

SUPPLIER

FRAMATOME

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SYSTEM MANUAL

LNI

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CHAPTER 9.3

CONTROL AND INSTRUMENTATION LIST

REV	DATE	DR. By	CH. By	APPR. By	MODIFICATIONS	STATUS
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Z2	2009-06-04	YK	EP	EJK	DDR 943/09	ESKOM
Z1	1998-05-11	EM	FGA	BT	DDR 558/98	ESKOM

KOEBERG NUCLEAR POWER STATION



**FRAMATOME – ALSTHOM ATLANTIQUE
SPIE BATIGNOLLES – FRAMATEG**

CONTRACT No. OPN 11229

CONTRACTOR MEMBER	FRAMATOME										CONTRACTOR MEMBER Doc. No.	354 KBY 7009								
DOCUMENT NUMBER	K	B	A	1	2	1	7	L	N	I	E	0	9	F	R	A	-	R	F	R
REV	Z1	Z2	Z3																	

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FRAMATOME

REVISIONS

REV	DATE	PARAGRAPH	PAGE	DRAWING	SCOPE OF THE REVISION
A					
B					Edition. First edition.
B2					Translation into English.
C					Up dating-CAE.

FRAMATOME J. A. Tourriat - 1, Place de la Coupole - COURBEVOIE (Hauts-de-Seine)

APPAREIL 8 ELECTRIQUE 8

NUMERO CARTE					1	1	1	3	3	3	3	
C H A T	C T R A	C M A J	C O D E	I D E N	REPERE FONCTIONNEL REDUIT	LIBELLE	REFERENCE CONSTRUCTEUR	V O I E	CC O E D N E T	LOCALI- SATION GEOGRA- PHICAL	I N S T	
L	M	+			LNA 101 JA-	SIP 1 PROT 12AR 9UP	F32/C32H/C60N			W	508--	MGN
L	M	+			LNA 101 JA-					W	467--	
L	M	+			LNA 103 JA-	SIN 1 CTRL RPN 001 AR 9UP				W	508--	MGN
L	M	+			LNA 103 JA-					W	467--	
L	M	+			LNA 104 JA-	SIN 1 PROT RPN 001 AR 9UP				W	508--	MGN
L	M	+			LNA 104 JA-					W	467--	
L	M	+			LNA 105 JA-	EM SHTDWN PNL KRG 401 EN 9UP				W	508--	MGN
L	M	+			LNA 105 JA-					W	467--	
L	M	+			LNA 110 JA-	48V CONTROL - INCOMING				W	508--	MGN
L	M	+			LNA 110 JA-					W	467--	
L	M	+			LNA 001 DL-	INVERTER	MG30 - 5KVA			W	508--	MGN
L	M	+			LNA 001 DL-					W	467--	
L	M	+			LNA 001 TR-	TRANSFORMER	120424			W	508--	MGN
L	M	+			LNA 001 TR-	TRANSFORMER				W	467--	

DIVERSE CONTROL EQUIPMENT

CARD READER					1	1	1	3	3	3	5	5	5	5	5	
C H A R T	C R A J	C M A J	C O D E	I D E N	EQUIPMENT NUMBER	WORDING	MANUFACTURER REFERENCE	T R A N	CP OL DA EN	GEOGRA- PHICAL LOCA- TION	I N S T	L O C A	C A T E	CGN TRA CTG R	CON- TRAC NUM	SUP PLI ER
E	M	+			LNA 501 IA-	LNA INSULATION FAULT							1			
E	M	+			LNA 502 IA-	001DL INVERTER FAULT							1			
E	M	+			LNA 503 IA-	LNA 220 V AC MAX-MIN							1			
E	M	+			LNA 504 IA-	1-220 V AC OUTPUT TRIPPED							1			
E	M	+			LNA 551 IA-	48 V DC DEFECT							1			
E	M	+			LNA 001 LA-	DC SUPPLY HEALTHY	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 508--	MGN	L	B	FRA		ERC
E	M	+			LNA 001 LA-					W 467--						
E	M	+			LNA 002 LA-	INVERTER FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 508--	MGN	L	4	FRA		ERC
E	M	+			LNA 002 LA-					W 467--						
E	M	+			LNA 003 LA-	INVERTER ENERGIZED	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 508	MGN	L	B	FRA		ERC
E	M	+			LNA 003 LA-					W 467--						
E	M	+			LNA 004 LA-	PHASE FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 508--		L	J	FRA		ERC
E	M	+			LNA 004 LA-					W 467--						
E	M	+			LNA 101 LA-	1-220 V AC OUTPUT TRIPPED	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 508--	MGN	L	J	FRA		ERC
E	M	+			LNA 101 LA-					W 467--						
E	M	+			LNA 102 LA-	INSULATION FAULT	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 508--	MGN	L	J	FRA		ERC
E	M	+			LNA 102 LA-					W 467--						
E	M	+			LNA 104 LA-	STANDBY SUPPLY ON				L 750--		T	R			
E	M	+			LNA 106 LA-	INVERTER ON LOAD				L 750--		T	R			



MATERIELS DIVERS DE CONTROLE - COMMANDE

NUMERO CARTE	1	1	13	3	3	5	5	5	5	5		
CIC I	REPERE	LIBELLE	REFERENCE	V	CC	LOCALI	I	L	C	IT	NUM	IT
M I H D	FONCTIONNEL		CONSTRUCTEUR	D	DE	SATION	N	O	A			
A I R I A D E	REDUIT			I	DN	GEOGRA	S	C	T	MAR	MAR	FAB
T I A I J I C H				E	ET	PHIQUE	T	A	E	CHE	CHE	TRIC
E MI	LNA101CC-	INVERTER CONTROL SWITCH	120430			W 508	MGN	L	-	FRA		MGN
E MI	LNA101CC-					W 467						
E MI	LNA101ID-	INVERTER SPPLY VOLTHETER	PN72 CH100			W 508	MGN	L	-	FRA		CAX
E MI	LNA101ID-					W 467						
E MI	LNA102ID-	INVERTER SPPLY AMHETER	PN72 CH100			W 508	MGN	L	-	FRA		CAX
E MI	LNA102ID-					W 467						
E MI	LNA103ID-	INVERTER OUTPUT VOLTMETER	PN72 EH100			W 508	MGN	L	-	FRA		CAX
E MI	LNA103ID-					W 467						
E MI	LNA104ID-	INVERTER OUTPUT AMHETER	PN72 EH 100			W 508	MGN	L	-	FRA		CAX
E MI	LNA104ID-					W 467						

APPAREILS ELECTRIQUES

NUMERO CARTE	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6		
CIC I	REPERE	PUIS	PUIS	TENS	IN	IL	IL	VI	IS	RIL	IL	TITINUM	TIT	IL	IL	CALI	CALI	L	L	L	L	CAS DE		
M	FONCTIONNEL	ABSOR	ION	SOU	R	IC	TE	EDD	T	Y				TAB	C	P	BRE	BRE	R	T	R	T	PONC	
A	REDUIT	HECA	BEE	+	SUN	D	IO	SE	NET	D	D	MAR	MAR	FAB	LEAU	E	IQ	C	COU	T	I	S	S	
T	UNITE	NOMI												IS	AIE	N	CHE	CHE	RIC					
L	M+	LNA101JA-										FRA		MGN	-LNA-	31								0008
L	M+	LNA103JA-										FRA		MGN	-LNA-	21								0008
L	M+	LNA104JA-										FRA		MGN	-LNA-	22								0008
L	M+	LNA105JA-										FRA		MGN	-LNA-	11								0008
L	M+	LNA110JA-										FRA		MGN	-LCA-	12								
L	M+	LNA001DL-			125		80					FRA		MGN	-LBC-	11								
L	M+	LNA001TR-			0380							FRA		MGN	-LLC-	11								

APPAREILS ELECTRIQUES

NUMERO CARTE	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6
L:M:+	LNB101JA-														FRA	MGN	-LNB	-31			10008
L:M:+	LNB103JA-														FRA	MGN	-LNB	-21			10008
L:M:+	LNB104JA-														FRA	MGN	-LNB	-22			10008
L:M:+	LNB105JA-														FRA	MGN	-LNB	-11			10008
L:M:+	LNB106JA-														FRA	MGN	-LNB	-12			10008
L:M:+	LNB110JA-														FRA	MGN	-LNB	-42			
L:M:+	LND001DL-				125		80								FRA	MGN	-LBD	-11			
L:M:+	LNB001TR-				0380										FRA	MGN	-LLD	-05			

