

Minutes: **OID Oversight Committee**

Place of Meeting: **Conference Call**

Date and Time: **Friday, January 29, 2010**
01:30pm – 04:30pm, EST

Conference Call Info: **Toll Free Number: 888-654-2663**
Long Distance: 801-828-9909
Passcode: 7503515

Conference Web Info: **<https://www.webmeeting.att.com>**
Meeting Number: 8886542663
Code: 7503515

1. CALL TO ORDER

2. ROLL CALL & MEMBERSHIP

The roster has been established. Are there corrections, additions or deletions?

Name	Member Type	Standards Body	E-Mail Address	Present (Yes/No)
Herman Millican	Member	ANSI	herman.millican@austinenergy.com	Y
Terry Penn	Member	ANSI	tlpenn@southernco.com	Y
Brent Cain	Member, Alternate	ANSI	brent.cain@itron.com	Y
Brad Johnson	Member, Alternate	ANSI	brad.johnson@oncor.com	N
Aaron Snyder	Member	IEEE	aaron@enernex.com	N
Richard Tucker	Member	IEEE	richardaet@aol.com	Y
Larry Kotewa	Member, Alternate	IEEE	larryk@ctnenergy.org	Y
Dan Nordell	Member, Alternate	IEEE	d.nordell@ieee.org	N
Voung Nguyen	Member	MC	vuong.nguyen@ic.gc.ca	Y
Michael Anderson	Member	MC	michael.anderson@us.landisgyr.com	Y
Ginger Zinkowski	Member, Alternate	MC	ginger.zinkowski@ge.com	N
Michel Veillette	Member, Alternate	MC	michel.veillette@trilliantinc.com	N

Visitors: Tom Nelson of NIST and Avydor Moise of Future Dos, Inc.

Note: Quorum was established.

3. APPROVAL / REVIEW OF THE AGENDA

3.1. The January 29, 2009 conference call agenda was submitted for approval. Additions were added:

3.1.1. Proposal for tasks for certifying the TDL. Added as section number 6.1.4.

3.1.2. Silver Springs Patent application, US 20090300191, involving ANSI C12.22. Added as section number 6.4.

Larry Kotewa moved for Agenda as modified to be accepted.

Richard Tucker seconded.
The motion was accepted unanimously.

4. APPROVAL OF MINUTES

The minutes of the August 2009 meeting in Crystal City, VA. were submitted for approval. Changes were with reference the correct spelling of a name. Herman Millican made the motion of accepting the minutes as amended and was seconded by Vuong Nguyen. The minutes were accepted.

5. OLD BUSINESS

5.1. GROUND RULES DOCUMENT

The ground rules document was not reviewed. This document will be reviewed in the next meeting.

5.2. MEMBERSHIP LIST

The membership list was not reviewed. This document will be reviewed in the next meeting.

5.3. OID REGISTRAR APPLICATION TEMPLATE

The OID Registrar Application Template has an action item for correction on page 1. The committee did not review this correction and will correct the errors in the next meeting.

5.4. REGISTRAR STATUS & UPDATE

5.4.1. Letter to NEMA.

The letter to NEMA was sent to John Caskey describing the areas of improvement necessary in the next application from NEMA to become a Registrar. It was also discussed that an action item in the August, 2009 meeting in Arlington, VA minutes promised an additional letter to NEMA via John Caskey. This letter was to indicate potential conflict of interests of NEMA in the role of Registrar and how NEMA proposes to resolve them. The action item was directed to Terry Penn. This letter is to be sent as soon as possible to allow NEMA a reasonable period to respond.

5.4.2. Letter to FutureDOS.

The letter to FutureDOS was discussed. The original letter constructed and approved by the committee in the August 2009 meeting in Arlington, VA to inform FDOS of it's successful application toward being a Registrar required multiple signatures. It was proposed in a motion by Bent Cain that the Chairman of the Committee be allowed to sign singularly for the Committee. The motion was seconded by Larry Kotewa. The vote was favorable with 4 ayes and 2 abstains. Mike Anderson and Brent Cain abstained. Larry Kotewa, Vuong Nguyen, Richard Tucker, and Terry Penn voted aye.

