

From: [Redacted]
Sent: 9/3/2013 5:06:54 PM
To: Erickson, John "David" (john.erickson@cpuc.ca.gov)
Cc: Dietz, Sidney (/O=PG&E/OU=Corporate/cn=Recipients/cn=SBD4); [Redacted]
[Redacted] edacted
[Redacted]
[Redacted] O'Donnell, Arthur J.
(Arthur.O'Donnell@cpuc.ca.gov); Sterkel, Merideth "Molly"
(MeridethMolly.Sterkel@cpuc.ca.gov); Gupta, Aloke (aloke.gupta@cpuc.ca.gov);
[Redacted]
Bcc:
Subject: RE: HAN follow up

Hi David,

Thanks for confirming that there's no need for a call tomorrow and apologies for not getting this to you earlier this afternoon. As you know, we've been working with SSN and GE to identify the causes and discuss possible solutions for the HAN/NEMS issue. There is both a SSN component and a GE component to this problem, and it's particularly complicated to resolve given the intricacies of multiple partners/dependencies, meter inventory, form factors, firmware versions and upgrade schedules, and testing considerations.

Our priorities in outlining a solution path are cost and customer experience. Based on that, our suggested way forward is below. Please note that we have not had time to discuss who would bear the cost of these solution steps, but will do that as a next step.

1. Near term: meter swap for NEMS customers who have already requested HAN. This number is relatively low (~40 customers) so the cost will be minimal and we anticipate that it can be completed by year end (though that still needs to be confirmed with the field metering team).
2. Medium term: change our HAN process to include a meter swap for NEMS customers. We know that NEMs customers are likely early adopters of HAN and expect that this will be an interim solution for ~1000 NEMS customers in the medium term (6-8 months).

3. Long term: SSN + GE firmware upgrades for NEMs meters. This could take between 9 months to 1.5 years, depending on testing, systems and firmware upgrade schedules. We anticipate that NEMs customer interest in and adoption of HAN will justify this level of effort, and will work to incorporate firmware upgrades into already scheduled releases to reduce cost.

Please let me know any other questions you have.

Thanks!

Redacted

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

From: Erickson, John "David" [mailto:john.erickson@cpuc.ca.gov]

Sent: Thursday, August 29, 2013 12:19 PM

To: Redacted

Cc: Dietz, Sidney; Redacted Gupta,

Aloke; O'Donnell, Arthur J.; Sterkel, Merideth "Molly"

Subject: RE: HAN follow up

Hi [Redacted],

Let me coordinate with the team and get back to you. I think 1pm Wed would work fine, but let me see.

Best,

Dave

J. David Erickson

Public Utilities Regulatory Analyst

Energy Division – Grid Planning and Reliability

415-703-1226

Je5@cpuc.ca.gov

From: [Redacted]
Sent: Thursday, August 29, 2013 11:36 AM
To: Erickson, John "David"
Cc: Dietz, Sidney; [Redacted] Gupta,
Aloke; O'Donnell, Arthur J.; Sterkel, Merideth "Molly"
Subject: RE: HAN follow up

Hi David,

Would 1pm work for your team on Wednesday 9/4? We could also make 2pm work if that's better on your end, or let me know other times and we'll work to de-conflict schedules on our side. We'll send over our solution input by Tuesday afternoon in time for your internal discussion.

Thanks!

[Redacted]

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

From: Erickson, John "David" [<mailto:john.erickson@cpuc.ca.gov>]

Sent: Wednesday, August 28, 2013 10:28 AM

To: Redacted

Cc: Dietz, Sidney; Redacted Gupta,
Aloke; O'Donnell, Arthur J.; Sterkel, Merideth "Molly"

Subject: RE: HAN follow up

Redacted,

If your team could get us your preferred solution before Tuesday afternoon, that would help us.

Best,

Dave

From: Redacted

Sent: Wednesday, August 28, 2013 10:23 AM

To: Erickson, John "David"

Cc: Dietz, Sidney; Redacted Gupta,

Aloke; O'Donnell, Arthur J.; Sterkel, Merideth "Molly"
Subject: RE: HAN follow up

Hi David,

Thanks for the quick reply. I'll find times on our side for next Wednesday and will touch base with the team about the time frame for a preferred solution (I think next Wednesday should be fine but need to double check) and will circle back with you to confirm.

Talk soon,

Redacted

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

From: Erickson, John "David" [<mailto:john.erickson@cpuc.ca.gov>]

Sent: Wednesday, August 28, 2013 10:18 AM

To: Redacted

Cc: Dietz, Sidney; Redacted Gupta,

Aloke; O'Donnell, Arthur J.; Sterkel, Merideth "Molly"

Subject: RE: HAN follow up

Redacted (and Art and Eric),

Thank you for this. It's very helpful, and basically confirms what I had picked up in our meeting and in various conversations.

We are scheduled to discuss this situation with management here next Tuesday. I would like to schedule a call with you next Wednesday, if possible, to talk about what options are available and how/whether Energy Division could help resolve this situation.

I think if PG&E could commit to a preferred solution in an email from you (i.e., SSN firmware fix to send a signed Instantaneous Demand based on state of GE direction flag), that would allow NEM customers to be eligible for HAN activation, that would help us also.

