




	1	2	3	4	5	6	7	8	
A									A
B									B
C	<div>KIMUKA 400/220KV SUBSTATION 48V DC SINGLE LINE DIAGRAM</div>								C
D									D
E									E

PREPARED BY:   <b>مونکو ایران</b> <b>Monenco Iran</b>								DESIGNED BY	NIL	SIGNATURE	PROJECT:  <div style="text-align: center;"> <b>KIMUKA</b>  <b>400/220KV SUBSTATION</b> </div>	DWG. TITLE:		CLIENT:  <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
								DRAWN BY	AZM			48V DC SINGLE LINE DIAGRAM		
	B	ACC. TO CLIENT COMMENT SHEET DATED:05 FEB 2024	NIL	AZM	AKS	JVN	08.02.2021	CHECKED BY	AKS			COVER		
	A	ACC. TO CLIENT COMMENT SHEET DATED:15 JAN 2021	NIL	AZM	AKS	JVN	30.01.2021	APPROVED BY	JVN			DWG. NO.: MT-TLD-KETCO-5393-DD-02-SB-255    SHEET: 1 OF: 4		
	0	FIRST ISSUE	NIL	AZM	AKS	JVN	25.10.2020	DATE: 25.10.2020 (DD.MM.YYY)						
	REV	DESCRIPTION	DESIGN	DRAW	HEAD	APPR.	DATE	SCALE:		SIZE:				
1	2	3		4		5		6		7		8		

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F

DESIGNATION OF	TITLE	REVISION			
1	COVERING SHEET	0	A	B	
2	LIST OF DRAWINGS	0	A	B	
3	LEGEND & NOTE	0	A	B	
4	48V DC SINGLE LINE DIAGRAM	0	A	B	

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مونenco ایران

Monenco Iran



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PROJECT:

KIMUKA

400/220KV SUBSTATION

DWG. TITLE:


48V DC SINGLE LINE DIAGRAM

LIST OF DRAWINGS


DWG. NO.: MT-TLD-KETCO-5393-DD-02-SB-255

SHEET: 2 OF: 4

CLIENT:

KETRACO

Kenya Electricity Transmission Co. Ltd.

THE WORLD BANK

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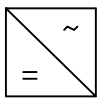



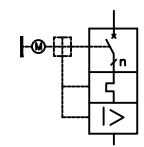














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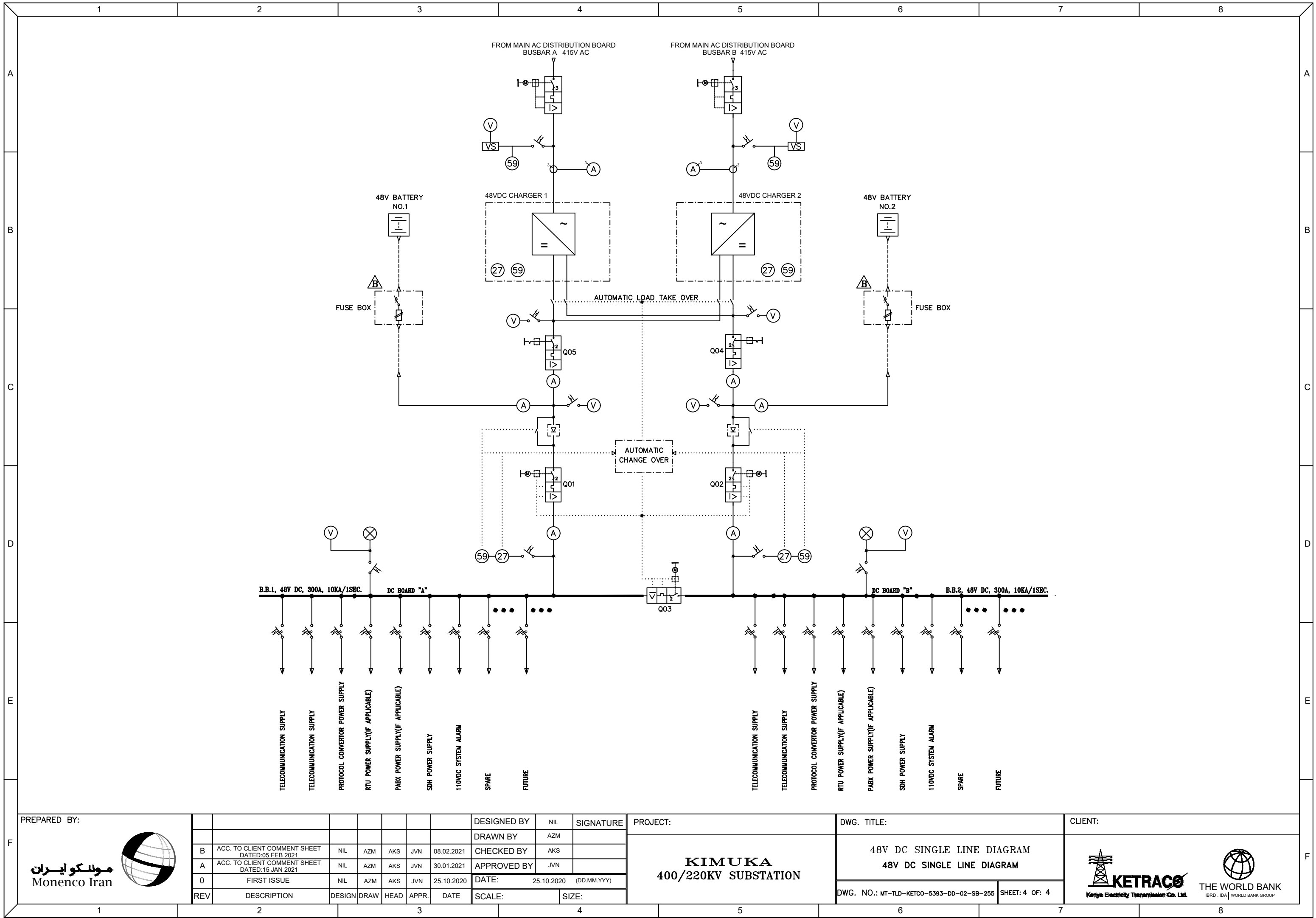
LEGEND

