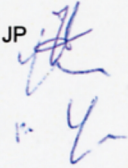


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SUPERVISION REPORT

LISA-RLE-04-0100/R-JPH-jph

Labdoc : 003704055

Linkebeek, 18/11/04

Areva FBVT panel, degree of protection.

1. TESTED EQUIPMENT

Switch fuse combination of ring main unit AREVA type FBA-T coupled with a voltage transformer functional unit type FBVT including a phase to phase transformer DIN type 2VB24 manufactured by Alce.

2. PURPOSE OF TEST

Degrees of protection provided by enclosure of functional unit type FBVT.
Test period : 04.11.2004

3. REFERENCE DOCUMENTS AND TESTS TO BE PERFORMED

IEC 62271-200 § 6.7

IEC 60529.

Netmanagement TST19-2 /11.02 §§ 1.2.11

Laborelec has witnessed the tests reported in the AREVA report n° 2193 dated 18.11.04, which is given in appendix and which we have approved.

The tests have been carried out in accordance with IEC 62271-200 § 6.7, IEC 60529 and the specification Netmanagement TST19-2 /11.02 § 1.2.11.

Type Test Report

Rapport d'essais

No 2193

Test object : Switch fuses combination feeder of compact GIS + connecting kit
Matériel à essayer : + voltage transformer functional unit
Combiné interrupteur – fusible d'un tableau compact à isolation dans le gaz + kit de raccordement + UF transformateur de tension

Type : FBA T + FBVT Panel
Type :

Manufacturer and client : AREVA T&D Belgium SA – Dison
Constructeur :

Test Laboratory : AREVA T&D Belgium SA – Dison - Test laboratory
Laboratoire d'essais : - Laboratoire d'essai

Location of tests : -
Lieu d'essais :

Date of tests : November 4th 2004
Date des essais : 4 novembre 2004

Test Specification : IEC 62271-200, IEC 60529 and TST 19-2 §1.2.11
Normes d'essais :

Tests performed : Degrees of protection provided by enclosures (IP Code)
Essais réalisés : Degré de protection procuré par l'enveloppe (code IP)

Test results : The requirements were met.
Résultats des essais : Les essais sont concluants

Dison, 18/11/04



D. Melchior
Test Platform Engineer
Ingénieur plate-forme d'essai



P. Thiry
Manager technology & certification
Responsable technologie & certification

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5. Test arrangement <i>Conditions d'essais</i>	5
6. Test and measuring circuits <i>Schémas d'essais et de mesure</i>	-
7. List of measuring instruments <i>Liste des instruments de mesure</i>	5
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9. Oscillograms <i>Oscillogrammes</i>	-
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This Type Test Report consists of 7 pages.

The reproduction of excerpts of this report is only permitted with written approval of the Test Laboratory.

1. Technical data of the test object

General characteristics :