6. NEW BUSINESS

6.1. KEMA

6.1.1. Report on KEMA conference call (Richard Tucker & Terry Penn).

Richard Tucker described two telephone calls with Pierre Salle of KEMA. The first phone call dealt with explanation of how KEMA could assist the Industry with the goal of interoperability of end devices. It was discussed that the number of Registrars would be small and probably less than 10 over a period of several years. Even though, the profitability of this work for certifying the Registrar TDL document would be insignificant, Pierre saw that this work would illuminate his company in a favorable light for potential work with manufactures and utilities for end device hardware certification which could be a much greater amount of work for his company. Pierre wanted his technical staff to talk with me about a general strategy to accomplish the work. The second phone call included his technical staff and they understood in general how the certification would work. The details were promised to be forthcoming after the next OID meeting. KEMA wanted to be included in the next face to face meeting to begin the relationship.

6.1.2. Introduction from KEMA representative.

Terry Penn is including in the next Committee meeting an agenda item for the KEMA representative to describe to the Committee their capability to certify the Potential Registrars' TDL documents.

6.1.3. Tasks for KEMA as a certifying agency.

A draft document for TDL testing was distributed to the Committee members for review. A conference call was scheduled on February 10, 2010 at 2 PM EST to modify if necessary and approve the procedure. It was determined that this must be accomplished before the discussion with KEMA. Also, at this scheduled conference call, an approximate "Man hours" of time would be necessary for the TDL certification work. These sets of information will be available to KEMA for their consideration. Avydor Moise volunteered to examine the draft document and provide his input with track changes for the Committee to review at the Feb. 10 conference call meeting. Brent Cain and Michael Anderson were concerned about the cost of the Registrar TDL certification. It was concluded that the Registrar themselves are responsible for their TDL certification costs.

6.2. AEIC & NAEDRA.

It was discussed that AEIC and other "SmartGrid" groups should become aware of the OID Committee function in relationship to interoperability through the use of the ANSI C12.19 Standard. Terry Penn related that he has included the members of the AEIC work force concerned with the AEIC Guidelines in the OID communications. The group recommended that the communications should be limited to the OID Committee members and that workshops and gain

of agenda spaces in the other groups would be a better route to their recognition and possible collaboration with the OID Committee.

Michael Anderson of Landis + Gyr asserted to the Committee that the OID Committee was perceived to be a collusive and unauthorized group of individuals. He also indicated that it was perceived by the industry that the members of the Standard working groups got together and said, "lets create this Oversight group". The perception was that we kept anyone else from joining the committee. It was also noted that the individual members of the OID Committee were also members of the Standards Committees of which the OID Committee gave oversight to. He stated that none of the OID members had been authorized by ANSI, IEEE or Measurement Canada and had no authority to act under the auspices of those Standards Bodies. Michael Anderson made the point that the OID Committee needed to be "re-affirmed" by both ANSI and IEEE. Terry Penn stated that he felt this was an attempt to disband the Committee.

Tom Nelson of NIST expressed that the OID Committee was observed to act too slowly on issues that was important to the Industry. The question of having a commercial entity to perform the OID Committee function was opened. It was related that John Caskey of NEMA had stated that the OID Committee should not be operated by a volunteer group.

Discussion also centered around the possibly of getting others from other ANSI or IEEE Committees to join the OID Committee. Terry Penn commented that this would definitely slow down the process. In order to make the OID Committee effective, the new users would have to be brought up to speed, thus slowing the process down drastically.

Terry Penn, Chairman of the OID Committee shared that the letter that was to be sent to John Caskey was his responsibility, and his alone for its lateness in being sent out. He shared that he had received a call from Tom Nelson, whereby Tom expressed the need to get this letter to John Caskey at NEMA. Terry Penn shared that he sent the letter out the following week, return receipt requested. He also stated that all future mailings will be sent in this manner to provide the committee the ability to track any future correspondence. He also expressed an apology for that delay and made a resolve to the Committee that this would not happen again.

Herman Millican stated that he was not part of the Standards Committees and was chosen by ANSI C12 Main to be a representative on the OID Committee.

Larry Kotewa presented the April 22, 2008 minutes to the Committee that indicated, in fact, that the IEEE SCC 31 Committee had chosen the IEEE representatives for the OID Committee. Michael Anderson challenged the validity of the IEEE SCC31 Committee as not being high enough in the IEEE architecture to be recognized. Larry Kotewa responded that the IEEE SCC31 Committee was on the same responsibility level as ANSI C12 Main. Then it was discussed that in the ANSI C12 Main meeting on April 10, 2008 the ANSI representatives for the OID Committee were chosen under the direction of Tom Nelson. Several of the conference call OID Committee members were there

and witnessed that selection. Vuong Nguyen stated that he would provide the appropriate approval of the Measurement Canada representatives for the OID Committee.

