








1	2	3	4	5	6	7	8																																																												
A								A																																																											
B								B																																																											
C	<div>KIMUKA 220/66KV SUBSTATION PROTECTION SINGLE LINE DIAGRAM</div>							C																																																											
D								D																																																											
E								E																																																											
F	<div><div><div>PREPARED BY:</div><div><div>مونenco ایران Monenco Iran</div></div></div><table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>DESIGNED BY</td><td>HZM</td><td>SIGNATURE</td></tr><tr><td>C</td><td>ACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>15.09.2020</td><td>DRAWN BY</td><td>AZM</td><td></td></tr><tr><td>B</td><td>ACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>01.09.2020</td><td>CHECKED BY</td><td>AKS</td><td></td></tr><tr><td>A</td><td>ACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020</td><td>NIL</td><td>AZM</td><td>AKS</td><td>JVN</td><td>15.08.2020</td><td>APPROVED BY</td><td>JVN</td><td></td></tr><tr><td>0</td><td>FIRST ISSUE</td><td>HZM</td><td>AZM</td><td>AKS</td><td>JVN</td><td>12.07.2020</td><td>DATE:</td><td colspan="2">30.06.2020</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 colspan="2"></td></tr></table></div> <div><div>PROJECT:</div><div>KIMUKA 220/66KV SUBSTATION</div></div> <div><div>DWG. TITLE:</div><div>PROTECTION SINGLE LINE DIAGRAM COVER</div><div>DWG. NO.: MT-TLD-KETCO-5393-BD-02-SJ-011</div><div>SHEET: 1 OF: 4</div></div> <div><div>CLIENT:</div><div><div>KETRACO Kenya Electricity Transmission Co. Ltd.</div><div>THE WORLD BANK IBRD · IDA   WORLD BANK GROUP</div></div></div>														DESIGNED BY	HZM	SIGNATURE	C	ACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020	NIL	AZM	AKS	JVN	15.09.2020	DRAWN BY	AZM		B	ACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020	NIL	AZM	AKS	JVN	01.09.2020	CHECKED BY	AKS		A	ACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020	NIL	AZM	AKS	JVN	15.08.2020	APPROVED BY	JVN		0	FIRST ISSUE	HZM	AZM	AKS	JVN	12.07.2020	DATE:	30.06.2020		REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:		
							DESIGNED BY	HZM	SIGNATURE																																																										
C	ACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020	NIL	AZM	AKS	JVN	15.09.2020	DRAWN BY	AZM																																																											
B	ACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020	NIL	AZM	AKS	JVN	01.09.2020	CHECKED BY	AKS																																																											
A	ACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020	NIL	AZM	AKS	JVN	15.08.2020	APPROVED BY	JVN																																																											
0	FIRST ISSUE	HZM	AZM	AKS	JVN	12.07.2020	DATE:	30.06.2020																																																											
REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:																																																												

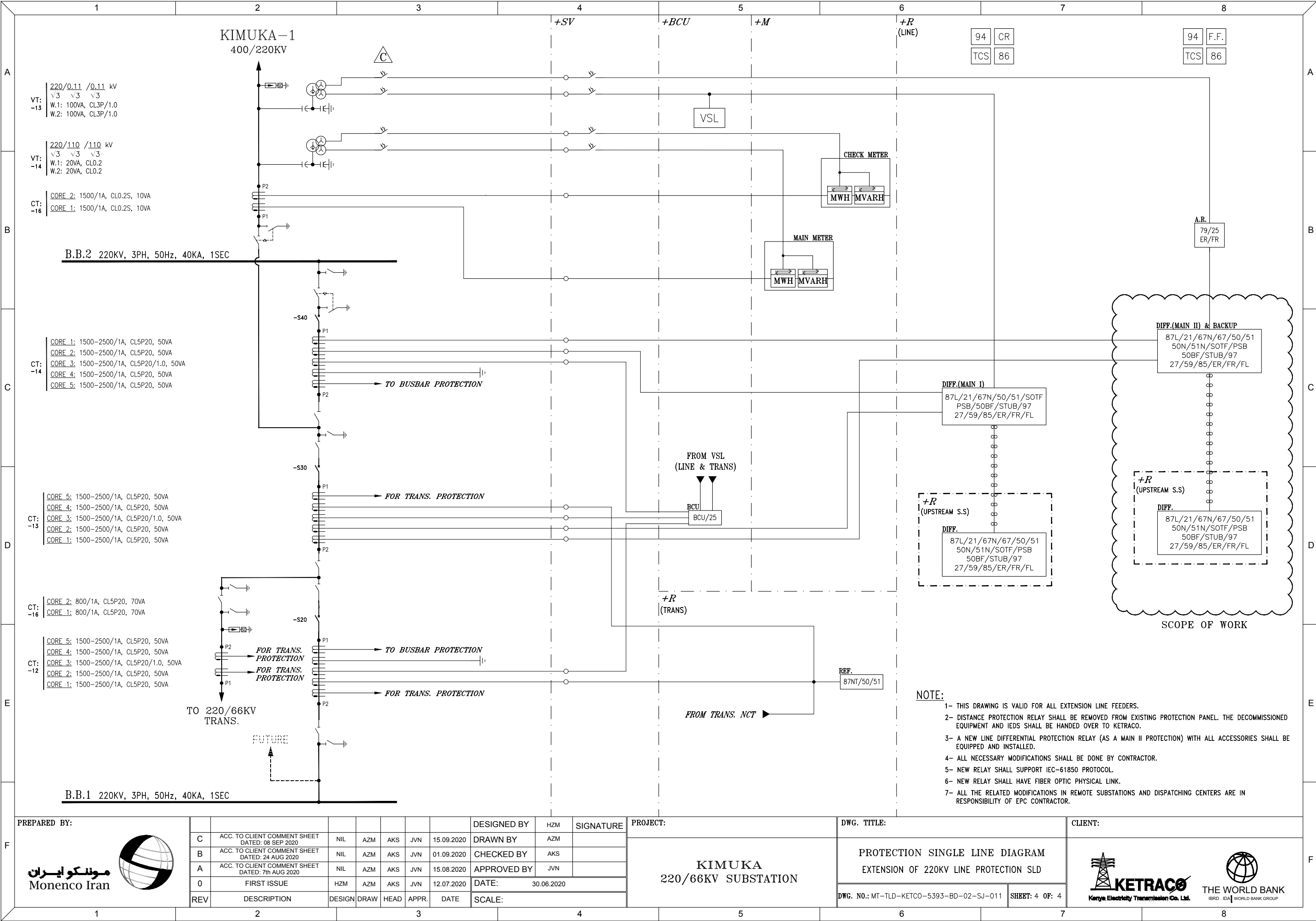
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F

DESIGNATION OF	TITLE	REVISION			
1	COVERING SHEET	0	A	B	C
2	INDEX	0	A	B	C
3	LEGEND	0	A	B	C
4	EXTENSION OF 220KV LINE PROTECTION SLD	0	A	B	C

PREPARED BY:									DESIGNED BY	HZM	SIGNATURE	PROJECT:	DWG. TITLE:		CLIENT:	
<div>موندکو ایران</div> <div>Monenco Iran</div> <div></div>		C	ACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020	NIL	AZM	AKS	JVN	15.09.2020	DRAWN BY	AZM		KIMUKA 220/66KV SUBSTATION	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>	
		B	ACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020	NIL	AZM	AKS	JVN	01.09.2020	CHECKED BY	AKS						
		A	ACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020	NIL	AZM	AKS	JVN	15.08.2020	APPROVED BY	JVN						
		0	FIRST ISSUE	HZM	AZM	AKS	JVN	12.07.2020	DATE: 30.06.2020							
		REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:							

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

	1	2	3	4	5	6	7	8							
A	<div>2</div> TIME DELAY RELAY			<div>87B</div> BUSBAR PROT. (LOW IMPEDANCE TYPE BUSBAR PROTECTION)		<div>ACTIVE ENERGY METER (BOTH DIRECTIONS) (MULTI TARRIF,CLASS 0.2)</div>		A							
	<div>21/21N</div> DISTANCE RELAY WITH THREE ZONES			<div>87NT</div> RESTRICTED EARTH FAULT PROTECTION		<div>REACTIVE ENERGY METER (BOTH DIRECTIONS) (MULTI TARRIF,CLASS 0.2)</div>									
	<div>24</div> OVER FLUX RELAY			<div>87T</div> TRANS. DIFFERENTIAL PROT. (BIASED DIFF.)											
B	<div>25</div> SYNCHRO–CHECK RELAY			<div>94</div> TRIP RELAY		<div>PANELS</div>		B							
	<div>27</div> UNDER(ZERO) VOLTAGE RELAY			<div>94X</div> AUX. TRIP RELAY WITH HIGH SPEED CONTACT		<div>+R</div> PROTECTION PANEL									
	<div>49</div> THERMAL OVER LOAD PROTECTION			<div>94Y</div> AUX. TRIP RELAY WITH FLAG		<div>+W</div> CONTROL PANEL									
	<div>50</div> INSTANTANEOUS OVER CURRENT RELAY			<div>97</div> FUSE FAILURE (IN DISTANCE RELAY)		<div>+SV</div> MARSHALING CUBICLE									
	<div>50BF</div> CIRCUIT BREAKER FAILURE RELAY (WITH 2–STAGE)			<div>2/MECH</div> TRANSFORMER MECHANICAL PROTECTION		<div>+M</div> MEASUREMENT PANEL									
C	<div>50NS</div> INSTANTANEOUS SENSITIVE EARTH FAULT RELAY			<div>C.R</div> CLOSE RELAY		<div>+BCU</div> BCU PANEL		C							
	<div>50/51</div> INSTANTANEOUS AND INVERSE TIME OVER CURRENT RELAY			<div>ER</div> EVENT RECORDER		<div>FIBER OPTIC CABLE</div>									
	<div>50N/51N</div> INSTANTANEOUS AND INVERSE EARTH FAULT RELAY			<div>FR</div> FAULT RECORDER		<div>REVISION MARK</div>									
	<div>51</div> INVERSE TIME OVER CURRENT RELAY			<div>F.F.</div> FUSE FAILURE RELAY		<div>MINIATURE CIRCUIT BREAKER</div>									
D	<div>BCU</div> BAY CONTROL UNIT			<div>F.L</div> FAULT LOCATOR				D							
	<div>59</div> OVER VOLTAGE RELAY			<div>PSB</div> POWER SWING BLOCKING											
