

## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Friday, March 13, 2015 8:54 PM  
**To:** Chawkins, Ken D; Mackay, Sean C; Wooden, Grant  
**Cc:** Ahmed, Abdullah; Smith, Allison; Peacock, Tanya; Rendler, Daniel  
**Subject:** Response to Dennis for AGA Meeting  
**Attachments:** Position Information.docx; DOE Proposed Furnace Rule BOD Discussion Paper.pdf

Happy Friday evening all,

Attached is my first crack at a response to Jeff for Dennis' consideration. I will wordsmith this more so it flows better but wanted to get the basic premise down and out to you as quickly as possible.

I've followed the PDF format for the most part and answered the action items with information related to our decision making. Please review and provide me feedback and input by tomorrow at 10 a.m. if possible. I would like to finalize my response to Jeff and send it to him early afternoon. I attached the AGA PDF so you can toggle back and forth.

Sean, I've left the political calculation element for you to provide suggestion – I put some thoughts in but will leave that area to you.

Ken and Grant, please give me your thoughts overall and when we have consensus we are good to go.

Thanks!

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
**Telephone: (213) 244-5535**  
**Fax: (213) 226-4317**  
**Cell: (424) 744-0361**

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## Wooden, Grant

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**From:** Chawkins, Ken D  
**Sent:** Friday, March 13, 2015 3:37 PM  
**To:** Kristjansson, Sue; Wooden, Grant  
**Attachments:** DOE Proposed Furnace Rule BOD Discussion Paper.pdf

FYI

## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Friday, March 13, 2015 1:30 PM  
**To:** Wooden, Grant  
**Cc:** Mackay, Sean C; Chawkins, Ken D  
**Subject:** Re: DOE Proposed Furnace Rule

No, Dennis has an AGA Board call on Monday

Sent from my iPad

On Mar 13, 2015, at 1:28 PM, "Wooden, Grant" <[GWooden@semprautilities.com](mailto:GWooden@semprautilities.com)> wrote:

You're talking about this bullet - *The NOPR is published in the Federal Register on March 12th, beginning the 90-day comment period (ending June 10th).*

Grant Wooden

*Integrated Customer Strategy Manager*

Office: (213) 244-4721

Mobile: (213) 215-4543

---

**From:** Mackay, Sean C  
**Sent:** Friday, March 13, 2015 12:59 PM  
**To:** Wooden, Grant; Kristjansson, Sue; Chawkins, Ken D  
**Subject:** Fwd: DOE Proposed Furnace Rule  
We need to figure out our position ASAP.

Begin forwarded message:

**From:** "Cunningham, Allison" <[ACunningham@aga.org](mailto:ACunningham@aga.org)>  
**To:** "Cunningham, Allison" <[ACunningham@aga.org](mailto:ACunningham@aga.org)>  
**Subject:** DOE Proposed Furnace Rule

Legislative Committee,

Please see below an email sent earlier today from Dave McCurdy to the AGA Board of Directors regarding the DOE Proposed Furnace Rule and the accompanying March 16 Board conference call.

Please contact us with any questions.

**Allison Cunningham | Government Relations Specialist**

[American Gas Association](http://www.american-gas.org)

400 N. Capitol St., NW | Washington, DC | 20001

P: 202-824-7209 | F: 202-824-9114 | [acunningham@aga.org](mailto:acunningham@aga.org)

The American Gas Association represents more than 200 local energy companies committed to the safe delivery of clean natural gas to over 68 million customers throughout the nation.

---

**From:** McCurdy, Dave  
**Sent:** Friday, March 13, 2015 2:50 PM  
**To:** AGA Board  
**Subject:** Request for Participation: March 16 Board of Directors Call on DOE Proposed Furnace Rule  
To: AGA Board of Directors

Yesterday, the U.S. Department of Energy published the [Notice of Proposed Rulemaking](#) on Standards for Residential Furnaces in the Federal Register today. The rule would set the minimum standard for natural gas furnaces nationwide at 92% annual fuel utilization efficiency (AFUE).

As discussed at the February board of directors meeting, AGA has been working with the Legislative, Sustainable Growth and Building Energy Codes and Standards Committees to develop a strategy to address the memberships' concerns with this rule.

Attached in preparation for the call is a discussion whitepaper and DOE Furnace Rule History. Below is an email that was sent to the AGA membership to provide additional background.

If you are unable to make the call and would like to discuss, please call me.

Sincerely,

## Wooden, Grant

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**From:** Mackay, Sean C  
**Sent:** Friday, March 13, 2015 12:59 PM  
**To:** Wooden, Grant; Kristjansson, Sue; Chawkins, Ken D  
**Subject:** Fwd: DOE Proposed Furnace Rule  
**Attachments:** image003.png; ATT00001.htm; ATT00002.htm; Furnace Rule History Timeline 3-12-15.pptx; ATT00003.htm; DOE Proposed Furnace Rule BOD Discussion Paper.pdf; ATT00004.htm

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**From:** Kristjansson, Sue  
**Sent:** Thursday, March 5, 2015 10:18 AM  
**To:** Wooden, Grant; Chawkins, Ken D  
**Cc:** Mackay, Sean C  
**Subject:** Documents for Today's Meeting  
**Attachments:** 114th Congress for Furnace Fix Outreach.xlsx; Draft EPCA amendments - 3-2-15kc comments.docx; Furnace Working Group Notes 03-03-15.docx; AGA Furnace Standard Infographic 10 29.pdf; Furnace Standard Communications Planning Group - Level Setting Presentation.pptx; Furnace Standards Briefing - Legislative Working Group.pptx

Here are some relevant documents for today's meeting. Not sure that we'll discuss all of them but they are the basis for our meeting.