The OID Committee took the "Perception" problem seriously and will produce minutes and proper documentation from the three Standards Bodies to validate the creation of the OID Committee and its current membership. Minutes from the 04-10-2008 meeting of ANSI C12 Main and the 08-24-2008 meeting of IEEE SCC31 meetings are to be added as an addendum to these minutes. It was expressed by Terry Penn that this would not solve the perception problem, however, the documentation was a proper foundation for the Committee.

6.3. 2010 OID Workshop.

An action item for Terry Penn is to work with Avydor Moise, Vuong Nguyen for 2010 OID Workshop exposure and Canadian exposure for the Utilities and Manufacturers.

6.4 Sliver Springs – ANSI C12.22 Patent Issues.

It was discussed that Silver Springs has a Patent Application with attributes of the ANSI C12.22 Standard. The patent application number is US 20090300191. Several of the members indicated that their company's legal departments would be notified.

7. NEXT MEETING SCHEDULE

Wednesday, February 10, 2010 at 2:00pm-5:00pm, EST.

8. ADJOURNMENT

The meeting was adjourned at 4:17 PM EST.

**Accredited Standards Committee
C12
Electricity Metering**

Secretariat
National Electrical Manufacturers Association
1300 North 17th Street, Suite 1752
Rosslyn, VA 22209
Tel: (703) 841-3227 ♦ FAX: (703) 841-3327
E-mail: pau_orr@nema.org

MINUTES

Meeting: C12 Accredited Standards Committee on
Electricity Metering
Main Committee

Place of Meeting:

Hyatt Regency
Two West Bay Street
Savannah, GA 31401
(912) 721-4712

Date: Thursday, April 10, 2008

Time: 11 a.m. – Noon

MEMBERS PRESENT:

Larry Barto	Southern Company
Brent Cain	Itron, Inc.
Jim DeMars	Florida Power & Light
David Ellis	Public Service Electric & Gas
William Hardy	Technology for Energy Corp. - Powermetrix
Bob Hughes	Schweitzer Engineering Labs, Inc.
Brad Johnson	Oncor
Larry Kotewa	Enter for Neighborhood Technology
Herman Millican	Austin Energy
Avygdor Moise	FutureDos R&D Inc.
Tim Morgan	Duke Energy
Tom Nelson	NIST
Dan Nordell	Xcel Energy EMC
Aaron Snyder	EnerNex Corperation

Jim Thurber	Baltimore Gas & Electric Company
Richard Tucker	Tucker Engineering
John Voisine	Landis+Gyr, Inc.
Scott Weikel	Elster Electricity
Alex Yan	Pacific Gas & Electric

MEMBERS ABSENT:

Ron Breschini	UL
Curt Crittenden	GE Energy
Michel Veillette	Trilliant Networks
Skeeter Wall	Wattour Engineering Corp.

OTHERS PRESENT:

Alex Bingtan	PG&E
John Caskey	NEMA Staff
Tim Everidge	Radian Research
Solomon Franklin	CPS Energy
Gary Hendly	Oncor
David Jirikovic	Consumers Energy
Raymond Mauya	Xcel Energy
Terry Penn	Southern Co.
Dan Prljevic	Radian Research
Adnan Rashid	Measurement Canada
Roberto Siegert	Florida Power & Light
Chunyue Wang	Ercot
Jim West	Ameren
Alex Yan	Pacific Gas & Electric

Presiding Officer:	Mr. Tom Nelson, Chair
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1. CALL TO ORDER (T. NELSON)

2. ANTI-TRUST GUIDELINES

Members were reminded that the meeting is being conducted in accordance with the NEMA Guidelines for Conducting NEMA Meetings.

3. MEMBERSHIP

Membership updates were reviewed.

(NEW)

<u>Producers</u>	<u>Users</u>	<u>General Interest</u>
Michel Veillete	Jim Thurber	Aaron Snyder
Skeeter Wall	Larry Barto	
Bill Hardy	Dan Nordell	

It was also noted that Jim DeMars is a voting member having replaced John McEvoy.

We now have 22 members. 8 producers, 7 General Interest and 7 Users.

We have three **producers** on hold (Tim Everidge of Radian Research, George Steiner, Sensus, and Shawn Glasgow, Milbank Mfg. Co.). Ginger Zinkowski and Michael Anderson have been added as alternates.

