

Record notes of the Smart Grid Consultation Committee (SG-CC) on 17th August, 2015 in the Conference Hall of Assam Electricity Regulatory Commission (AERC)

The meeting of the Smart Grid Consultation Committee (SG-CC) was held at 11.00 am on 17th August, 2015, at Conference Hall of Assam Electricity Regulatory Commission (AERC).

The list of members and officers present is appended at **Annexure – 1**.

At the very outset, Mr. Dipak Chakravarty (Member AERC), Chairperson, of the Committee, welcomed all the Members of the Smart Grid Consultation Committee (SG-CC) and AERC officers present to the 1st Meeting of the Committee, which had been recently constituted vide letter dated 05.05.2015 as per Provision of previous publication under Sub –section 3 of Section 181 of The Electricity Act, 2003

The Chairperson informed the members that AERC has passed an order dated 06.03.2015 on investment approval of Smart Grid pilot project. He also briefed about the key points of the order to the Committee. Some of the key points were:

- A total amount of Rs.29.94 Crores has approved for the pilot Smart Grid project.
- Out of the total amount, Rs.14.97 Crores has to be funded by the Govt. of India for the Smart grid Pilot Project. The balance amount of Rs.14.96 Crores has to be funded by the Govt. of Assam.
- For this Smart Grid Pilot Project, no component of expenditure incurred should be reflected in the Annual Revenue Requirement (ARR) of the APDCL.
- The APDCL is required to organize awareness programme with the consumers of APDCL in general and amongst the consumers of the selected area where Smart Grid Pilot Project is going to be implemented in particular, projecting the benefits to be availed by the consumers due to implementation of the pilot project.
- The communication network for connectivity in the Smart Grid pilot project should be very reliable.

Finally, he requested the members to take this opportunity to deliberate and highlight issues pertaining to smart grid implementation, so that effective strategies could be worked out for proper implementation of smart grid project in Assam.

The Chairperson then requested Mr.Reji Kumar Pillai, President (ISGF), to share his knowledge and experience about need, issues and policies pertaining to implementation of Smart Grid.

Key points highlighted by Mr. Pillai are:

1) *Need of Smart grid to handle renewable energy:*

Mr. Pillai (President ISGF) mentioned that with the rapid introduction of Government policies such as JNNSM, Regulations, Roof-top Solar, net-metering etc. it is envisaged that more renewable energy investment will come, thereby leading to more RE Generation. As the RE generation scheduling is difficult with the present set of technologies, there is need of Smart Grid to handle injection and scheduling of RE Power.

He shared international experience of Hawaii and Germany on Roof-top Solar. Hawaii Grid was the first Grid where more than 10 % of households were on the Roof-top Solar was connected to the Grid. They made this drive to make the Island cleaner. But in 2013 they were unable to give more connection as they found that the Grid is totally falling apart. Henceforth, to give more connection they have started using smart inverters which can be remotely operated replacing the old inverters.

In Germany, out of 30 million households 1.2 million are connected to Roof-top solar. They have also faced the same problem as that of Hawaii. Henceforth, they have used smart inverters in lieu of the old inverters for more Grid connection. Mr Pillai also mentioned that the Smart inverters are only 2% of the total cost of the entire system.

2) *Handling of fluctuation in demand:*

Mr. Pillai mentioned that with increase in dependence on electricity in our day to day life activities such as household , office, vehicles etc. there is possibility of sudden increase/decrease in demand in the system .In such situation distribution company need to make extra power available or back down certain sources.

Mr. Pillai cited example of a situation where number of four wheeler and two wheeler electric vehicles put their vehicle on charging mode at the same time and in the same DTR, thereby leading to sudden jump in load of the DTR. With use of Smart Grid distribution licensee will be able to monitor such jump in load and take measures such as flow of Roof top solar power generation to that area, send signals to the electric vehicles after a certain limit etc. Therefore, by use of Smart Grid the distribution Licensee will be able to have better control and monitoring of demand of the system.

3) *Better management of power supply:*

Mr. Pillai mentioned that Smart Grid helps Distribution company in providing node wise feedback about power interruptions, line failure, fluctuations in voltage/frequency etc. thereby helping in faster resolution of any problem in the network or supply.

Mr. Pillai cited example of USA utilities where there were issues of shortage of man power at the lower level i.e. line-man, meter reader etc. to maintain the network and billing. USA utilities implemented smart grid concept to resolve the issue of shortage of manpower by automated monitoring, billing etc under the Smart-Grid.

