

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

Critical Infrastructure Protection Committee Meeting

Thursday, June 9, 2005
Arlington, Virginia

Draft Minutes

A regular meeting of the Critical Infrastructure Protection Committee (CIPC) was held on June 9, 2005 in Arlington, Virginia. The meeting notice, agenda, and attendance list are affixed as **Exhibits A, B, and C**, respectively. Meeting presentations that are publicly available may be found at: <http://www.nerc.com/~filez/cipmin.html>.

Chairman Stuart Brindley presided.

Secretary Lou Leffler announced that a quorum was present and confirmed those attending with written proxies.

Antitrust Guidelines

The secretary reviewed the NERC Antitrust Compliance Guidelines.

Introductions

The committee members and guests introduced themselves. Stan Johnson, who recently joined NERC as Manager-Critical Infrastructure Protection, was introduced.

Logistics

The secretary reviewed the unique logistical challenges posed by the “classroom” layout. The attendees’ patience and cooperation were requested and received throughout the meeting.

Parliamentary Procedures

The secretary reminded the attendees of the use of proper parliamentary procedures.

Agenda

The CIPC members approved the meeting agenda moved by Larry Bugh, seconded, and passed with no dissenting votes.

A New Jersey Nonprofit Corporation

Phone 609-452-8060 ■ Fax 609-452-9550 ■ URL www.nerc.com

Minutes

The CIPC members approved the minutes of the March 17–18, 2005 meeting, moved by Larry Bugh, seconded, and passed with no dissenting votes.

Selection of CIPC Officers for January 2006–December 2007

Chairman Brindley proposed an Executive Committee Nominating Task Force for the executive committee to take office in January 2006. The proposed membership is Bob Canada, Larry Dolci, Tom Glock, Mike Hyland, and Roger Lampila. CIPC approved this action by motion moved by Tom Bowe, seconded, and passed with no dissenting votes, and the CIPC chairman appointed Roger Lampila to be chair of the task force.

Stakeholders Committee and Board of Trustees Highlights

Chairman Brindley reviewed the meetings of the May 2–3, 2005 Stakeholders Committee and the Board of Trustees. Two security guidelines, Patch Management for Control Systems and Control System-Business Network Electronic Connectivity, were approved by the board.

NERC Report

Secretary Leffler presented the update from NERC. The primary topic was the NERC Blackout and Disturbance Response Procedures. Attendees requested appropriate linkages be made between these procedures, the Crisis Communications Procedures, and the procedures developed by the Crisis Response Task Force discussed below.

U.S.-Canada Power System Outage Task Force Report

The report is expected to be released in the near future. Thirteen of forty-six recommendations contained in the report are in the CIP area and all thirteen are addressed. The CIP deliverables are complete or are nearing completion.

Electricity Sector Coordinating Council (ESCC) Report

Chairman Brindley provided an update to the attendees on the subject council. He discussed the electricity sector representatives (CIPC Executive Committee) and the government agencies (Department of Energy (DOE), Department of Homeland Security (DHS), and the Federal Energy Regulatory Commission (FERC)) who are participating. The primary assignment of the council at the present time is to work through the sector-specific National Infrastructure Protection Plan (NIPP). The base NIPP is being revised to include goals and responsibilities and is expected to be completed during summer 2005. The sector-specific NIPP is currently open for comment from those to whom it has been distributed by the DOE, in accordance with the Federal Advisory Committee Act. A complete NIPP is now expected in late 2005 or early 2006. The concept of a National Asset Database coupled with risk assessments will be a topic for further discussion. The CIPC Executive Committee, in its role as the ESCC, will review the sector-specific NIPP and provide comments to DOE.

Business Plan — 2006

Chairman Brindley requested anyone with comments on the plan (included in the agenda packet) to forward the comments to him by June 30, 2005 for inclusion in the final plan.

Homeland Security Information Network (HSIN)

Secretary Leffler provided a brief follow-up on the progress being made by the HSIN development team. Work continues in identifying and developing applications in the electric sector to be incorporated into HSIN. The Critical Infrastructure Protection Information System (CIPIS) will be

included; consideration is being given to the DOE Form 417 reporting. Considerable development work remains. This topic will be on the September 29 CIPC meeting agenda. (Further discussion of HSIN is on page 4.)

