

# CUSTOM POWER TASK FORCE

TF 15.06.05.01

## *Meeting Minutes*

**IEEE PES Winter Power Meeting, New York, New York  
Tuesday, January 31, 1995  
West Ballroom Foyer, 3:00 - 4:30 PM**

A meeting of the Custom Power Task Force was held in conjunction with the Distribution Voltage Quality Working Group meeting at the Winter Power Meeting in New York. The meeting was chaired by Harshad Mehta.

1. **Introductions.** Attendees introduced themselves; an attendance list 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.
2. The **Minutes from San Francisco** prepared by Dan Sabin were approved (enclosed). Dan announced that the Project Authorization Request (PAR) submitted to the IEEE Standards Board was disapproved, stating that the title and scope of the project needed to be better defined. The board specifically requested that the scope should provide a clear focus on the voltage level that the standard intends to address. Also a concern was whether the standard was addressing the distribution system of the electric supplier or the utilization of the electric power source (see the enclosed letter from the board). The revised PAR will be resubmitted for the board's next meeting, and a copy of the revised scope and title are enclosed.
3. Harshad Mehta delivered the **Chairman's Report**. He pointed out that utilities are beginning to install significant power quality improvements on their own. He emphasized the importance of the working group's *Application Guide for Utility Custom Power Distributions, 4.16 kV and Above*, due to the growing need for custom power devices - a need which is growing surprisingly fast. Therefore, he stressed the importance of expediting its completion.
4. **Custom Power Presentations.**

Chris Melhorn of Electrotek Concepts and Pete Hofmann of Consolidated Edison Company gave a joint presentation on economic analysis of custom power implementation on the Con Edison system (see attachments). Chris explained ongoing monitoring work on the Con Edison network and the method he uses to compute disturbance incidence rates. With the rates he is then able to develop an economic model of the costs per year to Con Edison of these power quality events,

which can then be used in determining the benefit of installing different types of custom power solutions.

Pete Hofmann continued the presentation by discussing how he uses the data provided by Chris. He looked at the economic considerations of different power quality solutions, including written pole motor-generator sets, magnetic synthesizers, on-line UPS systems, the Liebert Datawave, and the Active Power Line Conditioner (APLC). A Westinghouse APLC is currently being evaluated in a midtown Manhattan commercial building with a 120/280 V supply.

Concerns were raised that this presentation was not directly related to Custom Power. However, Harshad pointed out that though the APLC was not strictly a Custom Power device, its study at Con Edison is a valuable model for how to evaluate the pros and cons of other Custom Power products.

Walt Mendenhall of Baltimore Gas & Electric gave the presentation *Switching Megawatts in Microseconds*, describing a static transfer switch which can transfer load in 1/4 cycle. It is used to protect against sags and swells, momentary interruptions, and outages. Power electronic based, it has no mechanical parts which will wear out. It requires two relatively independent sources to the same load and is not as inexpensive as an electromechanical switch.

5. **New Applications.** Harshad solicited discussion of new applications, and indicated that the working group would be receptive to reports of any new custom power products or evaluations.
6. **Working Group Status?** This issue was again discussed and it was agreed that the task force should move in that direction. In the interest of time, the motion was tabled until the next meeting.
7. **Guidebook Outline and Schedule.** Brief presentations were made by the chapter chairpersons.

I *Definitions*

Neil Woodley, Westinghouse Corporation (draft chapter enclosed)

II *General Needs*

Dan Sabin, Electrotek Concepts, Inc. (outline enclosed)

III *Configurations/Objectives*

Neil Woodley, Westinghouse Corporation (draft chapter enclosed)

IV *Input/Output*

Larry Morgan, Duke Power Company

V *Performance Measurements*

Mark McGranaghan, Electrotek Concepts, Inc. (outline enclosed)

VI *Case Studies*

Ashok Sundaram, Electric Power Research Institute

*Ashok was represented by Dr. Dave Richardson of EPRI. Custom Power controllers will be delivered this year to the host utilities participating in EPRI's project. The controllers will be installed and field demonstrations will commence to test the performance of these new devices on the distribution system.*

VII *Engineering Issues*

Cheryl Warren, Power Technologies, Inc.

*Cheryl indicated that Paul Stecuik of Power Technologies will be taking over as chapter chairperson.*

VIII *Bibliography*

John Sullivan, Sullivan Consulting Group

IX *Economics*

Charlie Williams, Florida Power Corporation

Larry Morgan, Duke Power Company

Ram Mukherji, Private Consultant

**8. Action Items.**

The PAR form for the Guidebook needs to be resubmitted by Dan Sabin to IEEE with the changes requested by the Standards Board, the next meeting of which will be June 14, 1995.

Each chapter chairperson for the application guidebook should prepare drafts of their sections before the summer meeting. The drafts will be due to the working group secretary, Dan Sabin, by June 21, 1995. The drafts should preferably be delivered to Dan in electronic format (MS Word, WordPerfect, etc.) so that he may put together a draft of the complete guidebook for distribution at the summer meeting.

Due to the time constraints encountered at the last meeting, it was Harshad's decision that at the next meeting, discussion related to the guidebook will be a priority. Any presentations will be scheduled after the guidebook business is completed, most probably after the actual task force meeting. Attendance for the presentations will be optional.

**9. Next Meeting.**

**Portland, Oregon  
Summer Power Engineering Society Meeting**

World Trade Center  
Conference Rooms 3 and 4  
Tuesday, July 25, 1995, 3:00-4:30 PM

The Volage Quality Working Group (15.06.05) will meet immediately following the task force in the same rooms from 4:30-6:30 PM.

**Attachments:**

1. Meeting Agenda, Custom Power Task Force Winter 1995 Meeting
2. Meeting Attendance, Custom Power Task Force Winter 1995 Meeting
3. Custom Power Task Force Membership List
4. Letter from the IEEE Standards Board requesting changes to PAR
5. New PAR submitted to IEEE Standards Board
6. Draft Chapter for Application Guide Section 1.0
7. Outline for Application Guide Section 2.0
8. Draft Chapter for Application Guide Section 3.0
9. Outline for Application Guide Section 5.0
10. Presentation given by Chris Melhorn
11. Presentation given by Pete Hofmann
12. Presentation given by Walt Mendenhall

Submitted by:

D. Daniel Sabin

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