


LEGEND:	
SYMBOLS ACCORDING TO: IEC 60617	
CIRCUIT BREAKER	
CIRCUIT BREAKER (POW)	
CURRENT TRANSFORMER	
CAPACITOR	
RESISTOR	
SURGE ARRESTER	
DISCONNECTOR MOTORIZED	
REACTOR	
EARTHING SWITCH MOTORIZED	
DC CURRENT MEASURING DEV.	
DC VOLTAGE MEASURING DEV.	
PRE-SET ADJUSTABILITY	
CONVERTER TRANSFORMER	
THYRISTOR	
TUNING DEVICE	
ELECTRODE LINE MONITORING	
COUPLING OF LINE FAULT LOCATOR	
VOLTAGE TRANSFORMER	
CAPACITIVE VOLTAGE TRANSFORMER	
AUTOTRANSFORMER	
EARTHING TRANSFORMER	
DISCONNECTOR	
EARTHING SWITCH	

BUILDING _____

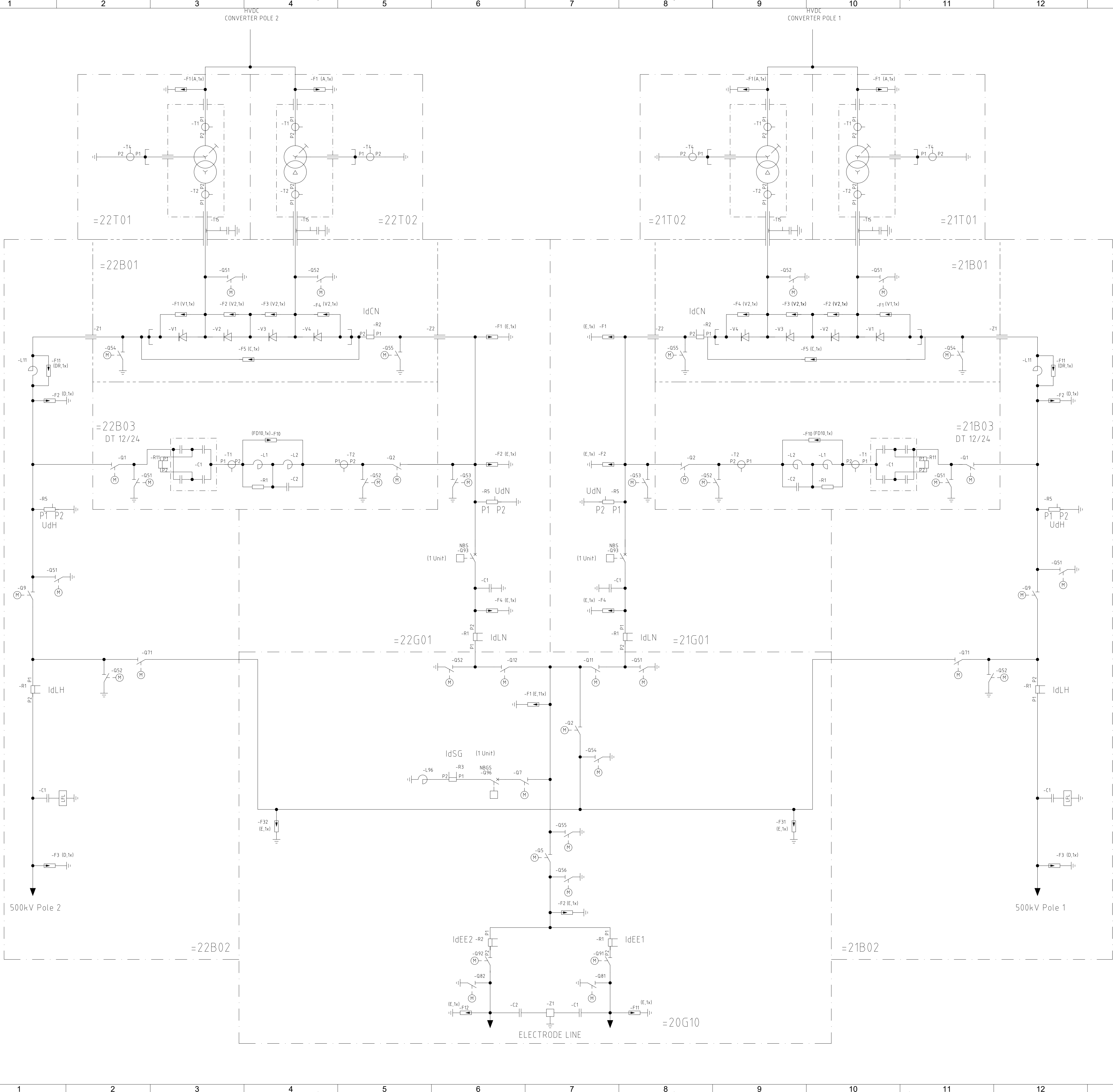
LIMIT OF BAY _____

LIMIT OF COMPONENT _____

±0.00 = 1593.90 MASL		IFC		IFA = Issued for approval IFI = Issued for information IFC = Issued for construction	IFM = Issued for implementation (Design Input) IFB = Issued for manufacture AB = As built (Documentation)	
09	2019-02-14	ACCORDING TO COMMENTS			APM	ACC
08	2019-02-07	ACCORDING TO COMMENTS			APM	ACC
07	2019-01-30	ACCORDING TO COMMENTS			APM	ACC
Rev.	Rev. Date	Modification			Created By	Approved By
File Name (Prefix)				HVDC 500kV BIPOLE		
N-000063_E_C1_9801_S_09				2000 MW		
Customer				400kV AC, ±500kV DC		
KETRACO Kenya						
Project						
Ethiopia - Kenya Power Systems Interconnection Project						
Location(s)				Location Designation(s)		
Suswa Converter Station				-		
Scale	Paper Size	Customer Document Number		Technical Classification:		
-	A1	EKPSIP_K1_G_W_00001_09		ECCN: N	AL: N	
Responsible Dept.	Techn. Reference	Document Type		Document Designation		
ING	JPH	LAYOUT AND MAJOR EQUIPMENT DRAWINGS		C1_9801_S	-	
	Created By	Title, Supplementary Title		Drawing Number		
	APM	SINGLE LINE DIAGRAMS		-		
Siemens AG	Approved By	HVDC STATION SLD		Rev.	Sheet	