Electricity Sector Information Sharing and Analysis Center (ESISAC) Report

Secretary Leffler provided an update on the activities of the ESISAC. The ESISAC is considering acquiring a tool to help disseminate information messages more quickly during an emergency. This is being developed in conjunction with interest and support from the regional managers who are working with Ellen Vancko, NERC Director-Communications and Government Affairs, on the NERC Crisis Communication Plan. Several alternatives will be evaluated and advice and counsel will be requested from the CIPC Executive Committee.

The attendees discussed the biweekly DHS briefings and it was decided to change the frequency to monthly. The ESISAC will work with Paul Carrier (DHS) to maximize the value of the information presented during the calls. Everyone agreed the frequency of the calls would increase as required during periods of elevated security risk.

Public Messages

A question was asked about the availability of media-ready information about CIP activity in the electric industry. This would be used if an entity received an inquiry from the media or public and would build on the one-page document prepared by the CIPC Executive Committee with NERC's Director-Communications and Government Affairs. It was distributed to CIPC members last January. The discussion led to the following agreements:

- 1) It would be helpful for the attendees to have a reference document to ensure the key accomplishments of CIPC are highlighted.
- 2) Each entity will need to add entity-specific accomplishments and perspective.
- 3) A process needs to be developed to facilitate the rapid coordination of responses to media and public inquiries after an incident.
- 4) Responding to the media and public requires a special skill set and is best done by trained professionals.
- 5) The Outreach Working Group will work with NERC staff to develop a reference sheet with answers to likely/frequently asked questions.

CIPC Working Groups and Task Force Activities

Each working group and task force briefly discussed its action plan for 2005 and 2006. The CIPC Executive Committee will review the plans to assure conformance to the CIPC business plan. All working group and task force rosters will be reviewed to ensure adequate resourcing by willing, able, and available subject matter experts. In this regard, a letter will be sent by the CIPC chairman to the regional managers and industry associations before the end of 2005 asking them to review their CIPC appointments as required by the CIPC charter.

Outreach Working Group — Wally Johnson provided the following update:

- 1) Six NERC regions have formed regional CIP committees.
- 2) Preliminary planning is beginning for workshops to be conducted following the adoption of the permanent Cyber Security Standard, CIP-002-009.

- 3) Increased use of the “train the trainer” model for regionally conducted workshops is under discussion. Multiple points of view have been discussed about the relative cost and effectiveness of the model.
- 4) Additional topics for training workshops are being evaluated, including HSIN, security guidelines, and incident reporting requirements including DOE 417.
- 5) Outreach beyond the industry to first responders and the media is an area the committee believes has rich potential. Further analysis of need, value, and risks will be completed by the working group.

Reporting Technologies Working Group — Carl Eng provided the following update:

- 1) Primary focus is on the Homeland Security Information Network–Electricity Sector (HSIN-ES).
- 2) Beta testing occurred in Long Beach in March.
- 3) The site organization has been the topic of three meetings and progress is being made.
- 4) Development team meetings on May 24 and June 8 focused on administrative and standard operating procedure issues.
- 5) The working group is developing a user authentication method.
- 6) The Critical Infrastructure Protection Information System (CIPIS) will be a part of HSIN-ES when it goes live.
- 7) The DOE 417 report will not be in the initial roll out of HSIN-ES but will follow shortly.
- 8) HSIN should be viewed as a tool box with lots of room for growth rather than a limited, specific purpose tool.
- 9) The need for training for HSIN will be significant and the liaison with the Outreach Working Group will be key.

Standards and Guideline Working Group (SCWG) — Seiki Harada provided the following update:

- 1) The Security Guidelines Template and Usage Guide will be considered for CIPC approval at the September 2005 meeting.
- 2) Revisions to the Vulnerability and Risk Assessment Guideline will be considered for CIPC approval at the September 2005 meeting.
- 3) Revisions to the Threat Alert System and Physical Response Guideline will be considered for CIPC approval at the September 2005 meeting.

Further discussion about the SCWG occurred later in the meeting and is discussed below (page 5).

