

**IEEE PES SWITCHGEAR COMMITTEE  
MAIN COMMITTEE BUSINESS MEETING AGENDA  
Thursday, April 20, 2023  
10:00 AM – 12:00 PM (EDT)**

| Item                               | Description  | Presenter             |
|------------------------------------|--|-----------------------|
| 1                                  | <b>Call Meeting to Order</b><br><i>Called to order at 10:00</i>  | Doug Edwards – Chair  |
| 2                                  | <b>Introduction of Members and Guest</b><br><i>New Switchgear Committee members recognized:</i><br>- Mauricio Aristizabal Hitachi Energy<br>- Lucas Collette Duquesne Light Co.<br>- Michael Crawford Mitsubishi Electric<br>- Jason Cunningham Southern States, LLC<br>- Laura Reid Hubbell<br>- Eddie Wilkie Eaton<br>- Charles Worthington Hubbell  | John Webb - Secretary |
| 3                                  | <b>Attendance and Quorum Check</b><br><i>Quorum achieved; reminder to confirm your attendance in the published minutes (attendance attached)</i>   | John Webb             |
| 4                                  | <b>Agenda Review and Approval</b><br><i>Ron Hartzel moved, Dan Hrcncir 2<sup>nd</sup> - Approved by unanimous consent</i>  | Doug Edwards          |
| 5                                  | <b>Approval of <u>Fall 2022 Meeting Minutes</u></b><br><i>Dan Hrcncir moved, Mike Lafond 2<sup>nd</sup> - Approved by unanimous consent</i>  | Doug Edwards          |
| 6                                  | <b>Thank You to Our Spring 2023 Supporters!!!!</b>   |                       |
| 7                                  | <b>Chairman's Report</b><br><i>Thanks to all attendees for diligence, dedication and drive for the hard work during the week.</i>  | Doug Edwards          |
| 8                                  | <b>Switchgear Committee Financial Report</b><br><i>Committee is solvent and projects being solvent for future meetings. The audit of the 2022 financial activities by IEEE is in process.</i>  | John Webb - Treasurer |
| 9                                  | <b>Standards Coordinator's Report</b><br><i>Report of Standards Coordinator to be filed as a separate document.<br/>Reminded all attendees that "Fundamental of Working Groups" training is now optional, to be revised and then perhaps made mandatory once again; the Anti-Trust Training is MANDATORY for all Committee, Subcommittee and WG officers by end of year.<br/>All new appointees to WG should contact Standards Coordinator to be sure they are properly set up in My Project.</i>  | Keith Flowers         |
| 10                                 | <b>Technical Committee Program Coordinator (TCPC)</b><br><i>Reported four (4) papers accepted for presentation at the General Meeting.</i>   | Kevin Sippel          |
| 11                                 | <b>Registrar's Report</b><br><i>262 participants, 45 companions, 50 1<sup>st</sup> time attendees; 22 Supporters - \$47,000<br/>Affiliations by exception: Dave Mitchell – Southern States, LLC and Daniel Hook – International Electrical Testing Association</i>   | Jeremy Hensberger     |
| <b><u>Subcommittee Reports</u></b> |  |                       |
| 12                                 | <b>Administrative (ADSCOM)</b><br><i>1. RODE to change title for Recloser Standard C37.60/62271-111 to update title to "...above 1000 v" removing the upper limit of voltage "... up to 38 kV".<br/>2. Further liaison with transformer committee with respect to C57.12.28 and C57.12.29</i>  | Donnie Swing          |
| 13                                 | <b>Education, Recognition &amp; Publications (ERP)</b><br><i>ERP Chair reported there will be future activities to increase Education and Training content during committee meetings.<br/>Presented several awards:<br/>1. International Award – Leslie Falkingham<br/>2. Working Group C37.20.2: Michael Wactor, Terr Woodyard and members of the WG<br/>3. C37.012: Lucas Collette, Roy Alexander and members of the WG<br/>4. C37.30.1: Jacob Blake, Carl Reigart and members of the WG<br/>Acknowledgement of four new IEEE Senior Members and all existing Senior, Life and Senior Life members; encouragement for all attendees to pursue Senior Member Status<br/>Special Recognition of for Michael Wactor who will be retiring as outgoing Standards Coordinator.</i> | Nenad Uzelac          |

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| Item                          | Description  | Presenter       |
|-------------------------------|--|-----------------|
| 14                            | <b>High Voltage Fuses (HVF)</b>  | Sterlin Cochran |
|                               | <i>No items for action by the Main Committee; other standards work to be reported in the HVF minutes</i>   |                 |
| 15                            | <b>High Voltage Switches (HVS)</b>   | Bill Hurst      |
|                               | <i>No items for action by the Main Committee; other standards work to be reported in the HVS minutes</i>   |                 |
| 16                            | <b>High Voltage Circuit Breakers (HVCB)</b>  | Carl Schuetz    |
|                               | <i>Reported five (5) new members to voting membership; other standards work will be reported in the HVCB minutes.</i>  |                 |
| 17                            | <b>Low Voltage Switchgear Devices (LVSD)</b>   | Jeff Mizener    |
|                               | <i>No items for action by the Main Committee; other standards work to be reported in the LVSD minutes</i>  |                 |
| 18                            | <b>Reclosers and Other Distribution Equipment (RODE)</b>   | Travis Johnson  |
