

**From:** [Hunt, Marshall](mailto:Hunt_Marshall)  
**To:** [Farhad Farahmand](mailto:Farhad.Farahmand)  
**Subject:** Fwd: GTI Analysis  
**Date:** Wednesday, July 08, 2015 4:23:33 PM

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Please review  
I will be in touch till 6pm  
At the moment I am having web access problems  
Call if anything pops out at you

Sent from my iPhone

Begin forwarded message:

**From:** "Noll, Elizabeth" <[enoll@nrdc.org](mailto:enoll@nrdc.org)>  
**Date:** July 8, 2015 at 4:18:51 PM PDT  
**To:** "Roy, Robin" <[roy@nrdc.org](mailto:roy@nrdc.org)>, "Lis, David" <[djlis@NEEP.org](mailto:djlis@NEEP.org)>, Jeff Harris <[jeffharris22@outlook.com](mailto:jeffharris22@outlook.com)>, 'Andrew deLaski' <[adelaski@standardsasap.org](mailto:adelaski@standardsasap.org)>  
**Cc:** "Longstreth, Ben" <[blongstreth@nrdc.org](mailto:blongstreth@nrdc.org)>, 'Brad Penney' <[bpenney@ase.org](mailto:bpenney@ase.org)>, 'Charlie Harak' <[charak@nclc.org](mailto:charak@nclc.org)>, "Goldstein, David" <[dgoldstein@nrdc.org](mailto:dgoldstein@nrdc.org)>, 'Harvey Sachs' <[hsachs@aceee.org](mailto:hsachs@aceee.org)>, 'Joanna Mauer' <[jmauer@standardsasap.org](mailto:jmauer@standardsasap.org)>, "Kennedy, Kit" <[kkennedy@nrdc.org](mailto:kkennedy@nrdc.org)>, "'Kristen@Energy Driskell'" <[Kristen.Driskell@energy.ca.gov](mailto:Kristen.Driskell@energy.ca.gov)>, 'Marshall Hunt' <[marshall.hunt.pe@gmail.com](mailto:marshall.hunt.pe@gmail.com)>, 'Marshall Hunt' <[MBH9@pge.com](mailto:MBH9@pge.com)>, "'Mel Hall-Crawford'" <[MelHC@consumerfed.org](mailto:MelHC@consumerfed.org)>, 'Mike Murza' <[michael.murza@energy.ca.gov](mailto:michael.murza@energy.ca.gov)>, "'Patrick@Energy Saxton'" <[Patrick.Saxton@energy.ca.gov](mailto:Patrick.Saxton@energy.ca.gov)>, 'Steve Nadel' <[snadel@aceee.org](mailto:snadel@aceee.org)>, "'Suzanne Watson'" <[swatson@aceee.org](mailto:swatson@aceee.org)>, 'Timothy Ballo' <[tballo@earthjustice.org](mailto:tballo@earthjustice.org)>, 'Chris Granda' <[granda@grasteu.com](mailto:granda@grasteu.com)>, 'Marianne DiMascio' <[mdimascio@standardsasap.org](mailto:mdimascio@standardsasap.org)>  
**Subject:** GTI Analysis

Assuming everyone has seen this but for those that haven't

<https://www.aga.org/gas-technology-institute-technical-analysis-furnace-efficiency-rule>

Elizabeth Noll  
Natural Resources Defense Council  
(202) 513-6277  
[enoll@nrdc.org](mailto:enoll@nrdc.org)

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**From:** Roy, Robin  
**Sent:** Wednesday, July 08, 2015 6:58 PM  
**To:** Lis, David; Jeff Harris; 'Andrew deLaski'  
**Cc:** Longstreth, Ben; 'Brad Penney'; 'Charlie Harak'; Goldstein, David; Noll, Elizabeth; 'Harvey Sachs'; 'Joanna Mauer'; Kennedy, Kit; 'Kristen@Energy Driskell'; 'Marshall Hunt'; 'Marshall Hunt'; 'Mel Hall-Crawford'; 'Mike Murza'; 'Patrick@Energy Saxton'; 'Steve Nadel'; 'Suzanne Watson'; 'Timothy Ballo'; 'Chris Granda'; 'Marianne DiMascio'  
**Subject:** No joint furnace comment with AGA. Alas.

