IEEE PES INTELLIGENT SYSTEMS SUBCOMMITTEE MEETING

Minutes

IEEE PES GM Detroit

Date and Time: Monday, July 25, 2011, 15:00 – 17:00
Venue: Marriott – Mackinac West, Detroit, USA

Chair: Ganesh Kumar Venayagamoorthy, Clemson University
Vice-Chair: Alexandre P. Alves Da Silva, Federal University of Rio de Janeiro
Technical Secretary: Zita Vale, Polytechnic of Porto

The meeting started at 3:00 PM.

The Chair welcomed everyone to the Intelligent Systems (IS) subcommittee meeting and passed around an attendance list which has been signed by the thirty two people attending the meeting. The attendance list, including affiliation and email contacts, is annexed to this document.

1. Approval of the minutes of the IS subcommittee meeting at IEEE PES GM 2010 in Minneapolis
   The minutes were approved unanimously.

2. Announcements
   According to the decision taken on the 2010 subcommittee meeting, Chair, Vice-Chair and Technical Secretary have rotated. The new officers are indicated above.
   The Chair announced the list of panels supported by the IS committees to take place during the 2011 IEEE PES GM (see Appendix)

3. Working Group (WG) and Task Force (TF) Activities

   3.1 Working Group on Multi-Agent Systems – Chair: Dave Cartes, Florida State University
   Two Task Forces are operating:
   - TF on "Agent-Based Modeling of Smart Grid Market Operations", Co-Chairs Ivana Kockar, University of Strathclyde, and Leigh Tesfatsion, Iowa State University
   - TF on "Multi-Agent Systems Design and Tools", Chair Dave Cartes, Florida State University.
   The WG:
   - To work to attract industry practitioners in multi-agent systems as most of the WG members are academic;
   - Asks for a 3 hour meeting during IEEE PES GM 2012 (1 hour for each TF and 1 hour for the WG);
   - Will prepare two papers, respectively on best practices and on case studies;
   - Proposes a panel session on "Multi-agent systems tools and best practices" for IEEE PES GM 2013. This will be an industry focused panel looking at cases,

taxonomies and ontologies that support knowledge representation and coordination of intelligent devices and systems.

3.2 Working Group on Intelligent Control Systems – Chair: Ganesh Kumar Venayagamoorthy, Clemson University
The working group is active, with over 25 members attending the meeting, in many ways including:

- Three TFs – Intelligent Control of Wind Plants, Intelligent Control of Microgrids and Intelligent Control Systems in Smart Grid.
- A panel organized on "Intelligent Control of Smart Grids and Smart Micro-Grids" on July 26, 2011.
- A joint panel by the TFs in the WG has been proposed for GM2102 on Intelligent Control of Grid-Connected Energy Systems.
- A tutorial is proposed for GM 2013 – Computational Intelligence for Smart Grids.
- Three edited books are in the process of publications. Full chapters have been received and reviewed, and some have been finalized for publications.

3.3 Working Group on Intelligent Data Mining and Analysis – Chair: Zita Vale, Polytechnic of Porto
The working group is actively working. The most relevant points are:
- An updated reference list in the working group topics is accessible in its webpage;
- The panel that the working group has organized to take place in IEEE PES GM 2011 had quite a high number of submissions, with 9 papers being presented. Smart grids opened a wide range of application areas for which data mining techniques are very relevant. This opens space for more sessions dedicated to this topic. The working group proposed to organize a panel session on "Data Mining Applications for Smart Grids" for the 2012 IEEE PES T&D Conference and Exhibition and a panel session on the topic "Intelligent Data Mining and Analysis for Smart Grids" IEEE PES GM 2012.

3.4 Task Force on Intelligent Fault Management – Co-Chairs Mo-Yuen Chow, North Carolina State University, and Mladen Kezunovic, Texas A&M University
The TF has not met this year; it has completed its life cycle and should be concluded.