|                               | <i>No items for action by the Main Committee, however, anticipate new PAR for C37.60 including a name and scope change with respect to upper voltage limit; details of other standards work to be reported in the RODE minutes</i>   |                 |
| 19                            | <b>Switchgear Assemblies (SA)</b>  | Darryl Moser    |
|                               | <i>No items for action by the Main Committee; other standards work to be reported in the SA minutes</i>  |                 |
| 20                            | <b>Technology and Innovation Subcommittee (TI)</b>   | Alex Cochran    |
|                               | <i>No items for action by the Main Committee; other standards work to be reported in the TI minutes</i>  |                 |
| <b><u>Liaison Reports</u></b> |  |                 |
| 21                            | <b>Accredited Standards Committee C37</b>  | John Webb       |
|                               | <i>Reported on status of documents, in particular that ANSI C37.57 is currently withdrawn but the progress on C37.20.3 is such that finalization and balloting of that document can proceed. ANSI C37.54 still valid but well overdue. Latest ballot identified some small errors with technical implications so fixes to be implemented and re-ballot to follow. Status document to be separately submitted for inclusion in the minutes.</i> |                 |
| 22                            | <b>Short Circuit Test Liaison of the Nations of the Americas (STLNA)</b>   | Victor Savulyak |
|                               | <i>Report to be separately submitted for inclusion in the Switchgear Committee minutes.</i>  |                 |
| 23                            | <b>CIGRÉ</b>   | Nenad Uzelac    |
|                               | <i>Report to be separately submitted for inclusion in the Switchgear Committee minutes.</i>  |                 |
| <b><u>Old Business</u></b>    |  |                 |
| 24                            | <b>MemberPlanet Update</b>   | Doug Edwards    |
|                               | <i>Chair presented information to encourage all attendees to create Memberplanet profile. Attendees of SWGR are about 60% entered into the system. This system will replace the old "123 Signup". A single Memberplanet profiles will be used for all PES Technical Committees standards activities.</i>   |                 |
| <b><u>New Business</u></b>    |  |                 |
| 25                            | <b>Quorum Verification</b>   | John Webb       |
|                               | <i>Quorum previously verified.</i>   |                 |
| 26                            | <b>Procedural Revisions</b>  | Doug Edwards    |
|                               | <i>Chair presented forthcoming change to the Switchgear Committee P&amp;P to remove ex-officio voting membership of Switchgear Committee Officers in Entity working groups. Motion made by Keith Flowers, Ted Burse 2<sup>nd</sup>. Discussion to correct editorial grammar error. Motion carried with unanimous consent.</i>  |                 |
| 27                            | <b>Volunteer Search</b>  | Doug Edwards    |
|                               | <i>The Switchgear Committee officers rotate on a bi-annual basis, beginning search for new officers.</i>   |                 |
| 28                            | <b>Future PES Meetings of Interest</b>   | Doug Edwards    |
|                               | <i>Future meetings to be posted via URL on the Switchgear Committee home page.</i>   |                 |
| 29                            | <b>Future Switchgear Committee Meetings</b>  | Doug Edwards    |
|                               | <i>Chair presented future meetings. The Spring '24 meeting had conflicts with room availability. Committee was forced to choose among bad choices and the Spring '24 meeting will start on Easter Sunday.</i>  |                 |
| 30                            | <b>Adjourn</b>   | Doug Edwards    |
|                               | <i>Meeting adjourned at 11:42.</i>   |                 |

| Role       | Full Name             | Company                     | City           | State | S20 | F20 | S21 | F21 | S22 | F22 | S23 |
|------------|-----------------------|-----------------------------|----------------|-------|-----|-----|-----|-----|-----|-----|-----|
| Chair      | Edwards, Doug         | Siemens Industry, Inc.      | Wendell        | NC    | X   | X   | X   | X   | X   |     | X   |
| Vice-Chair | Swing, Donald         | Powell Industries           | Houston        | TX    | X   | X   | X   | X   | X   | X   | X   |
| Secretary  | Webb, John            | ABB                         | Pawleys Island | SC    | X   | X   | X   | X   | X   | X   | X   |
| Past Chair | Burse, Ted            | Powell Industries, Inc      | Houston        | TX    | X   | X   | X   | X   | X   | X   | X   |
| Past Chair | Flowers, Keith        | Siemens Industry, Inc.      | Grapevine      | TX    | X   | X   | X   | X   | X   | X   | X   |
| Past Chair | Irwin, Todd           | GE Grid Solutions           | Smithville     | MO    | X   | X   | X   | X   | X   |     | X   |
| Past Chair | Sigmon, Dean          | Eaton Corporation           | Greenwood      | SC    | X   | X   | X   | X   | X   |     | X   |
| Past Chair | Sullivan, Paul        | DuPont                      | Cassatt        | SC    | X   | X   | X   | X   | X   |     |     |
| VM         | Ambrose, Chris        | Federal Pacific (Div. of El | Bristol        | TN    | X   | X   | X   | X   | X   | X   |     |
| VM         | Aristizabal, Mauricio | Hitachi ABB Power Grids     | Pittsburgh     | PA    | X   | X   | X   | X   | X   |     | X   |