Risk Assessment Working Group — Ted Heller reviewed the paper “Risk Assessment Methodologies for Use in the Electric Utility Industry.” (Copy in the agenda materials.) He explained the process the working group used to review various risk assessment methodologies and how the ones in the reference paper were selected. CIPC members discussed the reference paper and complimented the working group for its excellent work. Contingent on this document being formatted in accordance with NERC documentation standards, the reference paper was accepted as a NERC reference document on a motion by Chuck Noble, seconded, and unanimous affirmative voice vote of CIPC. The document and appendices will be made publicly available (after affirmation by the author of each methodology in the appendix).

Indications, Analysis, Warnings Working Group (IAWWG) — Larry Bugh discussed the current IAW procedures and the steps being taken to bring them up to date. The references are especially in

need of updating. The IAWWG is working on the proposed version 4.1 for CIPC review and approval, either by e-mail ballot or at a future meeting possibly in September. The next version 5.0 is already taking shape but will not be ready for comments until March 2006 and approval following later in the year. The timing for version 5.0 will be dependent on progress made on the HSIN implementation.

Control Systems Security Working Group — Tom Flowers updated CIPC in the following:

- 1) The SCADA test bed at the National Labs is being used to determine the applicability of the AGA-12 standard approach to the security of control signals.
- 2) A security guideline on the use of encryption of electronic messaging is under development.
- 3) Substation cyber security will be an area of focus in 2005 and a guideline may be developed for approval in 2006.
- 4) A workshop was scheduled for July in Baltimore, Maryland, to begin development of a roadmap to secure control systems in the energy sector. Tom Flowers and Lou Leffler were planning to attend.

Crisis Response Task Force — Tom Bowe presented a proposal to address DOE's recommendations in "Organizing the Next Blackout Investigation." The proposal was moved by Bob Canada, seconded, and approved by unanimous voice vote by CIPC. The focus of the task force will be on intercompany and regional issues, not intracompany issues. The task force will be made up of representatives from operations, security, and government agencies. Interested parties are encouraged to contact Tom (bowet@pjm.com) or (610-666-4776). The work of the task force will be coordinated with the NERC Technical Steering Committee, the IAWWG, the NERC Crisis Communications Team, and the ESISAC.

Security Planning

Standard and Guidelines Working Group (SGWG) — Seiki Harada continued the discussion about SGWG. The following topics were discussed:

- 1) The detailed process diagram for security guideline development and revision was discussed. The multiple steps, multiple participants, lack of clear overall ownership, and lengthy time requirements were pointed out.
- 2) The lack of participation by many members has made it impossible for the working group to assemble a quorum.
- 3) The proposed guideline template was reviewed and will be submitted for CIPC approval at the September 2005 meeting.

The CIPC provided the following direction:

- 1) The working group could be renamed the Guidelines Working Group because it is not involved in the standards development process. An alternative is to retain the same acronym (SGWG) but change the name to Security Guidelines Working Group. The CIPC chairman has decided to change the name to Security Guidelines Working Group.
- 2) The SGWG membership should be reviewed and limited to those members with the right subject matter expertise who are committed to completing the SGWG's work.
- 3) The scope of the SGWG needs to be clarified and focus on ensuring the security guidelines are consistent with other existing security guidelines, do not conflict with any NERC standards, and are in the proper format.
- 4) The NERC staff technical editor can provide editorial assistance to the SCWG in developing and revising security guidelines.

Cyber Security Standard CP-002-009 — Larry Bugh presented an update on the Cyber Security Standard CP-002-009.

- 1) The comment period on draft 3 is scheduled to close on July 11.
- 2) The plan calls for seeking NERC Board of Trustees approval at the board's November meeting.
- 3) The present Cyber Standard 1200 Urgent Action version expires in August.
- 4) The board will be asked to extend the urgent action beyond August for up to one year. This is in accordance with the standards process manual and its procedures for urgent action standards.
- 5) Areas of concern expressed by CIPC members included the avoidance of being overly proscriptive, the misuse of terms such as "bulk electric system," and the compressed time frame.

Chairman Brindley commended the many CIPC members who are contributing their valued time and expertise on the Cyber Security Standard CIP-002-009 Drafting Team.