Sean, these are in your meeting notice from Bree.

Thanks!

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
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**Fax: (213) 226-4317**  
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AGA Furnace Product Class Whitepaper

Furnace Standards Info graphic

Furnace Standard Stakeholder Discussion Document

<http://www.regulations.gov/#!documentDetail;D=EERE-2014-BT-STD-0031-0016>

One item that is missing is the fuel switching report that GTI developed. The link is broken on the AGA website so as soon as I receive that document I will forward it as well.

See you all at noon.

**Sue Kristjansson**

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## Wooden, Grant

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**From:** Ahmed, Abdullah  
**Sent:** Monday, March 2, 2015 9:58 AM  
**To:** Kristjansson, Sue  
**Cc:** Willmore, Lovell; TERM-07-10-17 Olmsted, Daniel T; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Shiau, Yenshiun ( Joe ); Wooden, Grant  
**Subject:** RE: Meeting Notes for the Furnace NOPR  
**Importance:** High

Sue/All

1. Get appliance data on furnace by efficiency, no of units sold, by geography, condensing vs non condensing - this could come from AHAM/GAMA
2. Get first cost data and installation cost data on furnaces by efficiency, new construction and replacement – Consultant can do this. ETP can help manage.
3. Review the DOE paper on need to update furnace efficiency – consultant can do this. ETP can help manage
4. Evaluate the DOE LCC methodology and assumptions – consultant to do this. ETP can help manage
5. Conduct simulation studies of furnace energy use and operating cost by climate zones (DOE climate zones, cold vs warm etc) – consultant to do this . ETP can help manage
6. Get PG&E study – Sue to get this info

Items 3 & 4 can be done by a single consultant. The consultant can then have a model ready for input of data. This effort will require about \$15K I recommend Negawatt to do this. They helped in the IWH effort

Item 5 will need experience in DOE sample home for energy simulations, the climate zones to simulate etc to get energy use of furnace . This energy use is then plugged into LCC analysis with cost data to determine economic impact of code change. So this should be done by a different consultant. This effort will require \$30K or so. I recommend Bira Energy to do this, they did the simulations for the IWH code change.

Ahmed

---

**From:** Kristjansson, Sue  
**Sent:** Monday, March 02, 2015 9:46 AM  
**To:** Ahmed, Abdullah  
**Cc:** Willmore, Lovell; Olmsted, Daniel T; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Shiau, Yenshiun ( Joe ); Wooden, Grant  
**Subject:** Re: Meeting Notes for the Furnace NOPR

Thanks Ahmed,,

Would Frank Stanonik would have the information for bullet #1 and may not cost us anything?

-I think that Lovell is handling bullet #2 (right Lovell?);

-yes, we need a consultant to handle bullet #3 (I will pay);

-can you expand on bullet #4? I'm not sure how extensive the simulations would be - actual or modeling?

Sue

Sent from my iPad

On Mar 2, 2015, at 9:34 AM, "Ahmed, Abdullah" <[AAhmed1@semprautilities.com](mailto:AAhmed1@semprautilities.com)> wrote:

All

I think what we discussed on potential consulting needs for the furnace NOPR are as follows:

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- Get PG&E study – Sue to get this info

Let me know what do you want ETP to help in? Also funding theses effort will have to be figured out.

Ahmed

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**From:** Kristjansson, Sue  
**Sent:** Monday, March 02, 2015 7:14 AM  
**To:** Willmore, Lovell  
**Cc:** Olmsted, Daniel T; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiao, Yenshiun ( Joe ); Wooden, Grant  
**Subject:** Re: Meeting Notes for the Furnace NOPR

I think the other consulting need was to have someone validate the DOE LCC.

Ahmed, can you arrange that today?

Thanks!

Sent from my iPhone

On Mar 2, 2015, at 7:11 AM, "Willmore, Lovell" <[LWillmore@semprautilities.com](mailto:LWillmore@semprautilities.com)> wrote:

*If everybody agrees, I'll look into the -efficiencies between heat pump, condensing, non-condensing.*

*Lovell B. Willmore  
Southern California Gas Company  
Market Advisor*

Codes and Standards  
213-244-2524 Office  
949-923-7870 Cell  
ML GT19A6

---

**From:** Kristjansson, Sue  
**Sent:** Thursday, February 26, 2015 6:55 AM  
**To:** Olmsted, Daniel T  
**Cc:** Willmore, Lovell; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiau, Yenshiun ( Joe ); Wooden, Grant  
**Subject:** Re: Meeting Notes for the Furnace NOPR

Can we determine who is working on what in the list below?

- I have asked GTI to provide SoCal data only regarding fuel switching
- I will get the tipping point study from Jan Berman's office
- What was the other consulting need we had that Ahmed was going to get? Was it to validate GTI's information? If so, I would like to hire someone to analyze the NOPR as well as the GTI data response.
- I will also be responding to the Marshall working group

That leaves analysis of

- efficiencies between heat pump, condensing, non-condensing
- Carbon embodied analysis
- LCC analysis
- RPS

Any takers?

