

# **P1409 CUSTOM POWER TASK FORCE**

TF 15.06.05.01

## ***Meeting Minutes***

**IEEE PES 1997 Winter Meeting, New York, New York  
Tuesday, February 4, 1997, 1:00 - 3:00 PM  
Hilton Petit Trianon Conference Room**

A meeting of the Custom Power Task Force was held prior to the Distribution Voltage Quality Working Group meeting at the 1997 Winter Power Meeting in New York. The meeting was chaired by Dan Sabin. The previous chair was Harshad Mehta, who stepped down as chairman of the task force prior to the February meeting. Dan Sabin previously had performed the role of task force secretary.

### **Welcome and PAR Update**

As a first order of business, the chairman gave a short presentation to orient the new members of the group to the efforts of the task force during the past few years. His presentation stated that the task force focuses on custom power, which is the application of power electronic-based equipment on utility distribution systems to improve power quality and control. The technology is unique in its use of new high-powered semiconductors. The chairman stated that the primary purpose of P1409 is to develop an IEEE guide for the emerging technology of custom power which would provide guidelines and performance expectations, offer a resource to utilities in entering the competitive marketplace, and furnish detailed information about custom power devices as options to solving power quality problems. P1409 can also offer a forum for utilities to exchange information. Since the application of custom power devices is relatively new phenomena, P1409 can provide a clearing house of information related to research, installation and testing.

The chairman stated that the mission of P1409 is to ensure that the resulting guide is a benefit to utilities. The task force must balance the discussion to include all derivatives of the technologies being designed and implemented, encourage more constructive participation, and to coordinate with CIGRE's new custom power working group (CIGRE WG 14.31).

At this point, Dan Ward of Virginia Power pointed out that the task force has discussed in the past the possibility of writing an IEEE special publication rather than an IEEE guide. He felt that opting for the special publication was a good idea because it would be easier than trying to have the guide published. If the task force worked to create a special publication, then a Project Authorization Request (PAR) form would not need to be submitted to the IEEE Standards Board New Standards Committee (NesCom). Jim

Burke of Power Technologies, the chairman of the IEEE Voltage Quality Working Group (WG 15.06.05) was in agreement with Dan Ward. However, Marek Waclawiak of United Illuminating felt that the original goal of the custom power task force – to write an IEEE guide – should still be pursued in order to make it easier to specify the requirements of custom power devices. A discussion ensued in which it became apparent that the group was divided between those in favor of producing an IEEE special publication and those in favor of a guide. No official vote was taken, but an informal show of hands make it clear that about one-third of the room wanted a guide, one-third wanted a special publication, and one-third was undecided. The chairman decided that it was best to leave this discussion open, to be resolved at a future meeting. This decision seemed to be reasonable because at this stage the work to produce a guide and the work to produce a special publication are the same.

## **Introductions**

Introductions were made and a total of 64 people signed the attendance list, a summary of which is attached. Attendees were asked to update their addresses, phone numbers, etc., on the membership list passed around. The updated membership list is also attached. No members were downgraded from membership status to guest status at this time.

## **Minutes from Denver**

The minutes prepared by Dan Sabin for the meeting of the P1409 task force at the 1996 IEEE PES Summer Meeting in Denver were reviewed. They were unanimously approved, though Marek Waclawiak noticed an error in the minutes regarding the installation of 50 Hz custom power devices at PSE&G. No such devices are, or course, being installed. The typographical error was noted and has been corrected in the on-line version of the minutes.

One of the action items from the last meeting was to establish an Internet homepage for the group. The page was placed on-line just prior to the meeting. Currently, the following information is available at the site:

- General information about P1409
- Archive of drafts of the P1409 Guide in Adobe Acrobat PDF format
- Announcements of meetings
- Latest version of the custom power technology development list
- Minutes and agendas from prior meetings in PDF format

An action item for the current meeting was to transfer the Internet site to the SPASystem on the IEEE Standards Home Page. When that it done, it is expected that the homepage will be found at <http://stdsbbs.ieee.org/groups/1409/index.html>.

## **Custom Power Technology Development List**

The list of utilities and organization who are currently testing, installing, or applying custom power devices was briefly reviewed. After the meeting, the chairman solicited updates to the list; the latest version is attached to these minutes.

## **Liaison Relationships**

Mark McGranaghan pointed out that liaisons with no working groups had been established. He suggested that future agendas provide some time for liaison reports. During the course of the meeting, liaisons were requested with P1433, *A Standard Glossary of Power Quality Terminology*; CIGRE WG 14.31, *Custom Power Working Group*; and P1159.2, *Power Quality Event Characterization*. Identifying candidates for these liaisons will be the work of the task force chairman; final approval will occur at the next full meeting of the task force.

## **Draft of P1409 Guide**

The first draft of the P1409 Guide was distributed at the meeting. It is also available from the site's Internet homepage. It represents a first attempt at collating and editing the input from the task force chapter chairmen from the last few meetings. Although not particularly succinct nor completely thorough, the document does represent a good beginning. The task force members were asked by the chairman to review the draft and return comments by March 4 to be included in draft 1.1 of the guide. They were asked to try to address comments on content, focus, concerns about proprietary technology, overlooked devices, topologies, etc. Task force members wishing to contribute suggested revisions and/or additions to individual chapters can do so by phone, fax, postal mail, or email. Contributions can be sent either to the chairmen responsible for individual chapters or to the task force chairman.