MATERIELS DIVERS DE CONTROLE-COMMANDE

NUMERO CARTE	1	1	1	3	3	3	5	5	5	5

CICIC I	REPERE			V	CC	LOCALI	I	L	C	IT
M	TI	HO	D	FONCTIONNEL	LIBELLE	REFERENCE	O	IE	SATION	N
A	RIA	D	E	REDUIT		CONSTRUCTEUR	I	DN	GEOGRA	S
T	A	U	J	E	N		E	ET	PHIQUE	T

E	M	+		LNR101CC-	INVERTER CONTROL SWITCH	120430	W	506-	MGN	L
										FRA
										MGN
E	M	+		LNB101CC-			W	543-		
E	M	+		LNR101ID-	INVERTER SPPLY VOLTMETER	PN72 CH100	W	506-	MGN	L
										FRA
										CAX
E	M	+		LNR101ID-			W	543-		
F	M	+		LNR102ID-	INVERTER SPPLY AMMETER	PN72 CH100	W	506-	MGN	L
										FRA
										CAX
E	M	+		LNR102ID-			W	543-		
F	M	+		LNR103ID-	INVERTER OUTPUT VOLTMETER	PN72 EH100	W	506-	MGN	L
										FRA
										CAX
E	M	+		LNR103ID-			W	543-		
E	M	+		LNR104ID-	INVERTER OUTPUT AMMETER	PN72 EH100	W	506-	MGN	L
										FRA
										CAX
F	M	+		LNR104ID-			W	543-		

DIVERSE CONTROL EQUIPMENT

CARD READER →					1	1	1	3	3	3	5	5	5	5	5	
C H A T	C T R A	C M A J	C O D E	I D E N	EQUIPMENT NUMBER	WORDING	MANUFACTURER REFERENCE	T R A N	CP OL DA EN	GEOGRA- PHICAL LOCA- TION	I N S T	L O C A	C A T E	CGN TRA CTG R	CON- TRAC NUM	SUP PLI ER
E	M	+			LN B501 IA-	LNB INSULATION FAULT							1			
E	M	+			LNB 502 IA-	001 DL INVERTER FAULT							1			
E	M	+			LNB 503 IA-	LNB 220 V AC MAX-MIN							1			
E	M	+			LNB 504 IA-	1-220 V AC OUTPUT TRIPPED							1			
E	M	+			LNB 551 IA-	48 V DC DEFECT							1			
E	M	+			LNB 001 LA-	DC SUPPLY HEALTHY	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 506--	MGN	L	B	FRA		ERC
E	M	+			LNB 001 LA-					W 543--						
E	M	+			LNB 002 LA-	INVERTER FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 505--	MGN	L	J	FRA		ERC
E	M	+			LNB 002 LA-					W 543--						
E	M	+			LNB 003 LA-	INVERTER ENERGIZED	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 506--	MGN	L	B	FRA		ERC
E	M	+			LNB 003 LA-					W 543--						
E	M	+			LNB 004 LA-	PHASE FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 506--		L	J	FRA		ERC
E	M	+			LNB 004 LA-					W 543--						
E	M	+			LNB 101 LA-	1-220 V AC OUTPUT TRIPPED	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 506--	MGN	L	J	FRA		ERC
E	M	+			LNB 101 LA-					W 543--						
E	M	+			LNB 102 LA-	INSULATION FAULT	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 506--	MGN	L	J	FRA		ERC
E	M	+			LNB 102 LA-					W 543--						
E	M	+			LNB 204 LA-	STANDBY SUPPLY ON				L 750--		T	R			
E	M	+			LNB 206 LA-	INVERTER ON LOAD				L 750--		T	R			



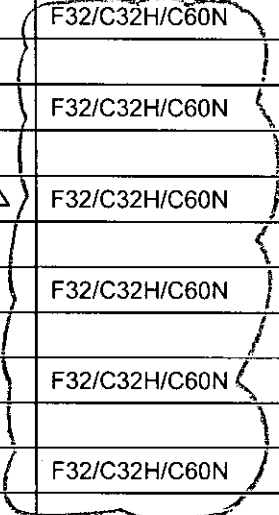
APPAREIL 8 ELECTRIQUE 8

NUMERO CARTE					1	1	1	3	3	3	3	
C H A T	C T R A	C M A J	C O D E	I D E N	REPERE FONCTIONNEL REDUIT	LIBELLE	REFERENCE CONSTRUCTEUR	V O I E	CC O E D N E T	LOCALI- SATION GEOGRA - PHICAL	I N S T	
L	M	+			LNB 101 JA-	SIP 2 PROT 22AR 9UP	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 101 JA-					W	543--	
L	M	+			LNB 103 JA-	SIN 2 CTRL RPN 001 AR 9UP	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 103 JA-					W	543--	
L	M	+			LNB 104 JA-	SIN 2 PROT RPN 001 AR 9UP	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 104 JA-					W	543--	
L	M	+			LNB 105 JA-	LOCAL INSTRUMENT - RIS 402 AM 9UP	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 105 JA-					W	543--	
L	M	+			LNB 106 JA-	LOCAL INSTRUMENT - LNB 001 CR 9UP	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 106 JA-					W	543--	
L	M	+			LNB 110 JA-	48V CONTROL - INCOMING	F32/C32H/C60N			W	506--	MGN
L	M	+			LNB 110 JA-					W	543--	
L	M	+			LNB 001 DL-	INVERTER	MG30.5KVA			W	506--	MGN
L	M	+			LNB 001 DL-					W	543--	
L	M	+			LNB 001 TR-	TRANSFORMER	120424			W	506--	MGN
L	M	+			LNB 001 TR-					W	543--	

APPAREIL 8 ELECTRIQUE 8

NUMERO CARTE →					1	1	1	3	3	3	3
C H A T	C T R A	C M A J	C O D E	I D E N	REPERE FONCTIONNEL REDUIT	LIBELLE	REFERENCE CONSTRUCTEUR	V O I E	CC OE DN ET	LOCALI- SATION GEOGRA- PHICAL	I N S T
L	M	+			LNC 101 JA-	SIP 3 PROT 23AR 9UP	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 101 JA-					W 466--	
L	M	+			LNC 103 JA-	SIN 3 CTRL RPN 003 AR 9UP	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 103 JA-					W 466--	
L	M	+			LNC 104 JA-	SIN 3 PROT RPN 003 AR 9UP	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 104 JA-					W 466--	
L	M	+			LNC 105 JA-	LOCAL INSTRUMENT - LNC 001 CR 9UP	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 105 JA-					W 466--	
L	M	+			LNC 106 JA-	LOCAL INSTRUMENT - LNC 002 CR 9UP	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 106 JA-					W 466--	
L	M	+			LNC 110 JA-	48V CONTROL - INCOMING	F32/C32H/C60N			W 503--	MGN
L	M	+			LNC 110 JA-					W 446--	
L	M	+			LNC 001 DL-	INVERTER	MG30.5KVA			W 503--	MGN
L	M	+			LNC 001 DL-					W 446--	
L	M	+			LNC 001 TR-	TRANSFORMER	120424			W 503--	MGN
L	M	+			LNC 001 TR-					W 446--	