Hi all,  
Unfortunately, AGA has decided not to submit joint comments with us.

For those interested in the details, here's what Kathryn Clay told me a few moments ago:

- One major AGA member was adamantly opposed, and a couple others were worried and leaned against the joint comment, but would have been okay but for the holdout member
  - The opposed members, including the adamant one, have limited data on the capacities used in their territory, and feared it is high
- AHRl claimed to AGA that AGA's detailed shipments data is just wrong
  - However, they refuse to provide what they believe to be accurate data
- AGA's comment to DOE will be entirely negative
  - The intent is to set a basis for a legal challenge
  - The two claims they will stress are that DOE's LCC analysis is faulty, and that noncondensing and condensing should form 2 product classes
  - They will not mention a capacity threshold approach
- AGA hopes to keep working toward the capacity threshold approach, and ideally submit a late joint comment to DOE

Sorry for the fire drill (and yes, I do feel a bit like Charlie Brown with Lucy's football, but we all always knew this was a distinct possibility).

Best,  
Robin

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**From:** <Lis>, David <[djlis@NEEP.org](mailto:djlis@NEEP.org)>

**Date:** Tuesday, 7 July 2015 at 3:34 PM

**To:** Robin Roy <[rroy@nrdc.org](mailto:rroy@nrdc.org)>, Jeff Harris <[jeffharris22@outlook.com](mailto:jeffharris22@outlook.com)>, Andrew DeLaski <[adelaski@standardsasap.org](mailto:adelaski@standardsasap.org)>

**Cc:** Ben Longstreth <[blongstreth@nrdc.org](mailto:blongstreth@nrdc.org)>, Brad Penney <[BPenney@ase.org](mailto:BPenney@ase.org)>, Charlie Harak <[charak@nclc.org](mailto:charak@nclc.org)>, David Goldstein <[dgoldstein@nrdc.org](mailto:dgoldstein@nrdc.org)>, Elizabeth Noll <[enoll@nrdc.org](mailto:enoll@nrdc.org)>, Harvey Sachs <[hsachs@aceee.org](mailto:hsachs@aceee.org)>, 'Joanna Mauer' <[jmauer@standardsasap.org](mailto:jmauer@standardsasap.org)>, Kit Kennedy <[kkennedy@nrdc.org](mailto:kkennedy@nrdc.org)>, "'Kristen@Energy Driskell'" <[Kristen.Driskell@energy.ca.gov](mailto:Kristen.Driskell@energy.ca.gov)>, 'Marshall Hunt' <[marshall.hunt.pe@gmail.com](mailto:marshall.hunt.pe@gmail.com)>, Marshall Hunt <[MBH9@pge.com](mailto:MBH9@pge.com)>, Mel Hall-Crawford <[MeiHC@consumerfed.org](mailto:MeiHC@consumerfed.org)>, 'Mike Murza' <[michael.murza@energy.ca.gov](mailto:michael.murza@energy.ca.gov)>, "Saxton, Patrick@Energy" <[Patrick.Saxton@energy.ca.gov](mailto:Patrick.Saxton@energy.ca.gov)>, Steve Nadel <[snadel@aceee.org](mailto:snadel@aceee.org)>, Suzanne Watson <[swatson@aceee.org](mailto:swatson@aceee.org)>, Ballo Timothy <[tballo@earthjustice.org](mailto:tballo@earthjustice.org)>, Chris Granda <[granda@grasteu.com](mailto:granda@grasteu.com)>, Marianne DiMascio <[mdimascio@standardsasap.org](mailto:mdimascio@standardsasap.org)>

**Subject:** RE: First draft of possible joint furnace comments + Results from DOE data on # models

We've got a process moving forward with multiple regional stakeholders. I don't think there's time for us to communicate the wisdom of this path with all that have become involved before Friday. While I'd like to commit our support at this time, I think I have to move forward with our comments (largely supporting the proposal) in the near term. NEEP could get on board soon but not this week.