Research and Development

Bill Muston discussed the role CIPC can play in identifying and prioritizing research and development topics in the CIP area. He identified areas where some research and development has occurred such as the recovery transformer, low cost sensors, and cyber security. He discussed the need to define the types of risks being faced and the difficulty in building an economic argument to convince regulators to allow the costs in rate cases. CIPC members discussed the issues raised and agreed further discussion is warranted.

Agency Reports

Department of Energy — Jim McGlone presented details of the recent reorganization at DOE. The Office of Electricity Delivery and Energy Reliability was established with Kevin Kolevar as the leader. Reporting to the office are: Research & Development under Bill Park; Permitting, Siting, and Analysis under David Meyer; and Infrastructure Security and Energy Restoration under Alex DeAlvarez.

Public Safety Emergency Preparedness Canada — Kara Yorke complimented the performance of the ESISAC. She reported CIP strategies are being developed in Canada by the federal and provincial governments through the use of town hall sessions including the public and representatives of the private sector. Canadian CIPC members are actively involved with this strategy development. Preliminary results are expected in the early fall.

Other Matters

- 1) CIPC briefly discussed a newly adopted FERC rule, "Electronic Reporting of Shortages and Anticipated Shortages of Electric Energy and Capacity" (Docket No. RM05-19-000; Order No. 659). The new rule will be carefully reviewed and its reporting requirements will be included in CIPC reporting guidelines.
- 2) Dave Sanders, Bearing Point Company, and Jacklyn Blecker, Yuran Associates, of the discussed the proposed National Critical Infrastructure Exercise (NCIE). This exercise will be private-sector led with active government participation. It is planned to have both cyber and physical security dimensions. Electrical entities will be participating and the scenario will be based on "ground truth" with injects to provide realism. Crisis communication will be the key aspect of the exercise.
- 3) Grid Incident – May 27, 2005 — Dave Baumken of Hydro One in Ontario provided a preliminary report on an incident at Milton Substation in Ontario, Canada. A three phase to ground, 500 kV fault occurred when a line was closed into a breaker believed to be open but actually in the test

position. A full investigation was in progress at the time of the CIPC meeting and has been subsequently completed and a report has been issued.

CIPC Roundtable

Bob Windus raised the topic of the difficulty in getting aggressive federal prosecution of vandalism of the electricity infrastructure. The following points were made during the CIPC discussion:

- 1) Most prosecution is being done by local law enforcement authorities.
- 2) Federal prosecutors (U.S. Attorney) are not getting involved, for the most part.
- 3) Federal involvement varies by region.
- 4) Electricity infrastructure owned by public agencies (Bonneville Power Administration and Tennessee Valley Authority) may have more success getting federal prosecution support.
- 5) Discussions need to occur at the local and federal level with the Department of Justice.
- 6) A unified effort to enlist support from DOE, FERC, and DHS would be the best chance for success.
- 7) Larry Brown noted that the Patriot Act considers attacks against critical infrastructure to be a federal crime. Others indicated the threshold which makes the action a federal crime is believed to be \$100,000.

Lou Leffler provided an update on Critical infrastructure Warning Information Network (CWIN). This voice-over IP system has been offered, at no cost, to the electricity sector by DHS. It is being installed for the reliability coordinators as an assured means of communications in case of failure of routine voice communications mechanisms.. CWIN is promised to be highly reliable and can be used for routine as well as emergency communications.

Recognitions

Chairman Brindley recognized the following exemplary efforts in the support of NERC and CIPC:

- 1) Linda Nappier for her work with the CSSWG to develop the Security Guideline – Patch Management for Control Systems, recently approved by the NERC board.
- 2) Elizabeth Rhodenizer for her work with the CSSWG to develop the Security Guideline – Control System-Business Network Electronic Connectivity, recently approved by the NERC board.
- 3) Ted Heller and his entire team for writing the reference document “Risk Assessment Methodologies for Use in the Electric Utility Industry.”

Closing

Chairman Brindley closed the meeting by inviting CIPC members to suggest topics for presentation and discussion at future meetings. The transmission tower presentations at the March meeting were sited as an excellent format for future meetings. Two other topics have already been suggested. First is successful substations’ physical security projects or programs, and second is laptop computer thefts and successful practices to avoid thefts.