Additional applications are being accepted for users and general interest. Aaron Snyder also recommended that if you want an alternate for your company send the information to the secretary. Terry Penn was added as an alternate to Larry Barto.

4. APPROVAL OF THE AGENDA

Avy Moise requested an additional item be added to the agenda, "Selection of ANSI Representatives to OID Oversight Group." The agenda was approved as amended.

5. APPROVAL OF THE PREVIOUS MINUTES

The minutes from the October 11, 2007 were approved as submitted.

6. C12.22 MAIN COMMITTEE LETTER BALLOT

Ballot Issued January 31, 2008

Ballot Cutoff March 12, 2008

14 Voting Members on 1/31/08

5 Producers, 6 General Interest, 3 Users

8 yes, 1 no, 1 abstain (4 unreturned)

First condition majority voting 10/14 = **pass**

Second condition 2/3 of those voting excluding abstentions

Those Voting – abstentions = 10-1 =9

2/3 of 9 =6. Needed at least 6 affirmatives.

8>6 Ballot passes

Comments Received

4 ballot comments

3 other comments

Comments will be discussed at the Montreal ANSI C12 SC 17 meetings, April 28-May 2, 2008.

7. METER REGISTRY

Update on status and developments.

NEMA Industry Director, John Caskey, presented his comments that were concerns about the present direction of the Registry. See embedded attachment.



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Avy stated it is not a requirement to register a device, that it is a voluntary program. If you wish to be a citizen on the utility space, than you need to register. No rogue devices will be allowed on a global network. Avy noted that the utility will ask for registration. Richard Tucker stated that registration will be a positive solution for meter manufacturers and utilities. Terry Penn, Southern Company, noted that some of his “sister” utility companies do not know about the registry and will have to be educated.

In rebuttal to Mr. Caskey’s points, Richard Tucker stated that Khallid Masri, a former NEMA Secretary, used travel money saved to buy the OID numbers. Mr. Tucker stated that he asked NEA to release or relinquish the numbers so that not just NEMA could be registrar. Mr. Kotewa noted that in 2003 or 2004 NEMA said it did not want to be a registrar.

Tom Nelson reminded the committee that as the draft standard is presently written anyone can be a registrar. It was stated that using the wording “it is the inten” in a standard is not appropriate standards writing.

Aaron Snyder stated 3 actions need to be considered as follows:

- 1) ASAP expression of intent needs to be submitted to IEEE/ANSI C12 Main/SCC 31 – Circulate to relinquish NAEDRA site and numbers to the OID oversight group. Motion made, seconded, motion carries.
- 2) Remove informative Annex K and have this informative material be retained by the oversight group. Motion made, seconded motion carried. (9 yes, 4 no, 4 abs)
- 3) List all known registry entities that have OIDs at time of publication and note that there is an oversight group. Motion made and seconded. Ballot failed (7 yes, 7 no, 6 abs)

8. CHAIR REPORTS

8.1 C12.1 SUBCOMMITTEE – S. WEIKEL

Scot Weikel reported that C12 SC 1 met yesterday. ANSI C12.1 passed ballots and is in waiting phase for ANSI approval. Approval and publication is anticipated for next month. The subcommittee had discussions on improvements to C12.1 and C12.10.

8.2 C12.15 SUBCOMMITTEE – S. GLASGOW

Shawn Glasgow reported that the subcommittee met Tuesday and reviewed UL 414 activity. Several proposal passed. Shawn noted that 2 proposals would have failed if the no votes were submitted with a comment. The TRINIWOG group reported NEETRAC testing has been approved. EI 21.1 and EI 21.2 were voted to reaffirm. Shawn will ask Jim Smith at IEEE to see if IEEE 57.13 is now being used.

8.3 C12.16 SUBCOMMITTEE – H. MILLICAN

Mr. Millican reported that C12 SC16 balloted C12.20 to the main committee. An editorial committee was appointed. The plan is to ballot the standard in the July/August 2008 timeframe. The subcommittee also started discussions on the next revisions. The hope is to have the standard balloted in time for the Oct. 2008 meeting.

8.3 C12.17 SUBCOMMITTEE – L. KOTEWA

Mr. Kotewa reported that C12 SC17 met in December to work on C12.22 and C12.19. SC 17 had a conference call at the end of December 2007 to move C12.22 to C12 Main. Another conference call was held for C12.19 at the end of January 2008 to move it to C12 Main for balloting.

