Meeting of
Association of State Energy Research and Technology Transfer Institutions

October 22-23, 1998
Oak Ridge National Laboratory
Oak Ridge, Tennessee

The Meeting was called to order by Mark Hanson, ASERTTI Chair at 8:30 a.m. with the following persons present:

Larry Ambs, Massachusetts Center for Energy Efficiency & Renewable Energy
Floyd Barwig, Iowa Energy Center
John Biemer, Bonneville Power Administration
David Block, Florida Solar Energy Center
Marilyn Brown, Oak Ridge National Laboratory
David Claridge, Texas A&M University
Michael DeAngelis, California Energy Commission
Tim Eastling, Department of Energy – Atlanta Support Office
Ron Edelstein, Gas Research Institute
Mark Ginsberg, Department of Energy
Larry Golan, South Carolina Institute for Energy Studies
Kristi Growdon, Washington State University Energy Program
Mark Hanson, Energy Center of Wisconsin
Duncan Kincheloe, EPRI
Bob Koger, Advanced Energy Corporation
Jerry Lonergan, Kansas Electric Utilities Research Program
Ron Nesse, Pacific Northwest National Laboratory
Jeff Peterson, NYSERDA
Jim Quinn, DOE, Office of Industrial Technologies
Bob Rose, Environmental Protection Agency
John Ruckes, State of Connecticut – Office of Policy & Management
Tony Schaffhauser, Oak Ridge National Laboratory
Ron Shelton, Oak Ridge National Laboratory
Margaret Suozzo, ACEEE
Carol Tombari, National Renewable Energy Laboratory
Gunnar Walmet, NYSERDA
Jill Watz, Lawrence Livermore National Laboratory
Jack White, UTECH, Inc.
Dan York, Energy Center of Wisconsin

Thursday, October 22, 1998

Welcome to New ASERTTI Members and Associates

- Northeast Energy Efficiency Partnerships (NEEP) has joined ASERTTI although is not able to participate in the meeting.
- Northwest Energy Efficiency Alliance (NEEA) is involved in two ASERTTI areas of common interest, including commissioning.
- Pennsylvania Department of Environmental Protection
- Texas A&M University, Energy Systems Laboratory is currently active in commissioning efforts.
- Alliance to Save Energy, ACEEE, and Argonne National Laboratory have joined ASERTTI as Associate members.

ASERTTI Updates

The level of activity that is now going through ASERTTI is in excess of $3 million per year. ASERTTI published the ASERTTI Report in August of 1998 and a produced a new brochure. Contact the Energy Center of Wisconsin (ECW) if you would like copies of either the report or brochure.

The Memoranda of Understanding (MOU) between ASERTTI and the Department of Energy (DOE) has been signed. Issues remain regarding how to make it work and what would ASERTTI like to do in the short and long terms? There are plans for joint planning with DOE and the Environmental Protection Agency (EPA) and to have ASERTTI develop a similar MOU with EPA.

Collaborative/State Research Update

1. Mark Hanson gave an overview of where ASERTTI collaboration efforts were two years ago, and how ASERTTI has progressed in those targeted areas.
    - Lighting Controls – A meeting was held in December 1997 resulting in a significant impact on the lighting industry. It was the first time that these groups were gathered together to discussed lighting controls.
    - Emerging Technology in Commercial/Residential Sectors – This work has proceeded and will be discussed later in the meeting.
    - Transportation: Alternative Fuel Vehicles – NYSERDA is actively involved in this area and continues its efforts.
    - Transportation: Intelligent Transportation Systems – NYSERDA is actively involved in this area and continues their efforts.
    - Building Commissioning – Training materials have been developed, and basic training workshops are taking place.
    - Water Treatment – Some ongoing efforts in this area.
    - Renewables – A number of members are making good progress in this area. This is a good area for further collaboration efforts.
    - Distributed Generation – Good scattered activity, further collaboration is needed.
    - Compressed Air – The Compressed Air Challenge is going well. A detailed update will be given later in the meeting.

2. Floyd Barwig, Iowa Energy Center presented information on the Compressed Air Challenge (CAC). This collaborative effort involves those with an interest in improving the efficiency of Compressed Air systems. ECW is administering CAC and 14 members are involved with investments of $30,000 per year. End users issues and concerns are the target group for CAC. CAC is taking a systems view to develop an understanding of how much resource is used in this area. Training workshops are developed and five pilot trainings will take place beginning in January 1999. After the pilots 60 events are planned and a more in-depth training module will be developed. The form of the overall CAC effort is still being discussed among the membership. There is currently no plan for research to be a part of the training and development of the project. There may be a need for research in the future, however, CAC will probably not get into this area.