Future Meetings

2005

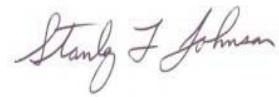
- 1) Thursday (8 a.m. to 5 p.m.) – Friday (8 a.m. to noon), September 29–30, 2005; Denver, CO (coupled with AGA/EEI Security Committee).
- 2) Thursday (8 a.m. to 5 p.m.) – Friday (8 a.m. to noon), December 8–9, 2005; St. Petersburg, FL (coupled with NERC standing committees).

2006

- 1) Thursday (8 a.m. to 5 p.m.) – Friday (8 a.m. to noon), March 16–17, 2006; Las Vegas, NV (coupled with NERC standing committees and AGA/EEI Security Committee).
- 2) Wednesday – Thursday, June 21–22, 2006, Washington, DC (to include cleared briefing with DHS).
- 3) Thursday (8 a.m. to 5 p.m.) – Friday (8 a.m. to noon), September 14–15, 2006; Baltimore, MD (coupled with NERC standing committees and possibly with AGA/EEI Security Committee).
- 4) Thursday (8 a.m. to 5 p.m.) – Friday (8 a.m. to noon), December 7–8, 2006; Tampa, FL, or Houston, TX (coupled with NERC standing committees).

Adjourn

There being no further business before the Critical Infrastructure Protection Committee, the meeting was adjourned.



Stanley L. Johnson
NERC Staff

From: Angie Nicaastro [Angie.Nicaastro@nerc.net] on behalf of Lou Leffler [Lou.Leffler@nerc.net]
Sent: Monday, April 18, 2005 4:04 PM
To: cipc@nerc.com
Cc: cipforum@nerc.com; eeisc@nerc.com; oc_plus@nerc.com; pc_plus@nerc.com; rm_plus@nerc.com; nercroster@nerc.com; tsc@nerc.com
Subject: June 9, 2005 CIPC Meeting Announcement

TO: CRITICAL INFRASTRUCTURE PROTECTION COMMITTEE

Dear Members,

I have attached the June 9, 2005 CIPC meeting registration form. You **MUST** respond by May 17, 2005. **EVERYONE** must register and indicate your intentions to attend.

You may also download the registration form directly from the NERC website at:

<http://www.nerc.com/committees>

The agenda will be emailed on or about May 20, 2005.

Please let me know if you have any problem accessing the document.

Sincerely,

Angie Nicaastro
Secretary-Planning Committee & CIPC
609-452-8060

cc: Regional Managers
Technical Steering Committee
Operating Committee
Planning Committee
NERC Roster
CIPFORUM
EEI Security Committee



Please complete and return this form if you plan to attend this meeting to: Angie Nicaastro (angie.nicaastro@nerc.net) or fax (609-452-9550)

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

July 12, 2005

Critical Infrastructure Protection Committee Meeting

Thursday, June 9, 2005 — 8 a.m. to 5 p.m.

Meeting Logistics

Hotel	Marriott Crystal City at Reagan National Airport 1999 Jefferson Davis Highway Arlington, VA 22202
Phone	703-413-5500
Fax	703-413-0192
Room rate	\$189 single or double occupancy.
Hotel reservation cutoff date	May 17, 2005 (NOTE: After this date, the hotel will release this block of rooms and only accept reservations on a space-available basis.)
Check-in and check-out times	Check-in: 3 p.m. Check-out: Noon
Transportation	<ul style="list-style-type: none">• The hotel is approximately 3 minutes from Washington, DC/ National/Reagan Airport.• Complimentary shuttle service is available at baggage area.• Taxi: about \$25

Hotel Reservation Instructions

To make your room reservation, call the hotel directly and refer to the "North American Electric Reliability Council" to get the preferred rate and to ensure your reservation is credited to the NERC room block. **NERC will pay a penalty if the total rooms blocked for these events are not used.** If you use a travel agency for your travel plans, please make sure the agency mentions the North American Electric Reliability Council. We encourage you to make your hotel reservations immediately.

