From: Gupta, Aloke

Sent: 4/18/2012 1:45:23 PM

To: O'Donnell, Arthur J. (Arthur.O'Donnell@cpuc.ca.gov); Janice Lin

(ilin@strategen.com); David.Castle@sce.com (David.Castle@sce.com)

Redacted Cc:

ainfanzon@semprautilities.com (ainfanzon@semprautilities.com); David Nemtzow (david@nemtzow.com); alexander.morris@sce.com (alexander.morris@sce.com); Malashenko, Elizaveta I. (elizaveta.malashenko@cpuc.ca.gov); Allen, Meredith

(/O=PG&E/OU=Corporate/cn=Recipients/cn=MEAe); Thalman, Jon Eric

(/O=PG&E/OU=Corporate/cn=Recipients/cn=JETg);

KO'Beirne@semprautilities.com (KO'Beirne@semprautilities.com); Don Liddell (liddell@energyattorney.com); Jim Eyer (jeyer@strategen.com); Chris Edgette

(cedgett@strategen.com)

Bcc:

Subject: Storage priority applications

The last email got away accidentally. Here is the complete version.

Hello All:

Janice, thanks for getting us started. I took the liberty to make some revisions / comments in the attached document, as follows:

- combined the conventional solutions with storage solutions in single column so table can fit on regular size paper:)
- added "like scale" of expected storage projects in terms of capacity and duration
- split each case in its own page to avoid row splitting
- under end use column, grouped reliability uses separately from market uses
- added transportable case at the bottom based on SCE's input at the meeting
- inserted comments in several places

My suggestion is for other parties add to this file as they see fit. Or, we can each maintain our own marked-up copies and compare them when we get together again to review.

When we move on to actual CE methodology, it seems to me that we are really dealing only with four generalized "templates" that identify all relevant benefits and costs: 1) distribution 2) VER-sited. 3) Bulk Gen, 4) DSM. In this context, distribution deferral / CES / distributed peaker / transportable seem simply to be specific cases of the general distribution "template". Again, in the context of CE methodology, it seems only 7 end-uses (that I mentioned in the meeting) pose challenges on how to estimate the value of their benefits. Let's continue the discussion around these observations.

We may need to prioritize within the 7-8 applications list later. In that case, here would be my suggested priority list:

- 1. Distributed Peaker
- 2. CES
- 3. VER-sited
- 4. DSM (combine two cases into one)
- 5. Transportable

- 6. Distributed storage (=distribution deferral)
- 7 Bulk Generation

My reasons for going with 1 & 2 first: These are mixed use cases - hence could be challenging, could be deployed by third parties, and seem to be happening now (that is, real world examples). There may be interesting barriers to address here. It seems to me that if we can solve these, most others can take care of themselves.

I put #3 as 3 only because there is much interest in this case, although I haven't seen much to suggest this is practical anytime soon.

I put 6 & 7 last because it seems these cases don't seem to need much help from more analysis in the OIR (please comment if you think otherwise). #6 is driven by utilities need to address reliability issues; I assume the utilities will deploy when it's needed. #7 is basically driven by market revenue; presumably when benefits exceed costs, IPPs will propose these as bids in response to future RFOs. I don't really have a rationale for where to put #5.

Please feel free to comment / disagree with anything said here. Hopefully, we can use the email "forum" to continue informally exchanging our thoughts among this "group" until our next meeting (tbd, per Arthur).

I have dropped Audrey from the cc list; no need to clutter her inbox during this exercise. Liza, let us know if you would like to dropped as well in the interim.

Aloke Gupta

California Public Utilities Commission

O: 415.703.5239 aloke.gupta@cpuc.ca.gov

From: O'Donnell, Arthur J.

Sent: Wednesday, April 18, 2012 9:08 AM **To:** 'Janice Lin'; David.Castle@sce.com

Cc: AInfanzon@semprautilities.com; alexander.morris@sce.com; Gupta, Aloke; Lee, Audrey; David

Nemtzow Redacted Malashenko, Elizaveta I.; JETg@pge.com; Jim Eyer; KO'Beirne@semprautilities.com; Don Liddell; Allen, Meredith; Chris Edgette

Subject: RE: Informal brainstorming re Storage/ Thank You!

Janice.

Thank you. This looks more filled in than we left it.

We'll take the suggestion for another in-person under consideration.

I want to ensure that all parties to the case are involved at some level, so please bear with us as we confer internally as to the best way for that.

There will, of course be a more formalized process for considering and commenting on the use cases drawn from these

major use categories.

As for the other working group parties commenting and adding: would it be possible to receive your input by Friday 4/27?

Arthur O'Donnell

415-703-1184

From: Janice Lin [mailto:jlin@strategen.com] Sent: Tuesday, April 17, 2012 9:58 PM

To: David.Castle@sce.com

Cc: Alnfanzon@semprautilities.com; alexander.morris@sce.com; Gupta, Aloke; O'Donnell, Arthur J.; Lee, Audrey; David Nemtzow; Redacted Malashenko, Elizaveta I.; JETg@pge.com; Jim Eyer;

KO'Beirne@semprautilities.com; Don Liddell; Allen, Meredith; Chris Edgette

Subject: Re: Informal brainstorming re Storage/ Thank You!

Hi David

Excellent suggestion! I agree that in-person, especially for brainstorming activities such as this, is much much better than a conference call. Thanks for offering to travel again. I could do another in-person meeting between 9:30 and 2:30 pm on either Monday April 30 or Tuesday May 1. (though earlier in the day is better)

Attached, please find the applications we discussed, in a more 'populated' form. This is a first cut and has not been fully vetted by CESA; but in the interest of keeping up the momentum/progress, wanted to circulate this first cut ASAP.

Looking forward to your collective thoughts/input to the attached, Kind regards
Janice

Janice Lin, Managing Partner Strategen Consulting LLC www.strategen.com

Co-Founder and Executive Director California Energy Storage Alliance www.storagealliance.org (O) 510 665 7811 x101 (M) 415 595 8301 (F) 888 453 0018

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On Tue, Apr 17, 2012 at 5:29 PM, < <u>David.Castle@sce.com</u>> wrote:

I too want to echo the previous sentiments; all of us at SCE found the meeting to be productive and useful and look forward to continuing the discussion in future meetings.

I'd also like to suggest the possibility of another in-person meeting: Having (almost) the entire group in the same room provides for a free-flowing and engaged conversation in a way that can be hard to realize on a conference call; so from our perspective another group meeting in SF would be worthwhile.

Regards, Dave

__

David Castle
Project Manager
Market Strategy & Resource Planning
Southern California Edison
2244 Walnut Grove Ave
Rosemead, CA 91770

Office: (626) 302-7597

From: Janice Lin <jlin@strategen.com>

To: David Nemtzow < david@nemtzow.com>

Cc: "Gupta, Aloke" , Don Liddell , Don Liddell , Don Liddell , Jim Eyer , Jim Eyer <a href="mailto:seyer@stratege

Arthur.O'Donnell@cpuc.ca.gov, "Lee, Audrey" audrey.lee@cpuc.ca.gov

Date: 04/17/2012 01:00 PM

Subject: Re: Informal brainstorming re Storage/ Thank You!

I'd like to echo David's sentiments, and to add, that I should have a draft of the application priorities we discussed by tomorrow for the group to review/comment.

I'd also like to propose that we calendar another informal meeting to discuss via web conference ... perhaps by end of April/early May? I'll send a doodle meeting date/time survey with the draft document shortly.

Kind regards Janice

Janice Lin, Managing Partner Strategen Consulting LLC www.strategen.com

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On Mon, Apr 16, 2012 at 5:19 PM, David Nemtzow < david@nemtzow.com > wrote: Right back at you Aloke, and Arthur, Audrey and Liza.

It was productive, interesting and challenging, and I might add makes a nice contrast to the more formal mechanisms that tend to be the rule in the regulated world.

I know I'm not alone saying that I encourage you to reconvene informally as often as you need to to tackle and advance these issues. (Although feel free to pick a non-stormed-in airport for the next one!)

From: Gupta, Aloke [mailto:aloke.gupta@cpuc.ca.gov]

Sent: Monday, April 16, 2012 12:37 PM

To: Janice Lin; Don Liddell; David Nemtzow; Jim Eyer; JETg@pge.com; Allen,

Meredith; Redacted KO'Beirne@semprautilities.com;

Alnfanzon@semprautilities.com; David.Castle@sce.com; alexander.morris@sce.com

Cc: Malashenko, Elizaveta I.; O'Donnell, Arthur J.; Lee, Audrey

SB_GT&S_0322892

Subject: RE: Informal brainstorming re Storage/ Thank You!

Hello All:

I just wanted to take a moment to thank you all for participating in last week's brainstorming session on Storage OIR next steps. I found the level of discussion to be very high quality with solid contributions by all parties. It is clear you are very engaged on the storage issues and your ideas/feedback will be very helpful to us as we transition into phase 2. I hope you found it stimulating as well and I think it will be useful to continue this informal "working group" activity periodically to keep up the collaborative effort we have begun. With the now added benefit of Arthur's experience and guidance, I look forward to working with him and you all in picking up the pace in tackling the issues in phase 2. Thank you, again.

Aloke Gupta

California Public Utilities Commission

O: 415.703.5239 aloke.gupta@cpuc.ca.gov

From: Gupta, Aloke

Sent: Monday, April 09, 2012 3:50 PM

To: 'Janice Lin'; 'David.Castle@sce.com'; Don Liddell; Allen, Meredith;

'KO'Beirne@semprautilities.com'

Cc: Villarreal, Christopher; Malashenko, Elizaveta I. **Subject:** Informal brainstorming re Storage/Next Steps

Hello:

This is to re-confirm the meeting planned for 4/12 at 1:30 (in Room 4010 at CPUC) that we have verbally discussed with you earlier. The invitees include CESA and IOU representatives, along with CPUC staff. As mentioned before, the meeting is intended to be an informal, brainstorming session on Storage OIR/next steps *without* a fixed agenda or schedule. We have reserved the afternoon to allow ample opportunities for people to discuss their ideas, but can end earlier per consensus of the attendees. A bridge will be set up for call-in.

We have at least two goals for the meeting. One is to introduce a new addition to the CPUC

staff (Arthur O'Donell) who will be dedicated to the Storage OIR. Another goal is to explore ideas for transitioning from the recently issued final staff proposal into phase 2 of the rulemaking and how to proceed with the proposed analytical framework in terms of the actual nuts & bolts of cost-effectiveness methodology, barrier resolution, evaluation of policy options, etc. There are no formal presentations scheduled; however, attendees are welcome to offer informal handouts to facilitate discussion. To allow for a productive, interactive discussion, it would be good to limit the number of attendees per organization.

Feel free to share your suggestions for topics with me in advance of the meeting.

Thanks,

Aloke Gupta

California Public Utilities Commission

O: <u>415.703.5239</u> aloke.gupta@cpuc.ca.gov