



Smart Grid Center Extension in Qatar

First Periodic progress report

November 2014

Introduction

The following is a periodic progress report summarizing the activities of the Smart Grid Center Extension in Qatar (SGC-Q) from the beginning of 2014. This report will focus on four main sections: collaboration with TEES Smart Grid Center (SGC) in College Station, website development, workshop preparation, and publications and activities.

Collaboration with Tees Smart Grid Center in College Station

The Smart Grid Center College Station and the Extension in Qatar share the vision to achieve parallel, seamless integration of power system with transportation and the built environment to create 21st century energy ecosystems capable of solving pressing energy issues while meeting the needs of future generation. They also share similar objectives. Therefore the College Station-based center and the extension are in constant collaboration to achieve those visions and objectives.

➤ The Creation of SGC-Q and Collaboration with the SGC:

The SGC-Q was founded at the TEES Division at TAMUQ in Doha, Qatar, in December, 2013. The SGC-Q consists of a team of scholars and researchers from different universities in Qatar. The team is led by Dr. Haitham Abu Run, who is the managing director of the center extension and also the head of electrical and computer engineering at Texas A&M University at Qatar. The SGC and the SGC-Q are working together in developing focused smart grid training which provides education and training to introduce and explain the importance of smart grid. These training courses have attracted funding from different local industries such as the Qatar General Electricity & Water Corporation (KAHRAMAA), the Qatar Mobility Innovations Center (QMIC), and the Qatar Environment and Energy Research Institute (QEERI).

Dr. Abu Rub attended the second workshop held by the SGC focused on the theme of partnership with the industry held at Texas A&M on April 8th, 2014. This was very important because the SGC-Q is organizing its first Smart Grid workshop in 2015. Additionally, SGC-Q and SGC have submitted a proposal to Qatar national Research Foundation to organize the first joint workshop between the two the SGC and SCG-Q. This planned joint workshop will be the spine of the future plans to extend the Smart Grid Center further.

➤ **Advisory Board Meeting:**

The SGC-Q has invited the SGC to hold a meeting that will discuss expanding the advisory board of the SGC. The meeting was planned during the workshop in January, 2015 in Doha, Qatar, however to a delay in signing the workshop agreement, it was postponed to March 22-23, 2015.

Website Development

SGC-Q began developing the official website, SGC-Q.com, in May 2014. The site started with a basic design and was upgraded following the branding requirements of TEES and Texas A and M University in Qatar. It is available in both English and Arabic and supported by all search engines and web 2.0. Through the website, it is possible for individuals to contact the SGC-Q directly and submit their resumes online in the ‘Careers’ tab.

A section was created under ‘Members Spotlight’ which will highlight outstanding members of SGC-Q and showcase his/her work and their scholarly background in personalized pages of the website. It is aimed as a method to increase motivation and provide both SGC-Q and its outstanding members with publicity. ‘Members Spotlight’ is set to be updated every month.

We are currently working on a marketing campaign that includes conducting video interviews with members of SGC-Q to increase and diversify the content in our social media presence and websites. The Arabic page was created to give basic information about SGC-Q and about the latest news in Arabic. We also created social media pages in Facebook, Twitter, and YouTube. Moreover, we intend to have the website appear on Google advertisements to be able to increase traffic. SGC-Q.com can be found through keywords relating to both ‘smart grid’ and ‘Qatar’. However, it appears in the 3rd page in search engines. The reason behind that is the infancy of its creation, but traffic will increase in time.

Organizing a Workshop: SGR2015.COM

The SGC-Q is working on hosting a workshop under the name of “First Workshop on Smart Grid and Renewable Energy” set to occur in spring of 2015. Planning for the workshop began in March 2014. The workshop’s proposal has been submitted for technical sponsorship and accepted by the IEEE IES. Thus, the IEEE is an official technical sponsor for this workshop. The paper will be included in the IEEE explorer. A webpage, call for papers poster and other related documents have been created for it.

The financial plan for the workshop has been studied, and we have begun contacting the industry for potential sponsors. Categories and benefits of sponsorship have been set. The main sponsor of the workshop is Qatar National Research Fund (QNRF). Additional support was obtained from the British council for inviting scientists from the UK and from Qatar Environmental and Energy Research institute (QEERI). The agreements with sponsors are still not signed with TAMUQ. Our university has agreed to partially support the workshop.

The webpage for the workshop is partially live. Its content has been extracted from the call for papers and proposal of the workshop. Individuals may register online through easychair.com. Easychair.com is a popular database host for conferences and workshops. Users have access to various types of workshops and conferences through selecting a subject in its search engine. The process of introducing our workshop was difficult, however, we were able to add it to easychair.com and now people may submit their papers using our webpage.

We are still looking for the most affordable location to host the event. Ideally, we are planning to locate it in the Student Center at Qatar Foundation. We anticipate approximately 100 participants from various part of the world to attend.

Publications and Activities

There are 13 research staff members who participating in the research activities of SGC-Q. Those active members include:

- ❖ 3 Assistant Research Scientist.
- ❖ 4 Post doctorate research associates
- ❖ 3 Research associates
- ❖ 1 Research assistant



- ❖ 2 Ph.D. students at TAMU

Furthermore, nine professors have joined SGC-Q from TAMUQ. Those include faculty from electrical engineering, mathematics, and mechanical engineering.

➤ **Publications 2014:**

One of the ongoing aims of SGC-Q is publication of papers, conference papers, books, chapters, journal submissions, etc. This year, an impressive number of papers were published in various journals conferences. These are listed below by numbers:

- ❖ 10 Refereed Journal papers published/accepted (mostly IEEE).
- ❖ 15 Journal papers submitted.
- ❖ 25 refereed conference papers (most of them IEEE).
- ❖ 5 conference papers submitted.
- ❖ 1 book publishing by Wiley in 2014.
- ❖ 1 book (contract signed) (in press).

➤ **Research Grants:**

I. Current Projects

- ❖ Three on-going externally funded research projects (amount of the projects is over \$7M).
- ❖ Three announced research projects (around \$3M).

II. Research proposals submitted.

- ❖ Preparing 5 research proposals to National Priorities Research Program (NPRP) (amount around \$5M).
- ❖ 3 proposals prepared for the Postdoctoral Research Award (PDRA) program (QNRF).

➤ **Training Course**

Another aim of SGC-Q is to provide electrical technicians, electrical engineers, maintenance planners, and supervisors with operation and maintenance responsibility from Qatar the opportunity to learn methods and advanced technologies relevant to their fields of study. To this end SGC-Q is:

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- ❖ Conducting three continuing education trainings for industry and community.
- ❖ Planning for additional two courses in February.

➤ **Opening ceremony**

The official opening ceremony of the SGC-Q will be held in November 12. The President of KAHRAMAA, the Executive Vice President of Research and Development, Qatar Foundation, the Executive Director of QEERI and the Dean & CEO of TAMUQ will attend the event in addition to many important persons from the community and local academia.

Conclusion

The members of SGC-Q are working really hard to ensure that everything is going as planned. The SGC-Q website will be continuously updated, and the logistics of the workshop will proceed. Our publications are the central reason for our ability to host a great team of scholars, scientists, and researchers. Thus, the number of publications will remain on the rise. SGC and SGC-Q have a busy year ahead of working together in holding meetings, attending workshops, holding workshops, and looking for support from the industry.