Meeting Registration Instructions

Interested members and guests **MUST** register by **May 17, 2005** by completing the registration form below and faxing or emailing it back to the attention of Angie Nicaastro at NERC. Online registration is at the NERC website (www.nerc.com) under the "Committees" heading. *Dress for meeting is business casual.*

Name:
Title:
Company:
Email:
Telephone:
Date:



Exhibit B

Casual Attire

NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

Critical Infrastructure Protection Committee

Thursday, June 9, 2005 — 8 a.m. to 5 p.m.

Crystal City Marriott at Reagan International Airport
1999 Jefferson Davis Highway
Arlington, Virginia 22202
(Washington, DC area)

(PLEASE BE PREPARED TO STAY FOR THE ENTIRE MEETING.)

Meeting Agenda

- | | |
|--|---------|
| 1. Administrative Items | 20 min. |
| a. Arrangements — Lou Leffler | |
| b. Announcement of quorum — Lou Leffler | |
| c. Procedures — Lou Leffler | |
| *d. NERC Antitrust Compliance Guidelines — Lou Leffler | |
| e. Parliamentary procedures — Lou Leffler | |
| f. Introduction of members, alternates, and associates — Stuart Brindley | |
| g. Approval of agenda — Stuart Brindley | |
| *h. Approval of March 17–18, 2005 CIPC meeting minutes — Stuart Brindley | |
| i. Process for selection of CIPC officers for January 2006–December 2007
— Stuart Brindley | |
| 2. Information Items | |
| a. Board of Trustees highlights — Stuart Brindley | 5 min. |
| *b. NERC report — Lou Leffler
– NERC Blackout and Disturbance Response Procedures | 15 min. |
| c. CIPC Executive Committee report — Stuart Brindley | 15 min. |
| *d. Committee input on 2006 business plan objectives — Stuart Brindley | 30 min. |
| e. Working group and task force work plans for 2005–2006
— chairs of working groups and task forces | |
| f. Electricity Sector Coordinating Council report — Stuart Brindley | 5 min. |
| g. ESISAC report — Lou Leffler | 5 min. |
| h. August 14, 2003 outage recommendations status — Stuart Brindley | 5 min. |

*Background materials included.

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- 3. Security Planning**
- a. Security guideline review approach and schedule — Seiki Harada 30 min.
 - *b. Security Guideline: Vulnerability and Risk Assessment — Seiki Harada 20 min.
 - *c. Security Guideline: Threat Alert System and Physical Response Guidelines for the Electricity Sector — Seiki Harada 20 min.
 - *d. NERC Document: Risk Assessment Methodologies for Use in the Electric Utility Industry — Ted Heller 60 min.
 - e. Cyber Security Standard: CP-002-009 — Larry Bugh 20 min.
<http://www.nerc.com/~filez/standards/Cyber-Security-Permanent.html>
 - f. Control systems security — Tom Flowers 15 min.
 - g. Critical infrastructure protection research and development — Bill Muston 15 min.
- 4. Security Operating**
- a. Indications, analysis, warnings program review — Larry Bugh 15 min
 - b. Homeland Security Information System — Carl Eng 20 min.
(discussion on data/information access/sharing)
 - c. Outreach for 2005, early 2006, and workshops — Wally Johnson 15 min.
- 5. Agency Reports** 45 min.
- a. Department of Homeland Security
 - b. Public Safety Emergency Preparedness Canada
 - c. Department of Energy
 - d. Federal Energy Regulatory Commission
- 6. Closing**
- a. Follow-up items and future actions 15 min.
 - b. Future meetings 10 min.
(Format:
3 days with WG/TF on Wednesday and CIPC on Thursday and Friday;
2 days in Washington, D.C.: WG/TF on Wednesday and CIPC on Thursday)
- 2005**
- September 28–30, Denver, Colorado (with AGA/EEI)
 - December 7–9, St. Petersburg, Florida (with NERC)
- 2006**
- March 15–17, Las Vegas, Nevada (with AGA/EEI/NERC)
 - June 21–22, Washington, D.C.
 - September 13–15, Baltimore, Maryland (with NERC and maybe AGA/EEI)
 - December 6–8, either Tampa, Florida, or Houston, Texas (with NERC)

*Background materials included.