| VM         | Barnhart, Paul        | Underwriters Laboratori     | Walkertown     | NC    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Blake, Jacob          | Hubbell Power Systems       | Leeds          | AL    | X   | X   | X   | X   | X   |     | X   |
| VM         | Boles, Brett          | Southern Company            | Birmingham     | AL    |     | X   | X   |     | X   | X   | X   |
| VM         | Borck, Christopher    | Eaton's Power Systems C     | Franksville    | WI    | X   | X   | X   |     |     | X   | X   |
| VM         | Boyce, Russell        | Eaton                       | Greenwood      | SC    | X   | X   | X   | X   |     | X   | X   |
| VM         | Bufl, Arben           | Meiden America Switchg      | Gray Court     | SC    | X   | X   |     | X   | X   | X   | X   |
| VM         | Byron, Eldridge       | Schneider Electric          | Smyrna         | TN    | X   | X   | X   | X   | X   |     |     |
| VM         | Carne, Clint          | Schneider Electric          | Cedar Rapids   | IA    | X   | X   | X   | X   |     | X   |     |
| VM         | Caverly, David        | Trench Ltd.                 | Scarborough    | ON    | X   | X   | X   | X   |     |     |     |
| VM         | Chen, Steven          | Eaton Corporation           | MOON TOWNSHI   | PA    | X   | X   | X   |     | X   | X   | X   |
| VM         | Cochran, Alex         | United Standard Electric    |                |       | X   | X   | X   |     |     | X   | X   |
| VM         | Cochran, Sterlin      | Oak & Shield LLC            | Minneapolis    | MN    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Cohn, Robert          | Powercon Corp.              | Severn         | MD    | X   | X   |     | X   | X   | X   | X   |
| VM         | Collette, Lucas       | Duquesne Light              | Pittsburgh     | PA    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Crawford, Michael     | Mitsubishi Electric         | Cranberry Twp  | PA    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Cunningham, Jason     | Southern States, LLC        | Suwanee        | GA    |     | X   | X   |     | X   | X   | X   |
| VM         | Darko, Kennedy        | G&W Electric Co             | Bolingbrook    | IL    | X   | X   | X   | X   |     | X   | X   |
| VM         | Di Lillo, Patrick     | Consolidated Edison Co.     | NM York        | NY    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Flores, Sergio        | Schneider Electric Inc. U\$ | SMYRNA         | TN    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Gingrich, Paul        | Avail Switchgear System\$   | Fulton         | MO    | X   | X   | X   | X   | X   |     |     |
| VM         | Gohil, Sahadev        | Avail Switchgear System\$   | Venice         | FL    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Grahor, Lou           | Eaton Corporation           | Moon Township  | PA    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Harley, John          | FirstPower Group LLC        | Twinsburg      | OH    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Hartzel, Ron          | Eaton Corporation           | Moon Township  | PA    | X   |     | X   | X   |     | X   | X   |
| VM         | Hawkins, Tom          | Siemens Industry, Inc.      | Grand Prairie  | TX    | X   | X   | X   | X   | X   | X   |     |
| VM         | Haynes, Gary          | ABB Inc.                    | Elon           | NC    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Hensberger, Jeremy    | Mitsubishi Electric Powe    | Warrendale     | PA    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Hermosillo, Victor    | GE Grid Solutions           | Charleroi      | PA    | X   | X   | X   | X   |     | X   |     |
| VM         | Hines, Jared          | Eaton Corp.                 | Greenwood      | SC    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Hoss, Danny           | Southern States             | Hampton        | GA    | X   |     | X   | X   | X   |     | X   |
| VM         | Hrcir, Dan            | Eaton                       | Arden          | NC    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Hunter, Jennifer      | MEPPI                       | Warrendale     | PA    | X   | X   | X   | X   |     | X   | X   |
| VM         | Hurst, Bill           | GE                          | Charleroi      | PA    | X   | X   | X   |     | X   |     | X   |
| VM         | Hutchins, Roy         | Georgia Power Company       | Forest Park    | GA    | X   | X   | X   | X   | X   | X   |     |
| VM         | Jarnigan, Christopher | Southern Company Servi      | Birmingham     | AL    |     | X   | X   | X   | X   | X   | X   |
| VM         | Johnson, Travis       | Xcel Energy                 | Denver         | CO    | X   | X   |     | X   | X   | X   | X   |
| VM         | Kaminski, John        | Siemens                     | Mount Prospect | IL    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Keels, Thomas         | KEElectric Engineering      | Mesa           | AZ    |     | X   | X   | X   | X   |     |     |
| VM         | Lafond, Michael       | ABB                         | Mebane         | NC    | X   | X   | X   | X   | X   |     | X   |
| VM         | Liu, Hua Ying         | Southern California Disc    | Pomona         | CA    | X   | X   | X   | X   |     |     |     |
| VM         | Livshitz, Albert      | CE Power Engineered Sei     | Mason          | OH    | X   |     | X   | X   | X   | X   |     |
| VM         | Martin, Donald        | G&W Electric Co.            | Manhattan      | IL    | X   | X   | X   | X   | X   | X   |     |
| VM         | McCord, Neil          | KEC Precision               | Athens         | GA    | X   | X   |     | X   | X   | X   | X   |