	ACC			09	1/6	
				Date of Issue	Language	
				2019-02-14	en	

These files are controlled by the U.S. Government when labeled with "CCCN" unique to "N" and authorized for export only to the country of ultimate destination for use in the U.S. Government or as other use authorized by U.S. law and regulations. Items labeled with "AL" unique "N" are subject to European / national export authorization laws without label or with label "AL/N". "CCCN" may require authorization from responsible authorities depending on the final end use, or the destination.

Restricted © Siemens AG, 2017
Reproduction, reproduction, dissemination and/or selling
without the written permission of Siemens AG is prohibited.
Siemens AG is not responsible for the use of the information
and communication thereof to others without express
authorization. Offenders will be held
responsible for any damage or injury caused by
patent grant or registration of a utility model
design patent are reserved.



LEGEND:

SYMBOLS ACCORDING TO: IEC 60617

CIRCUIT BREAKER	
CIRCUIT BREAKER (POW)	
CURRENT TRANSFORMER	
CAPACITOR	
RESISTOR	
SURGE ARRESTER	
DISCONNECTOR MOTORIZED	
REACTOR	
EARTHING SWITCH MOTORIZED	
DC CURRENT MEASURING DEV.	
DC VOLTAGE MEASURING DEV.	
PRE-SET ADJUSTABILITY	
CONVERTER TRANSFORMER	
THYRISTOR	
TUNING DEVICE	
ELECTRODE LINE MONITORING	
COUPLING OF LINE FAULT LOCATOR	
VOLTAGE TRANSFORMER	
CAPACITIVE VOLTAGE TRANSFORMER	
AUTOTRANSFORMER	
EARTHING TRANSFORMER	
DISCONNECTOR	
EARTHING SWITCH	

BUILDING

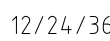
LIMIT OF BAY

LIMIT OF COMPONENT

NOTE:
Type and No. of Housings of Arresters
are indicated as follows: (Type, nx)