David Lis  
Director of Market Strategies  
[djlis@neep.org](mailto:djlis@neep.org)

-----Original Message-----

From: Roy, Robin [<mailto:rroy@nrdc.org>]

Sent: Tuesday, July 07, 2015 5:14 PM

To: Jeff Harris; Lis, David; 'Andrew deLaski'

Cc: Longstreth, Ben; 'Brad Penney'; 'Charlie Harak'; Goldstein, David; Noll, Elizabeth; 'Harvey Sachs'; 'Joanna Mauer'; Kennedy, Kit; 'Kristen@Energy Driskell'; 'Marshall Hunt'; 'Marshall Hunt'; 'Mel Hall-Crawford'; 'Mike Murza'; 'Patrick@Energy Saxton'; 'Steve Nadel'; 'Suzanne Watson'; 'Timothy Ballo'; 'Chris Granda'; 'Marianne DiMascio'

Subject: Re: First draft of possible joint furnace comments + Results from DOE data on # models

Importance: High

Thanks Jeff (assuming that by "Noah" you mean "Robin").

I'm keen to sign at 95% AFUE with AGA before they slip away, and am fine with either 70 kbtu/h or 65 kbtu/h. Steve, have you come to any further landing on the 65 v 70 question with AGA, or in your own mind? And who else is in at this point?

I don't anticipate getting a manufacturer on board by Friday, although one seems to be considering it very seriously (but not quickly enough).

I continue to believe that having this positive joint statement with AGA will be very helpful for risk reduction, and for moving discussions away from 'just say no' and from an assault on this standard and standards more broadly.

From: Jeff Harris <[jeffharris22@outlook.com](mailto:jeffharris22@outlook.com)<<mailto:jeffharris22@outlook.com>>>

Date: Tuesday, 7 July 2015 at 7:49 AM

To: Robin Roy <[rroy@nrdc.org](mailto:rroy@nrdc.org)<<mailto:rroy@nrdc.org>>>, "Lis, David" <[djlis@NEEP.org](mailto:djlis@NEEP.org)<<mailto:djlis@NEEP.org>>>, Andrew DeLaski <[adelaski@standardsasap.org](mailto:adelaski@standardsasap.org)<<mailto:adelaski@standardsasap.org>>>

Cc: Ben Longstreth <[blongstreth@nrdc.org](mailto:blongstreth@nrdc.org)<<mailto:blongstreth@nrdc.org>>>, Brad Penney <[BPenney@ase.org](mailto:BPenney@ase.org)<<mailto:BPenney@ase.org>>>, Charlie Harak <[charak@nclc.org](mailto:charak@nclc.org)<<mailto:charak@nclc.org>>>, David Goldstein <[dgoldstein@nrdc.org](mailto:dgoldstein@nrdc.org)<<mailto:dgoldstein@nrdc.org>>>, Elizabeth Noll <[enoll@nrdc.org](mailto:enoll@nrdc.org)<<mailto:enoll@nrdc.org>>>, Harvey Sachs <[hsachs@aceee.org](mailto:hsachs@aceee.org)<<mailto:hsachs@aceee.org>>>, 'Joanna Mauer' <[jmauer@standardsasap.org](mailto:jmauer@standardsasap.org)<<mailto:jmauer@standardsasap.org>>>, Kit Kennedy <[kkennedy@nrdc.org](mailto:kkennedy@nrdc.org)<<mailto:kkennedy@nrdc.org>>>, "'Kristen@Energy Driskell'" <[Kristen.Driskell@energy.ca.gov](mailto:Kristen.Driskell@energy.ca.gov)<<mailto:Kristen.Driskell@energy.ca.gov>>>, 'Marshall Hunt' <[marshall.hunt.pe@gmail.com](mailto:marshall.hunt.pe@gmail.com)<<mailto:marshall.hunt.pe@gmail.com>>>, Marshall Hunt <[MBH9@pge.com](mailto:MBH9@pge.com)<<mailto:MBH9@pge.com>>>, Mel Hall-Crawford <[MeiHC@consumerfed.org](mailto:MeiHC@consumerfed.org)<<mailto:MeiHC@consumerfed.org>>>, 'Mike Murza' <[michael.murza@energy.ca.gov](mailto:michael.murza@energy.ca.gov)<<mailto:michael.murza@energy.ca.gov>>>, "Saxton, Patrick@Energy"

