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# TEST REPORT

TITLE

Steep-front impulse voltage tests on distribution transformers

TEST CONDUCTED BY (AUTHOR(S))

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Oddgeir Rokseth

CLIENT(S)

Møre Trafo AS  
6232 Sykkylven, Norway

LR NO.

LR 2159

DATE

1998-03-16

CLIENT'S REF.

Kårstein Longva

ELECTRONIC FILE CODE

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RESPONSIBLE

Knut Tangen, Laboratory Manager *Knut G. Tangen*

PROJECT NO.

12X001.80

NUMBER OF PAGES

21

TEST LOCATION

SEfAS laboratories

TEST OBJECT

Transformer no. 1: Møre Trafo 50 kVA, 22 kV /420 V, OTKH 3525, Dyn 11  
Transformer no. 2: Møre Trafo 100 kVA, 22 kV /420 V, OTKH 3538, Dyn 11

TEST OBJECT RECEIVED

1997-12-05

TEST PROGRAM

Steep-front impulse voltage tests according to manufacturer's instructions with references to the NORDIS-96 paper "Protection of distribution transformers by means of spark gaps", IEC Publ. 76-3, IEC Publ. 722 and IEC Publ. 60-1.

DATE OF TEST

1998-02-10  
1998-02-17

SUMMARY

A steep-front impulse voltage test consists of 5 impulse voltage applications with a steepness of 2000 kV/ $\mu$ s and limited amplitudes.

Both transformers were tested with 125 kV peak voltages. One winding of transformer no. 2 was also tested with 200 kV, 249 kV respectively, and with 263 – 377 kV peak voltages.

Both transformers passed the tests with 125 kV peak voltages without failure.

One winding of transformer no. 2 passed the tests with 200 kV and 249 kV peak voltages without failure. At peak voltages above 263 kV the current and voltage oscillograms indicate failure in the transformer winding.

The test results relate only to the items tested

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## KEYWORDS

SELECTED BY  
AUTHOR(S)

Test  
Transformer

Steep-front  
Impulse-voltage