Z3



DIVERSE CONTROL EQUIPMENT

CARD READER →					1	1	1	3	3	3	5	5	5	5	5	
CHART	CTRA	CM	CODE	IDEN	EQUIPMENT NUMBER	WORDING	MANUFACTURER REFERENCE	TRAN	CPOLDAEN	GEOGRAPHICAL LOCATION	INSTR	LOCA	CATE	CGNTRAC	CON-TRAC NUM	SUPPLIER
E	M	+			LNC 501 IA-	LNC INSULATION FAULT							1			
E	M	+			LNC 502 IA-	001 DL INVERTER FAULT							1			
E	M	+			LNC 503 IA-	LNC 220 V AC MAX-MIN							1			
E	M	+			LNC 504 IA-	1-220 V AC OUTPUT TRIPPED							1			
E	M	+			LNC 551 IA-	48 V DC DEFECT							1			
E	M	+			LNC 001 LA-	DC SUPPLY HEALTHY	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 503--	MGN	L	B	FRA		ERC
E	M	+			LNC 001 LA-					W 466--						
E	M	+			LNC 002 LA-	INVERTER FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 503--	MGN	L	J	FRA		ERC
E	M	+			LNC 002 LA-					W 466--						
E	M	+			LNC 003 LA-	INVERTER ENERGIZED	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 503--	MGN	L	B	FRA		ERC
E	M	+			LNC 003 LA-					W 466--						
E	M	+			LNC 004 LA-	PHASE FAULT	N2436 VTMU171730/1 MWCF 6864-BIPOLAR			W 503--		L	J	FRA		ERC
E	M	+			LNC 004 LA-					W 466--						
E	M	+			LNC 101 LA-	1-220 V AC OUTPUT TRIPPED	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 503--	MGN	L	J	FRA		ERC
E	M	+			LNC 101 LA-					W 466--						
E	M	+			LNC 102 LA-	INSULATION FAULT	N2436 VTMU171230/1 MWCF 6864-BIPOLAR			W 503--	MGN	L	J	FRA		ERC
E	M	+			LNC 102 LA-					W 466--						
E	M	+			LNC 304 LA-	STANDBY SUPPLY ON				L 750--		T	R			
E	M	+			LNC 306 LA-	INVERTER ON LOAD				L 750--		T	R			

Z2

MATERIELS DIVERS DE CONTROLE-COMMANDE

* NUMERO CARTE ---->		* 1		* 1		* 1 3 3		* 3 5 5 5 5		* 5						
* C I C I C I	* REPERE	* FONCTIONNEL		* LIBELLE		* REFERENCE		* V I C C	* LOCALI	* I I	* L I C	* TIT	* NUM	* TIT		
* A I R I A I D E	* REDUIT					* CONSTRUCTEUR		* O I O E	* S A T I O N	* N N	* D A					
* T A I J E N								* I D N	* G E O G R A	* S S	* C T	* M A R	* M A R	* F A B		
								* E	* T	* P H I Q U E	* T	* A	* E	* C H E	* C H E	* R I C
* E	* M I +	* LNC101CC-	* INVERTER CONTROL SWITCH	* 120430				* W 503-	* MGN	* L		* FRA		* NGH		
* E	* M I +	* LNC101CC-						* W 466-								
* E	* M I +	* LNC1011D-	* INVERTER SUPPLY VOLTMETER	* PN72 CH100				* W 503-	* MGN	* L		* FRA		* CAX		
* E	* M I +	* LNC1011D-						* W 466-								
* E	* M I +	* LNC1021D-	* INVERTER SUPPLY AMMETER	* PN72 CH100				* W 503-	* MGN	* L		* FRA		* CAX		
* E	* M I +	* LNC1021D-						* W 466-								
* E	* M I +	* LNC1031D-	* INVERTER OUTPUT VOLTMETER	* PN72 EH100				* W 503-	* MGN	* L		* FRA		* CAX		
* E	* M I +	* LNC1031D-						* W 466-								
* E	* M I +	* LNC1041D-	* INVERTER OUTPUT AMMETER	* PN72 EH100				* W 503	* MGN	* L		* FRA		* CAX		
* E	* M I +	* LNC1041D-						* W 466-								

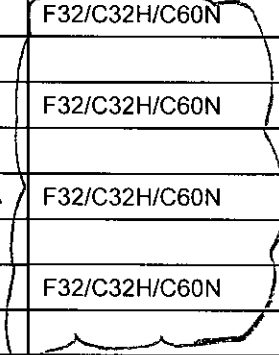
APPAREILS ELECTRIQUES

* NUMERO CARTE ----->		5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6					
* C : C : C I :	REPERE	PUIS	PUIS	TENS	IN	IL	IL	VI	IS	REL	L	TIT	NUH	TIT	IL	LIL	CALI	CALI	L	L	L	L	CAS DE			
* N : T : M : D :	FONCTIONNEL	ABSOR	-ION	SOUS	R	IC	TES	ED	T	I	I			TAB	IC	PIT	-BRE	-BRE	R	T	R	T	FONC			
* A : P : A : D E :	REDUIT	MECA	BCE	+	UN	D	IO	-SE	NET	D	D	MAR	MAR	FAB	LEAU	E	Q	C	COU	T	I	S	S	C	C	TION
* T : A : J : E M :		UNITE	NOMI		M	IS		IS	A	C	N	CHE	CHE	RIC	IL	HO	PURE	PROT	U	U	C	C	C	C	INEMENT	
* L : M : :	LNC101JA-											FRA		MGN	-LNC-	31		10008								
* L : M : :	LNC103JA-											FRA		MGN	-LNC-	21		10008								
* L : M : :	LNC104JA-											FRA		MGN	-LNC-	22		10008								
* L : M : :	LNC105JA-											FRA		MGN	-LNC-	11		10008								
* L : M : :	LNC106JA-											FRA		MGN	-LNC-	12		0008								
* L : M : :	LNC110JA-											FRA		MGN	-LCA-	13										
* L : M : :	LNC001DL-			125		80						FRA		MGN	-LBE-	11										
* L : M : :	LNC001TR-			0380								FRA		MGN	-LLC-	12										


APPAREIL 8 ELECTRIQUE 8

NUMERO CARTE					1	1	1	3	3	3	3
C H A T	C T R A	C M A J	C O D E	I D E N	REPERE FONCTIONNEL REDUIT	LIBELLE	REFERENCE CONSTRUCTEUR	V O I E	CC O E D N E T	LOCALI- SATION GEOGRA- PHICAL	I N S T
L	M	+			LND 101 JA-	SIP 4 PROT 41AR 9UP	F32/C32H/C60N			W 502--	MGN
L	M	+			LND 101 JA-					W 542--	
L	M	+			LND 103 JA-	SIN 4 CTRL RPN 004 AR 9UP	F32/C32H/C60N			W 502--	MGN
L	M	+			LND 103 JA-					W 542--	
L	M	+			LND 104 JA-	SIN 4 PROT RPN 004 AR 9UP	F32/C32H/C60N			W 502--	MGN
L	M	+			LND 104 JA-					W 542--	
L	M	+			LND 110 JA-	48V CONTROL - INCOMING	F32/C32H/C60N			W 502--	MGN
L	M	+			LND 110 JA-					W 542--	
L	M	+			LND 001 DL-	INVERTER	MG30.5KVA			W 502--	MGN
L	M	+			LND 001 DL-					W 542--	
L	M	+			LND 001 TR-	TRANSFORMER	120424			W 502--	MGN
L	M	+			LND 001 TR-					W 542--	

Z3



DIVERSE CONTROL EQUIPMENT

CARD READER →					1	1	1	3	3	3	5	5	5	5	5	
C H A T	C T R A	C M A J	C O D E	I D E N	EQUIPMENT NUMBER	WORDING	MANUFACTURER REFERENCE	T R A N	CP OL DA EN	GEOGRA- PHICAL LOCA- TION	I N S T	L O C A	C A T E	CGN TRA CTG R	CON- TRAC NUM	SUP PLI ER
E	M	+			LND 501 IA-	LND INSULATION FAULT							1			
E	M	+			LND 502 IA-	001 DL INVERTER FAULT							1			
E	M	+			LND 503 IA-	LND 220 V AC MAX-MIN							1			
E	M	+			LND 504 IA-	1-220 V AC OUTPUT TRIPPED							1			
E	M	+			LND 551 IA-	48 V DC DEFECT							1			
E	M	+			LND 001 LA-	DC SUPPLY HEALTHY	N2436 VTMU171730/7 MWCF 6864-BIPOLAR			W 502--	MGN	L	B	FRA		ERC
E	M	+			LND 001 LA-					W 542--						
E	M	+			LND 002 LA-	INVERTER FAULT	N2436 VTMU171730/7 MWCF 6864-BIPOLAR			W 502--	MGN	L	J	FRA		ERC
E	M	+			LND 002 LA-					W 542--						
E	M	+			LND 003 LA-	INVERTER ENERGIZED	N2436 VTMU171730/7 MWCF 6864-BIPOLAR			W 502--	MGN	L	B	FRA		ERC
E	M	+			LND 003 LA-					W 542--						
E	M	+			LND 004 LA-	PHASE FAULT	N2436 VTMU171730/7 MWCF 6864-BIPOLAR			W 502--		L	J	FRA		ERC
E	M	+			LND 004 LA-					W 542--						
E	M	+			LND 101 LA-	1-220 V AC OUTPUT TRIPPED	N2436 VTMU171230/7 MWCF 6864-BIPOLAR			W 502--	MGN	L	J	FRA		ERC
E	M	+			LND 101 LA-					W 542--						
E	M	+			LND 102 LA-	INSULATION FAULT	N2436 VTMU171230/7 MWCF 6864-BIPOLAR			W 502--	MGN	L	J	FRA		ERC
E	M	+			LND 102 LA-					W 542--						
E	M	+			LND 404 LA-	STANDBY SUPPLY ON				L 750--		T	R			
E	M	+			LND 406 LA-	INVERTER ON LOAD				L 750--		T	R			

