

IEEE PES HVDC & FACTS SUBCOMMITTEE MEETING

2009 IEEE PES Summer Meeting

Minutes of Meeting

29 July 2009, Calgary

IEEE PES HVDC AND FACTS SUBCOMMITTEE
2009 SUMMER MEETING
TABLE OF CONTENTS

	Page
1 MEETING INFORMATION	1
2 WELCOME AND ANNOUNCEMENTS	1
2.1 Executive Committee Changes	1
2.2 Approval of the July 2009 Meeting Agenda.....	1
3 INTRODUCTIONS	1
4 MEETING MINUTES – PITTSBURGH, JULY 23, 2008	1
5 WORKING GROUP REPORTS.....	2
5.1 WG 15.05.02 - Dynamic Performance and Modelling of HVDC Systems and Power Electronics for Transmission Systems	2
5.2 WG 15.05.08 - HVDC and FACTS Economics and Operating Strategies	2
5.3 WG 15.05.14 Education on HVDC and FACTS	2
5.4 WG 15.05.15 Use of Power Electronics in Major Grids for Wind Generation Projects	3
5.5 WG 15.05.17 on HVDC and FACTS Bibliography	3
6 SUB-COMMITTEE GENERAL BUSINESS	3
6.1 HVDC and FACTS Sub-Committee Website Update	3
7 AWARD COMMITTEE UPDATES	4
7.1 Uno Lamm Award	4
7.2 Nari Hingorani Award	4
8 HVDC PROJECTS LISTING	4
9 SUBSTATIONS SUBCOMMITTEE.....	4
10 LIAISON REPORTS.....	5
11 PRESENTATIONS	5
12 GENERAL REPORTS ON HVDC AND FACTS PROJECTS/DEVELOPMENTS	5
13 LOCATION OF THE NEXT MEETING	5
14 ADJOURNMENT	5

List of Appendices

Appendix A List of Attendees

**IEEE HVDC AND FACTS SUBCOMMITTEE
2009 MEETING**

1 MEETING INFORMATION

Time: 13:30 - 16:00 on Wednesday, July 29, 2009
Location: Fairmont Hotel - Leduc Room
Calgary, Alberta

2 WELCOME AND ANNOUNCEMENTS

Ben Mehraban welcomed everyone to the meeting.

2.1 Executive Committee Changes

Ben advised that Robyn Page would be assuming the role of Chairperson of the IEEE PES HVDC & FACTS Subcommittee, and that he would be assuming the role of Vice Chair as of the July 2009 meeting.

Ben asked whether there was anyone in attendance who would consider filling the role of Subcommittee Secretary. Dennis Woodford advised that he would speak with Andrew Isaacs, who would likely fill the position starting at the July 2010 meeting. Post meeting note: Andrew agreed to fill the role of Secretary.

Robyn thanked Ben for all of his hard work for the subcommittee, and thanked him for remaining Vice Chair. The attendees acknowledged his contributions.

2.2 Approval of the July 2009 Meeting Agenda

The July 2009 agenda was distributed to the members and guests of the HVDC & FACTS Subcommittee who provided their e-mail addresses at prior meetings on July 6, 2009. The agenda was approved as issued.

3 INTRODUCTIONS

The HVDC & FACTS Subcommittee members made introductions, and the sign-in sheet was distributed. A list of attendees and their contact information is provided in Appendix A.

4 MEETING MINUTES – PITTSBURGH, JULY 23, 2008

The minutes from the July 23, 2008 IEEE PES Summer Meeting were disbursed to members and guests via e-mail on in July 6, 2009. The minutes were also posted on the IEEE PES HVDC & FACTS Subcommittee website. The July 23, 2008 minutes were approved as written.

5 WORKING GROUP REPORTS

5.1 WG 15.05.02 - Dynamic Performance and Modelling of HVDC Systems and Power Electronics for Transmission Systems

Ram Adapa provided a report for this working group.

This WG is working on the following position papers:

- i. EMTP-type Models for Conventional DC Systems
- ii. EMTP-type Models for FACTS (not including VSC-Voltage Source Converter based)
- iii. EMTP-type Models for VSC based FACTS
- iv. EMTP-type Models for VSC based DC Transmission
- v. New Position paper on Models related to Inclusion of Wind Generation in Power Networks.