Sent from my iPad

On Feb 20, 2015, at 4:53 PM, "Olmsted, Daniel T" <[DOlmsted@semprautilities.com](mailto:DOlmsted@semprautilities.com)> wrote:

Meeting Notes:

- **NOPR Review / GTI Study / DOE Furnace LCC Presentation** → market effects / implications / worse case
- Jan Berman Study on tipping point
- Join Marshall's working group
- Efficiency of Electronic Heat Pump vs. condensing vs. non-condensing – what will be available? # at 92%? # at 98%, 4M New Construction Homes / 20 yr. life = 200,000 replacements / yr.
- Carbon Embodied Analysis
- Cost Benefit Analysis – LCC Gas vs. Electric – where is gas better?
- RPS = Renewable Portfolio Standards

Action Items:

- I believe Sue already sent Ahmed her bullet points

- Ahmed to get quote from consultant

Have a great weekend, everyone.

---

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**Sent:** Friday, February 20, 2015 8:12 AM  
**To:** Willmore, Lovell; Goff, Chris (Industrial Mkts); Olmsted, Daniel T; Moore, Cathy S.; Ahmed, Abdullah  
**Cc:** Wooden, Grant  
**Subject:** Documents for the Furnace NOPR  
**Importance:** High

For our furnace rulemaking discussion. No need to read all of this yet but it will be our packet for review as we develop our position.

I will be providing each of you with a set of documents that we need to analyze for the furnace NOPR. The link below has a very large PPT deck that the DOE developed to outline their LCC justifying the furnace rule. It is too large to send via email so I've included the link. I've attached the following documents:

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On Mar 2, 2015, at 7:11 AM, "Willmore, Lovell" <[LWillmore@semprautilities.com](mailto:LWillmore@semprautilities.com)> wrote:

If everybody agrees, I'll look into the -efficiencies between heat pump, condensing, non-condensing.

Lovell B. Willmore

Southern California Gas Company

Market Advisor

Codes and Standards

213-244-2524 Office

949-923-7870 Cell

ML GT19A6

---

**From:** Kristjansson, Sue

**Sent:** Thursday, February 26, 2015 6:55 AM

**To:** Olmsted, Daniel T

**Cc:** Willmore, Lovell; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiau, Yenshiun ( Joe ); Wooden, Grant

**Subject:** Re: Meeting Notes for the Furnace NOPR

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-I will also be responding to the Marshall working group

That leaves analysis of

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-Carbon embodied analysis

-LCC analysis

-RPS

Any takers?

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Meeting Notes:

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Action Items:

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- Ahmed to get quote from consultant

Have a great weekend, everyone.

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## Wooden, Grant

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**From:** Willmore, Lovell  
**Sent:** Monday, March 2, 2015 7:11 AM  
**To:** Kristjansson, Sue; TERM-07-10-17 Olmsted, Daniel T  
**Cc:** Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiau, Yenshiun ( Joe ); Wooden, Grant  
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## Wooden, Grant

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**From:** Kristjansson, Sue  
**Sent:** Sunday, March 1, 2015 6:07 PM  
**To:** Wooden, Grant  
**Subject:** Fwd: LCC Considerations DOE Furnace Proceedings

Here is the note I sent to Dan regarding the email I sent to Marshall Hunt (PG&E) and his boss Pat Eilert regarding the presentation Marshall did last Friday.

I've sent it to Dan as well and he may elevate it to his counterpart at PG&E. No action required....just add to your memory banks. :)

Sent from my iPad

Begin forwarded message:

**From:** "Kristjansson, Sue" <[SKristjansson@semprautilities.com](mailto:SKristjansson@semprautilities.com)>  
**Date:** March 1, 2015, 6:04:09 PM PST  
**To:** "Rendler, Daniel" <[DRendler@semprautilities.com](mailto:DRendler@semprautilities.com)>  
**Subject:** Fwd: LCC Considerations DOE Furnace Proceedings

Hi Dan,

This is the response I sent regarding Marshall's presentation to external stakeholders last Friday about the DOE furnace NOPR. He is clearly in favor of the rulemaking and that is absolutely fine with me but I do want to have the opportunity to assess this move as it relates to our customer.

As mentioned we are assessing many different elements of this issue:

- The DOE LCC analysis
- The study on Nationwide fuel switching potential
- The fuel switching potential specific to California
- The impact to not only builders but impact to single family residences if they are required to switch to a condensing furnace (infrastructure modifications to accommodate the venting)
- The impact to MF, and HOA's (anecdotal information indicates that most HOA's and property managers will not allow piercing of the structure to vent appropriately for condensing furnaces)
- I'm also reaching out to Regional Public Affairs to get contact information for some representative organizations for disadvantaged communities (AARP, local low income areas etc.)
- I will also reach out to ESA to get some insight.

If our conclusion, after assessing all of the data, is that this is good for our customer then it will be my recommendation to support it. If not, I will recommend that we oppose.

I am hopeful that Marshall was unaware that he was presented on the agenda as representing all of the CA IOU's but regardless, that is what was distributed. I'm hopeful that this will be taken in the context it is written, that we are an individual utility and as such, we will make determinations of what is appropriate for our customers.

I am also going to forward this to Grant so he is aware of the situation.

I will keep you posted on any additional dialog on the issue.