8.5 C12.24 SUBCOMMITTEE – T. EVERIDGE

Tim Everidge reported that the subcommittee met Tuesday. Tim noted the subcommittee received measurement calculations form 4 manufacturers so far.

Other manufacturers will be contacted. Discussed updated approaches and that the Radian paper will be updated.

9. STANDARDS STATUS

The secretary reviewed the updated Standards Status attached below.



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10. STATUS OF FINANCIAL ISSUES FOR C12 ACTIVITIES

Update on previous action item Larry Barto was to bring funding inquiry to AEIC with Dave Ellis. Aaron Snyder was to send input to Larry Barto to bring it up at November planning meeting for EEI and AEIC.

It was stated that NEMA meter, socket and test equipment manufacturers support all of the standards work and secretary expense. There has been an effort to get more of a broad-based support. Mr. Kotewa has helped in the past to get funding from AMRA. We need to present proposals to EEI or AEIC with quantity of financial assistance we are seeking and what it is we are doing. We need utility support.

Action: Aaron has a proposal. He will send to Tom Nelson and Dave Ellis. Larry Kotewa will lobby for Utilimetrix support and Jim Thurber and Larry Ellis will seek EEI support. Aaron Snyder noted that he will enhance his proposal with the 3 years attendance lists of C12 main, SC 17 and SC 15.

11. OTHER BUSINESS – SELECTION OF ANSI REPRESENTATIVES TO OBJECT IDENTIFIER (OID) OVERSIGHT GROUP

Avy Moise referenced that ANNEX K in the ANSI C12.22 draft describes OID oversight group for certified registrar.

Avy noted that there are 3 aspects regarding the object identifier number:

- 1) Data model,
- 2) Security of what is transported, and
- 3) Describe utility space.

Avy noted that the oversight group has a representation to the 3 organizations that came together under the MOU. They are ANSI, Measurement Canada and IEEE. He explained that the oversight group provides a focal point to handle bad behavior of registrars and complaints. Avy stated that the work of certifying a registrar is simple. It was then expressed that he is asking C12 Main to select at least 2 people representing each of the above 3 organizations. Avy noted that

this same question would be asked in Montreal & 2 persons asked from Measurement Canada. The oversight committee website would be the repository database for registered numbers.

Richard Tucker and Aaron Snyder are the volunteers for IEEE

Terry Penn and Herman Millican are the volunteers for ANSI C12.

It was asked whether there were any volunteers for alternates. Dan Nordell and Tom Nelson volunteered.

Avy requested email addresses of the volunteers.

12. NEXT MEETING

The next meeting of ANSI C12 will be in conjunction with the EEI meetings, Thursday, October 9, 2008 in Seattle in the same time slot.

13. ADJOURNMENT

Having no further business the meeting adjourned at 12:15 PM.

Recorded by:

Paul Orr 4/18/08

Reviewed by Counsel:

CRS 4/22/08

Minutes: IEEE SCC31
Place of Meeting: Novotel - Montréal Centre
1180, rue de la Montagne, Montréal, QC
Date and Time: Monday, April 28, 2008 12 noon - 3:00 pm
(This time is shared with the SCC31 End Device/TIU
subcommittee - details to be worked out at the
meeting)
Friday, May 2, 10:30 am - 11:00 am
Presiding Officer: April 28 - Richard Tucker, Vice-Chair
Presiding Officer: May 2 - Lawrence J Kotewa, PE, Chair

Members Present (April 28 – 10 of 15 members present):

Michael Anderson	Landis+Gyr
Brent Cain	Itron, Inc.
Jacques Ledoux	Trilliant Networks
Avygdor Moise	Future DOS R&D, Inc.
Vuong Nguyen	Measurement Canada
Terry Penn	Southern Company
Aaron Snyder	EnerNex Corporation
Richard Tucker	Tucker Engineering
Michele Veillette (alternate)	Trilliant Networks
Virginia Zinkowski	GE Energy

Members Present (May 2 – 11 of 15 members present):

Michael Anderson	Landis+Gyr
Brent Cain	Itron, Inc.
Lawrence Kotewa	Center for Neighborhood Technology
Jacques Ledoux	Trilliant Networks
Avygdor Moise	Future DOS R&D, Inc.
Vuong Nguyen	Measurement Canada
Terry Penn	Southern Company
Aaron Snyder	EnerNex Corporation
Richard Tucker	Tucker Engineering
Michele Veillette (alternate)	Trilliant Networks
Virginia Zinkowski	GE Energy

Members Absent (April 28):

Ed Beraset	Elster Electricity
Martin Burns	Hypertek Inc. for EPRI
Lawrence Kotewa	Center for Neighborhood Technology
Bin Qiu	ista North America
Chris Schafer	Itron, Inc.

