

# IEEE/PES TRANSFORMERS COMMITTEE

## TF TAP CHANGERS FOR DE-ENERGIZED OPERATION

### MEETING MINUTES

Hilton Minneapolis Hotel, Minneapolis, Minnesota – October 16, 2007

Chairman: Phil Hopkinson

Secretary: Scott Choinski

The Task Force on Life Tests, De-energized Tap Changers was called to order at 9:30 AM on October 16, 2007. There were 33 attendees, 13 members, and 20 guests with 2 requesting membership. Reviewed the agenda for the meeting, and the Minutes from the March 13, 2007, meeting in Dallas, Texas, were approved.

1. Mission – Develop Functional Life Test and Supporting Technical Paper for De-energized Tap-changers. Reminder that the goal is to develop the test and have a paper that supports the test. Test will ultimately be included in C57.131.
2. Mr. Hopkinson reviewed slides from the agenda posted on the Transformer Committee Website.
  - a. Life considerations
  - b. Tapchanger Suitability for Synthetic Insulating Liquids
  - c. Functional Life Tests Functional Life Tests-Issues
  - d. Functional Life Tests-Connections
  - e. Functional Life Tests-Issue of Oil Volume
    - I. Large liquid volume important for test validity – modified slide Large liquid volume should speed up thermal runaway
    - II. 130 C Liquid Temperature a good selection – there is a safety concern with this temperature.

3. Review Test data provided by Larry Dix, Quality Switch

Silver-plated contacts and natural ester oil were used. The data looks stable.

The volume of oil should be large and should not be changed. A thought is that there is a chemical reaction is going on with the contacts and too little oil depletes this chemical. Mr. Dix estimates using 10-15 gals in testing. Mr. Kraemer estimated using 500-600 liters in testing conducted at Reinhausen.

Mr. Alan Johnson will look at defining the volume of oil to use in testing.

Natural ester oil – very stable

Mineral oil – moderate stability

Silicone – very unstable

Members are to consider other combinations of where to attach leads and thermal parameters. Additional testing to be conducted by Mr. Dix and Mr. Kraemer.

4. New Business

There was no new business.

The meeting adjourned at 10:45 AM.