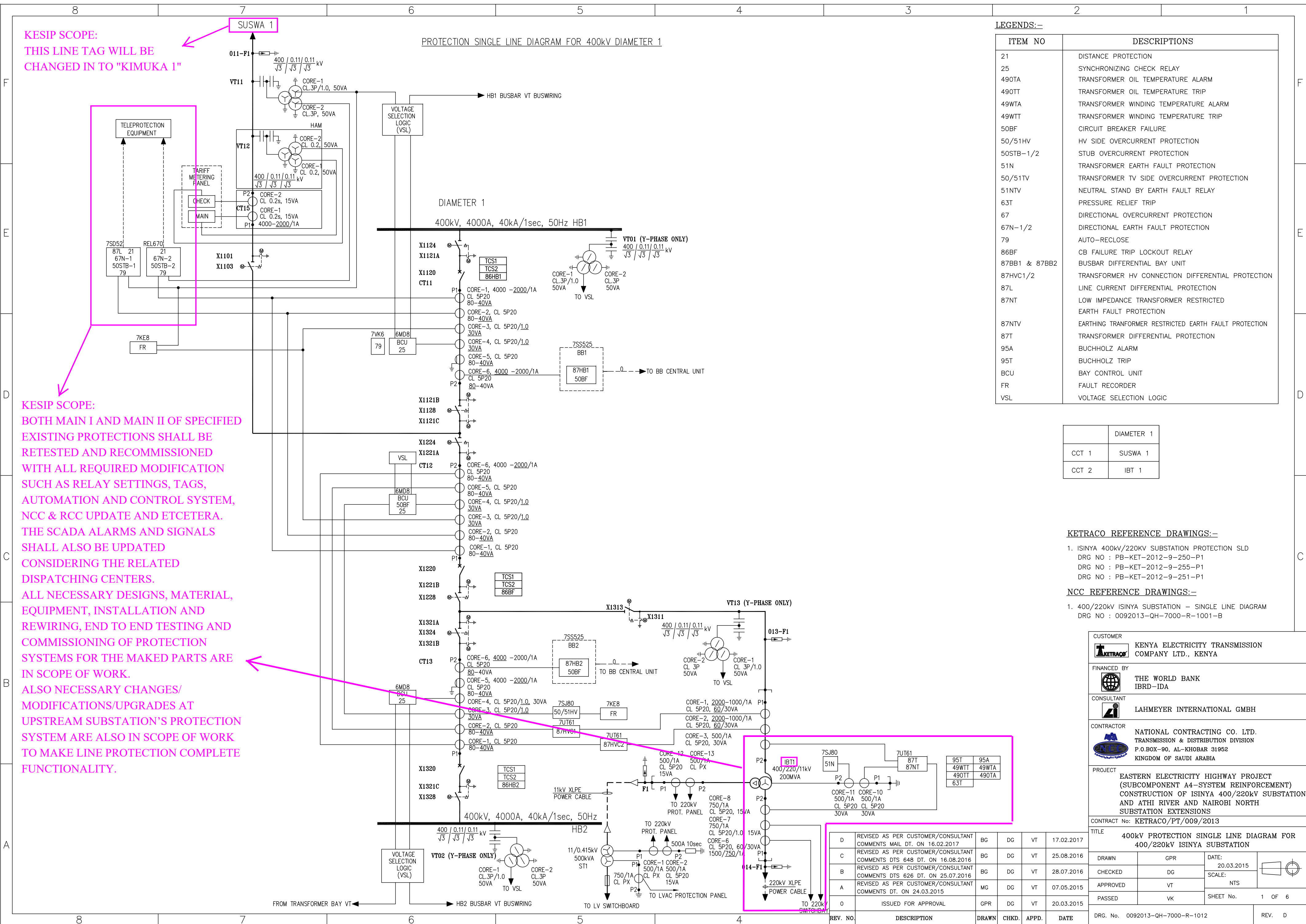


KESIP SCOPE:
BOTH MAIN I AND MAIN II OF SPECIFIED
EXISTING PROTECTIONS SHALL BE
RETESTED AND RECOMMISSIONED
WITH ALL REQUIRED MODIFICATION
SUCH AS RELAY SETTINGS, TAGS,
AUTOMATION AND CONTROL SYSTEM,
NCC & RCC UPDATE AND ETCETERA.
THE SCADA ALARMS AND SIGNALS
SHALL ALSO BE UPDATED
CONSIDERING THE RELATED
DISPATCHING CENTERS.
ALL NECESSARY DESIGNS, MATERIAL,
EQUIPMENT, INSTALLATION AND
REWIRING, END TO END TESTING AND
COMMISSIONING OF PROTECTION
SYSTEMS FOR THE MAKED PARTS ARE
IN SCOPE OF WORK.
ALSO NECESSARY CHANGES/
MODIFICATIONS/UPGRADES AT
UPSTREAM SUBSTATION'S PROTECTION
SYSTEM ARE ALSO IN SCOPE OF WORK
TO MAKE LINE PROTECTION COMPLETE
FUNCTIONALITY.