	CHARGER		VOLTMETER		ENERGY METER		CONTACT
	MOLDED CASE CIRCUIT BREAKER MOTORIZED		AMMETER		VOLTAGE SELECTOR SWITCH		SWITCH
	MINIATURE CIRCUIT BREAKER		CURRENT TRANSFORMER		UNDER(ZERO) VOLTAGE RELAY		FUSE
	BATTERY SET		SIGNAL LAMP		EARTH FAULT RELAY		
			EARTH		OVER VOLTAGE RELAY		
			DROPPING DIODE		FUSE SWITCH, 3POLE.		

NOTE:

- 1- THE QUANTITY, SIZE AND RATINGS ARE PRELIMINARY AND SHALL BE COMPLETED AND FINALIZED AT DETAIL DESIGN STAGE BY EPC CONTRACTOR SUBJECT TO CLIENT/CONSULTANT APPROVAL.
- 2- AT LEAST 20% SPARE OF EACH FEEDER TYPE SHALL BE CONSIDERED IN ADDITION TO FUTURE FEEDERS.
- 3- ALL CIRCUIT BREAKERS SHALL BE EQUIPPED WITH AUXILIARY CONTACT(s).
- 4- 48VDC SINGLE LINE DIAGRAM SHALL BE SHOWN IN OPERATOR WORKSTATION WITH DYNAMIC COLORS
- 5- ALL MEASURING VALUES(VOLTAGE, CURRENT, REACTIVE POWER, ACTIVE POWER, FREQUENCY, POWER FACTOR, ENERGY, TEMPERATURE AND ETC) SHALL BE MONITORED THROUGH HMI AND ALL NECESSARY EQUIPMENT SUCH AS TRANSDUCERS SHALL BE CONSIDERED.
- 6- SHORT CIRCUIT CAPACITY OF BUSBARS ARE MIN-VALUES, AND SHALL BE FINALIZED ACCORDING DETAIL DESIGN CALCULATIONS BY EPC CONTRACTOR SUBJECT TO CLIENT/CONSULTANT APPROVAL.
- 7- ALL SIGNALS REQUIRED TO CONTROL THE AC/DC SYSTEM SHOULD BE CONSIDERED BY SAS.
- 8- THE CONTRACTOR SHALL PROVIDE SUB-DISTRIBUTION BOARDS AS REQUIRED SUBJECT TO CLIENT/CONSULTANT APPROVAL.
- 9- ALL REQUIRED ALARMS AND ANNUNCIATIONS SHALL BE CONSIDERED
- 10- 48VDC BATTERY CHARGERS SHALL BE THYRISTOR CONTROLLED, SUITABLE FOR PARALLEL OPERATION WITH EACH OTHER SHARING THE LOAD, COMPLETE WITH ALL THE ACCESSORIES.
- 11-THE RECTIFIERS SHALL BE FED FROM THE LVAC MAIN SWITCHGEAR. DOUBLE WOUND TRANSFORMERS SHALL BE PROVIDED AT THE INPUT SIDE OF RECTIFIER TO PREVENT GALVANIC CONNECTION BETWEEN THE DC AND AC SYSTEM
- 12-THE INCOMINGS AND COUPLER CIRCUIT BREAKERS SHALL BE INTERCHANGEABLE WITH EACH OTHER.
- 13-THE CUBICLES SHALL BE COMPLETELY SELF-SUPPORTING, MADE OF A REQUIRED NUMBER OF STANDARDIZED, PREFABRICATED, VERTICAL SECTIONS BOLTED TOGETHER TO FORM INDOOR METAL CLAD, DUST-PROOF RIGID UNIT, DEGREE OF PROTECTION IP51. THE CUBICLES SHALL BE FREE STANDING, EQUIPPED WITH BOTTOM FRAMES SUITABLE FOR BOLTING TO THE FLOOR. STEEL SHEET THICKNESS SHALL NOT BE LESS THAN 2mm.

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KIMUKA  
400/220KV SUBSTATION

DWG. TITLE:

48V DC SINGLE LINE DIAGRAM  
48V DC SINGLE LINE DIAGRAM

DWG. NO.: MT-TLD-KETCO-5393-DD-02-SB-255 SHEET: 4 OF: 4

CLIENT:

