

**From:** bruce.foster@sce.com  
**Sent:** 6/7/2010 4:04:11 PM  
**To:** Cherry, Brian K (/O=PG&E/OU=CORPORATE/CN=RECIPIENTS/CN=BKC7); Carol Brown (CAB@CPUC.ca.gov); Michael R. Peevey (mp1@cpuc.ca.gov)  
**Cc:** Bottorff, Thomas E (/O=PG&E/OU=CORPORATE/CN=RECIPIENTS/CN=TEB3); Dan Skopec (dskopec@semprautilities.com)  
**Bcc:**  
**Subject:** Re: LLNL Meeting June 4th

Excellent summary Brian. I will be discussing with Fohrer and others ASAP to clarify our position. The more players the better. I would like to see if we can get some of our R and D money we have sent over to the CEC. Thanks again for an excellent summary.

**From:** "Cherry, Brian K" [BKC7@PGE.COM]  
**Sent:** 06/07/2010 03:57 PM MST  
**To:** <mp1@cpuc.ca.gov>; <cab@cpuc.ca.gov>  
**Cc:** "Bottorff, Thomas E" <TEB3@PGE.COM>; Bruce Foster; <dskopec@semprautilities.com>  
**Subject:** FW: LLNL Meeting June 4th

Mike/Carol - on Friday, Bruce, Dan and I met with the Director of the Lawrence Livermore Lab, Dan Kammen, University of California representatives and others to discuss an applied modeling and simulation project that would be funded by state government and the California IOUs. At the behest of the Governor, UC, IBM and LLL are proposing a unique partnership on tackling the SmartGrid on an applied engineering basis (not research). More detail on the project is included in the attached presentation in PDF format.

The concept is similar to but distinct from the proposed Climate Change Institute. The project would apply High Performance Computing (like the systems used for weapons research) to business situations, specifically the emerging SmartGrid, in a new Livermore Open Campus environment (non-security clearance). The HPC platform would be used to improve investment decisions related to the SmartGrid which require huge volumes of data that go well beyond standard computing resources in the private sector. One example they used involved a request by the Governor to model the impact of 33% on the CalSO. The Governor couldn't get his response for over 6 months because of the computing effort required. According to the pitch, an HPC platform could have been used to resolve this challenge quickly and advance the public policy debate.

The concept could also apply to a myriad number of other SmartGrid issues: Real Time Pricing implementation; incorporating hedging strategies in resource allocations across the WECC, transmission and generation planning and grid and multi-grid operations. The underlying theme is that few businesses have ever used HPC for problem solving and that the utility industry is an ideal candidate given the huge volumes of data generated by it. In addition, there was a consensus that HPC could be used to verify and validate long-term planning resource assumptions across the Grid that could be used by all IOUs while creating a common platform. In the long-run, HPC might even eliminate duplicative IT spend through the use of a common platform - thus saving money.

The key to this proposal is funding - and the proposal would cost each IOU \$10 million per year for 5 years. IBM would also contribute capital and experts in the field. Funding might also come from the General Fund, the CEC and other corporations (ex. oil companies on a one-off basis). The idea was to create an enterprise that would attract intellectual capital and jobs to California while leveraging

the expertise of LLL's vast database of experts. We discussed in detail the challenges we faced with the Climate Change proposal and suggested that they go beyond the Governors office to the Big-5 and other Legislative leaders for support. LLL wants to initiate a series of individual meetings with the IOUs, the Commission and Legislative leaders to see if they can reach consensus on the proposals. The IOUs are in general agreement that this is a worthwhile project, with the caveat that it is something the Commission wishes us to pursue with customer funding.

Bruce Darling, who is on the Executive Committee of the UC Board of Governors, is going to reach out to your office this week to set up a meeting. Not sure if you want the IOUs there or not. Bruce and Dan are welcome to add their comments if there is anything I have missed.

**From:** Stewart, Jeff [mailto:stewart28@llnl.gov]

**Sent:** Monday, June 07, 2010 2:23 PM

**To:** Skopec, Dan; Cherry, Brian K; Bottorff, Thomas E; Foster, Bruce; Hoover, Michael

**Cc:** Woerner, Bob

**Subject:** LLNL Meeting June 4th

Thank you for attending the LLNL meeting hosted by Director George Miller. I will be contacting you each this week to follow up on specific details. I have attached the presentation on P21-CES.

Jeff