## **Chapter Chair Reports**

The chapter chairman were asked to make short presentations on the work which they contributed to the first draft of P1409. These minutes focus on the discussion surrounding each chapter rather than on the presentations themselves, which are sufficiently summarized in the attached draft 1.0 of the document.

### ***Definitions and Configurations/Objectives Chapters***

*Neil Woodley, Westinghouse Corporation*

Specific editing requests we made for the definitions chapter. These changes made sense and will be incorporated for version 1.1 of the document.

### ***General Needs***

*Dan Sabin, Electrotek Concepts, Inc.*

Dan was asked to review the text in section 4.5 of draft 1.0. Larry Morgan felt that a revision in the logic of the section was in order. Dan was also asked to expand the table in section 4.4 of the guide to include more standard power quality solutions such as voltage regulators.

### ***Input/Output***

*Stephen Middlekauff, Duke Power Company*

Jim Crane of Commonwealth Edison offered to provide information for this chapter on his experience with static switches. A concern was raised concerning Figure 6.2.3 and 6.2.4, which shows per unitized voltage measurements. Two of the plots were expressed in instantaneous voltage, while two others were expressed in rms voltage. It was requested to make the distinction between the two types of plots clearer.

### ***Performance Measurements***

*Mark McGranaghan, Electrotek Concepts, Inc.*

In addition to performance results, Mark was requested by Larry Morgan to include both predicted and actual infant mortality rates for custom power devices.

### ***Case Studies***

*Ashok Sundaram, Electric Power Research Institute*

Ashok stated that he would focus on several case studies with custom power technology with which he has experience. He also solicited input from other members of the task force. Vladi Basch volunteered case studies performed by Baltimore Gas and Electric for this chapter.

### **Engineering Issues**

*Paul Stecuik, Power Technologies, Inc.*

Paul was not present at the meeting. Jim Burke agreed that he would check into whether Paul could continue his role as the lead author of this chapter.

### **Bibliography**

*Vladi Basch, Baltimore Gas & Electric*

Vladi asked that the task force members assist him in this section of the guide by ensuring that he not miss any important references.

### **Economic Assessment**

*Ram Mukherji, Consultant*

Ram asked that the chairman provide him with some work performed by Electrotek Concepts on the economic assessment of an end-use device used to provide active line conditioning. Jim Burke volunteered a cost benefits analysis paper that he has written recently which should provide some good guidelines in writing this chapter of the guide. Some discussion at this time focused on whether or not this chapter should answer the question of who pays for this technology, perhaps by providing a business case example. Not all of the task force members embraced this suggestion. Some advice was given to look to market studies of the UPS market in writing this chapter.

### **New Business**

Larry Morgan asked that the task force look into making a presentation at the October 1997 IEEE IAS meeting considering that the society has many members which could offer valuable input to this guide. He identified the Power Quality Working Group chaired by Reg Mendis of Cooper Power Systems as a possible audience. Based upon the approval of this action by the task force, the chairman agreed to look into it.

At the Voltage Quality Working Group Meeting following the task force meeting, Jim Burke asked if the P1409 wanted to participate in a panel discussion at the 1998 IEEE PES Winter Meeting in Tampa, Florida. Dan Sabin agreed to organize the panel discussion.

## Action Items

ACTION	ASSIGNED TO:	TARGET COMPLETION DATE:
1. Comments by task force members	All Task Force Members	March 4, 1997
2. Revise and/or add to individual chapters	Guidebook Chapter Chairmen*	April 7, 1997
3. Complete draft 1.1 incorporating comments	TF Chairman	April 24, 1997
4. Move Internet homepage to IEEE SPAsystem™	TF Chairman	March 1, 1997
5. Organize a panel discussion for the 1998 IEEE PES Winter Meeting	TF Chairman	April 1, 1997
6. Investigate a presentation at the IEEE IAS Meeting	TF Chairman	April 1, 1997

## Next Meeting

The next meeting of the Custom Power Task Force will be at the 1997 IEEE PES Summer Meeting in Berlin, Germany, which is from July 20 to 25. Because of the expected low attendance by task force members, this will not be working meeting involving action items but rather an informational meeting for the European community. Presentations on the work of the task force will be made.

The next full meeting of the task force will be at the IEEE PES Winter Meeting in Tampa, Florida, which meets from January 31 to February 5, 1998.

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\* The Guidebook Chapter Chairmen are Neil Woodley, Dan Sabin, Larry Morgan, Stephen Middlekauff, Mark McGranaghan, Ashok Sundaram, Paul Stecuik, Vladi Basch, and Ram Mukherji.

## Attachments

1. Meeting Agenda, Custom Power Task Force Winter 1997 Meeting
2. Meeting Attendance, Custom Power Task Force Winter 1997 Meeting
3. Most recent membership list for the Custom Power Task Force
4. P1409 Guide, Draft 1.0
5. Most recent copy of the Custom Power Technology Development List

*Minutes Submitted by*

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Task Force Chairman

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