

**Memorandum of Understanding  
between  
The Regents of the University of California  
and  
Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd.**

**Concerning Cooperation on Smart Grid Technologies and Open Automated Demand  
Response Standards**

This Memorandum of Understanding (MOU) is between The Regents of the University of California, manager and operator of the Lawrence Berkeley National Laboratory (LBNL), and the Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd., China (SEARI). LBNL is a U.S. Department of Energy National Laboratory managed and operated by The Regents of the University of California pursuant to Contract No. DE-AC02-05CH11231 (Contract 31). SEARI is a research institute working in the fields of electric apparatus and system research and Smart Grid technologies in China, having its registered office at 505 Wu Ning Road, Shanghai, China.

LBNL and SEARI are collectively herein referred to as “Participants” or separately as “Participant.”

**1. Objective**

The objective of this MOU is to provide a framework to explore potential future collaboration between the Participants in grid-integrated technologies, Smart Grid interfaces, Demand Response (DR), Open Automated Demand Response (OpenADR), and standards development and deployments and related research exchange (“the Field”). While the Participants already conduct complementary activities in the Field, the proposed collaboration aims to enhance the technical exchanges between LBNL and SEARI and to share research and experiences and achievements. It is hoped that the collaboration will lead to the conduct of joint projects in the Field, that would help both Participants accelerate the cultivation of international research exchange, increase research cooperation, and elevate both Participants’ influence in the Field worldwide.

**2. Areas of Planned Cooperation**

- i. The Participants express their intention to endeavor to collaborate in one or more of the following areas:
  - A. Automated DR (Auto-DR) technologies, and their end-use applications (e.g., home automation networks and micro-grids);
  - B. International Smart Grid standards development for DR (e.g., OpenADR within the International Electrotechnical Commission); and
  - C. Demand-side electric equipment for Smart Grid (e.g., equipment developed in

LBNL's Demand to Grid Lab (D2G Lab) and SEARI's China National Energy R&D Center for Demand Side Electrical Equipment of Smart Grid, SEARI's Shanghai Key Lab for Demand Response of Smart Grid.

- ii. The scope of above activities and cooperation may be changed or extended to other areas by written consent of the Participants.
- iii. The proposed forms of cooperation may include:
  - A. Visits and exchanges of researchers and experts, intended to promote understanding, expand areas of collaboration, share information and achievements of research activities, and identify funding opportunities in the areas of collaboration.
  - B. Joint activities relating to Smart Grid technologies for home automation and OpenADR standards to widen the visibility of the U.S. Smart Grid to international Smart Grid- and buildings-related activities, and to accelerate training of the inter-disciplinary talent in the field of DR with activities such as pilots and field-tests.

### **3. Commencement, Modification and Discontinuation**

- i. Cooperative activities under this MOU may commence upon signature and continue for a five (5) year period, unless discontinued in accordance with paragraph ii of this Section 3.
- ii. The Participants may discontinue this MOU at any time in writing. A Participant that wishes to discontinue its participation in this MOU should endeavor to provide at least thirty (30) days written notice to the other Participant.
- iii. This MOU may be modified in writing by mutual consent of the Participants, and may be extended for additional periods.

### **4. Designated Representatives**

- i. To administer the implementation of this MOU, each Participant should designate one principal coordinator in charge of the collaboration, through whom all requests and plans of that Participant are to be made. The designated representative for LBNL is the Environmental Energy Technologies Division Director, or other LBNL designee. The designated representative for SEARI is Chen Ping, Chairman, or another designee as may be appointed by SEARI.
- ii. The designated representatives may hold meetings when necessary to discuss matters related to cooperation under this MOU.

### **5. General Considerations**

- i. Each Participant should conduct the activities contemplated by this MOU in accordance with all applicable laws, regulations and other requirements to which it is subject, and international agreements to which its government is party, including, without limitation, export control laws and environment, health and safety laws and regulations.
- ii. The Participants do not expect to exchange any information that is considered business-confidential. If this expectation changes, the Participants plan to enter into a written non-disclosure agreement.

- iii. This MOU does not create any legally binding obligations.
- iv. The conduct of cooperative activities contemplated by this MOU is subject to the availability of funding, personnel, and other resources.
- v. Each Participant is to be responsible for the costs it incurs in participating in cooperative activities under this MOU.

Signed in duplicate.

THE REGENTS OF THE UNIVERSITY  
OF CALIFORNIA, LAWRENCE  
BERKELEY NATIONAL  
LABORATORY

By: 

Name: Dr. A. Paul Alivisatos

Title: Laboratory Director

Date: August 29, 2013

Location: Berkeley, CA

SHANGHAI ELECTRICAL  
APPARATUS RESEARCH  
INSTITUTE (GROUP) CO., LTD.

By: 

Name: Chen Ping

Title: Chairman

Date: Oct. 24, 2013

Location: Shanghai, China