| VM         | Mizener, Jeff         | Siemens Industry, Inc.      | Ft. Worth      | TX    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Moser, Darryl         | ABB                         | Wichita Falls  | TX    | X   | X   | X   | X   | X   | X   | X   |
| VM         | Neighbours, Terry     | ABB Inc.                    | Lake Helen     | FL    | X   |     | X   | X   | X   | X   | X   |
| VM         | Parks, Owen           | ABB                         | Houston        | TX    | X   | X   | X   | X   | X   | X   | X   |

| Role | Full Name            | Company                    | City            | State | S20 | F20 | S21 | F21 | S22 | F22 | S23 |
|------|----------------------|----------------------------|-----------------|-------|-----|-----|-----|-----|-----|-----|-----|
| VM   | Reid, Laura          | Hubbell Power Systems      | Chelsea         | AL    | X   | X   | X   | X   | X   |     | X   |
| VM   | Ricciuti, Anthony    | Eaton Corporation          | Moon Township   | PA    | X   | X   | X   | X   | X   | X   | X   |
| VM   | Riley, Caryn         | Georgia Tech/NEETRAC       | Forest Park     | GA    | X   | X   | X   | X   | X   | X   | X   |
| VM   | Rokser, Ian          | Eaton Corp                 | South Milwaukee | WI    | X   | X   | X   | X   | X   | X   | X   |
| VM   | Schiffbauer, Daniel  | Toshiba International Co   | Oliver          | PA    | X   |     | X   |     | X   | X   | X   |
| VM   | Schneider, Carl      | Schneider Electric         | Murfreesboro    | TN    | X   | X   | X   | X   | X   | X   |     |
| VM   | Schuetz, Carl        | American Transmission C    | Waukesha        | WI    | X   | X   | X   | X   | X   | X   | X   |
| VM   | Sharma, Devki        | Entergy                    | Halifax         | NS    | X   | X   | X   | X   | X   |     | X   |
| VM   | Shinde, Sushil       | Hitachi ABB Power Grids    | Mt Pleasant     | PA    | X   | X   |     |     |     |     |     |
| VM   | Sippel, Kevin        | Eaton Electric             | Burlington      | KY    | X   | X   | X   |     | X   | X   | X   |
| VM   | Skidmore, Michael    | AEP                        | Pickerington    | OH    |     | X   | X   | X   | X   | X   | X   |
| VM   | Soulard, Francois    | Hydro-Quebec               | Montreal        | QC    | X   | X   | X   | X   |     | X   | X   |
| VM   | Taylor, Chand        | Eaton Corporation          | Greenwood       | SC    | X   | X   | X   | X   |     |     |     |
| VM   | Trost, Karla         | G&W Electric               | Bolingbrook     | IL    | X   | X   | X   | X   |     | X   | X   |
| VM   | Uzelac, Nenad        | G&W Electric               | Bolingbrook     | IL    | X   | X   | X   | X   | X   |     | X   |
| VM   | Wactor, Michael      | Powell Industries, Inc     | Houston         | TX    | X   | X   | X   | X   | X   | X   | X   |
| VM   | Ward, Jeff           | Doble Engineering Comp     | Marlborough     | MA    | X   | X   | X   | X   |     | X   |     |
| VM   | Wenzel, James        | Eaton                      | Pewaukee        | WI    | X   | X   | X   |     | X   | X   |     |
| VM   | Wilkie, Eddie        | Eaton                      | Arden           | NC    | X   |     | X   | X   |     | X   | X   |
| VM   | Woodyard, Terry      | Siemens Industry Inc.      | Wendell         | NC    | X   | X   | X   | X   |     | X   | X   |
| VM   | Worthington, Charles | Hubbell Power Systems      | Leeds           | AL    |     |     | X   | X   | X   | X   | X   |
| VM   | York, Richard        | Mitsubishi Electric Powe   | Pittsburgh      | PA    | X   | X   | X   | X   |     | X   | X   |
| VM   | Zhang, Wei           | Hitachi T&D Solutions, In  | Suwanee         | GA    | X   | X   | X   | X   | X   |     |     |
| HM   | Alexander, Roy       | RWA Engineering            | Cranberry Twp.  | PA    | X   |     |     | X   |     |     |     |
| HM   | DeCesaro, Frank      | DeCesaro Consulting Ser    | Racine          | WI    | X   | X   | X   | X   | X   | X   | X   |
| HM   | Dullni, Edgar        | retired                    | Ratingen        | Other |     | X   | X   | X   |     |     |     |
| HM   | Falkingham, Leslie   | Vacuum Interrupters Lim    | Rugby           | Other |     |     |     | X   |     |     | X   |
| HM   | Leach, John          | Consultant                 | Hickory         | NC    | X   | X   | X   | X   | X   | X   | X   |
| HM   | Long, Russell        | Retired                    | Pittsburgh      | PA    | X   |     |     | X   |     |     |     |
| HM   | Mitchell, Dave       | Mitch and Associates       | Henrico         | VA    | X   |     |     | X   | X   | X   | X   |
| HM   | Reigart, Carl        | CDR Technical Services, L  | Leeds           | AL    | X   | X   | X   | X   | X   |     | X   |
| HM   | Smith, Robert        | Retired                    | Ithaca          | NY    | X   | X   | X   | X   |     | X   |     |
| NVM  | Angelis, John        | Consultant                 | Los Lunas       | NM    |     | X   |     |     |     |     |     |
| NVM  | Arlund, Joshua       | MacLean Power Systems      | York            | SC    |     | X   |     |     |     |     |     |
| NVM  | Armstrong, Brad      | Meramec Instrument Træ     | Cuba            | MO    |     | X   |     |     |     |     |     |
| NVM  | Atere, Suraj         | Exelon                     | Mays Landing    | NJ    |     |     |     | X   |     |     |     |
| NVM  | Ayers, Roy           | Nashville Electric Service | Nashville       | TN    |     | X   | X   |     |     |     |     |
| NVM  | Becker, George       | POWER Engineers Inc.       | Clover          | SC    |     |     |     | X   | X   | X   | X   |
