

TF to Investigate the Interaction between Substation Transients And Transformers in HV and EHV Applications

Utility Substation Transient Failures Survey

This survey is being sent to utility experts involved with the mitigation of equipment failures related to the interaction of substation transients and transformers in power substations. The below guide has been developed and is available to assist industry professionals on the occurrence and mitigation of substation transients. This existing document is C57-142-2010 “IEEE Guide to Describe the Occurrence and Mitigation of Switching Transients Induced by Transformers, Switching Device, and System Interaction”.

Many times equipment failures involving system transient interactions cannot be identified as product quality control or defect issues. Evidence has been gathered that indicates these failures could be caused by the interaction of transients with the power system in specific configurations. Some of these issues have been described in general in the existing C57-142 Guide. However, this guide is focused on medium voltage systems and does not provide significant guidance on HV and EHV system. In recent years, there have been investigations which have identified damage to transmission level equipment related to high frequency transients. The Performance Characteristics Subcommittee of the IEEE Transformers Committee has charged a task force with the investigation of the need to address these transmission system component failures.

It would be greatly appreciated if you could take a few moments of your time to complete the following survey to assist our task force in accessing the need to address higher voltage class equipment in this existing guide.

- 1) Were you aware that the C57-142 Guide is available to assist you in the investigation of equipment failures which were potentially caused by system interactions between switching devices, power system components, and transformers?

- Yes
 No

If Yes, Have you had opportunity to use the information in the existing C57-142 Guide and did the existing information assist you in understanding and implementing a solution to the problem investigation?

- Yes
 No

If Yes, please briefly describe your experience and mitigation techniques utilized below:

- 2) Are you aware of or have you been involved with the investigation of HV and EHV equipment failures that are potentially related to system interactions of substation transients and transmission level equipment?

- Yes
 No

If Yes, please briefly describe your experience and mitigation techniques utilized below:

- 3) Are you aware of other guides available to assist with the investigation of equipment failures which were potentially caused by system interactions between switching devices, power system components, and transformers?

- Yes
 No

If Yes, please briefly list references to these documents:

If you would be willing to allow us to contact you regarding your responses to the above experiences, please include your contact information in the space provided below:

Name: _____

Company: _____

Phone: _____

Email: _____