Sent from my iPad

Begin forwarded message:

**From:** "Kristjansson, Sue" <[SKristjansson@semprautilities.com](mailto:SKristjansson@semprautilities.com)>  
**Date:** March 1, 2015, 5:54:55 PM PST  
**To:** "Hunt, Marshall" <[MBH9@pge.com](mailto:MBH9@pge.com)>  
**Cc:** "[ple2@pge.com](mailto:ple2@pge.com)" <[ple2@pge.com](mailto:ple2@pge.com)>  
**Subject:** Re: LCC Considerations DOE Furnace Proceedings

Hi Marshall,

I just sent you a note regarding the working group. I'm looking forward to it.

I do feel the need to address one concern about the meeting held last Friday. Being new I wasn't aware that it was even happening and I'm not sure what stakeholders were present but I was a little surprised to learn that you were presenting on behalf of all of the IOU's on the agenda. I'm sure this was a simple oversight on the part of NRDC when they developed the agenda but we (SoCalGas) haven't finalized our assessment of the furnace rule and all of the technical elements yet. As we discussed on the phone, there is probably no negative impact to our customers here in California and I'm sure fuel switching is a non-issue for us but we really want to do our own analysis first to determine that. You may have mentioned this at a Statewide meeting that I, of course, was not at but if you could do me a favor in the future and let me know if you're asked to speak on behalf of all of the IOU's? I think it is important to have consensus prior to discussing with outside stakeholders.

Also, do you happen to have a list of who was all in the room or on the call for this meeting? The information I received did not have an attendee list.

Thanks!

Sue

Sent from my iPad

On Feb 20, 2015, at 10:05 AM, "Hunt, Marshall" <[MBH9@pge.com](mailto:MBH9@pge.com)> wrote:

This is what I sent to the NRDC sponsored, informal stakeholders meeting held in DC today at 6:30 am our time. I wanted to have people give the DOE LCC analysis the attention it deserves.

I recommend that we use this issue to demonstrate how the Statewide Team works together to fully explore the issues. Thus I

request that we form a working group to explore in depth the LCC. It is set up to allow the analysis of different scenarios so that the impacts can be accessed. I have Yanda Zhang and Bitik Kundu supporting the effort so that we get the technical analysis we need to fully assess the impact on California. We are 10.5% of the national market and unlike other areas gas furnace heating is the overwhelming choice of consumers. This rule making will not take effect until 2021 at the earliest so that I believe that impacts on voluntary Products and Programs are not the issue. The issue is cost effective energy conservation for the benefit of California rate payers. This is what the CPUC funds us to do.

There is already outside pressure from the AGA and AHRI against the DOE proposal which is of course fine but we need to advocate for our customers. California does not have some the issues such a fuel switching and basement installations that are of concern elsewhere in the USA.

I look forward to working diligently on the issue.

Marshall B. Hunt  
Professional Mechanical Engineer  
Codes & Standards  
Pacific Gas & Electric Company  
415-260-7624  
[mbh9@pge.com](mailto:mbh9@pge.com)

---

From: Eilert, Patrick L  
Sent: Thursday, February 19, 2015 4:49 PM  
To: 'Craig Tyler ([craigtyler@comcast.net](mailto:craigtyler@comcast.net))'; Fernstrom, Gary; Anderson, Mary; Caudle, Sylvester Ron; Eilert, Patrick L; Elliott, Ed; Evans, Matthew; Goff, Chris (Industrial Mkts) ([CGoff@semprautilities.com](mailto:CGoff@semprautilities.com)); Higa, Randall; Hunt, Marshall; Kim, Charles; Kristjansson, Sue; Mariscal, Javier; Marver, Jill; Salas, Adrian; Shushnar, Gary; Tartaglia, Stuart; Willmore, Lovell  
Subject: Statewide IOU C&S Conference Call : February 20

Tomorrow's Starting Point...Please add.

PGE – Pat

SCG –

SCE –

SDGE –

Coordination

- EM&V

Response to Recommendations from 2010-12 Impact Evaluation

- Data Requests

Missing information from Data Requests 1 (EEStats 17542/EMV 40) and 2 (EEStats 17546/EMV 41)

- Attribution values for standards compiling the 2013-2014 estimates.

- Updated parameters for CASE studies to support the 2013-2014 savings estimates.

- Communications with Paula

- PPMs

Status of Updates

-Request from DOE on ZE buildings

- Recent meetings

Water topics (CALGreen, February 5)

AHRI meeting to discuss RTU ( DC, February 5)

DOE meeting to discuss commercial HVAC and water heating (DC, February 6)

Building Codes and Reach Codes Planning (SF, February 9)

Appliance Standards Planning (SF, February 10)

WO 32 related lab testing (Irwindale, February 10)

Small Motors meeting (NEMA Negotiation, February 24)

HERS (RESNET Building Perf Conference) – February 16, 17, and 18th (San Diego)

- Upcoming Meetings

CALBO business meeting (Monterey, March 2-5)

Computers Workshop ( March 9)  
CEC RFI for HERS Program (Staff Webinar, March 10)  
Q1 Statewide Meeting (Irwindale, March 9-11)  
Continuation of Subprogram Planning (March 9)  
Business Meeting (March 10)  
Paula Meeting (March 11)  
Appliance Standards Public Hearing (CEC, March 17)

AB 213 –

Contracts

Federal Standards Contract

Building Codes

- 45-day language
- Lighting retrofits loophole
- Gas availability
- Battery charger trade-offs when combined with PV.
- CALGreen ZNE tier, and gaps with T-24 part 6 for lighting.
- Flex ducts controversy
- ACM issues and a good algorithm for modeling ductless systems.