MATERIELS DIVERS DE CONTROLE - COMMANDE

NUMERO CARTE	1	1	1	3	3	3	5	5	5	5	5	
CICIC I	REPERE	LIBELLE	REFERENCE	V	CC	LOCALI-	I	L	C	TIT	NUM-	TIT
AIRIAID E	REDUIT		CONSTRUCTEUR	D	OE	SATION	N	D	A			
TAJIE H				I	DN	GEOGRA-	S	C	T	MAR	MAR-	IFAB
				E	ET	PIRIQUE	T	A	E	CHE	CHE	IRIC
E	LND101CC-	INVERTER CONTROL SWITCH	120430			W 502--	MGN	L		FRA		MGN
E	LND101CC-					W 542--						
E	LND101ID-	INVERTER SPPLY VOLTHETER	PN72 CM100			W 502--	MGN	L		FRA		CAX
E	LND101ID-					W 542--						
E	LND102ID-	INVERTER SPPLY AMHETER	PN72 CM100			W 502--	MGN	L		FRA		CAX
E	LND102ID-					W 542--						
E	LND103ID-	INVERTER OUTPUT VOLTMETER	PN72 EM100			W 502--	MGN	L		FRA		CAX
E	LND103ID-					W 542--						
E	LND104ID-	INVERTER OUTPUT AMHETER	PN72 EM100			W 502--	MGN	L		FRA		CAX
E	LND104ID-					W 542--						

APPAREILS ELECTRIQUES

NUMERO CARTE	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6				
CIC:CI	REP	PUIS	PUIS	TENS	IN	L	IL	VI	IS	RIL	IL	TIT	NUM	TIT	IL	IL	CALI	CALI	L	L	L	L	CAS DE
N:TM:DD	FONCTIONNEL	ABSOR	-ION	SOUS	R	IC	TES	EDOT	I			TAB	C	PIT	-BRE	-BRE	R	T	R	T	R	T	FONC
A:R:AD E	REDUIT	HECA	BEE	UN	D	IO	-SE	NET	D	MAR	MAR	FAB	LEAU	E	QIC	COU	T	I	S	S	C	C	TION
T:A:JE N		UNITE	NOMI		M	IS	IS	AT	IN	CHE	CHE	RIC		L	HJO	PURE	PROT	U	U	C	C		NEMENT
L:M:++	LND101JA-									FRA		MGN	-LND	31		1000							
L:M:++	LND103JA-									FRA		MGN	-LND	21		1000							
L:M:++	LND104JA-									FRA		MGN	-LND	22		1000							
L:M:++	LND110JA-									FRA		MGN	-LCB	43									
L:M:++	LND001DL-			125		80				FRA		MGN	-LBF	11									
L:M:++	LND001TR-			0380						FRA		MGN	-LLD	06									

A

B

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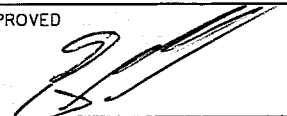
D

E

F

MM38V02

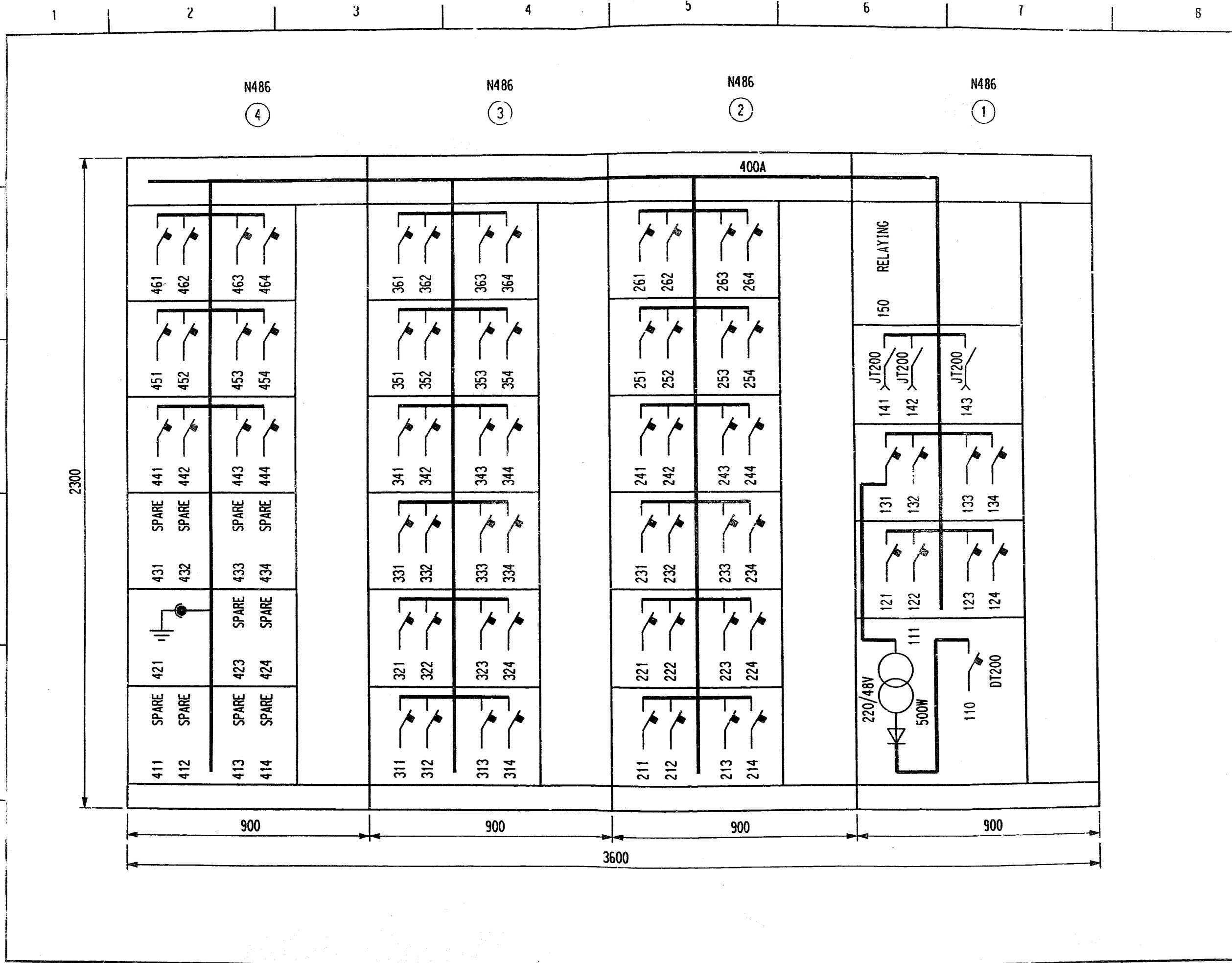
31	Z10	2018-10-26	MOD: 07243-2; DDR 2014/00602	PK	BLR	ESR	
31	Z9	2018-04-18	MOD: 07243-1; DDR 2014/00501	PK	SB	EJK	
31	Z8	2012-08-20	MOD: 05068-2; DDR 2009/00717	PK	SB	DDK	
31	Z7	2009-08-03	MOD: 99097-2; DDR 2008/02901	PK	FGA	RK	
31	Z6	2009-02-08	MOD: 99097 -1; DDR 2008/02900	CCE	FGA	RK	
31	Z5	2008-03-13	MOD: 07249 -2; DDR 2008/00228	PK	FGA	RK	
31	Z4	2006.08.02	MOD: 06029 ; DDR 2006/00671	WJM	SB	NWB	
31	Z3	13.03.02	DDR 2002/00415 AND CADDED	SB	FGA	DDK	
31	Z2	04.11.96	MOD.95006-2 AS PER DDR 360/96	HPJ	FGA	BT	
31	Z1	19.05.95	MOD. S95006-1 AS PER DDR 351/95	MG	PH	JV	
D.O.	REV	DATE	** REVISION **	REV BY	CHKD BY	AUTH BY	REFERENCE DRAWINGS
			INDEX REFERENCE :				

ALLOCATION CENTRE 31.46			KOEBERG NUCLEAR POWER STATION			
ALSTOM			MICRO 1215H04014-01			
P4108-A3-1428			LNE SWITCHBOARD 220 VAC EQUIPMENT AND APPARATUS DEFINITION			
CHKD		APPROVED		DOC No.98898	SHEET	REVISION
DWG	SB	13.03.02		KBA 1215H04014	COVER SHEET	Z10
SCALE	N.T.S.					