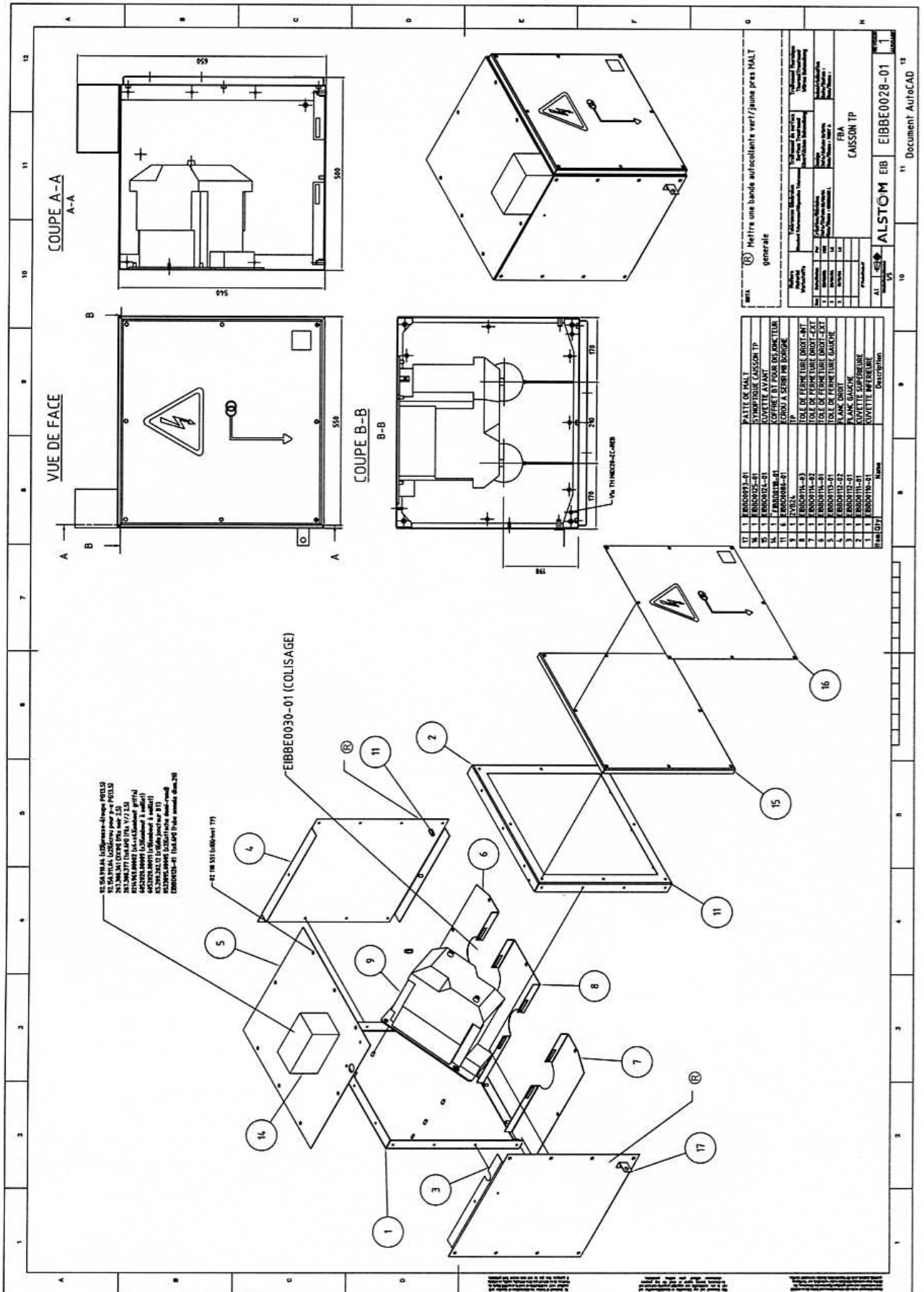
FBVT panel

Width of cubicle	550 mm
Depth of cubicle	500 mm
Height of cubicle	650 mm
Rated voltage	17.5 kV
Rated lightning voltage U_p	95 kV
Rated power frequency voltage U_d	38kV

Voltage transformer

Type	2VB24 (DIN)
Manufacturer	ALCE
Rating plate :	
U1	11000 V
1.2 U_n	(max 17.5kV)
17.5/38/95 kV	- 50Hz
U2	110 V
VA	500
CI	3
I _{th}	4.54 A

2. Dimensional drawing



3. Participants in the tests

J.P. Haegeman	Laborelec
D. Melchior	AREVA - EIB

4. Test object

The test object is a FBVT panel : air insulated metal enclosed switchgear including 1 phase to phase voltage transformer DIN type 2VB24 manufactured by ALCE.

Condition before tests : brand-new

5. Test arrangement

The test object is new and completely assembled as in service.
Panel fitted with 2 single phase shielded cables type EXCVB 8.7/15kV 1*25mm² Cu.
Photos of test object and test arrangement can be found on page 7.

6. Test and measuring circuits

None

7. List of measuring instruments

Test fingers from Laborelec.

8. Test results

Protection degree for enclosures against penetration of solid object and against access to hazardous part

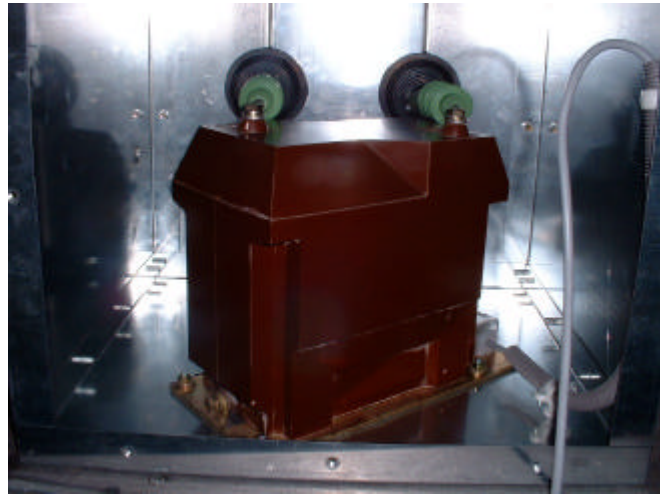
Part under test	Required	Observed
Bottom side	IP2X	IP4X
Rear side	IP2X	IP4X
Front side	IP2XC	IP4X
Lateral side	IP2XC	IP4X
Upper side	IP2XC	IP4X

By this it is proved that the requirements are met.

9. Oscillograms

None

10. Photos



11. Drawings

Name of the drawing	Number
Assembly drawing of the FBVT panel	EIBBE0028-01 ed.04
2VB24 DIN voltage transformer	375 ed.3
Wiring diagram	EIBBS0015 ed.02

Excepted the general view of the FBVT panel, the drawings are kept in the laboratory file