3. Dan York updated the membership on the efforts in Building Commissioning efforts. Since the last ASERTTI meeting, ASERTTI received an additional $54,000 of the total $104,000 grant. One-day introductory training events are developed and focus on what commissioning is and why it is important. The training materials are designed to be used as a curriculum. A RFP will be going out looking for a contractor to design advanced training materials. These materials will be copyrighted and a user agreement is being developed.

4. Jerry Lonergan updated the membership on Kansas Wind Power efforts. The midwest region is becoming more involved in wind power. Iowa and Wisconsin are becoming actively involved in this area. Data collection in Kansas has just finished. There are concerns in some parts of the region regarding public acceptance. As a reference point the wind resource in Kansas is better than the resources in California.

5. Larry Golan updated the efforts at South Carolina Institute for Energy Studies (SCIES) regarding gas turbines. There is a nationwide university based study designed to support ATS programs and improve environmental structure. Major gas turbine manufactures are involved in the collaboration, voting members paying membership fees of $25,000 annually. There is also a network of 95 universities across the nation. The activity was originally research based and has grown to include technology transfer and workshops. Currently, about 60 research grants are outstanding.

   Clemson University had a need for a new Central Energy Facility (CEF). The mission of CEF is to provide heating, cooling and electricity to the Clemson campus. The lab would focus on research and education for both undergraduate and graduate studies, and development of industrial partners and experiences.

6. Margaret Suozzo provided an overview of Emerging Technologies. ACEEE updated the most recent report, and provided members with a draft copy. Final copies will be mailed to members when they become available. The approach used a broad list of measures, that fell into the scope of the project. Seventy-three measures were used, although the original scope used 80 measures. There are limitations to the measures as they are not all additive.

National Report

1. Kristi Growdon, WSU and Vice Chair of ASERTTI updated the membership on the Memorandum of Understanding (MOU) with the Department of Energy and ASERTTI. NYSERDA and the California Energy Commission are also working with the DOE under the auspices of a MOU. There are some difficulties with the MOU between California and the DOE. The joint areas of interest are difficult to identify. Another fundamental issue deals with contractual issues. DOE may be more comfortable working with ASERTTI if it was a formal organization. This topic will be discussed later in the meeting.

2. Kristi Growdon also provided an update on the status of NASEO. NASEO has a new president, Rich Sedano. There may be new opportunities with working with NASEO and ASERTTI. The SIP was reauthorized and ASERTTI needs to have a strong relationship with NASEO. The EPA is coming out with new recommendations for NOx Credits, and has a contract with NASEO. There is a growing market for those that can evaluate energy efficiency credits. The NASEO 1999 meeting is scheduled for mid February in Washington D.C.

3. Bob Rose, Environmental Protection Agency discussed the status of the Energy Star Label. The Energy Star Label was designed to be a tool for educating the consumer and to be an effective means to change manufacturers and consumers behaviors. Products that carry the Energy Star label now include for example, office equipment, residential heating and cooling appliances, exit signs, new homes, insulation materials, and residential light fixtures. New programs are being developed regarding roofing materials, consumer audio equipment, and a home improvement program for existing homes.

   The Energy Star label for a commercial building is difficult to define because of the variables in testing for energy efficiency. The EPA is working with ORNL to find benchmarks for the labels. The top 25% is not very aggressive, however it is hoped that the research will move along more quickly. Every five years benchmarks will be taken, and it is hoped that the bar of the top 25% will be raised.

4. Margaret Souzzo presented an update on Appliance Labeling. The use of energy efficiency appliance labels is beneficial to consumers. The Energy Guide label has been simplified, but consumers and manufacturers still do not feel that it is working. Labels used in the UK and Australia have had

significant impact on consumer use of energy consumption. It has been proposed to DOE and others to create a new label.

5. Administration's Bill on Restructuring was discussed by the membership. The most significant point is that the public benefits package does not include R&D. It was decided that ASERTTI would send a letter regarding this issue signed by the Chair. It is felt that that some states will follow the federal lead.

ASERTTI and National Laboratories Collaboration

Floyd Barwig moderated the panel session. Panelist included Jeff Harris (LBNL), Carol Tombari (NREL), Marilyn Brown (ORNL), Jill Watz (LLNL), and Ron Neese (PNNL). The panelists provided an overview of the Labs capabilities.

