

From: Cochran, Ron

Sent: 7/9/2010 4:05:16 PM

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Subject: RE: LLNL Meeting June 4th

Thanks Brian. LLNL plans to support this schedule. We greatly appreciate your help.

Ron Cochran

On 7/9/10 3:47 PM, "Cherry, Brian K" <BKC7@PGE.COM> wrote:

To all - I am copying everyone who has been involved in this project to date to make sure we are all on the same page. For those of you just hearing about the project, the summary e-mail below (addressed to Mike Peevey and Carol Brown) and the PowerPoint Presentation gives you an overview of the proposal. Senior leadership of PG&E has been briefed and supports the project. In addition, senior leadership of Edison and Sempra have also been briefed and support the project (subject to verification by Bruce and Dan).

At this time, we have a concept defined and the LLNL team (Jeff Stewart) is putting together supporting documentation as to what HPC can do for the utilities, why it is a good idea to support it and a preliminary cost/benefit

analysis that proves the project is good for California customers. We will need this material complete and in the hands of the IOUs no later than the first week of August. If this doesn't work, then the folks at LLNL need to contact Bob Woerner at PG&E and let him know exactly what supporting materials are being provided and when they will be available. The three IOUs will make a joint filing with the Commission in late August seeking approval and funding of the HPC proposal through a formal application. PG&E will take the lead on writing the application, but each utility will need to designate a supporting witness. I suggest the following: PG&E - Application (Attorney to be designated); PG&E - Policy (Woerner); Sempra - Project Overview; Edison - Cost Benefit Analysis.

We may also need a LLNL or IBM witness as we flesh the application out or find the need for additional utility witnesses to support HPC for EE/DSM, Smart Grid, et al. The application will recommend paper hearings and request a final decision by year-end.

Bob Woerner will be the policy witness for PG&E. A case manager who will coordinate for PG&E will be assigned by Jane Yura (VP-Reg Rel PG&E) and an attorney who will draft the application will be assigned by Sandy Hartman (VP-Law PG&E). Bob will provide the names of the PG&E case manager and the attorney to everyone on the distribution list next week. Sempra and Edison should designate appropriate case managers and attorney's as well. PG&E's case manager will then coordinate between the parties if that is acceptable to everyone.

Our timeline for application submittal is late August. This is a very aggressive time frame for a Commission application and filing. If this doesn't work for everyone, then we need to resolve those differences on timing as soon as possible. I hope this defines the process more clearly for everyone as we move forward.

**From:** Cherry, Brian K  
**Sent:** Monday, June 07, 2010 3:58 PM  
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**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 ; energy efficiency, DSM 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