| NVM  | Beseda, David        | S&C Electric Co.           | Chicago         | IL    |     | X   | X   | X   | X   | X   |     |
| NVM  | Billings, John       | retired                    | Murrysville     | PA    |     |     |     | X   |     |     |     |
| NVM  | Bonner, Antone       | PAS Consulting             | Oconomowoc      | WI    | X   | X   | X   |     |     |     |     |
| NVM  | Burns, Robert        | Eaton                      | Arden           | NC    |     |     |     | X   | X   | X   | X   |
| NVM  | Cary, Stephen        | Eaton                      | Mebane          | NC    | X   |     | X   | X   | X   |     | X   |
| NVM  | Christian, Michael   | ABB                        | Elon            | NC    |     |     |     | X   | X   | X   | X   |
| NVM  | Claxton, Matthew     | Powell Industries          | Frankfort       | IL    |     |     | X   |     |     |     |     |
| NVM  | Cooper, Jeramie      | Eaton                      | Pewaukee        | WI    | X   | X   |     |     |     |     | X   |
| NVM  | Creach, Randall      | AZZ Switchgear Systems     | Holts Summit    | MO    | X   | X   | X   | X   | X   | X   | X   |
| NVM  | Davies, Stacey       | Siemens                    | Brookfield      | WI    |     |     |     | X   | X   |     | X   |
| NVM  | Delfino, Daniel      | ABB                        | Bloomfield      | CT    |     | X   | X   | X   |     |     |     |
| NVM  | Di Michele, Federico | CESI S.p.A.                | Milano          | Other | X   | X   | X   | X   |     |     | X   |
| NVM  | Door, Jeffrey        | The H-J Family of Compa    | High Ridge      | MO    | X   | X   | X   |     |     |     | X   |
| NVM  | Eftink, Emily        | Burns & McDonnell          | Kansas City     | MO    |     | X   |     |     |     |     |     |
| NVM  | Ekpoudom, Assian     | Southern States LLC        | Hampton         | GA    |     |     | X   | X   | X   |     |     |
| NVM  | Fender, Karl         | Southern States LLC        | Fayetteville    | GA    |     |     | X   |     |     |     |     |
| NVM  | Fentress, Philip     | Memphis Light, Gas & W     | Memphis         | TN    |     | X   |     |     |     |     |     |
| NVM  | Frazier, Raymond     | Ameren                     | St. Louis       | MO    | X   | X   | X   |     |     |     |     |
| NVM  | French, Christopher  | Eaton Corporation          | Greenwood       | SC    | X   | X   | X   | X   | X   |     | X   |

| Role | Full Name               | Company                   | City               | State | S20 | F20 | S21 | F21 | S22 | F22 | S23 |
|------|-------------------------|---------------------------|--------------------|-------|-----|-----|-----|-----|-----|-----|-----|
| NVM  | Frye, Richard           | Eaton                     | Franksville        | WI    |     | X   |     |     |     |     |     |
| NVM  | Gamboa, Jose            | The H-J Family of Compa   | High Ridge         | MO    |     |     | X   |     |     |     |     |
| NVM  | Gerzeny, Brian          | Powell Electrical Systems | North Canton       | OH    |     | X   |     |     |     |     | X   |
| NVM  | Glinsky, Ilya           | Southern California Edisc | westminster        | CA    | X   |     |     | X   |     |     | X   |
| NVM  | Hall, John              | Tennessee Valley Author   | Chattanooga        | TN    | X   | X   | X   |     |     |     |     |
| NVM  | Hanna, Robert           | ABB INC                   | Enterprise         | FL    |     |     |     | X   | X   | X   |     |
| NVM  | Hastreiter, Christopher | Eaton                     | South Milwaukee    | WI    | X   | X   | X   | X   | X   | X   |     |
| NVM  | Hoover, RE              | Trayer Engineering        | San Leandro        | CA    |     |     |     | X   |     |     |     |
| NVM  | Huang, Shao Fang        | AEP                       | NM Albany          | OH    |     |     |     | X   |     |     |     |
| NVM  | Jain, Rahul             | S&C Electric Company      | Chicago            | IL    | X   | X   | X   | X   |     |     |     |
| NVM  | Jasinski, Joseph        | ITC Holdings Corp.        | Novi               | MI    |     |     |     | X   |     |     |     |
| NVM  | Johnson, David          | HVCB                      | TEMECULA           | CA    | X   |     | X   | X   |     |     |     |
| NVM  | Karandikar, Harshavardh | ABB Inc.                  | Lake Mary          | FL    |     |     |     | X   |     |     |     |
| NVM  | Kelly, John             | Beureau Of Reclamation    | Denver             | CO    | X   |     |     | X   |     |     |     |
| NVM  | Kinner, Robert          | FirstPower Group LLC      | Twinsburg          | OH    |     |     | X   |     |     |     |     |
| NVM  | Kurinko, Carl           | ABB Inc.                  | North Huntingdo    | PA    | X   | X   | X   |     |     | X   | X   |
| NVM  | Lagree, James           | Eaton                     | Mckees Rocks       | PA    |     |     | X   | X   |     |     |     |
| NVM  | Leccia, Brad            | Eaton                     | Moon Township      | PA    |     | X   |     | X   | X   |     | X   |
| NVM  | Leufkens, Paul          | Power Projects Leufkens   | Wayne              | PA    | X   | X   | X   | X   |     |     |     |
| NVM  | Lopez, Leo              | WIKA Instrument, LP       | Lawrenceville      | GA    |     | X   | X   |     | X   | X   |     |
| NVM  | Lovins, Colby           | Federal Pacific           | Bristol            | VA    |     |     |     | X   | X   |     | X   |
| NVM  | Luevano, Patrick        | El Paso Electric Company  | El Paso            | TX    |     | X   |     |     |     |     |     |