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SHEET	DESCRIPTION	REV
1	COVER SHEET	Z10
2	INDEX SHEET	Z10
3	FRONT VIEW	Z3
4	EQUIPMENT LIST	Z4
5	EQUIPMENT LIST	Z10

LINE	SWITCHBOARD INDEX SHEET	KBA 1215H04014	DOC No. 98898	1215H04014-02	2	3
					Z10	Z10



LINE

SWITCHBOARD
FRONT VIEW

KBA 1215H04014

DOCNO.98898

1215H04014-03

Z3

3
4

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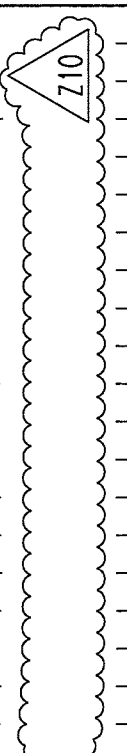
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A	CUBICLE	COMPARTMENT	DESIGNATION		TYPE EQUIPMENT	CIRCUIT BREAKER	PROTECTIVE RELAY				VOLT METER	INSULATION CHECKING RELAY	VOLTAGE RELAY SETTING RANGE	WIRING DIAGRAM	CABLE	4 Z4	5		
			MARKING	NAME PLATE			INPUT		OUTPUT									AMMETER	
							MAGNETIC	THERMAL	MAGNETO-TH.	C.T								SCALE	
																			TYPE	C.T	SETTING RANGE	SETTING RANGE
	1	41	LNE 001JA	001DL INVERTER INCOMER	J0	JT200													
	1	42	LNE 002JA	002DL INVERTER INCOMER	J0	JT200													
	1	43	LNE 003JA	003DL INVERTER INCOMER	J0	JT200													
	1	31	LNE 004JA	48V DC RECTIFIER SUPPLY	K2	ELFA-G2													
	1	32	LNE 005JA	LNE CONTROL SUPPLY	.	.													
	1	33	LNE 006JA	LNE 400CR CRF 001SP, 001SN SUPPLY	.	.													
	1	34	LNE 007JA	LNE 410CR CRF 003SP, 005SN SUPPLY	.	.													
	1	21	LNE 008JA	LNE 420CR CRF 005SP, 009SN SUPPLY	.	.													
	1	22	LNE 009JA	EQUIPPED SPARE	.	.													
	1	23	LNE 010JA	LNE 340CR GST 051CR SUPPLY	.	.													
	1	24	LNE 011JA	LNE 440CR CFI 006,007,008SN SUPPLY	.	.													
	1	10	LNE 012JA	LCB 48V DC SUPPLY	J1	DT200													
	1	50		RELAYING															
				CONTROL AND MEASURES															
	1	11		48V DC RECTIFIER 500W															
	2	61	LNE 013JA	LAA INSULATION CONTROL SUPPLY	K2	ELFA-G2													
	2	62	LNE 014JA	LAB	.	.													
	2	63	LNE 015JA	LAC	.	.													
	2	64	LNE 016JA	LBA	.	.													
	2	51	LNE 017JA	LBB	.	.													
	2	52	LNE 018JA	LBC	.	.													
	2	53	LNE 019JA	LBD	.	.													
	2	54	LNE 020JA	LBE	.	.													
	2	41	LNE 021JA	LBF	.	.													
	2	42	LNE 022JA	LBJ	.	.													
	2	43	LNE 023JA	LCA	.	.													
	2	44	LNE 024JA	LCB	.	.													
	2	31	LNE 025JA	LCC	.	.													
	2	32	LNE 026JA	LDA	.	.													
	2	33	LNE 027JA	LMA INSULATION CONTROL SUPPLY	.	.													
	2	34	LNE 028JA	GPA 003AR SUPPLY	.	.													
	2	21	LNE 029JA	LNE 100CR KSC DESK RECORDERS	K3	ELFA-G2													
	2	22	LNE 030JA	LNE 120CR KSC BOARD RECORDERS	K7	.													
	2	23	LNE 031JA	GPA 004AR SUPPLY	K2	.													
	2	24	LNE 032JA	LNE 330CR SAS SUPPLY TO ARE	K3	.													
	2	11	LNE 033JA	ATE INSTRUMENTATION	K4	.													
	2	12	LNE 034JA	LNE 240CR REN MEASURE SUPPLY	.	.													
	2	13	LNE 035JA	ATE 203CR PLC PANEL	.	.													
	2	14	LNE 036JA	KIR 001AR LPMS SUPPLY	.	.													
	3	61	LNE 037JA	KSC 001CR SUPPLY	K2	ELFA-G2													
	3	62	LNE 038JA	KSC 002CR SUPPLY	.	.													
	3	63	LNE 039JA	RPN 005AR SUPPLY	.	.													
	3	64	LNE 040JA	LNE 160CR NAB RECORDERS SUPPLY	.	.													
	3	51	LNE 041JA	LNE 610CR LHP SUPPLY	.	.													

SWITCHBOARD EQUIPMENT LIST
 KBA 1215H04014
 DOCNO.98898
 1215H04014-04
 Z4
 4
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 C
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 E
 F
 LNE

CUBICLE	COMPARTMENT	DESIGNATION		TYPE EQUIPMENT	CIRCUIT BREAKER	PROTECTIVE RELAY			AMMETER	VOLT METER	INSULATION CHECKING RELAY	VOLTAGE RELAY SETTING RANGE	WIRING DIAGRAM	CABLE
		MARKING	NAME PLATE			INPUT		OUTPUT						
						MAGNETIC	THERMAL	MAGNETO-TH.						
						TYPE	SHUNT	SETTING RANGE							SETTING RANGE	SHUNT	SCALE
3	52	LNE 042JA	LNE 180CR AUTO TIME SWITCH	K2	ELFA-G2			6A					121	
3	53	LNE 043JA	RGL 010AR SUPPLY	K3	.			10A					.	
3	54	LNE 044JA	LNE 620CR LHQ SUPPLY	.	.			.					.
3	41	LNE 045JA	RGL 009AR SUPPLY 1	.	.			.					.
3	42	LNE 046JA	RGL 009AR SUPPLY 2	.	.			.					.
3	43	LNE 047JA	RGL 009AR SUPPLY 3	.	.			.					.
3	44	LNE 048JA	GEX 001 AR SUPPLY	K1	.			.					.	
3	31	LNE 049JA	RCP 001RG SUPPLY	K2	.			6A					.	
3	32	LNE 050JA	RCP 002RG SUPPLY	.	.			.					.
3	33	LNE 051JA	RIC 001AR SUPPLY	K4	.			16A					.	
3	34	LNE 052JA	LNE 260CR APG MEASURES SUPPLY	K5	.			20A					.	
3	21	LNE 053JA	RRB 001AR, 002AR SUPPLY	K2	.			6A					.	
3	22	LNE 054JA	RAM 001TB SUPPLY	K1	.			3A					.	
3	23	LNE 055JA	KBS 002AR SUPPLY	K2	.			6A					.	
3	24	LNE 056JA	KBS 004AR SUPPLY	.	.			.					.
3	11	LNE 057JA	LNE 220CR, 300CR SIT SUPPLY	K5	.			20A					.	
3	12	LNE 058JA	KKO FAULT RECORDER SUPPLY	.	.			.					.
3	13	LNE 059JA	SPARE	.	.			.					.
3	14	LNE 060JA	LNE 360CR, KRT 036MA SUPPLY	.	.			.					.
4	61	LNE 061JA	LNE 350CR SUPPLY	K6	ELFA-G2			25A					.	
4	62	LNE 062JA	LNE 500CR SUPPLY	.	.			.					.
4	63	LNE 063JA	GSE 001AR SUPPLY	.	.			.					.
4	64	LNE 064JA	1 RPR 900CR T2 TESTER SUPPLY	.	.			.					.
4	51	LNE 065JA	KKO 001AR SUPPLY	K2	.			6A					.	
4	52	LNE 066JA	SEC 034UB AUTO TIME SWITCH	.	.			.					.
4	53	LNE 067JA	ASG 005CR/055CR SUPPLY	.	.			.					.
4	54	LNE 068JA	RRB 003AR SUPPLY	.	.			.					.
4	41	LNE 069JA	GSY 012CR SUPPLY	K1	.			3A					.	
4	42	LNE 070JA	GRV 051CR SUPPLY	.	.			.					.
4	43	LNE 071JA	KRG 154AR SUPPLY	.	.			.					.
4	44	LNE 072JA	LNE 441CR SUPPLY	K6	.			.					.	
4	31	LNE 073JA	EPP 001 AR + 002AR SUPPLY	K5	.			.					.	
4	32	LNE 074JA	SAS 007CR SUPPLY	K1	.			.					.	
4	33	LNE 075JA	LNE 320CR SAS SUPPLY	K1	.			.					.	
4	34	LNE 076JA	RCP 013CR	K1	.			.					.	
4	21	LNE 077JA	BUS-BAR EARTH CONNECTION	.	.			.					.

