APPENDIX 14

APEC REGULATORY COOPERATION ADVANCEMENT MECHANISM: REVISED RECOMMENDATIONS ON SMART GRID INTEROPERABILITY STANDARDS

Background

As called for by the APEC Regulatory Cooperation Advancement Mechanism on Trade-Related Standards and Technical Regulations (ARCAM) [1], this paper puts forth a set of recommendations on Smart Grid interoperability standards for consideration and discussion at CTI 3. These proposed recommendations are based on the report of the ARCAM Dialogue[2] held at CTI 2 in Big Sky, Montana and the U.S. paper presented at CTI 1 in Washington, DC that outlined Smart Grid interoperability standards [3] as an emerging regulatory issue with significant potential to impact trade and investment in the APEC region.

Outcomes of the ARCAM Dialogue

The ARCAM Dialogue confirmed that many APEC economies are actively promoting, or considering promoting, Smart Grid as a central means to achieve critical objectives related to environmental sustainability, energy security and economic growth. Information presented at the Dialogue indicated that such promotion efforts in several APEC economies are well along. Indeed, several economies have established overarching frameworks to guide rapid development and deployment of standards for Smart Grid. ARCAM Dialogue participants engaged actively to produce a set of consensus outcomes, including on actions for APEC economies to advance the deployment of Smart Grid and to prevent the emergence barriers to trade and investment in Smart Grid technologies. The proposed recommendations below build on the consensus outcomes from the ARCAM Dialogue in Big Sky.

Proposed Recommendations

APEC economies commit to prevent unnecessary obstacles to trade and investment related to Smart Grid interoperability standards. Such obstacles will hinder achieving the broader economic and societal benefits that will accrue through the deployment of Smart Grid technologies across the region. To enable greater collaboration on technical solutions in this fast-moving area; to foster coherence in architectural approaches to interoperability; and, to promote standards and conformance solutions that facilitate trade and investment across the APEC region and globally; APEC economies put forward the following recommendations for consideration:

I. Promote Transparency, Collaboration and Global Solutions in the Development of Smart Grid Interoperability Standards

- Promote interoperability of Smart Grid standards as a core objective in economy-wide programs to develop and deploy Smart Grid technologies. Implement mechanisms for internal coordination within APEC member economies among regulatory authorities, standards developing bodies and trade officials to advance interoperability of Smart Grid requirements.

[1] See 2010/SOM2/012anx5.
[2] See 2011/SOM2/CTI/043rev2.
[3] See 2011/SOM1/CTI/015.

- Encourage the development of economy-wide frameworks for standardization that reflect domestic market needs and are consistent with established reference architectures; promote coordination across domains; and enable interoperability at the interfaces critical to plug and play technologies (such as those relating to advanced metering infrastructure, consumer demand response, electric vehicle infrastructure, integration of renewable energy sources and distributed generation and storage devices).

- Use international standards wherever possible as the basis for standards adopted and deployed in Smart Grid operations. Where an international standard does not exist, participate in the development of international standards to the maximum extent possible. Encourage twinning arrangements and other innovative strategies to foster leadership and contributions in standards development by experts from developing economies.

- To enable continuing collaboration on standards development and to promote greater alignment, publish appropriate information on frameworks and work plans for standards development and reuse existing standards wherever relevant and effective in meeting current technical requirements.

II. Enable Competition and Innovation in Specific Markets for Smart Grid Technologies

- Develop shared objectives for electric vehicle charging infrastructure (e.g., minimize financial risks for local investments, enable product market competition, and facilitate upgrade paths) that lay out the case for interoperability. Encourage participation in a mapping exercise and gap analysis of interoperability standards under development against those shared objectives.

- Promote the development of the consumer demand response sector that supports plug-and-play technologies by reusing existing communications standards wherever relevant and effective in meeting current technical requirements and by collaborating on the migration of newer standards into international standards bodies.

- On regulatory aspects of consumer demand response - such as those relating to dynamic pricing schemes, direct load control activities and mechanisms, privacy, security and control signals - standards solutions need to be flexible to accommodate different market structures and regulatory schemes. Promoting greater communication and information sharing with stakeholders can enable standards setting organizations to create broadly-applicable, interoperable standards solutions.

- Enhance participation, coordination and cooperation in international standards developers to ensure global solutions in standards for interconnection of renewable energy sources and distributed generation and storage devices into the grid. Press for sustained cooperation across standards developers active in areas related to Smart Grid, such as ISO, IEC, ITU-T, and IEEE.

- Adopt approaches to conformity assessment consistent with international standards and best practices, such those contained in the IEC-ISO CASCO Toolbox. Collaborate on the development of methods to facilitate reuse of conformity assessment results based on international standards, and facilitate recognition of third party certifiers to reduce the potential for redundant or costly conformity assessment activities.

III. Integrate ARCAM Outcomes into Cooperative Work on Smart Grid Interoperability Standards in APEC and Other Fora

- Establish the concept of interoperability of Smart Grid standards as a core principle of APEC work on Smart Grid issues, and utilize mechanisms for coordination among APEC fora to advance cooperative work within APEC on Smart Grid technologies, such as the Energy Smart Communities Initiative (ESCI) and the APEC Smart Grid Initiative (ASGI).

- Consider ways in which APEC fora can provide vehicles for ongoing information exchange on the development of interoperability standards and on collaborative efforts on conformity assessment programs related to equipment, devices and systems relevant to trade and investment flows in the region, as well as on the latest trends, policies, and regulatory developments related to Smart Grid deployment among APEC economies.

- Direct the APEC Subcommittee on Standards and Conformance to undertake a work program in 2012, in consultation with key stakeholders including other APEC relevant fora, to consider how to increase transparency and improve alignment of Smart Grid interoperability standards by way of a multi-year mapping/reporting exercise of requirements against international best practice built on the model of the SCSC's Voluntary Action Plan (VAP) Alignment Work.

- Advance international cooperation by increasing participation by organizations and agencies within APEC economies working on reference architecture, such as the Smart Grid Interoperability Panel and IEC Strategic Group 3.

- Represent ARCAM outcomes in other bilateral, regional and international fora, notably the World Forum on Energy Regulation in Quebec City, Canada, May 13-16, 2012 and collaborate with the International Smart Grid Action Network (ISGAN) on the development and deployment of Smart Grid interoperability standards.