Appliance Standards

- Title 20

45-day language (water topics, labeling, etc.) under review

Faucets (1.5 gpm versus 1.0) (wait time, legionella)

How to respond to CEC language generally, e.g., federal alignment

MH added – staff recommends adopt federal levels, or risk missing deadline

Computers and displays staff report next week

Assessment on Monday

-Federal

ESI Process and number of activities (placeholders upon notice?)

Furnaces

Compliance Improvement

-

Reach Code

-

Thank you.

Pat Eilert

PG&E | Principal | Codes and Standards

Office: 530.757.5261 | Mobile: 530.400.6825

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To learn more, please visit

<http://www.pge.com/about/company/privacy/customer/>

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This email originated outside of Sempra Energy. Be cautious of attachments, web links, or requests for information.

## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Thursday, February 26, 2015 11:33 AM  
**To:** Willmore, Lovell  
**Cc:** Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiau, Yenshiun ( Joe ); Wooden, Grant; TERM-07-10-17 Olmsted, Daniel T  
**Subject:** Re: Meeting Notes for the Furnace NOPR

Thanks Lovell.

Sent from my iPhone

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PG&E is assuming the lead on this issue but I think we need to position ourselves as the lead utility. Of course I did not mention the steps we are taking during the call (LCC analysis, etc.) but I think we need to attend all future meetings on this subject,

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<http://www.regulations.gov/#!documentDetail;D=EERE-2014-BT-STD-0031-0016>

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See you all at noon.

**Sue Kristjansson**

**Codes and Standards and ZNE Manager**

**Southern California Gas Co.**

**Telephone: (213) 244-5535**

**Fax: (213) 226-4317**

**Cell: (424) 744-0361**

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## Wooden, Grant

---

**From:** Olmsted, Daniel T  
**Sent:** Friday, February 20, 2015 1:53 PM  
**To:** Kristjansson, Sue; Willmore, Lovell; Goff, Chris (Industrial Mkts); Moore, Cathy S.; Ahmed, Abdullah; Shiau, Yenshiun ( Joe )  
**Cc:** Wooden, Grant  
**Subject:** Meeting Notes for the Furnace NOPR

Meeting Notes:

- **NOPR Review / GTI Study / DOE Furnace LCC Presentation** → market effects / implications / worse case
- Jan Berman Study on tipping point
- Join Marshall's working group
- Efficiency of Electronic Heat Pump vs. condensing vs. non-condensing – what will be available? # at 92%? # at 98%, 4M New Construction Homes / 20 yr. life = 200,000 replacements / yr.
- Carbon Embodied Analysis
- Cost Benefit Analysis – LCC Gas vs. Electric – where is gas better?
- RPS = Renewable Portfolio Standards

Action Items:

- I believe Sue already sent Ahmed her bullet points
- Ahmed to get quote from consultant

Have a great weekend, everyone.

---

**From:** Kristjansson, Sue  
**Sent:** Friday, February 20, 2015 8:12 AM  
**To:** Willmore, Lovell; Goff, Chris (Industrial Mkts); Olmsted, Daniel T; Moore, Cathy S.; Ahmed, Abdullah  
**Cc:** Wooden, Grant  
**Subject:** Documents for the Furnace NOPR  
**Importance:** High

For our furnace rulemaking discussion. No need to read all of this yet but it will be our packet for review as we develop our position.

I will be providing each of you with a set of documents that we need to analyze for the furnace NOPR. The link below has a very large PPT deck that the DOE developed to outline their LCC justifying the furnace rule. It is too large to send via email so I've included the link.

I've attached the following documents:

AGA Cover Letter for Furnace Product Class Whitepaper  
AGA Furnace Product Class Whitepaper  
Furnace Standards Info graphic  
Furnace Standard Stakeholder Discussion Document

<http://www.regulations.gov/#!documentDetail;D=EERE-2014-BT-STD-0031-0016>

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See you all at noon.

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
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**Cell: (424) 744-0361**

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## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Friday, February 20, 2015 1:04 PM  
**To:** Ahmed, Abdullah  
**Cc:** Wooden, Grant  
**Subject:** Furnace NOPR Analysis Required

Hi Ahmed,

Can you ask Neil Leslie for a quote on doing the following:

Analysis of DOE LCC analysis

Narrow the fuel-switching focus down to California impact

Can you also ask one of our other consultants what the impact would be to California market for retrofitting for the new condensing furnace rule.

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
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## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Friday, February 20, 2015 8:15 AM  
**To:** Wooden, Grant  
**Subject:** RE: Furnace Rulemaking

I had planned on including him but he is out of the office meeting with the guy from the Green Home/Habitat for Humanity thing today.

I'll let you know where we're meeting as soon as I know.

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
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**Cell: (424) 744-0361**

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---

**From:** Wooden, Grant  
**Sent:** Friday, February 20, 2015 8:08 AM  
**To:** Kristjansson, Sue  
**Subject:** RE: Furnace Rulemaking

Thanks Sue, I may brown bag it so I can learn more. I had a long chat with Kirk on the NOPR and he is very um.... passionate as well. Your call on if you need him to attend or call in.

Grant Wooden  
*Integrated Customer Strategy Manager*

Office: (213) 244-4721  
Mobile: (213) 215-4543



---

**From:** Kristjansson, Sue  
**Sent:** Friday, February 20, 2015 7:45 AM  
**To:** Wooden, Grant  
**Subject:** Furnace Rulemaking

FYI...I scheduled a 1 hour meeting from 12 to 1 today to do a preliminary discussion on the furnace rulemaking. I have a bunch of back-up documents for review and analysis but I thought it would be a good idea to do an initial download and get everyone on the same page first.

I've invited Cathy and Dan from your group but you are more than welcome to attend if you are available. Not sure yet where we are going (either out for lunch or bring lunch to a conference room).

I also sent you an alternate time for the ICP discussion so that I would have some slop over for the furnace meeting if needed.

Thanks!

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
**Telephone: (213) 244-5535**  
**Fax: (213) 226-4317**  
**Cell: (424) 744-0361**

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## Wooden, Grant

---

**From:** Kristjansson, Sue  
**Sent:** Friday, February 20, 2015 8:12 AM  
**To:** Willmore, Lovell; Goff, Chris (Industrial Mkts); TERM-07-10-17 Olmsted, Daniel T; Moore, Cathy S.; Ahmed, Abdullah  
**Cc:** Wooden, Grant  
**Subject:** Documents for the Furnace NOPR  
**Attachments:** AGA Cover Letter for Furnace Product Class White Paper.pdf; AGA Furnace Product Class Whitepaper.pdf; aga\_furnace\_standard\_infographic\_10.29.pdf; Furnace Standard Stakeholder Discussion Document Ex Parte Communication.pdf

**Importance:** High

For our furnace rulemaking discussion. No need to read all of this yet but it will be our packet for review as we develop our position.

I will be providing each of you with a set of documents that we need to analyze for the furnace NOPR. The link below has a very large PPT deck that the DOE developed to outline their LCC justifying the furnace rule. It is too large to send via email so I've included the link.

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AGA Furnace Product Class Whitepaper  
Furnace Standards Info graphic  
Furnace Standard Stakeholder Discussion Document

<http://www.regulations.gov/#!documentDetail;D=EERE-2014-BT-STD-0031-0016>

One item that is missing is the fuel switching report that GTI developed. The link is broken on the AGA website so as soon as I receive that document I will forward it as well.

See you all at noon.

**Sue Kristjansson**  
**Codes and Standards and ZNE Manager**  
**Southern California Gas Co.**  
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**Fax: (213) 226-4317**  
**Cell: (424) 744-0361**

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## Wooden, Grant

---

**From:** Goff, Chris (Industrial Mkts)  
**Sent:** Wednesday, February 18, 2015 12:09 PM  
**To:** Wooden, Grant  
**Subject:** RE: DOE's NOPR on Gas Furnace Minimum Efficiency

Ok, I made some notes on the email that you forwarded for Dennis, would you like me to forward those to you now? I sent them to Ahmed so that we could discuss before we met with you. Let me know.

Thanks

CG

---

**From:** Wooden, Grant  
**Sent:** Wednesday, February 18, 2015 9:54 AM  
**To:** Goff, Chris (Industrial Mkts)  
**Subject:** RE: DOE's NOPR on Gas Furnace Minimum Efficiency

Let's discuss in our residential tech strat meeting. Sue, Dan and I have been tracking this.

Grant Wooden  
*Integrated Customer Strategy Manager*

Office: (213) 244-4721  
Mobile: (213) 215-4543



---

**From:** Goff, Chris (Industrial Mkts)  
**Sent:** Thursday, February 12, 2015 8:39 AM  
**To:** Wooden, Grant  
**Subject:** FW: DOE's NOPR on Gas Furnace Minimum Efficiency

Grant,

This is a timely email that Kirk just sent to the Codes and Standards working group regarding condensing space heating furnaces. The new standard requiring all new space heating furnaces that will be installed to be condensing furnaces is probably going to be approved by the DoE.

It is important to understand that this is not an attack. The DoE, EPA, and other agencies (ARB in Calif., AQMD, etc...) are under a mandate to reduce GHG emissions. One of the best ways to do this is to bump the efficiency standards up a notch, which is what all the agencies have been doing for decades.

I firmly believe that we should make every effort to help our customers change out every water heater and every space heater in our system to condensing appliances. This would take time, but it would ensure that will have load that we continue to serve as we ramp up our renewable energy portfolio (not sure when that will be though). In my opinion, this is something that we need to consider (just my opinion though).

If you'd like to discuss, don't hesitate to let me know.

CG

---

**From:** Morales, Kirk

**Sent:** Thursday, February 12, 2015 6:44 AM

**To:** Simons, Steve; Kristjansson, Sue; Caudle, Sylvester Ron; Manke, Adam P; Goff, Chris (Industrial Mkts); Youssef, Cherif; Ahmed, Abdullah

**Subject:** Fwd: DOE's NOPR on Gas Furnace Minimum Efficiency

Latest info from ESC on DOE's attack on gas furnaces.

Sent from my iPhone

Begin forwarded message:

**From:** "Barbara Stinson" <[BStinson@AGA1.onmicrosoft.com](mailto:BStinson@AGA1.onmicrosoft.com)>

**Subject:** DOE's NOPR on Gas Furnace Minimum Efficiency

Residential Consortium Member,

On 2/10/15 DOE Issued a NOPR for Energy Conservation Standards for certain types of residential furnaces. This is déjà vu. This is a repeat of the prior Direct Furnace Rule. This is something your company needs to be concerned about and the clock is ticking. A public meeting is scheduled for 3/26/15. Please take a moment to read this e-mail. This version is worse for the gas industry than the 2011 NOPR as the minimum efficiency in this NOPR is higher than before and now effects all 50 states, not just 30 northern states.

Some brief history:

- On 10/25/11 DOE issued a new standard for non-weatherized (indoor) furnaces. This rule eliminated any furnace less than 90% efficiency in 30 northern states beginning on 5/1/13 and made the minimum 80% everywhere else.
- In December 2011 APGA sued DOE and after a long battle, they won and put this prior to bed for a little while.
- On 7/29/14 the Federal Registry listed that effective 11/19/15 the minimum efficiency for non-weatherized furnaces goes from 78% to 80%.

The new Rule:

- The proposed minimum efficiency for all non-weatherized furnaces in all states would become 92%.

The Department of Energy has issued a pre-publication<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&103&&&http://energy.gov/eere/buildings/downloads/2015-02-10-issuance-energy-conservation-standard-residential-furnaces>> Federal Register notice of proposed rulemaking and public meeting for energy conservation standards for certain residential furnaces. (February 10, 2015) DOE will host a public meeting on March 26, 2015.

\* To participate in the public meeting via webinar, please click here<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&104&&&https://attendeegotowebinar.com/register/8897212172521229826>> to register.

\* Find more information on the rulemaking<[http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&106&&&http://www1.eere.energy.gov/buildings/appliance\\_standards/rulemaking.aspx?ruleid=62](http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&106&&&http://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx?ruleid=62)>, including milestones, statutory authority, rulemaking documents, and any other related rulemakings.

\* All notices, public comments, public meeting transcripts, and supporting documents associated with this rulemaking are included in Docket No. EERE-2014-BT-STD-0031<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&107&&&http://www.regulations.gov/#!docketDetail;D=EERE-2014-BT-STD-0031>>.

<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&108&&&http://www.regulations.gov/#!docketDetail;D=EERE-2014-BT-STD-0036>>

\* Learn how to participate<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJlcmdpc0Blc2NlbnRlci5vcmcmdXNlcmkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&109&&&http://energy.gov/eere/buildings/public-meetings-and-comment-deadlines>> in the public meeting/webinar scheduled for March 26, 2015.

\* Find information about how to comment<<http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40>

[MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJ1cmdpc0Blc2NlbnRlci5vcmcmdXNlcmlkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmldGVJZD0mJiY=&&110&&http://energy.gov/eere/buildings/public-meetings-and-comment-deadlines](http://energy.gov/eere/buildings/public-meetings-and-comment-deadlines)> on the rulemaking. The public comment period closes 90 days after publication in the Federal Register.

Find product

information<[http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJ1cmdpc0Blc2NlbnRlci5vcmcmdXNlcmlkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmldGVJZD0mJiY=&&111&&http://www1.eere.energy.gov/buildings/appliance\\_standards/product.aspx?productid=72](http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTUwMjEwLjQxNDE4NTAxJm1lc3NhZ2VpZD1NREItUFJELUJVTTC0yMDE1MDIxMC40MTQxODUwMSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3MjQxNTE2JmVtYWlsaWQ9ZWJ1cmdpc0Blc2NlbnRlci5vcmcmdXNlcmlkPWVidXJnaXNAZXNjZW50ZXIub3JnJmZsPSZleHRyYT1NdWx0aXZhcmldGVJZD0mJiY=&&111&&http://www1.eere.energy.gov/buildings/appliance_standards/product.aspx?productid=72)> about current standards and test procedures; recent product updates; waivers, exceptions, and exemptions; the statutory authority; historical information; and contact information.

Barbara Stinson  
Manager, Residential Markets  
Energy Solutions Center  
400 North Capital St NW  
Washington, DC 20001  
[bstinson@escenter.org](mailto:bstinson@escenter.org)  
610-468-9832

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This email originated outside of Sempra Energy. Be cautious of attachments, web links, or requests for information.

## Wooden, Grant

**From:** Goff, Chris (Industrial Mkts)  
**Sent:** Monday, February 2, 2015 2:27 PM  
**To:** Wooden, Grant  
**Subject:** FW: One Page Review: DOE Res. Cooking Products Test Procedure SNOPR  
**Attachments:** DOE Cooking Test Procedure SNOPR One Page Review\_v1.docx

Grant,

I hope your Monday is starting out ok. I wanted to touch base with you on a strategic planning item that was forwarded to the Engineering team (as you can see below).

Just a little background for you:

- The DOE is proposing to develop efficiency standards for cooking equipment that previously weren't include in the DOE appliance standards.
  - DOE is also tentatively planning to consider new energy conservation standards for commercial-style gas cooking products and residential-scale units with higher burner input rates, which **were previously excluded from standards**. (this is from the Federal Register website)
- The DOE has established a baseline for gas ranges:

**Table II.7—Efficiency Levels Under Consideration for Gas Cooking Tops to Top**

Level	Efficiency level source	2009 standards rulemaking		Proposed test procedure cooking efficiency	Proposed IECC
		Cooking efficiency	EF		
Baseline	2009 TSD (Electronic Ignition)	0.399	0.399	0.365	1445
1	2009 TSD Max-Tech (Sealed Burners)	0.420	0.420	0.384	1372

- The DOE has established some technology options available to improve the efficiency of gas cook tops:

Table II.1—Technology Options for Gas Cooking Tops [Back to Top](#)

1. Catalytic burners.
2. Insulation.
3. Radiant gas burners.
4. Reduced excess air at burner.
5. Reflective surfaces.
6. Sealed burners.
7. Thermostatically controlled burners.

- The DOE has established some baseline efficiencies for conventional ovens:

Table II.6—Conventional Ovens Baseline Efficiency Levels [Back to Table of Contents](#)

Product class	2009 Standards rulemaking		Proposed IECC
	EF	Annual energy consumption <sup>9</sup>	
Gas Oven—Standard Oven with or without a Catalytic Line	0.0536	1656.7 kBtu	2076 kBtu.
Gas Oven—Self-Clean Oven	0.0540	1644.4 kBtu	1965 kBtu.
Electric Oven—Standard Oven with or without a Catalytic Line	0.1066	274.9 kWh	370.0 kWh.
Electric Oven—Self-Clean Oven	0.1099	266.6 kWh	360.0 kWh.

- The DOE has also established some technology options for ovens (gas and electric):

Table II.4—Technology Options for Gas and Electric Ovens [Back to T](#)

1. Bi-radiant oven (electric only).
2. Electronic Spark Ignition (gas only).
3. Forced convection.
4. Halogen lamp oven (electric only).
5. Improved and added insulation.
6. Improved door seals.
7. No oven-door window.
8. Oven separator.
9. Radiant burner (gas only).
10. Reduced conduction losses.

10. Reduced conduction losses.
11. Reduced thermal mass.
12. Reduced vent rate.
13. Reflective surfaces.
14. Steam cooking.
15. Low-standby-loss electronic controls.

I'd like to recommend a course of actions that you may want to initiate to make sure that we are prepared when this comes up in the Federal Standards proceedings:

- Inform Dan Rendler about this change in appliance codes so that he is aware of the need for support and position building

- Present this proposed equipment standard to Melisa Marks and get her thoughts on it. This includes:
  - Are the baselines shown pretty accurate?
  - Are all the technology options identified by the DoE available as “options” or combinations of options by the equipment manufacturers?
  - If yes, what options or combinations of options are available from each manufacturer, and what are the efficiency improvement percentages?
  - If no, we need to understand why manufacturers don’t offer the options if the DoE is recommending these as efficiency improvement options.
  - The most important piece of information that Melisa can help with will be: based upon her experience/knowledge what is the best achievable efficiency for gas cook tops and gas ovens? To illustrate, if the baseline is 40% and the best that has ever been achieved is 41.5%, then we’ll have a very good understanding of what the potential energy savings could be for various EE measures. The importance here is that EE programs provide budget for SoCalGas to provide marketing and outreach for gas technologies, provide training and seminars, help pay for salaries for people to reach out to customers, provide energy savings opportunity for our EE programs, etc.... We’ll need to figure out what we want to do and how we want to do it so that we can maintain our market share and gas load.
- Dan can talk with Jesse Martinez to get an engineering perspective on this. Jesse’s group writes all the DEER work papers for our EE programs, so they’ll be the ones that will test the equipment and record energy savings. Jesse’s group will also determine annual usage for each type of equipment, and energy savings for each option or combination of options that are added to each type of equipment. Based on the analysis of Jesse’s group, we’ll know what the potential energy savings might be and how we roll this into a program.
- Melisa will have some very good ideas of how we structure a program to support our promotion of high efficiency gas cook tops and high efficiency gas ovens. Even if the savings are relatively small (which they will be) we’re going to need to make sure that we our market position in this area.

Sue is aware of this item (as you can see from the email below) and since I currently support Sue and Lovell in the Codes and Standards area, I’ll be looping them in on a recommended course of action.

Because gas cooking has such a dominant position in both residential and commercial markets, and represents a good deal of throughput for us, we need to be prepared. I’ve already spoken at length to the engineers in Jesse Martinez’ group so they are looking into the topic, but we’ll (in my opinion) want to have a well-coordinated game plan going forward.

If you have thoughts or any questions, don’t hesitate to let me know.

CG

**From:** Goff, Chris (Industrial Mkts)  
**Sent:** Wednesday, January 21, 2015 4:18 PM  
**To:** Vargas, Ricardo; Martinez, Jesse J.  
**Cc:** Willmore, Lovell; Garcia, Martha  
**Subject:** FW: One Page Review: DOE Res. Cooking Products Test Procedure SNOPR

Jesse and Rick,  
 The CA IOU’s are sending a one page recommendation to the Dept. of Energy for cooking test procedures.

Rick, since you are the expert in this area, would you please take a look and let us know what your thoughts are on this?

Jesse, if you have experience in this area (I think that you do) would you give a look and let us know your thoughts on this?

Thanks to you both for your help.

---

**From:** Arshak Zakarian [<mailto:azakarian@energy-solution.com>]  
**Sent:** Wednesday, January 21, 2015 4:04 PM  
**To:** Ed Elliott; Bach Tsan; [Charles.Kim@sce.com](mailto:Charles.Kim@sce.com); Salas, Adrian; Willmore, Lovell; Goff, Chris (Industrial Mkts); [dzabrowski@fishnick.com](mailto:dzabrowski@fishnick.com); [andre.saldivar@sce.com](mailto:andre.saldivar@sce.com)  
**Cc:** Pat Eilert; [randall.higa@sce.com](mailto:randall.higa@sce.com); Garcia, Martha; Bijit Kundu  
**Subject:** One Page Review: DOE Res. Cooking Products Test Procedure SNOPR

Hi all,

Please find attached the one page review form developed for the DOE supplemental notice of proposed rulemaking (SNOPR) on test procedures for residential conventional cooking products. Please let me know if you have any questions.

Ed, can you please set up a call at your convenience to review the recommendations?

Thank you,

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