±0.00 = 1593.90 MASL		IFC	IFA = Issued for approval IFI = Issued for information IFC = Issued for construction	IFIM = Issued for implementation (Design Input) IFM = Issued for manufacture AB = As built (Documentation)
09	2019-02-14	ACCORDING TO COMMENTS		
08	2019-02-07	ACCORDING TO COMMENTS		
07	2019-01-30	ACCORDING TO COMMENTS		
Rev.	Rev. Date	Modification	Created By	Approved By
File Name (Prefix)			HVDC 500kV BIPOLE	
Customer			2000 MW	
KETRACO Kenya			400kV AC, ±500kV DC	
Project			Ethiopia - Kenya Power Systems Interconnection Project	
Location(s)			Location Designation(s)	
Suswa Converter Station			-	
Scale	Paper Size	Customer Document Number	Technical Classification:	
-	A1	EKPSIP_K1_G_W_00001_09	ECCN: N AL: N	
Responsible Dept.	Techn. Reference	Document Type	Document Designation	
ING	JPH	LAYOUT AND MAJOR EQUIPMENT DRAWINGS	C1_9801_S	
Created By	Title, Supplementary Title		Drawing Number	
APM	SINGLE LINE DIAGRAMS		-	
Approved By	HVDc STATION SLD		-	
Siemens AG	ACC	ACC	Rev. 09	Date of Issue 2019-02-14 Language en Sheet 2/ 6


Restricted © Siemens AG, 2017
Transferral, reproduction, dissemination and/or editing
of this document as well as utilization of its contents
and communication thereof to others without express
authorization are prohibited. Offenders will be held
liable for payment of damages. All rights created by
patent grant or registration of a utility model or
design patent are reserved.