Our goal is to enable NEM customers to be eligible for HAN activation as quickly as possible, while minimizing additional cost and risk to ratepayer investments.

Thanks for working with us on this.

Best,

Dave

J. David Erickson

Public Utilities Regulatory Analyst

Grid Planning and Reliability

Energy Division

California Public Utilities Commission

Phone: 415-703-1226

Email: JE5@cpuc.ca.gov

From: [Redacted]
Sent: Wednesday, August 28, 2013 9:09 AM
To: Erickson, John "David"
Cc: Dietz, Sidney; [Redacted]
Subject: RE: HAN follow up

Hi David,

Good seeing you last Friday and apologies for the delayed reply. Here is more detail on the two parts of the instantaneous demand issue from Art and Eric:

SSN

SSN has told us the same thing - they do not want to use a signed variable because Instantaneous Demand may show incorrect information in a Generation scenario, (negative number), due to the GE direction flag 2 minute delay. However, by using an unsigned variable, the Instantaneous Demand value will never be correct in a Generation scenario (i.e. never show the negative number). Also, by using this type of variable, the SSN firmware violates the ZigBee Alliance SmartEnergy Profile spec.

GE

Our GE I210+ has a Net meter display. In this configuration, the meter will never set the direction bit (event after 2 minutes) – it will only show the direction flag in a delivered, or

delivered + received display. We have tested and confirmed this. These two display options are not appropriate for a Net metered customer.

It sounds like the GE issue is configurable, and SSN was aware of it when they coded their firmware, so it is unfortunate that they did not tell us about it at that time.

We feel the SSN fix should happen regardless of GE, because they are out of spec and the data for Instantaneous Demand is incorrect in a net generation scenario.

We don't know yet if fixing that issue will produce correct results 100% of the time given the GE direction bit flag issue. However, with an SSN fix, the data will be inaccurate only some of time, rather than being inaccurate all of the time. This would be a step in the right direction.

We're actively working with both partners to determine and evaluate our options based on customer impact and cost. Let me know if you have further questions and whether you'd still find a call this afternoon helpful?

Thanks!

Redacted

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

From: Erickson, John "David" [<mailto:john.erickson@cpuc.ca.gov>]

Sent: Wednesday, August 21, 2013 2:07 PM

To: Redacted

Cc: Erickson, John "David"; Dietz, Sidney; Redacted

Redacted

Subject: Re: HAN follow up

Any time. Cell 707.292.8175. I'm at work at 7 & leave at 4. It's technical so if Art and/or Eric can join the call I think that would be best.

J. David Erickson | CPUC Energy Division | 415-703-1226

Redacted > wrote:

[Moving Aloke, Chris, Arthur to bcc]

Sounds good. Can you let me know some times you're available and I'll coordinate a call with folks on our end?

Thanks,

Redacted

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

From: Erickson, John "David" [<mailto:john.erickson@cpuc.ca.gov>]

Sent: Wednesday, August 21, 2013 7:43 AM

To: Conley, Kimberly; Villarreal, Christopher; Gupta, Alope; O'Donnell, Arthur J.

Cc: Dietz, Sidney; Redacted

Subject: RE: HAN follow up

Hi Kimberly,

Thanks for this update. I would also like to pass along some info that I picked up in exchanges with Silver Spring Networks regarding their testing procedures that might be relevant to solving the HAN/NEM problem with the GE meters. It might be of interest to your team as it is related to how the instantaneous demand is reported. I don't want to go into any detail in this email, but I would be happy to share it if you put me in touch directly with the correct person.

Best,

Dave

J. David Erickson

Public Utilities Regulatory Analyst

Grid Planning and Reliability

Energy Division

California Public Utilities Commission

Phone: 415-703-1226

Email: JE5@cpuc.ca.gov

From: [Redacted]
Sent: Tuesday, August 20, 2013 3:56 PM
To: Villarreal, Christopher; Gupta, Alope; Erickson, John "David"; O'Donnell, Arthur J.
Cc: Dietz, Sidney; [Redacted]
Subject: HAN follow up

Hello Alope, Arthur, Chris, and David,

It was great meeting you and the ED team on Thursday, and we appreciate the open engagement and conversation around HAN. We'll plan to provide an update on progress in October, including next steps with GE, Silver Springs and device manufacturer/customer communications. Meanwhile, I wanted to mention another topic not specifically related to NEMS, but a meter issue similar in nature and impacting HAN.

During testing in June we identified a bug with GE KV2C meters, which are not reporting usage to HAN devices, but show 'busy' when a HAN device is provisioned. Because this issue is consistent across this meter type, we made it ineligible for HAN. We have reproduced the issue in our lab and are working to identify the scope of the problem so we can accurately enter an SSN ticket. This meter is typically used by commercial, industrial and agriculture customers, which are not target customers for HAN; small business customers with a residential GE i210 or Focus meter are still eligible to participate. We will continue to actively work with SSN and GE to develop a plan to resolve this issue.

We look forward to more HAN conversation on Friday, and to providing an update on Phase 3, which adds demand response and pricing signals to the currently offered usage functionality.

Meanwhile, please don't hesitate to send any questions my way.

Thanks!

Redacted + the HAN team

Redacted

Senior Product Manager

Home and Business Area Networks

Customer Energy Solutions

Pacific Gas and Electric Company

Redacted

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