	<div>67</div> DIRECTIONAL OVER CURRENT RELAY WITH INVERSE TIME CHARACTRISTIC			<div>SOTF</div> SWITCH ON TO FAULT											
	<div>67N</div> DIRECTIONAL EARTH FAULT RELAY			<div>STUB</div> STUB PROTECTION											
E	<div>79</div> AUTO RECLOSE RELAY SINGLE SHOT 1 & 3 PHASE			<div>TCS</div> TRIP CIRCUIT SUPERVISION RELAY				E							
	<div>85</div> CARRIER INTERFACE/REMOTE TRIP			<div>VSL</div> VOLTAGE SELECTION LOGIC											
	<div>86</div> LOCKOUT RELAY														
F	<div>PREPARED BY:</div> <div></div>	<div></div> <div>CACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020</div> <div>BACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020</div> <div>AACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020</div> <div>0FIRST ISSUE</div> <div>REVDESCRIPTION</div>	<div></div> <div>NIL</div> <div>NIL</div> <div>NIL</div> <div>HZM</div> <div>DESIGN</div>	<div></div> <div>AZM</div> <div>AZM</div> <div>AZM</div> <div>AZM</div> <div>DRAW</div>	<div></div> <div>AKS</div> <div>AKS</div> <div>AKS</div> <div>AKS</div> <div>HEAD</div>	<div></div> <div>JVN</div> <div>JVN</div> <div>JVN</div> <div>JVN</div> <div>APPR.</div>	<div></div> <div>15.09.2020</div> <div>01.09.2020</div> <div>15.08.2020</div> <div>12.07.2020</div> <div>DATE</div>	<div>DESIGNED BY</div> <div>DRAWN BY</div> <div>CHECKED BY</div> <div>APPROVED BY</div> <div>DATE:30.06.2020</div> <div>SCALE:</div>	<div>HZM</div> <div>AZM</div> <div>AKS</div> <div>JVN</div> <div></div>	<div>SIGNATURE</div> <div></div> <div></div> <div></div> <div></div>	<div>PROJECT:</div> <div></div> <div>KIMUKA 220/66KV SUBSTATION</div>	<div>DWG. TITLE:</div> <div>PROTECTION SINGLE LINE DIAGRAM LEGEND</div> <div>DWG. NO.: MT–TLD–KETCO–5393–BD–02–SJ–011</div>	<div>CLIENT:</div> <div></div> <div>KETRACO Keraya Electricity Transmission Co. Ltd.</div> <div>THE WORLD BANK IBRD · IDA   WORLD BANK GROUP</div>	<div></div> <div></div> <div>SHEET: 3 OF: 4</div> <div></div>	
	1	2	3	4	5	6	7	8							



PREPARED BY:

مونenco ایران  
Monenco Iran



REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	DESIGNED BY	HZM	SIGNATURE
C	ACC. TO CLIENT COMMENT SHEET DATED: 08 SEP 2020	NIL	AZM	AKS	JVN	15.09.2020	DESIGNED BY	HZM	SIGNATURE
B	ACC. TO CLIENT COMMENT SHEET DATED: 24 AUG 2020	NIL	AZM	AKS	JVN	01.09.2020	DRAWN BY	AZM	
A	ACC. TO CLIENT COMMENT SHEET DATED: 7th AUG 2020	NIL	AZM	AKS	JVN	15.08.2020	CHECKED BY	AKS	
0	FIRST ISSUE	HZM	AZM	AKS	JVN	12.07.2020	APPROVED BY	JVN	
							DATE:	30.06.2020	
							SCALE:		

PROJECT:

KIMUKA  
220/66KV SUBSTATION

DWG. TITLE:

PROTECTION SINGLE LINE DIAGRAM  
EXTENSION OF 220KV LINE PROTECTION SLD

DWG. NO.: MT-TLD-KETCO-5393-BD-02-SJ-011

SHEET: 4 OF: 4

CLIENT:

