



Newsletter, May 2002

Electricity Storage in Springtime

Many ESA members were in San Francisco last month for the biennial EESAT meeting. They were part of an audience of over 150 delegates who took part in one of the largest meetings ever held on electricity storage alone. The spring sunshine, coupled with a cool Pacific breeze provided near perfect conditions to meet fellow enthusiasts in storage and listen to the latest news and developments. The meeting started with an address by Dr Robert Dixon of the US Department of Energy. He spoke about energy issues now being national issues, the US economy is based on energy, and the electric power system is ageing, with parts over 50 years old. As the economy grows there is a crucial need to update the system. He referred to the 54 recommendations from Bush's energy bill that dealt with distributed energy, an increasingly important technology. There was a need to articulate to the general public the importance of energy storage to the USA. Most of the audience knew that and perhaps we were looking for some help from the Department in pushing this message further into the public debate. Anyway, Robert Dixon did go on to say that electricity storage systems could help meet real issues in power quality. Electricity storage systems can support village power in remote areas and in developing nations. He closed by reminding us of the challenges:

- better equipment- lower costs, higher reliability;
- greater co-operation between utility and user;
- interconnection standards need to be common across the USA;
- dependence upon on public- private partnerships and networking.

Thirty-nine papers were presented at the conference, beginning with an overview of storage. The whole range of power network storage technologies and applications was covered ranging in size from multi-megawatt

solutions, to smaller scale devices of tens or hundreds of kilowatts. There was something of interest for everyone!

Joe Ianucci gave some powerful insights into the effects of initial capital cost, reliability and efficiency of storage devices on the overall economics. He has identified support for transmission and distribution with energy trading as the most promising application for bulk energy storage. He referred to FERC's vision document of 12 March 02 relating to location pricing of transmission. This philosophy could be extended to distribution systems and would enhance the uptake of storage. Storage plants could be comfortably sized at 1 MW in distribution applications and 10 MW or greater to access transmission benefits.

Tim DeVries of Golden Valley Electricity Association gave the first public presentation on the outcome of the tendering process for their battery electricity storage project in Alaska. The performance specification for this facility is 40 MW for 15 minutes, and a lifetime of 20 years. Tim talked about the unique position of Alaska as an electrical island, the associated system stability problems and the application of electricity storage to improve reliability and performance of the system. As reported in a previous newsletter, we will all be watching the progress of this fascinating project.

Supercapacitors and ultracapacitors were much in evidence, with many presentations on their development and applications. Not to be outdone, the battery specialists covered the range of technologies from the commercial applications of sodium sulphur, progress with lithium ion and the zinc bromine and vanadium redox flow batteries. A new type of flow battery, based on cerium was unveiled by Plurion Systems, one of ESA's newest members.

The mechanical aspects of storage were covered in a paper on the Compressed Air Energy Storage Project in Norton, Ohio. This uses air stored below the ground in existing mine shafts. Not to be outdone, we then heard from flywheel

developers who were spinning off their work in satellites and space vehicles. Technical developments, as well as commercial applications were covered in depth, leaving us with no doubt that this was an exciting time in the industry.

EESAT 2004

The next EESAT will be in the fall of 2004, and will again be held in San Francisco. More information about this meeting as details are established. If any member knows of any

conflicts with other relevant meetings during October / November 2004 would they please let us know as soon as possible. Send an email to newsletter@electricitystorage.org please.

Energy Storage and Renewables (1)

Gerard Thijssen, one of our board directors, will be representing the ESA and speaking at the Co-generation And Renewable Energy Forum in Lisbon, Portugal on 30-31 May 2002, on the subject of energy storage and renewables.

Energy Storage and Renewables (2)

An interesting article by George Marsh of Renewable Energy Focus is available at http://www.re-focus.net/mar2002_4.html His story contains references to our website information and some interviews with our members. It is a useful round – up of electricity storage activity.

ESA Main meeting October 10,11 Milwaukee, Wisconsin

Our main meeting this year will be held in the Milwaukee Hilton in Milwaukee, Wisconsin. The location has been chosen so that members can visit two of our members' facilities: ZBB, developers and manufacturers of the zinc bromine flow battery, and S&C Electric Company who have a range of products for solving power-quality problems.



A view inside ZBB's manufacturing plant: two, stand-alone 50 kWh modules with the power electronics built into the upper portion of the cabinet with the zinc bromine battery underneath.

S&C's facility in East Troy, the venue for the second tour during the ESA meeting



Our theme for the meeting will be "Electricity Storage at Work Today." There will be sessions on "Today's Projects – Tomorrow's Plans," "Overcoming Limitations: Enabling Technologies," a panel session on "Economics: Is Storage Viable?", and a technical update session. The program is filling up but there are still some slots available for presentations, and the call for presentations is now on our website. Please follow the link on our home page www.electricitystorage.org.

You can register now on our website for membership and this will include registration for this meeting. Make sure that you have marked the dates, keep them open and reserve your travel plans and we look forward to seeing you there!

Future Events and Member News

We are always happy to include short items from members for this newsletter. If you have information about projects, products or other news that you would like published in this format please send them to newsletter@electricitystorage.org

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