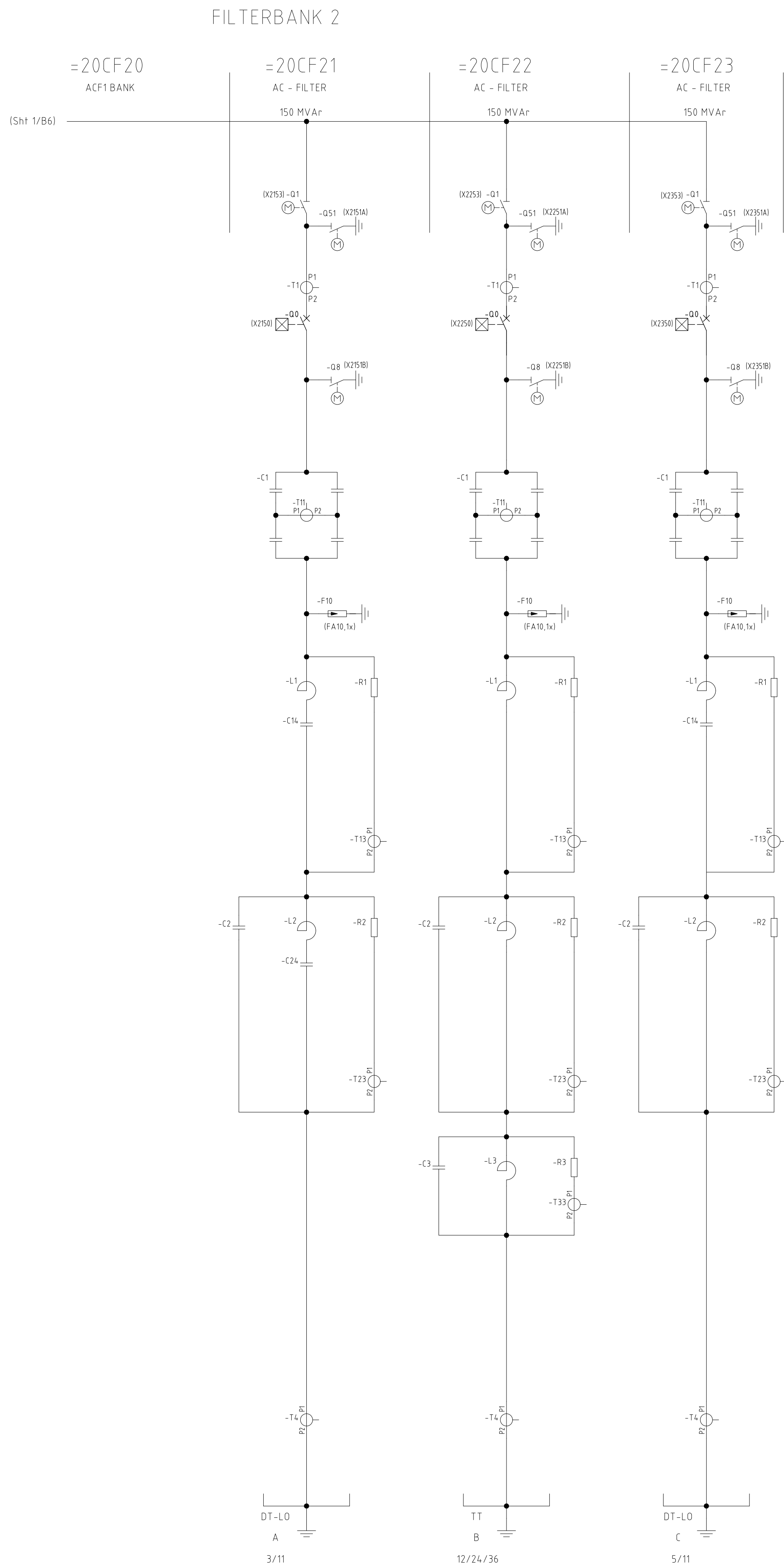


SYMBOLS ACCORDING TO: IEC 60617

BUILDING	_____
UNIT OF BAY	_____
UNIT OF COMPONENT	_____

NOTE:
Type and No. of Housings of Arresters
are indicated as follows: (Type, nx)

±0.00 = 1593.90 MASL		IFC		IFA = Issued for approval IFI = Issued for information IFC = Issued for construction		IFM = Issued for implementation (Design Input) IFM = Issued for manufacture AB = As built (Documentation)	
09	2019-02-14	ACCORDING TO COMMENTS				APM	ACC
08	2019-02-07	ACCORDING TO COMMENTS				APM	ACC
07	2019-01-30	ACCORDING TO COMMENTS				APM	ACC
Rev.	Rev. Date	Modification				Created By	Approved By
File Name (Prefix)			HVDC 500kV BIPOLE 2000 MW 400kV AC, ±500kV DC				
N-000063_E_C1_9801_S_09							
Customer							
KETRACO Kenya							
Project							
Ethiopia - Kenya Power Systems Interconnection Project							
Location(s)			Location Designation(s)				
Suswa Converter Station			-				
Scale	Paper Size	Customer Document Number			Technical Classification:		
-	A1	EKPSIP_K1_G_W_00001_09			ECCN: N AL: N		
Responsible Dept.	Techn. Reference	Document Type			Document Designation		
ING	JPH	LAYOUT AND MAJOR EQUIPMENT DRAWINGS			C1_9801_S -		
	Created By	Title, Supplementary Title			Drawing Number		
	APM	SINGLE LINE DIAGRAMS			-		
	Approved By	HVDC STATION SLD			Rev. 09 Date of Issue 2019-02-14 Language en Sheet 3/6		
Siemens AG							

[illegible]


LEGEND:

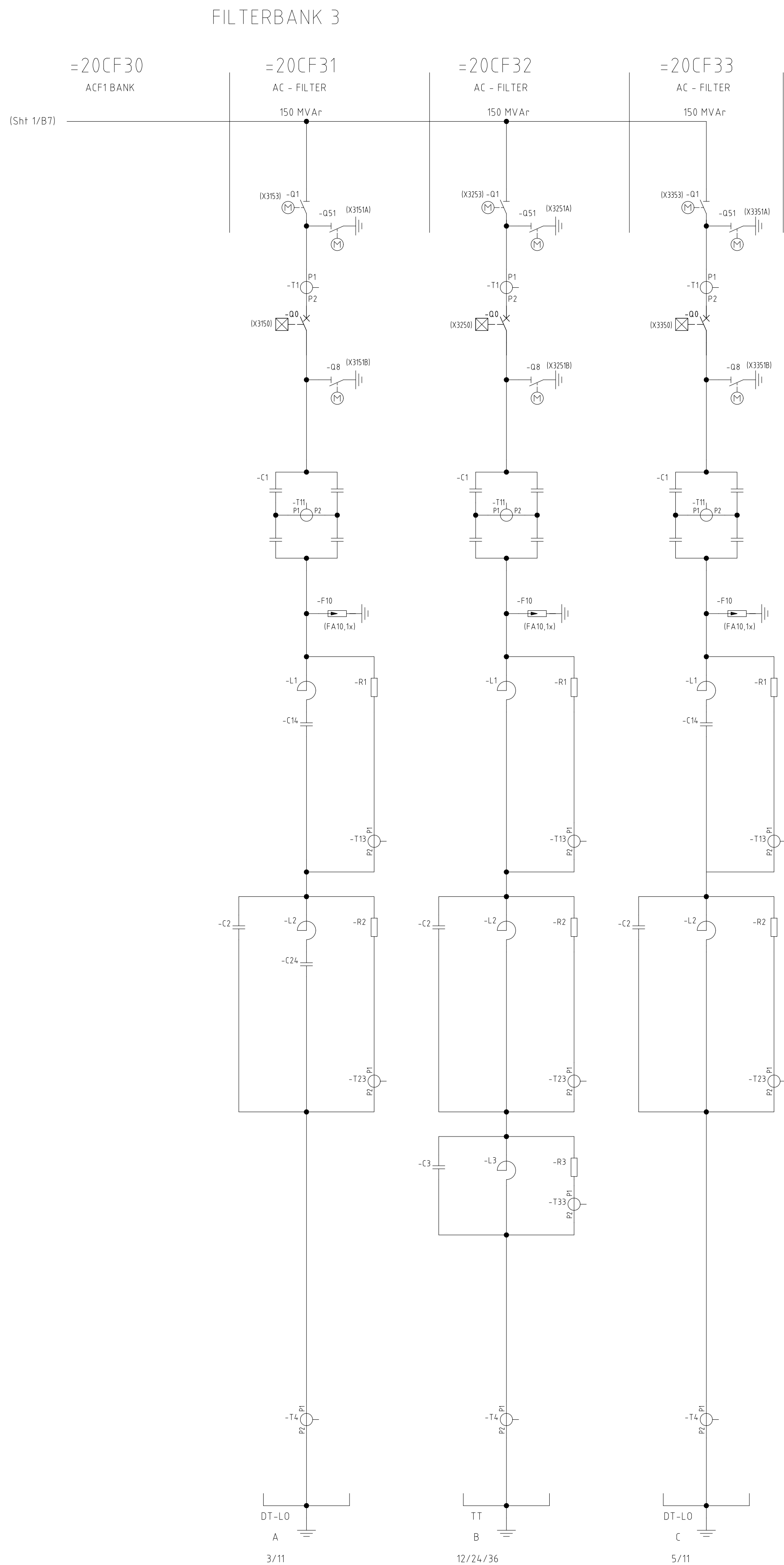
SYMBOLS ACCORDING TO: IEC 60617

CIRCUIT BREAKER	
CIRCUIT BREAKER (POW)	
CURRENT TRANSFORMER	
CAPACITOR	
RESISTOR	
SURGE ARRESTER	
DISCONNECTOR MOTORIZED	
REACTOR	
EARTHING SWITCH MOTORIZED	
DC CURRENT MEASURING DEV.	
DC VOLTAGE MEASURING DEV.	
PRE-SET ADJUSTABILITY	
CONVERTER TRANSFORMER	
THYRISTOR	
TUNING DEVICE	
ELECTRODE LINE MONITORING	
COUPLING OF LINE FAULT LOCATOR	
VOLTAGE TRANSFORMER	
CAPACITIVE VOLTAGE TRANSFORMER	
AUTOTRANSFORMER	
EARTHING TRANSFORMER	
DISCONNECTOR	
EARTHING SWITCH	

BUILDING	_____
LIMIT OF BAY	_____
LIMIT OF COMPONENT	_____
























NOTE:
Type and No. of Housings of Arresters
are indicated as follows: (Type, nx)