3.5 Task Force on Modern Heuristic Optimization – Co-Chairs Kwang Lee, Baylor University, and Istvan Erlich, University of Duisburg-Essen
The TF is pursuing the preparation of the white paper; deadline for contribution is 30th September. The TF is proposing a panel session on "Modern Heuristic Methods Applied to New energy Systems" for IEEE PES GM 2012. The following two congresses have been announced:
- 18th IFAC World Congress, Milan, Italy, August 28th – September 2nd, 2011
- 8th IFAC Symposium on Power Plants & Power Systems Control, Toulouse, France, September 2-5, 2012

3.6 Review of Working Group and Task Force activities, including new Task Force activities

All WG, the TF on Modern Heuristic Optimization, and both TF in the scope of the Multi-Agent Systems WG are maintaining good activity. The TF on Intelligent Fault Management has completed its life cycle and should be concluded.

The creation of a new TF to cover areas that are not in the scope of the existing WG and TF and that are inter-area and also to increase the subcommittee visibility should be considered.

4. Other Technical activities
The subcommittee website should be updated. The Chair will send updated material to the Technical Secretary in order to pursue this job. All WG and TF chair are also invited to send updated information to be published to zitavale@sapo.pt.

The IS subcommittee should contact the Intelligent Grid Coordination committee. It is important to meet with that committee's members, to participate in the committee meeting and to establish connection and launch common work.

It is also considered important that the IS subcommittee launches activities on smart distribution.

The IS committee should prepare a panel for IEEE PES GM 2013 to reaffirm the subcommittee, to reinforce its identity. The tentative title for this panel session is "Intelligent Systems and the Smart Grid". The subcommittee will also launch the preparation of a white paper on this topic.

5. Linking IS Subcommittee activities to application areas and industrial interests
The subcommittee should work to attract industry people to the subcommittee.

6. Panels and Paper sessions for IEEE PES GM 2012 and other meetings
For the IEEE PES GM 2012, the subcommittee will propose 4 panels: one for each WG and one for the TF on Modern Heuristic Optimization.

Other panel sessions may be prepared for other meetings, namely for IEEE PES T&D 2012.

The subcommittee paper sessions for IEEE PES GM 2012 depend on the submitted papers. Subcommittee member should encourage paper submission in the subcommittee topics.

7. Tutorials
The subcommittee will propose a tutorial on "Intelligent Control Systems", prepared by the WG on "Intelligent Control Systems".

8. Other Business
The IEEE Transactions on Smart Grid will publish a special issue on computational intelligence applications to the smart grid.

Nikos Hatziargyriou announced the 16th International Conference on Intelligent System Applications to Power Systems (ISAP 2011), that will take place in Crete, from 25 to 28 September 2012.

The Chair announced that the IEEE Computational Intelligence Society has created a TF on smart grids. The first meeting of this TF took place in the scope of the 2011 IEEE Symposium on Computational Intelligence Applications in Smart Grid (CIASG). The meetings will take place each two years; the next one will take place in the scope of CIASG 2013, in Singapore.

9. Next meeting
   The next IS subcommittee meeting will take place in San Diego, in the scope of the IEEE PES GM 2012.

The meeting was adjourned at 4:00 PM.

Respectfully submitted,

Zita Vale

Appendix: Panel Sessions and Paper Forums related to the IS Subcommittee

Session Type	Session title	Time&Venue
Panel	Intelligent Control of Smart Grids and Smart Micro-Grids	Tuesday, 01:00 PM – 04:00 PM, GM Training Room 13
Panel	Agent-Based Modeling of Smart Grid Market Operations	Wednesday, 09:00 AM – 12:00 PM, GM Training Room 1
Panel	Data Mining for Smart Grid Applications	Wednesday, 01:00 PM – 04:00 PM, GM Training Room 1
Paper Forum	Intelligent Systems	Thursday, 01:00 PM – 05:00 PM, GM Training Room 5/6