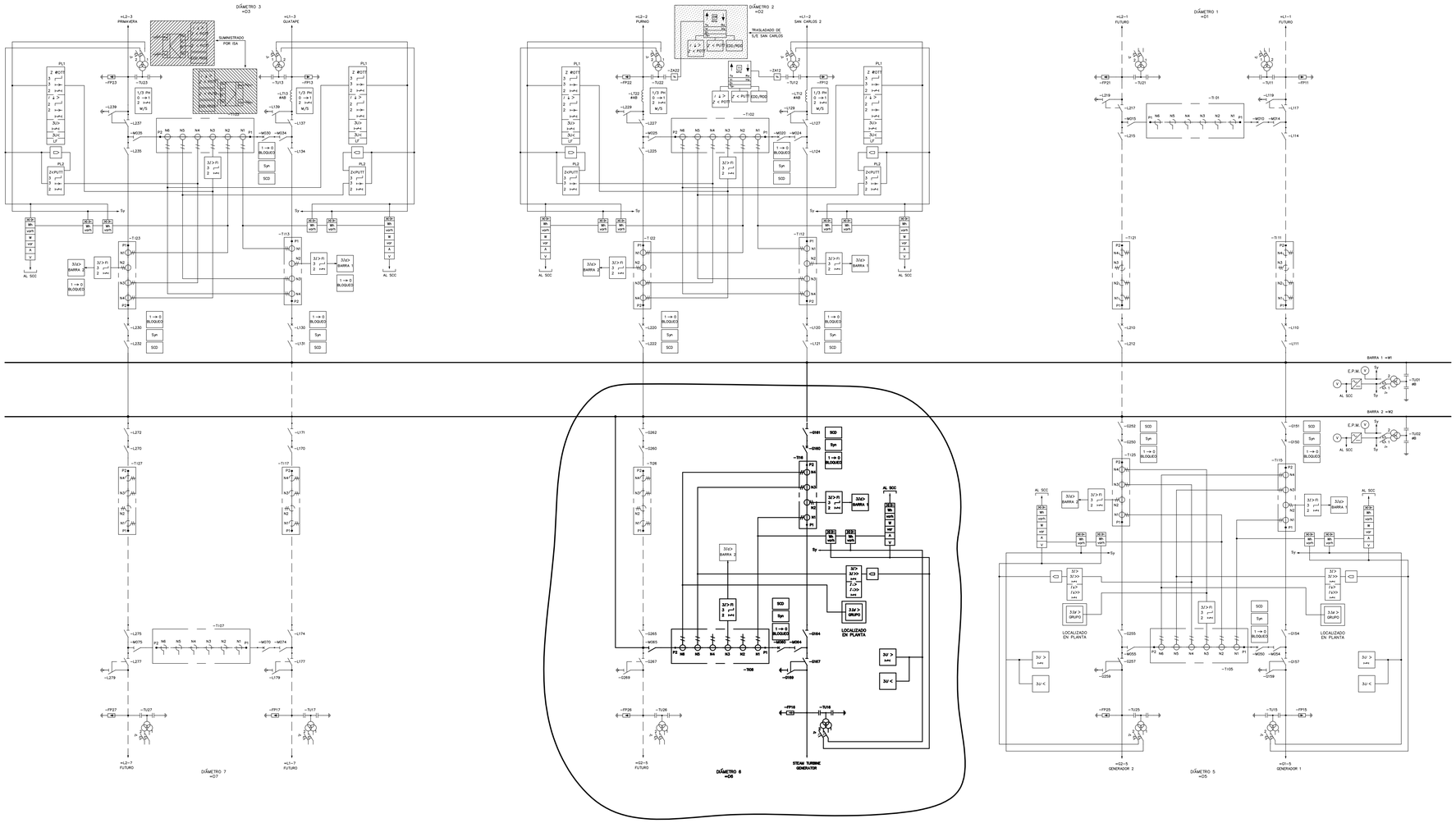

CONVENCIONES :

PARARRAYOS
192 kV-10 kA
ZnO

TRAMPA DE ONDA
1250 A-31,5 kA
0,5 mH
(WAVE TRAP)

SECCIONADOR
245 kV
In=1600 A
Icc=31,5 kA
(SWITCH)

INTERRUPTOR AUTOMÁTICO
SF$_6$ 245 kV
In=2500 A
Icc=31,5 kA
(CIRCUIT BREAKER)

TRANSFORMADOR DE CORRIENTE
245 kV-31,5 kA
1600-800/1-1-1-1-1 A
(CURRENT TRANSFORMER)

4400 pF

TRANSFORMADOR DE TENSIÓN
245 kV
$230\sqrt{3}$: $3\ kV\sqrt{3}$: $3\sqrt{3}$=0,115/ $\sqrt{3}$ kV
O, 0,2 25 VA
O, 3P 25 VA
(VOLTAGE TRANSFORMER)

TRANSFORMADOR DE CORRIENTE
245 kV-31,5 kA
1600-800/1-1-1-1-1 A
(CURRENT TRANSFORMER)

CONTADOR MULTIFUNCIONAL DE ENERGÍA ACTIVA Y ENERGÍA REACTIVA BIDIRECCIONAL CL 0,25

EQUIPO MULTIFUNCIONAL DE MEDIDA
(MULTI-FUNCTIONAL EQUIPMENT)

PROTECCIÓN DIFERENCIAL
(DIFFERENTIAL PROTECTION)

