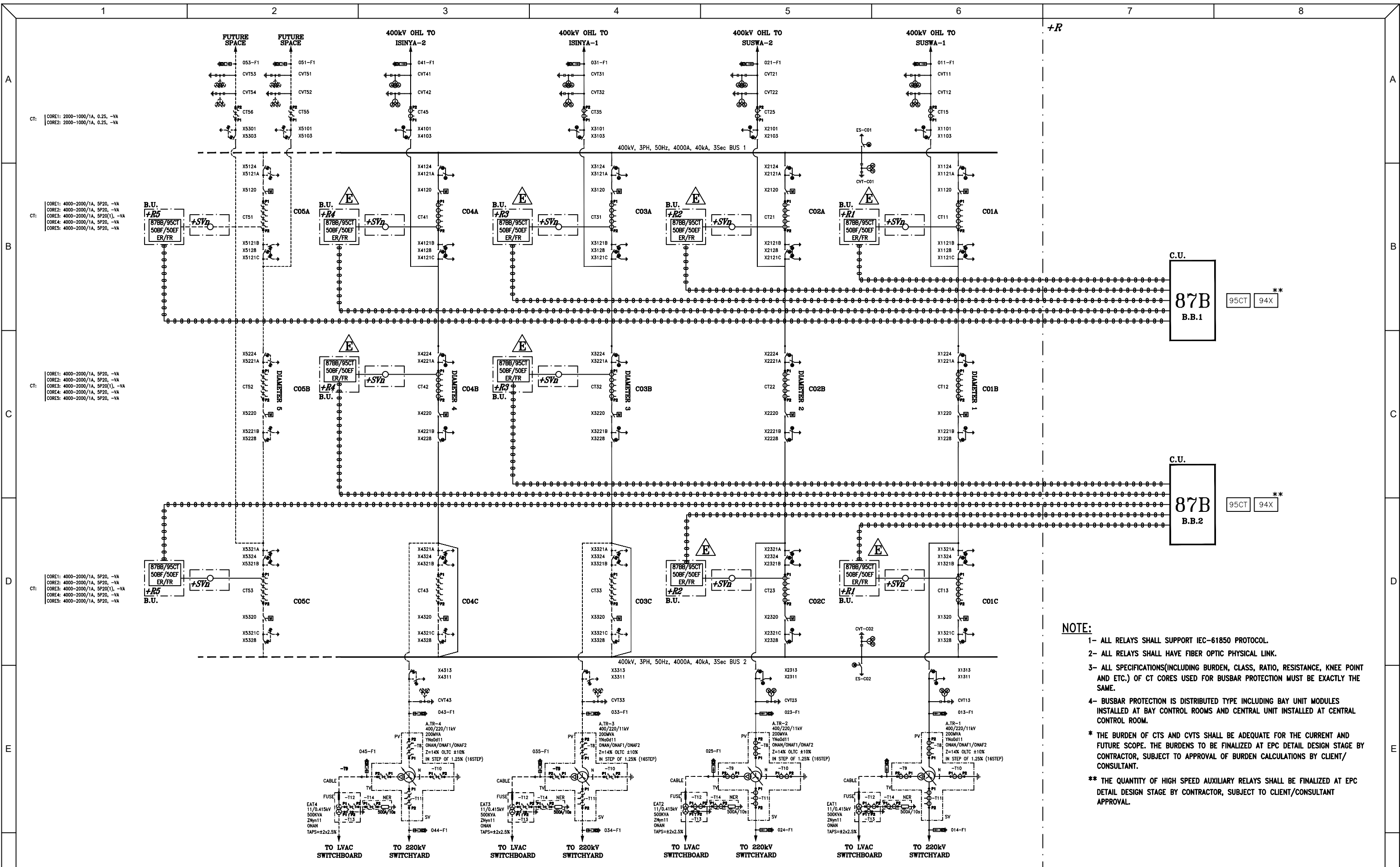
DWG. TITLE:

400kV PROTECTION SINGLE LINE DIAGRAM
400KV PROTECTION SLD DIAMETER 1 & 2


DWG. NO.: MT-TLD-KETCO-5393-BD-02-SJ-036 SHEET: 4 OF: 6

CLIENT:





PREPARED BY:



موندکو ایران

Monenco Iran

C	ACC. TO CLIENT COMMENT SHEET DATED:04 MAR 2021	NIL	AZM	AKS	JVN	03.06.2021	DRAWN BY	AZM	
B	DESIGN PROGRESS	NIL	AZM	AKS	JVN	05.01.2021	CHECKED BY	AKS	
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REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:	SIZE:	

PROJECT:

KIMUKA

400/220KV SUBSTATION

DWG. TITLE:

400kV PROTECTION SINGLE LINE DIAGRAM

400KV PROTECTION SLD BUSBAR


DWG. NO.:

MT-TLD-KETCO-5393-BD-02-SJ-036

SHEET:


6 OF: 6

CLIENT:



KETRACO

Karya Electricity Transmission Co. Ltd.



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