CIPC Meeting Attendees

June 9, 2005 Meeting

(V = voting member; P = proxy)

REPR	VOTE	POSITION	NAME	ORGANIZATION
APPA	V	Member	Mike Hyland	APPA
	P	Alternate	James Strange (for S. Brewer)	APPA
CEA	V	Member: Chair	Stuart Brindley	IMO
	V	Member	Dave Baumken	Hydro One
		Alternate	Seiki Harada	BC Hydro & Power Authority
		Alternate	Francis Bradley	CEA
NRECA	P	Alternate	Brad Hyland (for R. Richhart)	Hoosier Energy
	V	Member	Barry R. Lawson	NRECA
ECAR	V	Member: Phys	Michael Lynch	Detroit Edison
	V	Member: Cybr Vice Chair	Larry Bugh	ECAR
ERCOT	P	Alternate: Phys	David L. Andrews (for W. Bojorquez)	TXU Business Services
	P	Alternate: Cyber	Tom Flowers (for S. Grendel)	CenterPoint Energy
FRCC	V	Member: Cybr	Brian Malfant	FRCC
MAAC	V	Member: Phys	Robert H. Beahm	Constellation Energy
	V	Member: Cybr	Thomas T. Bowe	PJM Interconnection
	V	Member: Oper	Walter A. Johnson	Potomac Electric Power
		Alternate: Phys	Edwin Stowe	PEPCO
MAIN	P	Alternate: Phys	Tom Eells (for P. Laird)	WE Energies
	V	Member: Cybr	Linda Nappier	Ameren Services
		Alternate: Cybr	Kurt Muehlbauer	Exelon
MRO	V	Member: Cybr	Greg J. Fraser	Manitoba Hydro
	V	Member: Oper	David R. Kulisek	Omaha Public Power District
NPCC	V	Member: Phys	Bruce Metruck	New York Power Authority
	V	Member: Cybr	Charles E. Noble	ISO New England
	V	Member: Oper	Roger Lampila	New York ISO
		Alternate	Bonnie Bushell	New York ISO
		Alternate: Cybr	Brian Hogue	NPCC
SERC	V	Member: Phys	Robert D. Canada	Southern Company Servies
	V	Member: Cybr	Jay S. Cribb	Southern Company Services
	V	Member: Oper	Carl J. Eng	Dominion
		Alternate: Phys	Michael Hagee	Duke Energy
		Alternate: Cybr	Dave Norton	Entergy
SPP	V	Member: Oper	Allen Klassen	Westar Energy
	V	Member: Phys	Larry Dolci	Great Plains Energy
WECC	V	Member: Cybr	James W. Sample	California ISO
	V	Member: Phys	Robert L. Windus	Bonneville Power Administration
		Alternate: Phys	Robert L. Sypult	Southern California Edison

NERC	-----	Secretary	Louis G. Leffler	NERC
		Staff Support	Ronald N. Niebo	NERC
	-----	Staff Support	Stanley L. Johnson	NERC
-----	-----	Associate	Jacklyn Blecker	Bearing Point Companh
		Associate	Laurence Brown	EI
		Associate	Joseph M. Bucciero	KEMA
		Associate	Paul Carrier	DHS
		Associate	Christopher Burden	Williams Gas Pipeline
		Associate	James Davis	MITRE Corp. for DHS
		Associate	Mark Engels	Dominion
		Associate	Heinrich Gerber	BC Transmission Corp.
		Associate	Ken Hall	EI
		Associate	Ted Heller	DOD DPO-MA
		Associate	Robert Hill	Idaho National Lab
		Associate	Daryl Jaschen	Old Dominion Electric Coop.
		Associate	Robert J. Jordan	DOE/NNSA
		Associate	Ken Keels	SERC
		Associate	Thomas Kropp	EPRI
		Associate	Eric Lee	U.S. NRC
		Associate	Jim McClone	DOE
		Associate	Frank McCormick	PSEG
		Associate	Scott Mix	KEMA
		Associate	William E. Muston	TXU Electric Delivery
		Associate	Tim O'Neil	National Resources Canada
		Associate	John Pavek	USDA
		Associate	Joseph Pereira	ISO New England
		Associate	Bruce Poole	FERC
		Associate	Dave Sanders	Bearing Point Companh
		Associate	Julie Silberger	CSC
		Associate	Thomas A. Smith	Tri-State Gen. & Transmission
		Associate	Kara Yorke	PSEPC