Members Absent (May 2):

Ed Beraset	Elster Electricity
Martin Burns	Hypertek Inc. for EPRI
Bin Qiu	ista North America
Chris Schafer	Itron, Inc.

Others Present:

David Haynes
Paul Orr

Aclara
NEMA Staff

1. APPROVAL OF THE AGENDA

The agenda was approved as submitted.

2. APPROVAL OF MINUTES

The minutes of the December 3 and 7, 2007 meetings were approved as submitted.

3. MEMBERSHIP

The roster has been established (**Exhibits A & B**). No changes were noted.

4. IC/IEEE/NEMA MOU'S

Vuong reported that NEMA has been presented with signed copies of the four MOU's covering P1377, P1701, P1702 and P1703.

5. P1701 (C12.18) AND P1702 (C12.21)

Avy has agreed to create the IEEE versions (P1701 and P1702) and Larry will create the IEEE balloting groups afterwards.

6. SELECTION OF IEEE REPRESENTATIVES TO THE OID OVERSIGHT COMMITTEE

Richard Tucker and Aaron Snyder volunteered and were approved to be the IEEE representatives to the OID Oversight Committee. Larry Kotewa volunteered and was approved to be the alternate IEEE representative to the OID Oversight Committee.

7. USERS GROUP

A User's Group meeting (the first) will be scheduled for the Fall Utilimetrics Autovation 2008 conference. Avy and Larry will coordinate.

8. ANSI C12 SC17 WORKING GROUPS' WORK

ANSI SC17 WG1 is reviewing C12.22 ballot comments.
ANSI SC17 WG2 is reviewing C12.19 ballot comments.
ANSI SC17 WG3 and WG4 have had no activity since the last SCC31 meeting.

9. NEW BUSINESS

None

10. MEETING SCHEDULE

Meet coincident with the next ANSI SC17 meetings which are looking at options of Landis+Gyr in Indianapolis, EnerNex in Knoxville or PSEG New Jersey the week of August 11, 2008.

11. ADJOURNMENT

Attachments: Exhibit A – Active Roster
Exhibit B – Inactive Roster

Exhibit A – Active Roster

Name	Company	Active/Inactive
Michael Anderson	Landis+Gyr	Active
Ed Beroset	Elster Electricity	Active
Martin Burns	Hypertek for EPRI	Active
Brent Cain	Itron, Inc.	Active
Lawrence J. Kotewa	Center for Neighborhood Technology	Active
Jacques Ledoux	Trilliant Networks	Active
Avygdor Moise	Future DOS R&D Inc.	Active
Vuong Ngyen	Measurement Canada	Active
Terry Penn	Southern Company	Active
Bin Qiu	ista North America	Active
Chris Schafer	Itron, Inc.	Active
Aaron Snyder	EnerNex Corporation	Active
Richard D. Tucker	Tucker Engineering	Active
Michel Veilette	Trilliant Networks	Active/Alternate
Virginia Zinkowski	GE Energy	Active

Exhibit B – Inactive Roster

Name	Company	Active/Inactive
Paul Aubin	Trilliant Networks	Inactive
Donald Beets		Inactive
Donald Block		Inactive
Jim Brennan		Inactive
Andrew Brock	Rio Tronics	Inactive
Paul Brunton	SoCalGas	Inactive
William J. Buckley		Inactive
Martin Burns	Hypertek for EPRI	Inactive
Amador "Cal" Caleros	SoCalGas	Inactive
Cathy Chang	SoCalGas	Inactive
Tom Chen		Inactive
Frances Cleveland		Inactive
Daniel A. Crespo-Dubie		Inactive
Stuart Garland	Lucent	Inactive
David Gorton	WEPCO	Inactive
Greg M. Gomez	Badger Meter	Inactive
Joeseph Harley	Metrotek	Inactive
David Haynes	DCSI	Inactive
Joe Hughes	PG&E	Inactive
Ronald Koch		Inactive
John Newbury, PhD		Inactive
Dan Nordell		Inactive
Howard A. Scott, PhD		Inactive
Kendall Smith	Hexagram	Inactive
David Taylor	Terasen Gas	Inactive
Ken Wacks		Inactive
Kent Williams	SmartHouse	Inactive