

Proposed IEEE Std. P1159.1
Task Force on a Guide for Recorder Qualification and Data Acquisition Requirements
for Characterization of PQ Events

Meeting Minutes

Meeting Date: 10/23/97
Location: Knoxville, TN
Purpose: Develop format and content expectations for TF Guide Book
Attendees: Roger Bergeron, Daniel Brooks, Dan Sabin, Francois Martzloff, Erich Gunther,
Greg Rauch, Andy Detloff, Larry Ray
Author: Daniel Brooks

The meeting was called to order by chairman Roger Bergeron.

The minutes from the previous meeting (IEEE PES SM, 7/24/97; Berlin) were not available at this meeting. Roger commented on the lack of attendance at the Berlin meeting and stated that no official business was conducted at that meeting.

Welcome

Roger Bergeron welcomed everyone to the meeting and distributed several documents which are attached. These documents include example formats and language which Roger feels are useful in compiling the TF guide book.

Agenda

Daniel Brooks distributed the agenda developed by Roger (which is also attached). One item was added to the agenda; Electronic File Transfer Format Discussion. With this addition, the agenda was approved.

Discussion of Scope

Greg Rauch suggested that the guide include a discussion of measurement uncertainty. After discussion the group agreed and Francois Martzloff agreed to search the NIST document database for measurement uncertainty discussions.

Francois suggested that the guide book be a narrative with all extensive equations placed in appendices. After some discussion, the group made no definitive decision on this issue.

At the TF Meeting held at the 1996 IEEE PES SM in Denver, seven disturbance types were identified which would be addressed in the TF guide book. Responsibility for each of the seven areas were assigned. The seven individuals responsible for these areas were designated as "chapter chairman." This designation promoted the idea that each of the seven disturbance areas would constitute a chapter of the guide book. The group expressed concern regarding the efficiency and effectiveness of this format. An alternative structure was proposed. The new structure would have chapters related to measurement sampling characteristics (i.e., input impedance, sampling rates, probes, etc.). Each of these measurement attribute chapters would consist of sections for each of the seven disturbance "domains." In keeping with this structure, the group agreed to refer to the seven individuals responsible for the disturbance domains as "domain chairman" rather than "chapter chairman."

Basic Acquisition Attributes

The group listed an initial set of basic acquisition attributes of PQ instrumentation that each domain chairman should address for his or her disturbance domain. The initial attribute list developed is as follows:

Inputs:

- ❖ crest factor
- ❖ input impedance
- ❖ input differential specification
- ❖ cross-link signal
- ❖ distortion
- ❖ matching impedance
- ❖ shielding
- ❖ probes

Acquisition:

- ❖ sampling rate
- ❖ gaps
- ❖ jitter
- ❖ window accuracy
- ❖ window widths

Greg Rauch agreed to paper comparing PQ instruments tested at Bonneville Power Administration.

Definitions

The group agree that all definitions should be listed in a Definitions chapter. Furthermore, most terms should be further explained with a descriptive paragraph in the body of the document. It was agreed that all definitions would be correlated with the IEEE PQ definitions group, IEEE 1433.

Instrumentation Classes

The group identified four different classes of instrument which should be addressed by the domain chairs.

- ❖ Field measurement for benchmarking
- ❖ Field test for troubleshooting
- ❖ Field test for legal issues
- ❖ Lab test for emission and immunity

Francois proposed that the scope of TF 1159.1 be to provide the sampling requirements necessary to allow characterization of the data developed by TF 1159.2. This suggestion was discussed but never formally agreed upon.

Domain Chair Reports

Transients

Transient chair Rich Bingham was not present. Nonetheless, related documents were distributed by Erich Gunther and Roger Bergeron. These documents are attached.

Short-Duration RMS Variations

After much discussion, the group abandoned the 4 instrument categories identified earlier in the meeting. The group agreed that specifications would be made based on a matrix of disturbance type and accuracy class with references to which grid components are needed per application.

Dan Sabin agreed to develop DPQ statistics on sample rate and error as a function of THD.

The group discusses at length whether enveloping the latter portions of long “short-duration” rms variations is an acquisition or characterization issue. It was requested that all domain chairs propose a position on this issue.

Long-Duration RMS Variations

No report.

Voltage Imbalance

No report.

Waveform Distortion

The following issues regarding the waveform distortion domain were agreed upon:

- ❖ Must be compatible with IEEE 519
- ❖ Two assessments should be specified
 1. Up to the 50th harmonic
 2. Above the 50th harmonic
- ❖ Must include # of cycles per measurement
- ❖ Discussion of gap allowances

Erich Gunther agreed to provide a rationale and justification for allowing large gaps for assessing long-term performance from permanent monitoring.

Voltage Fluctuations

No report.

Coordination with Other Standards Groups

The group agreed to seek liaisons with the identified groups at the IEEE PES WM in Tampa.

Schedule

Roger requested that all domain chairs submit a draft of their domain specifications by Nov. 30, 1997. Roger stated that he would develop a draft for any domain for which he does not receive something from the domain chair.

File Format of Documentation Files

The group agreed that the master file(s) would be saved as Microsoft Word 97 files. However, the group agreed to transfer file in Microsoft Word 95 format.

Daniel L. Brooks, Secretary

attach:
Agenda

Rationale for Interharmonics Definition
The sampling rate accuracy
IEEE P1159.1 Guidelines and rationale for drafting ...
Rationale- Measurement and Limitation of Interharmonics
Immunity Test
Voltage Rise during Time T (VTR)
Measurement of Unbalance