5
5
Z10
1215H04014-05
DOC No. 98898
KBA 1215H04014
SWITCHBOARD EQUIPMENT LIST
LNE



57071

Z1	15.10.96	HPJ	FGA	RST	MOD 90039-9, DDR 396/96 + 31.46/NO. ADDED	ESK
1	21.6.82	Lacroix	AG		SENT TO ESCOM	BPE
D	21.6.82	Lacroix	AG		COVER PAGE MODIFIED	
C	29.12.81	LACROUTE			Demand by CGEE ALSTHOM (letter of 16.9.81)	
B	23.6.80	Gressard			DEMAND BY CGEE Alsthom (Letter P.L. 2/2318)	
A	10.1.80	ETELEC			ORIGINAL ISSUE	
REV.	DATE	DR. by	CH. by	APPR. by	MODIFICATIONS	STATUS

not on VOL 2

8246

31.46/25624

PM 208/2

SCALE 1/20	SUPPLIER		SUPPLIER No. : 196 110 /100
SIZE A3			P.O. No. : P.12.4108.10.1548

TABLEAU DES SOURCES 9LNH220V.~
ENSEMBLE ET DEFINITION APPAREILLAGE

SWITCHBOARD "SOURCES" 9LNH 220V.AC
EQUIPMENT AND APPARATUS DEFINITION

KOEBERG NUCLEAR POWER STATION

 ESCOM ELECTRICITY SUPPLY COMMISSION	FRAMATOME - ALSTHOM ATLANTIQUE SPIE BATIGNOLLES - FRAMATEG CONTRACT N. OPN 11229
	CONTRACTOR MEMBER ALSTHOM ATLANTIQUE CGEE ALSTHOM

CONTRACTOR MEMBER DWG No. P4108-A3-1441

DWG No. **KBA0915H04013** X **A029LPR1** / 4

REV. 1 Z1

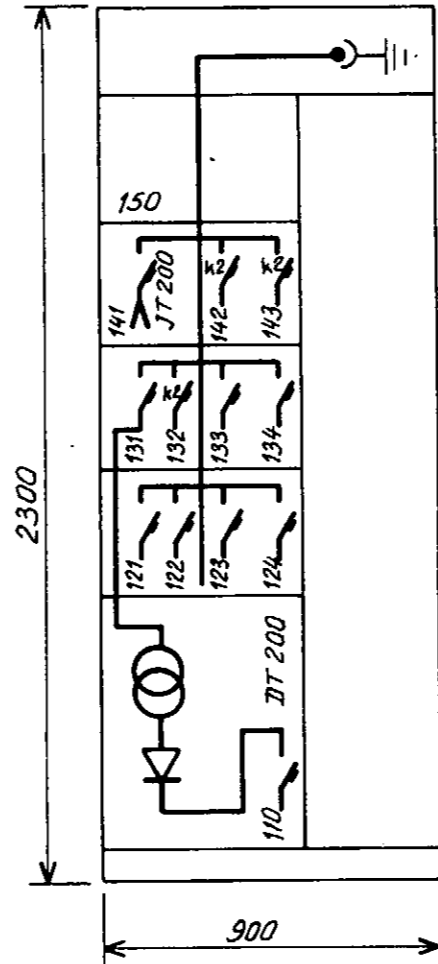
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- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Souteraires

N 486

1



Sauf cas particulier, SCHEMA : représentés circuits hors tension, tous les appareils déclenchés et les relais en position "repos".

Except particular case, DIAGRAM : all apparatus are shown in off position, all relays de-energized, all circuits dead.

31.46/25626

REF CLIENT CUSTOMER REF :		P4108-A3-1441		ECHELLE SCALE :		EQUIPMENT / DEFINITION	
ETABLI PAR PAR/PART/IB :		ETELEC		LE : 10.1.80		SWICHTBOARD 9LNH	
VERIFIE PAR (M/C/A/I) B. :				LE : ON :		FOLIO 3/4	
N° MOD. IND. CHANGE N° REP.		Z1 A β		N° CDE : ORDER N° :		NUMERO NUMBER	
DATE DATE		15.10.96		N° CLIENT CUSTOMER N° :		196 110/100	
MODIFICATIONS CHANGE				KBA.09.15H04013.A029LPR		DELE ALSTHOM	

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D.I.S
122813D

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DIE 105

- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Sougraves

2

MODIFICATIONS	CUBICLE	COMPARTMENT	DESIGNATION		TYPE EQUIPMENT	CIRCUIT - BREAKER	PROTECTIVE RELAY			AMMETER		VOLTMETER	INSULATION CHECKING RELAY	VOLTAGE RELAY SETTING RANGE	DIAGRAM	CABLE
			MARKING	NAME PLATE			INPUT		OUTPUT	SHUNT	SCALE					
							MAGNETIC	THERMIC	MAGNETO-TH.							
	1	10	9LNH 013JA	48 Vdc. 9LCH relaying supply	J1	DT 200			10-15A							
	1	21	9LNH 009JA	OSEK 001AR supply	K2	ELFA-G2			6A							
	1	22	9LNH 010JA	9CTE 003TR SUPPLY	K2	ELFA-G2			6A							
	1	23	9LNH 011JA	Equipped spare	K2	ELFA-G2			6A							
	1	24	9LNH 012JA	Equipped spare	K2	ELFA-G2			6A							
	1	31	9LNH 005JA	48 VDC rectifier supply	K2	ELFA-G2			6A							
	1	32	9LNH 006JA	9LCH insulation control supply	K2	ELFA-G2			6A							
	1	33	9LNH 007JA	9CTE 001AR Instrumentation board supply	K2	ELFA-G2			6A							
	1	34	9LNH 008JA	9CTE 002AR Supply	K2	ELFA-G2			6A							
	1	41	9LNH 002JA	9LNH 001DL inverter inverter	J0	JT 200				30/5						
	1	42	9LNH 003JA	9LNH control supply	K2	ELFA-G2			6A							
	1	43	9LNH 004JA	9LBL insulation control supply	K2	ELFA-G2			6A							
	1	50		Relaying Control and measures												

3146/25627

REF CLIENT	P4108-A3-1441	ETEC	10.1.80	N° CDE	
CUSTOMER REF		ETEC	10.1.80	ORDER N°	
ETABLISHED BY					
VERIFIE PAR					
DATE	15.10.96				
N° MOD. IND.					
CHANGEMENT					
APPARATUS DEFINITION	SWITCHBOARD 9LNH				
DIAGRAM	KBA.12.11.L.00				
CABLE					
NUMERO NUMBER	196110/100				

D.I.S
122814D

Sauf cas particulier, SCHEMA : representés circuits hors tension, tous les appareils déclenchés et les relais en position "repos".