| NVM  | Martinez, Abraham       | ABB                       | San Luis Potosi    | Other |     |     | X   |     |     |     |     |
| NVM  | Marzec, Peter           | S&C Electric Co.          | Chicago            | IL    |     |     |     | X   |     |     |     |
| NVM  | May, Steven             | Southern Company          | Forest Park        | GA    |     | X   | X   | X   |     | X   | X   |
| NVM  | McGlown, Kevin          | JST Power Equipment       | Lake Mary          | FL    |     |     |     | X   | X   | X   | X   |
| NVM  | Miller, Michael         | MDF Cable Bus Systems I   | Hebron             | KY    |     |     |     | X   |     |     |     |
| NVM  | Milnikel, Henning       | Siemens                   | Frankfurt          | Other |     |     | X   | X   |     |     |     |
| NVM  | Moran, Ashley           | IEEE Standards Associati  | Piscataway         | NJ    | X   |     |     | X   |     |     |     |
| NVM  | Novak, Pavel            | Schneider Electric        | Regensburg         | Other |     | X   |     |     |     |     |     |
| NVM  | Pattison, Mark          | H-J Family of Companies   | Waterdown          | ON    |     |     | X   |     |     |     | X   |
| NVM  | Pawar, Rahul            | ABB                       | Lake Mary          | FL    |     |     |     | X   |     |     |     |
| NVM  | Peterson, Andrew        | ABB                       | Sanford            | FL    |     | X   | X   |     |     |     |     |
| NVM  | Polchinski, Craig       | MEPPI                     | Warrendale         | PA    | X   | X   | X   |     |     |     |     |
| NVM  | Polk, Matthew           | JST Power Equipment       | Lake Mary          | FL    |     |     |     | X   |     |     |     |
| NVM  | Pruitt, Al              | The Durham Company        | Lebanon            | MO    |     | X   | X   |     | X   |     | X   |
| NVM  | Rakus, Paul             | Eaton                     | Coraopolis         | PA    | X   | X   | X   | X   |     | X   |     |
| NVM  | Roberson, Mark          | AZZ/Calvert               | Richland           | MS    | X   | X   |     | X   | X   |     | X   |
| NVM  | Rohr, Richard           | Powell Electrical Systems | North Canton       | OH    | X   | X   |     | X   |     |     |     |
| NVM  | Rostron, Joe            | Southern States LLC       | Hampton            | GA    |     |     |     | X   |     |     |     |
| NVM  | Santos, Leonel          | Schneider Electric        | Smyrna             | TN    | X   | X   | X   |     | X   | X   | X   |
| NVM  | Sauve, Todd             | Rockwell Automation       | Milwaukee          | WI    |     |     |     | X   |     |     |     |
| NVM  | Savulyak, Victor        | DNV GL KEMA Laborator     | Chalfont           | PA    | X   | X   | X   |     | X   | X   | X   |
| NVM  | Scott, Jeff             | Ameren                    | Desloge            | MO    |     | X   |     |     |     |     |     |
| NVM  | Sergeyenko, Oleksandr   | Tavrida electric          | North an Surrey    | BC    |     |     | X   |     |     |     |     |
| NVM  | Sims, Garrett           | Eaton Corp.               | Greenwood          | SC    | X   | X   | X   | X   | X   | X   | X   |
| NVM  | Slattery, Christopher   | FirstEnergy               | Fairlawn           | OH    | X   | X   | X   | X   |     |     | X   |
| NVM  | Smith, Joseph           | FortisAlberta             | Airdrie            | AB    |     | X   |     | X   |     |     |     |
| NVM  | Thomas, Christo         | SCHNEIDER ELECTRIC US     | CEDAR RAPIDS       | IA    |     |     | X   | X   | X   | X   |     |
| NVM  | Trichon, Francois       | Schneider Electric        | Saint martin d'uri | Other | X   | X   |     | X   | X   | X   |     |
| NVM  | Usner, Joseph           | American Electric Power   | NM Albany          | OH    |     | X   |     |     |     |     |     |
| NVM  | Valiyattil, Babu        | ABB Inc                   | Lake mary          | FL    |     |     |     | X   |     |     |     |
| NVM  | van de Ligt, James      | Spark Power Corp.         | Calgary            | AB    |     |     | X   | X   |     |     |     |
| NVM  | Voyles, Adam            | Ameren                    | St. Louis          | MO    |     |     | X   |     |     |     |     |
| NVM  | Walter, William         | We-Energies               | Waukesha           | WI    | X   | X   | X   |     |     |     |     |
| NVM  | Weishuhn, William       | ABB                       | Monument           | CO    |     |     |     | X   | X   |     | X   |
| NVM  | Westerdale, Matt        | Bureau of Reclamation     | Denver             | CO    | X   | X   | X   | X   |     |     | X   |

| Role | Full Name               | Company                    | City            | State      | S20 | F20 | S21 | F21 | S22 | F22 | S23 |
|------|-------------------------|----------------------------|-----------------|------------|-----|-----|-----|-----|-----|-----|-----|
| NVM  | Young, Marcus           | Mitsubishi Electric Power  | Knoxville       | TN         | X   | X   | X   | X   |     |     | X   |
| NVM  | Youssef, Mina           | Eaton Corporation          | Omaha           | NE         | X   |     | X   |     |     |     |     |
| NVM  | Zhu, Xi                 | GE Energy Management       | Atlanta         | GA         |     | X   | X   |     |     |     |     |
| NVM  | Zia, Danish             | UL LLC                     | Melville        | NY         |     |     | X   | X   | X   | X   | X   |
| NM   | Anderson, Tim           | Aluma-Form                 | Munford         | TN         |     |     |     |     |     |     | X   |
| NM   | Andreyo, Joseph         | Southern States            | Fayetteville    | GA         |     |     |     |     |     |     | X   |
| NM   | Ashtekar, Koustubh      | JST POWER EQUIPMENT        | Lake Mary       | FL         |     |     |     |     | X   |     | X   |
| NM   | Bannink, Herman         | G&W Electric               | Zelhem          | Gelderland |     |     |     |     |     |     | X   |
| NM   | Bartels, Alexander      | Powell Electrical Systems  | Houston         | TX         |     |     |     |     |     |     | X   |
| NM   | Beckel, Andrew          | Xcel Energy - Minneapolis  | Lakeville       | MN         |     |     |     |     |     |     | X   |
| NM   | Behl, Robert            | JST POWER EQUIPMENT        | Lake Mary       | FL         |     |     |     |     |     |     | X   |
| NM   | Berner, Brian           | Power Grid Components      | Bessemer        | AL         |     |     |     |     |     |     | X   |
| NM   | Bolar, Sanket           | Oncor Electric Delivery    | Fort Worth      | TX         |     |     |     |     |     |     | X   |
| NM   | Bosma, Anne             | Hitachi Energy             | Ludvika         | Other      |     | X   |     | X   |     |     |     |
| NM   | Bridges, Christopher    | Eaton                      | Saluda          | SC         |     |     |     |     |     |     | X   |
| NM   | Brogdon, Jeffrey        | Georgia Transmission Co    | Tucker          | GA         |     |     |     |     |     |     | X   |
| NM   | Brooks, Adam            | Duke Energy                | Cincinnati      | OH         |     |     |     |     |     |     | X   |
| NM   | Bryant, Craig           | Duke Energy                | Greensboro      | NC         |     |     |     |     |     |     | X   |
| NM   | Byreddy, Sudarshan      | Burns & McDonnell          | Fortworth       | TX         |     |     |     |     |     |     | X   |
| NM   | Carollo, Cassandra      | IEEE                       | Piscataway      | NJ         |     |     |     |     |     |     | X   |
| NM   | Chiravuri, Anand        | Black & Veatch             | Dallas          | TX         |     |     |     |     |     |     | X   |
| NM   | Coldsnow, Kent          | Fort Collins Utilities     | Fort Collins    | CO         |     |     |     |     |     |     | X   |
| NM   | Collette, Dave          | Mitsubishi Electric        | Warrendale      | PA         |     |     |     |     |     |     | X   |
| NM   | Coziuc, Fiori           | S&C Electric Company       | Quebec          | Québec     |     |     |     |     |     |     | X   |
| NM   | Dhawan, Anil            | Allegis                    | Woodridge       | IL         |     |     |     |     |     |     | X   |
| NM   | Diallo, Boubacar        | SOUTHERN STATES LLC        | Fayetteville    | GA         |     |     |     |     | X   |     | X   |
| NM   | Doroz, Arkadiusz        | Eaton                      | Arden           | NC         |     |     |     |     |     |     | X   |
| NM   | Dunne, David            | Schneider Electric         | Cedar Rapids    | IA         | X   |     |     | X   |     |     |     |
| NM   | Eastman, Maxwell        | Black & Veatch             | Olathe          | KS         |     |     |     |     |     |     | X   |
| NM   | Fitzgerald, Joseph      | Eaton                      | Milwaukee       | WI         |     |     |     |     |     |     | X   |
| NM   | Fleming, Brennen        | Hubbell Power Systems      | Leeds           | AL         |     |     |     |     |     |     | X   |
| NM   | Foster, Marc            | Schneider Electric         | Raleigh         | NC         |     |     |     |     |     |     | X   |
| NM   | Gill, Juan              | Southern States Llc        | Hampton         | GA         |     |     |     |     |     |     | X   |
| NM   | Hardy, Erin             | Eaton                      | Asheville       | NC         |     |     |     |     | X   |     | X   |
| NM   | Hartzel, Ron            | Eaton                      | Butler          | PA         |     |     |     |     |     |     | X   |
| NM   | Hastreiter, Chris       | Eaton                      | South Milwaukee | WI         |     |     |     |     |     |     | X   |
| NM   | Houston, James          | Southern Company Trans     | Birmingham      | AL         |     |     | X   |     |     |     |     |
| NM   | Hunt, Terry             | Westinghouse               | Pittsburgh      | PA         |     |     |     |     |     |     | X   |
| NM   | Kandel, Jackie          | Powell Industries, Inc.    | Dover           | OH         |     |     |     |     | X   |     | X   |
| NM   | Kim, Yun Seong          | KERI                       | Changwon-Si     | Korea      |     |     |     |     |     |     | X   |
| NM   | Krause, Dwight          | Black & Veatch             | Rapid City      | SD         |     |     |     |     |     |     | X   |
| NM   | Lee, Yong Woo           | Korea Electrotechnology    | Changwon-Si     | Korea      |     |     |     |     |     |     | X   |
| NM   | Leopard, Johnathan      | Eaton                      | Greenwood       | SC         |     |     |     |     |     |     | X   |
| NM   | Lopez, Adrian           | Powell Industries          | Houston         | TX         |     |     |     |     |     |     | X   |
| NM   | Lustig, Josh            | Black & Veatch             | Morrisville     | NC         |     |     |     |     |     |     | X   |
| NM   | Mapp, Peter             | GE                         | Dorval          | Québec     |     |     |     |     |     |     | X   |
| NM   | Mckinney, Kenneth       | Underwriters Laboratories  | Raleigh         | NC         |     |     |     |     |     |     | X   |