±0.00 = 1593.90 MASL		IFC		IFA = Issued for approval IFI = Issued for information IFC = Issued for construction		IFIM = Issued for implementation (Design Input) IFM = Issued for manufacture AB = As built (Documentation)	
09	2019-02-14	ACCORDING TO COMMENTS				APM	ACC
09	2019-02-07	ACCORDING TO COMMENTS				APM	ACC
07	2019-01-30	ACCORDING TO COMMENTS				APM	ACC
Rev.	Rev. Date	Modification				Created By	Approved By
File Name (Prefix)						HVDC 500kV BIPOLE	
N-000063_E_C1_9801_S_09						2000 MW	
Customer						400kV AC, ±500kV DC	
KETRACO Kenya							
Project							
Ethiopia - Kenya Power Systems Interconnection Project							
Location(s)						Location Designation(s)	
Suswa Converter Station						-	
Scale	Paper Size	Customer Document Number				Technical Classification:	
-	A1	EKSPIS_K1_G_W_00001_09				ECCN: N AL: N	
Responsible Dept.	Techn. Reference	Document Type				Document Designation	
ING	JPH	LAYOUT AND MAJOR EQUIPMENT DRAWINGS				C1_9801_S -	
		Title, Supplementary Title				Drawing Number	
Created By		SINGLE LINE DIAGRAMS					
Approved By		HVDC STATION SLD					
Siemens AG	ACC					Rev.	Sheet
						09	4 /
						2019-02-14	
						en	

[illegible]


LEGEND:

SYMBOLS ACCORDING TO: IEC 60617

CIRCUIT BREAKER	
CIRCUIT BREAKER (POW)	
CURRENT TRANSFORMER	
CAPACITOR	
RESISTOR	
SURGE ARRESTER	
DISCONNECTOR MOTORIZED	
REACTOR	
EARTHING SWITCH MOTORIZED	
DC CURRENT MEASURING DEV.	
DC VOLTAGE MEASURING DEV.	
PRE-SET ADJUSTABILITY	
CONVERTER TRANSFORMER	
THYRISTOR	
TUNING DEVICE	
ELECTRODE LINE MONITORING	
COUPLING OF LINE FAULT LOCATOR	
VOLTAGE TRANSFORMER	
CAPACITIVE VOLTAGE TRANSFORMER	
AUTOTRANSFORMER	
EARTHING TRANSFORMER	
DISCONNECTOR	
EARTHING SWITCH	

BUILDING	_____
LIMIT OF BAY	_____
LIMIT OF COMPONENT	_____

NOTE:
Type and No. of Housings of Arresters
are indicated as follows: (Type, nx)

±0.00 = 1593.90 MASL		IFC		IFA = Issued for approval IFI = Issued for information IFC = Issued for construction		IFIM = Issued for implementation (Design Input) IFM = Issued for manufacture AB = As built (Documentation)	
09	2019-02-14	ACCORDING TO COMMENTS				APM	ACC
09	2019-02-07	ACCORDING TO COMMENTS				APM	ACC
07	2019-01-30	ACCORDING TO COMMENTS				APM	ACC
Rev.	Rev. Date	Modification	Created By				Approved By
File Name (Prefix)			HVDC 500kV BIPOLE				
N-000063_E_C1_9801_S_09			2000 MW				
Customer			400kV AC, ±500kV DC				
KETRACO Kenya							
Project							
Ethiopia - Kenya Power Systems Interconnection Project							
Location(s)			Location Designation(s)				
Suswa Converter Station			-				
Scale	Paper Size	Customer Document Number				Technical Classification:	
-	A1	EKSPIS_K1_G_W_00001_09				ECCN: N AL: N	
Responsible Dept.	Techn. Reference	Document Type				Document Designation	
ING	JPH	LAYOUT AND MAJOR EQUIPMENT DRAWINGS				C1_9801_S -	
	Created By	Title, Supplementary Title				Drawing Number	
	APM	SINGLE LINE DIAGRAMS					
	Approved By	HVDC STATION SLD					
Siemens AG	ACC					Rev.	Sheet
						09	5/6
						Date of Issue	Language
						2019-02-14	en