4) **Planning of Distribution system:**

Mr. Pillai mentioned that Smart-Grid provides detailed 15 minute block wise data at various node of the Distribution system such as reasons of power interruptions, loading, voltage frequency etc. which may be used by the distribution licensee for future planning.

- 5) Mr. Pillai highlighted that some of the basic requirements of Smart-Grid such as SCADA –DMS, Digital recording of assets etc. are being implemented vide some of the ongoing schemes such as R-APDRP part (A),Part (B) etc.
- 6) Mr. Pillai appraises the members about India Smart-Grid forum which is the forum for preparation of road map for Smart-Grid implementation and monitoring of implementation of smart grid in India. He mentioned that the forum has already prepared the said road map and notified the same. He further mentioned that states should have its own states specific road map for smart grid implementation.

Thereafter, a brief presentation was made by Mr. Anuj Goswami (AGM R-APDRP), APDCL, on the Smart Grid Pilot project of APDCL. During the presentation Mr. Goswami of APDCL stated that as against the approved cost of Rs. 29.94 Crores the awarded project value after bidding is Rs.29.87 Crores.

During the presentation the following points were raised by the members.

- Mr. Pillai (President, ISGF) suggested that mobile Apps/SMS may be used in lieu of the proposed in home Display units, which will be more consumer friendly and also help to reduce the cost significantly.
- Regarding the Appointment of Smart Grid implementing agency Mr. Dipak Chakravarty, Chairperson (SG-CC) asked about the roles and responsibilities of other consortium partners with M/s Phoenix IT Solutions Ltd. Mr. Goswami (AGM R-APDRP) clarifies stating M/s KEPCO will look for overall integration whereas M/s NURI Telecom Co. Ltd will see to the entire IT and Communication system. M/s SECURO Co.Ltd will support the project by providing the meters.

- APDCL mentioned that they have sorted out the issue of cyber security as per the direction of the Commission. Mr. Pillai mentioned that cyber security issue needs to be addressed properly and in this regard ten recommendations were prepared by National Critical Information Infrastructure Protection Centre (NCIIPC) and ISGF. **(Annexure- II)**. He also mentioned that national critical information protection centre is conducting a work shop on cyber security in September,2015.
- APDCL mentioned that there will not be load shedding in the pilot project areas which are Paltan Bazar, Ulubari and Narengi (15200 Consumer meters) and a regulated power supply can be maintained.
- Mr. Pillai suggested that in place of GPRS better cheaper and more reliable technology such as optical fibre may be used. However APDCL mentioned that as the bidding is already completed and the project is under implementation, they may be allowed to use GPRS as a communication system for this pilot project. Members agreed to that and mentioned that for future projects better communication system should be used.
- APDCL mentioned that they are installing smart meters with IS 13779 specification. However Mr. Pillai mentioned that the specification for smart meters stands revised at IS 16444, therefore, APDCL should procure smart meters with specification of IS 16444. He also informed that the IS 16444 meters are also capable of working as Net meters in case of Roof top solar projects.
- APDCL informed that at the moment there is no constraint experienced in implementing the project. The project is expected to be completed by August 2016.
- It was decided by the Committee that initially the project would be reviewed by the Committee quarterly. Accordingly, the next review meeting of the Committee would be held in the month of November.

No other matter came up for discussion. The meeting ended with a Vote of Thanks to and from the chair.

(Dipak Chakravarty)
Member
Chairperson SG-CC
Assam Electricity Regulatory Commission

Annexure – 1

**List of members present in the meeting of the State
Advisory Committee held on 17th August, 2015**

1. Shri D.Chakravarty, (Member AERC) Chairperson-SG-CC
2. Shri Reji Kumar Pillai, President, ISGF
3. Shri R.L. Barua, MD, APDCL
4. Shri Ashok Ch. Sarma , CGM (PP & D)
5. Shri Manoj Kumar Bordoloi .CGM (SLDC) , AEGCL
6. Shri Anup Podder NO (GM), RAPDRP,APDCL
7. Shri Gautam Barua, Mentor Director,IIIT,Guwahati
8. Shri Anup Kumar Gogoi, Prof Deptt. EEE IITG
9. Shri Saurabh Agarwala, FINER
10. Shri Anuj Goswami AGM,RAPDRP

Officers of AERC

1. Shri SK Roy (ACS, Retd.)Secretary AERC Convenor
2. Shri D.K. Sarmah, Joint Director (Tariff), AERC
3. Shri T. Mahanta, Deputy Director (Engg) AERC
4. Shri N.K. Deka, Consultant (Technical), AERC
5. Shri Sanjeeb Tamuli, Consultant AERC
6. Shri Jayjeet Bezbaruah, Consultant, AERC

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