WEIDMANN KNOWLEDGE SERVICES
TRANSFORMER LOAD STUDY

WEIDMANN LOADING OPTIMIZATION

- Improves asset utilization
- Enables adoption of dynamic loading policy
- Manages risk of failure for critical units
- Adds overall system load capability and flexibility to normal and contingent operation
- Defers and minimizes capital spending needs
- Extends transformer life cycle and value in use
- Determines remaining insulation life

TRANSFORMER LOADING ANALYSIS

Weidmann engineers have years of experience with a wide variety of designs, manufacturers, and materials. This provides us with the ability to analyze and evaluate loading and uprating capabilities of both old and new transformers utilizing proprietary Weidmann software and other analytical tools.

Temperature rises and loss of life are determined based on the transformer parameters and the specified load and ambient cycles. Calculations are done by the methods described in the ANSI/IEEE Loading Guide C57.91 and IEC 60076-7. Gas bubble evolution during overload conditions can also be evaluated.

Using the above methods, the maximum load capability of an existing transformer can be determined based on the expected load and ambient cycles for a specific substation. For transformers that will be uprated, the new ratings can be evaluated based on the alternative cooling modifications required to achieve these ratings.

A written report is provided with each study listing the input parameters and output data along with an interpretation of the results and recommendations. Program output data can be displayed in tabular and/or graphic form. The optimum load rating for any given transformer is based on the load analysis and the output of the condition appraisal process.

TRANSFORMER AGE STUDY

Based on the IEEE or IEC Loading Guide and historic data, remaining insulation life can be calculated. The increase in rate of loss of life can also be calculated for each of the different loading scenarios.

INFORMATION REQUIRED TO PERFORM TRANSFORMER LOAD STUDIES

The following minimum information is required in order to perform a load study:

- Factory Acceptance Test Data
- Nameplate
- Outline Drawing
- Load Cycle Data
- Ambient Temperature Data
- Ancillary equipment data

If more than one transformer is to be analyzed, the user must provide the above information for each transformer.

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