RELE DE VERIFICACIÓN DE SINCRONISMO
(SYNCRONIZING RELAY)

REGISTRADOR DE FALLAS

PROTECCIÓN DE DISTANCIA CON FUNCIÓN DE SOBRECORRIENTE DIRECCIONAL A TIERRA, SOBRE/BAJA TENSIÓN Y LOCALIZADOR DE FALLAS

PROTECCIÓN DE DISTANCIA
(DISTANCE PROTECT)

PROTECCIÓN DIFERENCIAL GRUPO GENERADOR-TRANSFORMADOR
(DIFFERENTIAL PROTECTION GENERATOR TRANSFORMER GROUP)

RELÉ DE RECIERRE
(RECLOSER RELAY)

PROTECCIÓN DE SOBRECORRIENTE CON FALLA A TIERRA
(O.C. WITH GROUND FAULT PROTECTION)

RELÉ DE DISPARO MAESTRO (DISPARO Y BLOQUEO)
(TRIP MASTER RELAY (TRIP & LOCK)

PROTECCIÓN FALLA INTERRUPTOR
(BREAK FAULT PROTECTION)

PROTECCIÓN SOBRE TENSIÓN
(O.V. PROTECTION)

PROTECCIÓN BAJA TENSIÓN
(UNDER VOLTAGE PROTECTION)

RELÉ DE SUPERVISION CIRCUITO DE DISPARO
(SUPERVISION RELAY OF TRIP CIRCUIT)

RELÉ DE ONDA/RECEPCIÓN DISPARO DIRECTO
(TRANSFER/RECEIVER RELAY FOR DIRECT TRIP)

DISPOSITIVO DE ACOPLE
(PLC EQUIPMENT)

EQUIPO PLP
(P.L.C. EQUIPMENT)

EQUIPO P.C.

EXISTENTE

FUTURO

TI	CARACTERÍSTICAS	N1	N2	N3	N4	N5	N6
T115, T125 T116	RELACIÓN	800-400/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A	–	–
	PRECISIÓN	Cl 0,2S	Cl 10P20	Cl 10P20	Cl 10P30	–	–
	CAPACIDAD	5 VA	10 VA	10 VA	10 VA	–	–
T112, T122 T113, T123	RELACIÓN	800-400/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A	–	–
	PRECISIÓN	Cl 0,2S	Cl 10P20	Cl TPY	Cl TPY	–	–
	CAPACIDAD	5 VA	10 VA	Rb=5,Ω	Rb=5,Ω	–	–
T102, T103	RELACIÓN	800-400/1 A	800-400/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A
	PRECISIÓN	Cl 0,2S	Cl 0,2S	Cl TPY	Cl TPY	Cl TPY	Cl TPY
	CAPACIDAD	5 VA	5 VA	Rb=5,Ω	Rb=5,Ω	Rb=5,Ω	Rb=5,Ω
T105 T106	RELACIÓN	800-400/1 A	800-400/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A	1600-800/1 A
	PRECISIÓN	Cl 0,2S	Cl 0,2S	Cl 10P30	Cl 10P20	Cl 10P20	Cl 10P30
	CAPACIDAD	5 VA	5 VA	10 VA	10 VA	10 VA	10 VA

ENCIRCLED AREA INDICATES NEW WORK.

NOTES:

A0

230 KV SUBSTATION REFERENCES:

LASI-1-DW-660-206-001 ONE LINE DIAGRAM
LASI-1-DW-660-247-001 GENERAL ARRANGEMENT
LASI-1-DW-660-247-002 SECTIONS A-A, A2-A2 & B-B
LASI-1-DW-660-247-003 SECTIONS C-C & D-D
LASI-1-DW-660-247-004 SECTIONS E-E & F-F
LASI-1-DW-660-247-005 SECTIONS G-G & H-H
LASI-1-DW-660-247-006 EQUIPMENT LIST

TLS/E-DL-1201 INSULATOR & STATIC LINES SH. 7 & 8

THIS DRAWING WAS MADE FROM DRAWING TLS/E-PL-1000

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER	PROJECT ENGINEERING MANAGER	PROJECT MANAGER
0	06 11 99	APPROVED FOR USE	HRG	JLB	JRM	JLB	VBK	DVL	SD

DRAWN BY DATE

STATUS OF DRAWING	DEFINITION	CONSTRUCTION STATUS
PRELIMINARY	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUPTIONS. REVIEWED NOT CHECKED.	
LBL DATE		

DRAWN BY HRG	DATE 03/16/99
CHECKED BY J. BENNETT	DATE 06-11-99
LEAD DESIGNER J. MILLARD	DATE 06-11-99
ENGINEER J. BENNETT	DATE 06-11-99
LEAD DISCIPLINE ENGR. D. DE	DATE 06-11-99

ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF
PE: STATE:
LIC. NO: DATE:
PROJECT ENGINEERING MANAGER V. BAKKER
PROJECT MANAGER S. DAVIS

PARSONS
PARSONS ENERGY & CHEMICALS GROUP INC.
READING OFFICE

GE Power Systems

INELECTRA COLOMBIA S.A.

CLIENT/PROJECT TITLE

LA SIERRA COMBINED CYCLE
Empresas Públicas de Medellin E.S.P.

230 KV SUBSTATION
ONE LINE DIAGRAM

SCALE NONE

PARSON'S DWG. NO. LASI-1-DW-660-206-001 REV 0

ARCH | HVAC | I & C | ELECT | MECH | CIVIL | STRUC