The WG is also working on:

- Benchmark Test Systems to validate HVDC and FACTS
- Developing a fact sheet with some minimal information on existing FACTS installations around the world
- Validation of Models using Field and Lab Test Data

5.2 WG 15.05.08 - HVDC and FACTS Economics and Operating Strategies

Ben Mehraban provided a report for this working group as Mark Reynolds was absent, and had indicated his intention to resign as chairman of this working group due to work commitments. This working group will need a new chairman.

5.3 WG 15.05.14 Education on HVDC and FACTS

Chair Brian Johnson provided a report for this working group. It was noted that future meetings would be combined with the bibliography working group as two one hour meetings in sequence at the same location.

A panel session was held in Seattle on network solutions and FACTS that addressed the following:

1. Overview
2. Study tools
3. Case studies from a planner's point of view

The working group is also preparing presentations that could be used for local PES meetings.

5.4 WG 15.05.15 Use of Power Electronics in Major Grids for Wind Generation Projects

Geza Joos provided a report for the wind generation working group. The working group has a draft report that is being circulated internally for initial comment. The Table of Contents of the draft document is as follows:

1. Introduction
2. Future Electric Grids
3. General Approaches and Constraints
4. Alternate Energy Generation
5. Equipment Characteristics and System Operation
6. System Performance and Operation – System Studies
7. Integration and Protection Requirements
8. Impact on System Security and Other Impacts
9. Characterizing Equipment Performance
10. Installation Considerations
11. Economics
12. Case Studies
13. Bibliography

5.5 WG 15.05.17 on HVDC and FACTS Bibliography

Rajiv Varma chaired a meeting for this working group. The scope for this working group is to prepare bibliographies on HVDC and FACTS for 1998 – 1999, and 2006 – present.

The work is carried out by students at University of Western Ontario, London, Ontario, Canada. The working group needs nominal funding to support the students to continue the work.

The working group believes that a listing of FACTS projects is needed.

Compilation of annual Bibliographic papers will be published as Conference papers in subsequent IEEE General Meetings.

Annual Bibliographies will be made available on IEEE T&D website

6 SUB-COMMITTEE GENERAL BUSINESS

6.1 HVDC and FACTS Sub-Committee Website Update

Brian Johnson provided a summary of the website activity. It was noted that the content needs to be updated. All information posted is provided in locked PDF format.

7 AWARD COMMITTEE UPDATES

7.1 Uno Lamm Award

Marcio Szechtman received the 2009 Uno Lamm award.

It was noted that nominations from the group are needed, and that the deadline for the 2010 award is November 2009. Information on the award and nomination forms is available on the IEEE PES awards website.

7.2 Nari Hingorani Award

Rik De Donker received the 2009 Nari Hingorani Custom Power award

Nominations from the group are also needed for the Nari Hingorani award. Information on the award and nomination forms is available on the IEEE PES awards website.

8 HVDC PROJECTS LISTING

Robyn Taylor provided electronic copies of the July 2009 version of the HVDC Projects Listing to the Subcommittee members and guests via e-mail on July 6, 2009. The July 2009 HVDC Projects Listing is also available from the IEEE PES HVDC & FACTS Subcommittee website.

There appear to be a number of new HVDC projects as well as a number of life extension and upgrade projects occurring around the world.

The IEEE PES HVDC Projects Listing has been updated through:

- information received from members and guests of the HVDC & FACTS Subcommittee
- Press releases
- Internet searches
- Conference presentations

The HVDC Projects Listing includes two worksheets: one for existing projects and one for planned projects.

Further modifications to the list are required, so please send modifications and updates to Robyn Page.

Mark Reynolds suggested contacting American groups for updates to the projects listing (e.g. WECC).

9 SUBSTATIONS SUBCOMMITTEE

Chris Horwell presented a summary of Subcommittee IO activities.