1. Jeff Harris, Lawrence Berkley National Laboratory (LBNL). LBNL works with the states primarily in two ways. The first example is CIEE which was developed and funded by utilities and is part of LBNL. CIEE has been very effective mechanism in working with the lab and the state universities and to build stronger links around specific projects. The second example is in building applications including down lighting, thermal efficiency, introduction of home energy ratings, and office equipment. There are still many untapped territories for collaboration with the states.

2. Marilyn Brown, Oak Ridge National Laboratory (ORNL). ORNL has two programs for working with the state. The state partnership programs and the Inventions and Innovation Center. The state partnership program was modeled from the STEP program of NREL. About 30% of funds were spent on transportation, and the rest split within the other areas. The Inventions and Innovations Center consists of five Centers under development. ORNL is one of the five Centers. This is a new tool for the states, and this initiative provides ORNL with another area for state collaboration.

3. Carol Tombari, National Renewable Energy Laboratory. NREL was formed from the oil embargo, and has a charge to develop solar and renewable or other activities include but are not limited to, wind power projects, ethanol, biomass, GIS mapping alternative fuels, and building efficiency. This year NREL's focus is on restructuring of the utility industry and solar roof initiatives.

4. Jill Watz, Lawrence Livermore National Laboratory. The main difference between Livermore and the other Laboratories is Livermore is a Defense Lab rather than the typical lab. Current projects include fuel cell development, energy storage systems, transportation, alternative fuels, laser technology and enabling technology revolving around hydrogen. The University of California manages Livermore. When states are interested in providing funds to the lab, it may be easier to do so than in the past. The technical transfer phase of the division is still a bit slow in process but is looking for potential collaboration.

5. Ron Neese, Pacific Northwest National Laboratory. PNNL is involved with three national labs and reports energy research at the DOE. PNNL was originally an environmental laboratory and Wyle Laboratory is a sub atomic user research facility. There is work being done in the areas of transportation, buildings and energy codes, manufactured housing, administration of grid reliability, and policy and economic applications. In particular PNNL has a special contract with DOE that allows them to bid on outside contracts.

Difficulty arises when collaborating with the states as DOE directs the Labs. The idea of a model cooperative was discussed and that the use of such an agreement may gain acceptance and can serve as a model for other states. It is critical to have a system in place with DOE and the Labs. The expertise and resources available from the Labs are great advantages to all involved.

The mechanisms that are needed to bring the appropriate parties together on a collaborative would involve discussion of the specific project, and then a decision of whether the particular project can be worked on together. It appears that if ASERTTI wants to collaborate with the labs, DOE needs to be brought into the discussion on how best to work on this detail. In the past the Labs have used subcontractors from private industry, not through DOE.

Friday, October 23, 1998

National Report (continued)

Mark Ginsberg, DOE discussed appropriations for Energy Efficiency programs. Energy Efficiency did well in the budget areas with improvement in the conference committee. A total of $110 million was appropriated. The increases were across the board.

There are four primary areas in the Office of Building Technology State and Community Programs (OBTS) strategic planning update:

- Increased use of peer review for assurance of work including deployment of evaluation
- Increased competition to give more chances for organizations to participate in funding
- Organizational design that simplifies the office and makes it more customer focused.
- Roadmapping includes three areas, lighting, windows and commercial buildings. The roadmapping information is available on the DOE home page.

OBTS is also working on various programs including, Building America, Rebuild America which becomes a process for the whole community, Energy Star, Building Codes and Compliance Standards, State and Community Partnerships, and General R&D programs.

There is linkage between roadmapping and competitive solicitation, although roadmapping may generate its own linkages. The area of R&D may have a separate solicitation. It is unknown at this time if the Labs will be able to competitively compete, although the Labs may be able to become a subcontractor.

Emerging and Expanding Collaboration Opportunity Briefs

1. Mike DeAngelis, California Energy Commission (CEC), informed the membership of California's Public Benefits Program including 4 interest areas; low income, energy efficiency deployment program, market support program for renewable technologies including existing and emerging technologies, and public interest energy research program. All programs began January 1, 1998 and are four-year programs.

   The mission CEC's Public Interest Energy Research (PIER Program) is to *improve the quality of life of California Technology (not adequately provided by competitive and regulated markets) for cleaner, safer, more reliable, and affordable energy* with improvement in cost, environment, reliability, safety and maximize the market. The accomplishments of the PIER program include 83 projects that are beginning or pending, and an administrator has been selected for Energy Innovations Small Grants Program.