Except particular case, DIAGRAM: all apparatus are shown in off position, all relays de-energized, all circuits dead.

D

C

B

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DIE 105

2

A
57070

REV.	DATE	DR. BY	CR. BY	APPR. BY	MODIFICATIONS	STATUS
A	10.1.80	ETELEC			ORIGINAL ISSUE	
B	23.6.80	Gressard			DEMAND BY CGEE ALSTHOM (Letter Pt. 2/23/80).	
C	17.12.81	CAMBRET			Demand by CGEE ALSTHOM (Letter of 15.9.81)	
D	21.6.81	Lacroix			COVER PAGE MODIFIED	
					SENT TO ESCOM	BPE

Not on

6247

SCALE: 1/20	SUPPLIER		SUPPLIER No.: 196105 /100
SIZE: A3			P.O. No.: P.12.4108.10.1548

TABLEAU DES SOURCES 9LNG 220V.~
ENSEMBLE ET DEFINITION APPAREILLAGE
SWITCHBOARD "SOURCES" 9LNG 220V.AC
EQUIPMENT AND APPARATUS DEFINITION
KOEBERG NUCLEAR POWER STATION

 ELECTRICITY SUPPLY COMMISSION	ESCOM ^{308 V2}	FRAMATOME - ALSTHOM ATLANTIQUE SPIE BATIGNOLLES - FRAMATEG CONTRACT N. OPN 11229
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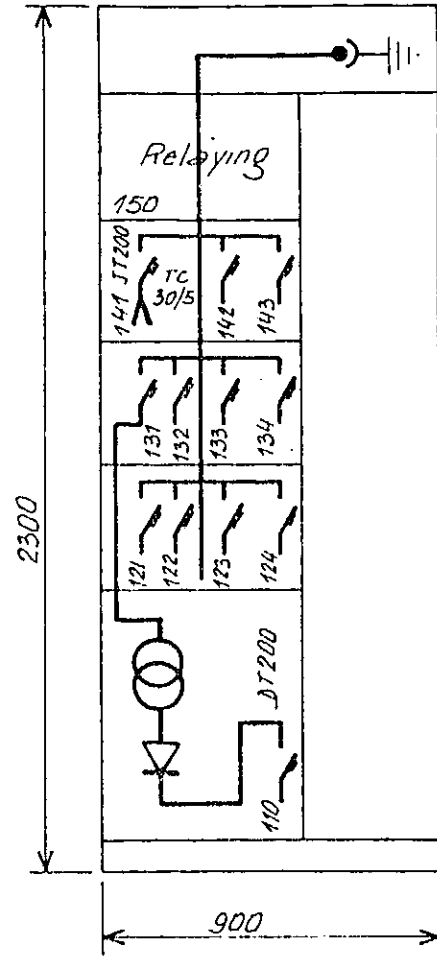
CONTRACTOR MEMBER	ALSTHOM ATLANTIQUE CGEE ALSTHOM	CONTRACTOR MEMBER DWG No.	P4108-A3-1438
DWG No.	KBA0915H04010X A029LPR1/4		
REV	1		microfilm test

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- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Supplémentaires

N 4 8 6

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Sauf cas particulier, SCHEMA : représentés circuits hors tension, tous les appareils déclenchés et les relais en position "repos".

Except particular case, DIAGRAM: all apparatus are shown in off position, all relays de-energized, all circuits dead.

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REF. CLIENT	PAAV6-A3-14381	EQUIPMENT DEFINITION	SWITCHBOARD 9LNG
ETABLISSEMENT	ETELEC	ECHELLE	
VERIFIE PAR		N° CDE	
DATE		CPDR N°	
MODIFICATIONS		N° CLIENT	KBA09.15H04010A029 LPR
CHANGE		CUSTOMER N°	
DATE		N° MOD.	
DATE		CHANGE N°	
		NUMERO	196105/100
		FOLIO	3/4

- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Suppléant

MODIFICATIONS	CUBICLE	COMPARTMENT	DESIGNATION		TYPE EQUIPMENT	CIRCUIT - BREAKER	PROTECTIVE RELAY				AMMETER		VOLTMETER	INSULATION CHECKING RELAY	VOLTAGE RELAY SETTING RANGE	DIAGRAM	CABLE	
			MARKING	NAME PLATE			INPUT		OUTPUT		SHUNT	SCALE						
							MAGNETIC		THERMIC	MAGNETO-TH.								
							TYPE	SHUNT	SETTING RANGE	SETTING RANGE								
	1	10	9LNG 013JA	48Vdc. 9LCE relaying supply	J1	DT 200												
	1	21	9LNG 009JA	DATE 101AR SUPPLY	K1	ELFA G2									123			
	1	22	9LNG 010JA	DATE 101AR. 9SAX. 9SAX SUPPLY	K1										124			
	1	23	9LNG 011JA	DATE 102AR. 9SAA COMMON SUPPLY	K1													
	1	24	9LNG 012JA	DATE 102AR SUPPLY	K1													
	1	31	9LNG 005JA	48VDC RECTIFIER SUPPLY	K2													
	1	32	9LNG 006JA	9LCE INSULATION CONTROL SUPPLY	K2													
	1	33	9LNG 004JA	9SAA 101AR SUPPLY	K1													
	1	34	9LNG 008JA	9SAA 201AR SUPPLY	K1													
	1	41	9LNG 002JA	9LNG 001BL INVERTER INCOMER	J0	JT 200				30/5					414			
	1	42	9LNG 003JA	LNG CONTROL SUPPLY	K2	ELFA G2												
	1	43	9LNG 004JA	9LBH INSULATION CONTROL SUPPLY	K2	ELFA G2												
	1	50		Relaying CONTROL AND MEASURES											415			
															413			

APPARATUS DEFINITION: SWITCHBOARD 9LNG

ECHELLE SCALE: 1/10

RE CLIENT: P4100-AB-1438

ETABLI PAR: ETELEC

VERIFIE PAR: 10180

N° CDE ORDER N°:

NUMERO NUMBER: 196105/100

A029LPR

15H04010

KBA09

DIAGRAM: KBA.12.17.L.L.00

FOLIO: 4/4

Sauf cas particulier, SCHEMA: representes circuits hors tension, tous les appareils déclenchés et les relais en position repos. Except particular case, DIAGRAM: all apparatus are shown in off position, all relays de-energized, all circuits dead.