| NM   | Neujahr, Jonathan       | Eaton Corporation          | Eagle           | WI         |     |     |     |     |     |     | X   |
| NM   | Ordein, Fernando        | Dominion Energy            | Glen Allen      | VA         |     |     |     |     |     |     | X   |
| NM   | Orosz, Miklos           | Circuit Breaker Technology | Murfreesboro    | TN         |     |     |     |     |     |     | X   |
| NM   | Pal, Sumitabha          | Schneider Electric         | Smyrna          | TN         |     |     |     |     | X   |     | X   |
| NM   | Patil, Lalit            | Eaton Corporation          | Greenwood       | SC         |     |     |     |     |     |     | X   |
| NM   | Pelaez Urrego, Santiago | ABB                        | Winterville     | NC         |     |     |     |     |     |     | X   |
| NM   | Pell, Stephen           | Siemens Industry Inc.      | Wendell         | NC         |     |     |     |     |     |     | X   |
| NM   | Pellerito, Thomas       | DTE Energy                 | Detroit         | MI         | X   | X   | X   |     | X   |     |     |
| NM   | Peterson, Mark          | Xcel Energy                | Minneapolis     | MN         |     |     |     |     |     |     | X   |
| NM   | Phouminh, John          | PEPCO HOLDINGS, INC.       | WASHINGTON      | DC         |     | X   | X   |     |     |     |     |

| Role         | Full Name          | Company                    | City           | State  | S20 | F20 | S21 | F21 | S22 | F22 | S23        |
|--------------|--------------------|----------------------------|----------------|--------|-----|-----|-----|-----|-----|-----|------------|
| NM           | Pounders, Anthony  | Meiden America Switchg     | Greenwood      | SC     |     |     |     |     |     |     | X          |
| NM           | Rexroad, Aaron     | Meiden America Switchg     | Mauldin        | SC     |     |     |     |     |     |     | X          |
| NM           | Ricker, Jeffery    | SCHNEIDER ELECTRIC         | Old Hickory    | TN     |     |     |     |     | X   |     | X          |
| NM           | Roberts, Brian     | Southern States            | Hampton        | GA     |     |     |     |     |     |     | X          |
| NM           | Saleem, Wahaj      | Siemens                    | Grand Prairie  | TX     |     |     |     |     |     |     | X          |
| NM           | Salinas, Alex      | Doble/Vanguard             | Ontario        | CA     |     |     |     |     |     |     | X          |
| NM           | Santulli, Jennifer | IEEE-SA                    | Piscataway     | NJ     |     |     |     |     | X   |     | X          |
| NM           | Sax, Ben           | Nashville Electric Service | Nashville      | TN     |     |     |     |     |     |     | X          |
| NM           | Schuetz, Rob       | EATON                      | Waukesha       | WI     |     |     |     |     |     |     | X          |
| NM           | Shiller, Paul      | First Power Group LLC      | Youngstown     | OH     |     |     |     |     | X   |     | X          |
| NM           | Tatum, Bryan       | Underwriters Laboratori    | Cary           | NC     |     |     |     |     |     |     | X          |
| NM           | Thompson, Truett   | Siemens                    | Wendell        | NC     |     |     |     |     | X   |     | X          |
| NM           | Truman, Andrew     | Black & Veatch             | Overland Park  | KS     |     |     |     |     |     |     | X          |
| NM           | Valdes, Marcelo    | ABB                        | Chapel Hill    | NC     |     |     |     |     |     |     | X          |
| NM           | Walgenbach, Jacob  | Siemens                    | Wendell        | NC     |     |     |     |     | X   |     | X          |
| NM           | Ward, Jeff         | Doble Engineering Comp     | Billerica      | MA     |     |     |     |     |     |     | X          |
| NM           | Ward, Randall      | Aluma-Form                 | Germantown     | TN     |     |     |     |     |     |     | X          |
| NM           | Wear, Jonathan     | JST Power Equipment, In    | Jefferson City | MO     |     |     |     |     | X   |     | X          |
| NM           | Weisker, Jan       | Siemens Energy             | Berlin         | Berlin |     |     |     |     | X   |     | X          |
| NM           | Yarbrough, Elijah  | Hubbell Power Systems      | Leeds          | AL     |     |     |     |     |     |     | X          |
| NM           | Zaharko, Samuel    | MEPPI                      | Warrendale     | PA     |     |     |     |     |     |     | X          |
| <b>Total</b> |                    |                            |                |        |     |     |     |     |     |     | <b>163</b> |

|           |                                      |  |  |  |  |  |  |  |  |  |                         |
|-----------|--------------------------------------|--|--|--|--|--|--|--|--|--|-------------------------|
| 75        | Voting Members                       |  |  |  |  |  |  |  |  |  | 57                      |
| 4         | Present Past & Immediate Past Chairs |  |  |  |  |  |  |  |  |  | 4                       |
| 5         | Present Honorary Members             |  |  |  |  |  |  |  |  |  | 5                       |
| <u>84</u> | Qualified Attendees                  |  |  |  |  |  |  |  |  |  | <u>66</u>               |
|           |                                      |  |  |  |  |  |  |  |  |  | Attendees Present: 66   |
|           |                                      |  |  |  |  |  |  |  |  |  | Quorum Calculation: 78% |