ITEM NO	DESCRIPTIONS
21	DISTANCE PROTECTION
25	SYNCHRONIZING CHECK RELAY
490TA	TRANSFORMER OIL TEMPERATURE ALARM
490TT	TRANSFORMER OIL TEMPERATURE TRIP
49WTA	TRANSFORMER WINDING TEMPERATURE ALARM
49WTT	TRANSFORMER WINDING TEMPERATURE TRIP
50BF	CIRCUIT BREAKER FAILURE
50/51HV	HV SIDE OVERCURRENT PROTECTION
50STB-1/2	STUB OVERCURRENT PROTECTION
51N	TRANSFORMER EARTH FAULT PROTECTION
50/51TV	TRANSFORMER TV SIDE OVERCURRENT PROTECTION
51NTV	NEUTRAL STAND BY EARTH FAULT RELAY
63T	PRESSURE RELIEF TRIP
67	DIRECTIONAL OVERCURRENT PROTECTION
67N-1/2	DIRECTIONAL EARTH FAULT PROTECTION
79	AUTO-RECLOSE
86BF	CB FAILURE TRIP LOCKOUT RELAY
87BB1 & 87BB2	BUSBAR DIFFERENTIAL BAY UNIT
87HVC1/2	TRANSFORMER HV CONNECTION DIFFERENTIAL PROTECTION
87L	LINE CURRENT DIFFERENTIAL PROTECTION
87NT	LOW IMPEDANCE TRANSFORMER RESTRICTED EARTH FAULT PROTECTION
87NTV	EARTHING TRANSFORMER RESTRICTED EARTH FAULT PROTECTION
87T	TRANSFORMER DIFFERENTIAL PROTECTION
95A	BUCHHOLZ ALARM
95T	BUCHHOLZ TRIP
BCU	BAY CONTROL UNIT
FR	FAULT RECORDER
VSL	VOLTAGE SELECTION LOGIC

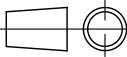
	DIAMETER 1
CCT 1	SUSWA 1
CCT 2	IBT 1

KETRACO REFERENCE DRAWINGS:—

1. ISINYA 400KV/220KV SUBSTATION PROTECTION SLD
DRG NO : PB-KET-2012-9-250-P1
DRG NO : PB-KET-2012-9-255-P1
DRG NO : PB-KET-2012-9-251-P1

NCC REFERENCE DRAWINGS:-

1. 400/220kV ISINYA SUBSTATION – SINGLE LINE DIAGRAM
DRG NO : 0092013-QH-7000-R-1001-B

CUSTOMER		KENYA ELECTRICITY TRANSMISSION COMPANY LTD., KENYA	
FINANCED BY		THE WORLD BANK IBRD-IDA	
CONSULTANT		LAHMEYER INTERNATIONAL GMBH	
CONTRACTOR		NATIONAL CONTRACTING CO. LTD. TRANSMISSION & DISTRIBUTION DIVISION P.O.BOX-90, AL-KHOBAR 31952 KINGDOM OF SAUDI ARABIA	
PROJECT EASTERN ELECTRICITY HIGHWAY PROJECT (SUBCOMPONENT A4-SYSTEM REINFORCEMENT) CONSTRUCTION OF ISINYA 400/220kV SUBSTATION AND ATHI RIVER AND NAIROBI NORTH SUBSTATION EXTENSIONS			
CONTRACT No: KETRACO/PT/009/2013			
TITLE 400kV PROTECTION SINGLE LINE DIAGRAM FOR 400/220kV ISINYA SUBSTATION			
DRAWN	GPR	DATE: 20.03.2015	
CHECKED	DG	SCALE: NTS	
APPROVED	VT	SHEET No.	1 OF 6
PASSED	VK		
DRG. No. 0092013-QH-7000-R-1012			REV. D