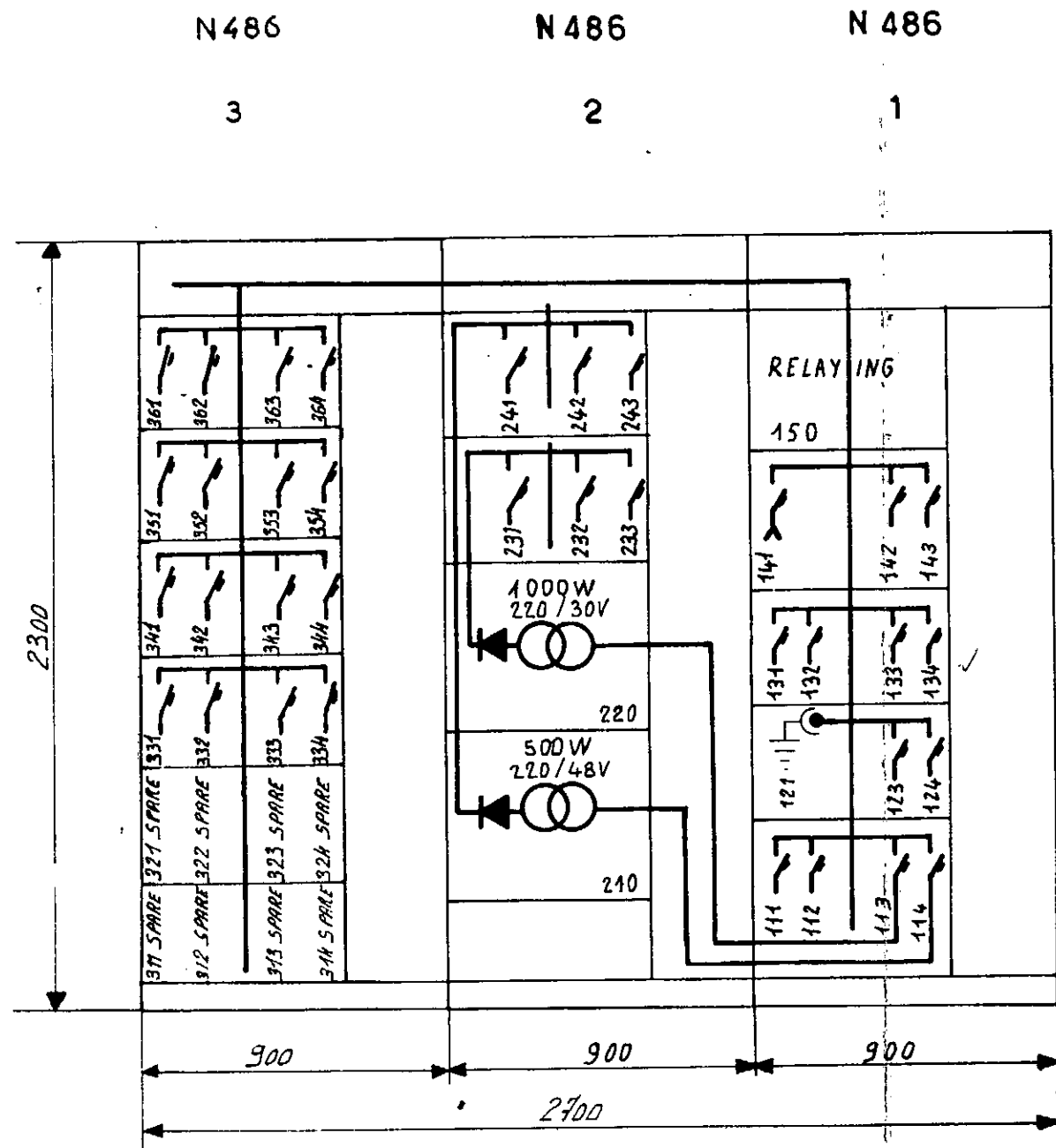
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- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Suggestives



Sauf cas particulier, SCHEMA : représentés circuits hors tension, tous les appareils déconnectés et les relais en position "repos".

Except particular case, DIAGRAM : all apparatus are shown in off position, all relays de-energized, all circuits dead.

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REF CLIENT :	P4108-A3-1435	ECHELLE SCALE:	⊕	EQUIPMENT DEFINITION
CUSTOMER REF :	ETELEC	LE :	1.3.79	SWITCHBOARD 9 LNF
ETABLI PAR :		ON :		FOLIO
PREPARE (D) BY :		LE :		3 / 4
VERIFIE PAR :		ON :		DELLE ALSTHOM
CHECK (D) BY :		N° CDE ORDER N°:		NUMERO NUMBER
N° MOD. IND. CHANGE		N° CLIENT	KBA.09.15.H.04.007.A029.LPR	196104/100
DATE		CUSTOMER N°:		

- Etablissement de MACON
- Etablissement de CHALON
- Etablissement de MACON Souterrain

REVISONS	CUBICLE	COMPARTMENT	DESIGNATION		TYPE EQUIPMENT	CIRCUIT - BREAKER	PROTECTIVE RELAY			AMMETER		VOLTMETER	INSULATION CHECKING RELAY	VOLTAGE RELAY SETTING RANGE	WIRING DIAGRAM KB2.12.17.L.00	CABLE
			MARKING	NAME PLATE			INPUT		OUTPUT	C.T.	SCALE					
							MAGNETIC	THERMAL	MAGNETO-TH.							
TYPE	C.T.	SETTING RANGE	SETTING RANGE													
		50	RELAYING													
E	1	41	9LNF 002JA	9LNF 001BL INVERTER INCOMER	J 0	JT 200									115	
	1	42	9LNF 003JA	LNF CONTROL SUPPLY	K 2	ELFA-G2			6 A						114	
	1	43	9LNF 004JA	9LNB INSULATION CONT. SUPPLY												
	1	31	9LNF 005JA	9LNBK " " "											121	
	1	32	9LNF 006JA	9LCD " " "												
	1	33	9LNF 007JA	9LCG " " "												
E	1	34	9LNF 008JA	9LDB " " "												
	1	21	9LNF 009JA	BUS-BAR EARTH CONNECTION												
E	1	23	9LNF 011JA	9RRB 001AR SUPPLY	K 2	ELFA-G2			6 A						124	
E	1	24	9LNF 012JA	9REA 001AR SUPPLY												
	1	11	9LNF 013JA	EQUIPPED SPARE												
E	1	12	9LNF 014JA	9LNF 500CR. L.C.B. RECORDERS												
	1	13	9LNF 015JA	30V DC RECTIFIER OUTGOING	K 3	ELFA-G2			10 A						121	
	1	14	9LNF 016JA	48V DC RECTIFIER OUTGOING	K 2	ELFA-G2			6 A						113	
				LNF CONTROL AND MEASURES												
	2	10		48V DC RECTIFIER 500 W											122	
	2	20		30V DC RECTIFIER 1000 W											120	
	2	41	9LNF 017JA	48V DC 9LCD RELAYING SUPPLY	J 1	DT 200			10 - 15 A						124	
E	2	42	9LNF 018JA	EQUIPPED SPARE												
	2	43	9LNF 019JA	EQUIPPED SPARE												
	2	31	9LNF 020JA	30V DC LDB CONTROL SUPPLY												
E	2	32	9LNF 021JA	30V DC 9KRE 953AR SUPPLY												
E	2	33	9LNF 022JA	30V DC 9LDB 100CR SUPPLY	J 4	DT 200			35 - 50 A							
C				9LDB CONTROL AND MEASURES						SHUNT 40 A	0-48 A	0-60V	933	20-50V	119	
															121	
		61	9LNF 023JA	9LNF 520CR. N.A.B. RECORDERS	K 2	ELFA-G2			6 A							
		62	9LNF 024JA	9LNF 540CR. N.A.B. AUTO TIME SWITCH												
		63	9LNF 025JA	EQUIPPED SPARE												
		64	9LNF 026JA	9LNF 520CR. 9TER. 9TEU SUPPLY												
		51	9LNF 027JA	9LNF 560CR. 9TES SUPPLY												
		52	9LNF 028JA	9KRT 501 AR SUPPLY												
		53	9LNF 029JA	9RRB ... AR SUPPLY												
		54	9LNF 030JA	EQUIPPED SPARE												
		41	9LNF 031JA	9ASB 803UB. AUTO TIME SWITCH												
		42	9LNF 032JA	EQUIPPED SPARE												
		43	9LNF 033JA	" " "												
		44	9LNF 034JA	9TEG 001 AR SUPPLY												
		31	9LNF 035JA	9LNF 530CR. INT SUPPLY TO Hz												
		32	9LNF 036JA	EQUIPPED SPARE DETECTORS												
		33	9LNF 037JA	9LNF 520CR												
		34	9LNF 038JA	EQUIPPED SPARE												
		21	9LNF 039JA	SPARE												
		22	9LNF 040JA													
		23	9LNF 041JA													
		24	9LNF 042JA													
		11	9LNF 043JA													
		12	9LNF 044JA													
		13	9LNF 045JA													
		14	9LNF 046JA													

APPARATUS DEFINITION	SWITCHBOARD 9LNF		FOLIO 4 / 4
ECHELLE SCALE:			
REF CLIENT	P4108-A3-1435		
CUSTOMER REF:	ETENE	LE N° 1.3.79	
ETABLI PAR:			
PREPARE PAR:			
VERIFIE PAR:			
CHEKED BY:			
N° CDE ORDER N°:			
N° CLIENT	KBA.09.15H04 007. A029LPR		NUMERO NUMBER 196104/100
MOD. 9904 & 9904/2004/05.08.26	WTM 21		
" 04.00.8 022-2004/1874 06.01.06	22		
MOD. 00122-01.01.02/12/12/12/12/12/12	23		
	C	B	A
MODIFICATIONS CHANGE	N° MOD. IND. CHANGE N°	DATE DATE	

Sauf cas particulier, SCHEMA : representés circuits hors tension, tous les appareils déclenchés et les relais en position "repos".
 Except particular case, DIAGRAM: all apparatus are shown in off position, all relays de-energized, all circuits dead.

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