10 LIAISON REPORTS

The following liaison reports were provided at the meeting:

- IEEE 1204-1997
- IEEE 1124-2003

11 PRESENTATIONS

Three presentations (four speakers) were provided during the July 2008 meeting:

1. “The Hydro Québec De-icer Project at Lévis Substation”
Chris Horwill, Areva T&D UK and Hubert Bilodeau, Hydro-Quebec
2. “Proposed HVDC Projects in Alberta”, Wes Kwasniki, AltaLink
3. “An Overview of ABB VSC Transmission in Namibia”
David Larsson, ABB

Copies of the presentations are provided on the Subcommittee website.

12 GENERAL REPORTS ON HVDC AND FACTS PROJECTS/DEVELOPMENTS

The members and guests were provided with a forum to provide updates on HVDC and FACTS projects that they were presently working on.

During the meeting, Dr. George Karady, Arizona State University, suggested that a panel session entitled “Future Renewable Electronic Energy Delivery and Management Systems” to be organized by NSF Freedom Systems Centre.

13 LOCATION OF THE NEXT MEETING

The next IEEE PES HVDC & FACTS Subcommittee Meeting will be held at the IEEE PES General Meeting in Minneapolis, Minnesota on July 28, 2010.

14 ADJOURNMENT

The IEEE PES HVDC & FACTS Subcommittee Meeting Adjourned at 16:00 PM.

Minutes developed and submitted by Robyn L. Page, Teshmont Consultants LP and Ben Mehraban, AEP.

APPENDIX A
LIST OF ATTENDEES

Appendix A
List of Attendees - 2009

No.	Name	Affiliation	E-mail Address
1	Ben Mehraban	AEP	bmehraban@aep.com
2	Gene Wolfe	Lone Wolf Engineering	gw_engr@msn.com
3	Paul Marken	GE Energy	paul.marken@ieee.org
4	Ram Adapa	EPRI	radapa@epri.com
5	Masoud Farzaneh	UQAC	farzaneh@uqac.ca
6	Paul Wilson	Manitoba HVDC RC	plwilson@hvdc.ca
7	Brian Johnson	University of Idaho	b.k.johnson@ieee.org
8	Murray Bennett	Teshmont Consultants	mbennett@teshmont.com
9	Neil Kirby	AREVA-T&D	neil.kirby@areva-td.com
10	Gerard Moreau	Hydro-Quebec TransEnergie	moreau.gerard@hydro.qc.ca
11	Hubert Bilodeau	Hydro-Quebec Transenergie	bilodeau.hubert@hydro.qc.ca
12	George Karady	Arizona State University	karady@asu.edu
13	David Larsson	ABB	david.larsson@us.abb.com
14	Bob Burton	Teshmont Consultants	rburton@teshmont.com
15	Behrouz Jarrahi	AESO	behrouz.jarrahi@aeso.ca
16	Ali Dariani	SNC-Lavalin ATP	ali.dariani@snclavalin.com
17	Wes Kwasnicki	AltaLink	wes.kwasnicki@altalink.ca
18	Ram Ramachandran	DOW	ramachs@dow.com
19	Per Lindberg	ABB	Per.e.lindberg@se.abb.com
20	Jade Ewasiuk	Teshmont Consultants	jewasiuk@teshmont.com
21	Voislav Jankov	Teshmont Consultants	vjankov@teshmont.com
22	Dan Sullivan	Mitsubishi Electric	dan.sullivan@meppi.com
23	Marcio Szechtman	Dual Consulting	marcio@szechtman.net
24	Mark Reynolds	Power Engineers	mark.reynolds@powereng.com
25	Peter Lehn	University of Toronto	lehn@ecf.utoronto.ca
26	Dirk Van Hertem	University of Leuven	dirk.vanhertem@ieee.org
27	Jon Berge	University of Western Ontario	jeberge@gmail.com
28	Geza Joos	McGill University	geza.joos@mcgill.ca
29	Dennis Woodford	Electranix	daw@electranix.com
30	Aty Edris	EPRI	aedris@epri.com
31	Chris Horwill	Areva T&D UK	chris.horwill@areva-td.com
32	Robyn Page	Teshmont Consultants	rpage@teshmont.com
33	Phil Tatro	National Grid	philip.tatro@us.ngrid.com
34	Mike Henderson	ISO-NE	mhenderson@iso-ne.com
35	Rajiv Varma	University of Western Ontario	rkvarma@uwo.ca
36	Reigh Walling	GE	reigh.walling@ge.com