CEC has targeted six potential areas for R&D collaboration including; buildings, industrial agriculture, renewables, environmental advanced generation, energy efficiency, and strategic research. It was suggested that ASERTTI become more involved in sharing information.

2. Jim Quinn, DOE Office of Industrial Technology (OIT) discussed DOE's Industry of the Future strategies, i.e. goals, priorities, R&D partnerships. DOE has eight industrial visions sectors including forest products, steel, metalcasting, glass, aluminum, chemical, renewable bio-products, and mining. Industry would benefit in the following ways:
   - More efficient use of R&D resources
   - Reduce risk of non-proprietary R&D
   - Competition for effectiveness
   - Broaden corporate knowledge base
   - Coordinated access
   - Corporate image
   - Capitalization of existing research

   Strategies for implementation are in place including ties to national industries of the future visions and roadmaps and research and technology transfer partnerships.

   States would benefits from these visions by:
   - Development and alignment of customer base
   - Fostering of industry growth
   - Building of alliances
   - Assist state business in competition
   - Solve environmental issues
   - Improve efficiency of resource usage

   DOE will be issuing a solicitation for state energy programs – Industry of the Future about December 1, 1998.

3. Ron Edelstein, Gas Research Institute (GRI), informed the membership of the changes that have taken place recently at GRI. GRI has changed their mission to now include gas and related markets. The Core Program Criteria include benefits that flow predominately to gas consumers and benefits must be dispersed broadly among gas consumers. Areas of collaboration include:
   - Energy efficiency – gas cooling, appliances, efficient building systems and controls, hybrid industrial equipment and process
   - Power generation – micro-cogeneration, distributed generation, power quality, advanced prime movers
   - Environmental programs – air quality modeling and decision tools, indoor air quality, ceramic burners, venting systems, environmentally acceptable end points
   - Supply unconventional emerging resources – improve recovery through infill drilling and advanced fracturing

GRI's Core Program is focused public goods R&D for end users, environmental R&D, and R&D for T&D. GRI is ready to work with ASERTTI and other state organizations in partnership to support mutual goals.

Collaborations Opportunities Working Session

The information gathered at this session was distributed after the meeting to all members. For an additional copy contact Sherry Benzmiller at ECW (608-238-8276 ext. 59 or sbenzmiller@ecw.org)

Administrative Business and Follow up

The ASERTTI report and brochure have been updated (for copies notify Sherry). The combined NASEO/ASERTTI meeting is scheduled for February 17&18 in Washington DC. The ASERTTI web page is in the process of being updated and Washington State will continue to manage the page.

The DOE – ASERTTI Memorandum of Understanding is still progressing. There are plans to have a meeting in early 1999 with DOE to assist with collaboration. It is hoped that this meeting will take place prior to the meeting in February. Jack White has a meeting scheduled to talk about ASERTTI's common interests. ASERTTI's position with DOE should be that ASERTTI supports competition, and should be recognized as an entity.

News from Washington is that John Reese is leaving. Jack White has been advocating on the behalf of ASERTTI to be a part of the roadmapping efforts. This is a critical point for ASERTTI and it is imperative to make the MOU work.

1. UTECH Update

   It is critical to have more interactions with others representing ASERTTI and to coordinate with key relationship managers. There needs to be multiple lists in which to collaborate, with 3 or 4 areas identified as a high priority, how much member interest is in the areas, and what level of resources would member be asked to commit. A fundamental difference between NASEO and ASERTTI is that NASEO has to ask for DOE member funding whereas ASERTTI members come to the table with funding.

   In relation to the 3 or 4 areas to be identified as high priority it is important to identify members that Jack would work directly with in those areas. This would allow Jack to inform other interested parties and gather further collaborators on specific projects. Additionally this would empower Jack to develop a series of directories on the ASERTTI homepage to assist the membership. Possible directories may include training, services available from members, education services. In terms of focus areas one may be integrated buildings including commissioning, daylighting, controls, etc. A

second area may be the industrial areas, identifying new technology and bringing it to industry.

2. Organizational Update
   There is a sense that it is time to move ahead and explore the mechanism for a formal structure and have a proposal for the February meeting. The proposal will be developed and explored to have ASERTTI become an official organization such as a 503c with flexible payment structure. David Block will take the lead in this area.

Adjournment

The meeting was adjourned at 2:30 p.m. The winter ASERTTI meeting will be held in conjunction with the NASEO meeting, mid-February in Washington D.C.

Respectfully submitted by:

Sherry Benzmiller,
Assistant to ASERTTI Chair