<[Patrick.Saxton@energy.ca.gov](mailto:Patrick.Saxton@energy.ca.gov)<<mailto:Patrick.Saxton@energy.ca.gov>>>, Steve Nadel <[snadel@aceee.org](mailto:snadel@aceee.org)<<mailto:snadel@aceee.org>>>, Suzanne Watson <[swatson@aceee.org](mailto:swatson@aceee.org)<<mailto:swatson@aceee.org>>>, Ballo Timothy <[tballo@earthjustice.org](mailto:tballo@earthjustice.org)<<mailto:tballo@earthjustice.org>>>, Chris Granda <[granda@grasteu.com](mailto:granda@grasteu.com)<<mailto:granda@grasteu.com>>>, Marianne DiMascio <[mdimascio@standardsasap.org](mailto:mdimascio@standardsasap.org)<<mailto:mdimascio@standardsasap.org>>>

Subject: RE: First draft of possible joint furnace comments + Results from DOE data on # models

Noah's summary is very helpful to me.

I've also asked AGA for a look at their confidential data, but it's not clear they'll be willing/able to release those data beyond ACEEE and NRDC. So meanwhile I took another look at the DOE data on models - recognizing that these may or may not be a reasonable proxy for shipments. The results are in the Summary page of the attached file.

(Note: by inspection there seem to be a lot of duplicate models; I did not take the time to try to eliminate duplicates, using the "Basic Model No." in col. 3 - partly b/c I'm not sure how far this would go if the same model is also marketed by different manufacturers - which might be resolved also by the data base, see for example lines 19 vs 20 on Sheet #2).

Anyway, according to the data on models available, there seems to be very little difference between a cut-off of 65 vs 70 kBtu/h; both would allow about 30% of non-condensing models to be sold. And as Noah points out, these are smaller furnaces. (There are actually a very high proportion of NON condensing models in the 75-80 kBtu/h range, and a lot of models, overall, in this range. Not sure why. Above 80 kBtu we start to see a larger fraction of models that are condensing, and also in the 95+ AFUE range.)

I'd still like to confirm some of this with the sales data...

Cheers - jh

Jeffrey Harris

[Jeffharris22@outlook.com](mailto:Jeffharris22@outlook.com)<<mailto:Jeffharris22@outlook.com>>

(202) 834-3297

-----Original Message-----

From: Roy, Robin [<mailto:rroy@nrdc.org>]

Sent: Monday, July 6, 2015 8:27 PM

To: Lis, David; Andrew deLaski

Cc: Longstreth, Ben; Brad Penney; Charlie Harak; Goldstein, David; Noll, Elizabeth; Harvey Sachs; Jeff Harris; Joanna Mauer; Kennedy, Kit;

Kristen@Energy Driskell; Marshall Hunt; Marshall Hunt; Mel Hall-Crawford; Mike Murza; Patrick@Energy Saxton; Steve Nadel; Suzanne Watson;

Timothy Ballo; Chris Granda; Marianne DiMascio

Subject: Re: First draft of possible joint furnace comments

That's a good question, Dave.

Based on my rough analysis using the shipments data and a couple of reasonable assumptions, the energy savings at the NOPR level (92% AFUE for all) seems close to the savings under 95% & 70 kbtu/h; it's well within the range of modeling uncertainty as I see it. 70 kbtu/h & 95% AFUE might even deliver a modest energy savings benefit relative to the NOPR if certain reasonable assumptions turn out to be right. Under other reasonable assumptions, 70 kbtu/h & 95% could also deliver a modest reduction in energy savings with other reasonable assumptions. And 65 kbtu/h & 95% would seem even more likely to be slightly positive for energy savings.

The main offsetting factors of 70 kbtu/h & 95% AFUE relative to the NOPR of 92% AFUE for all furnaces:

- \* Fewer condensing furnaces (increasing energy use)
- \* But they're smaller furnaces and use less energy (decreasing the above factor)
- \* And there aren't all that many
- \* Some right-sizing of furnaces (increases the number of non-condensing relative to what the shipments data indicates)
- \* But some slight, partly offsetting efficiency gain due to slightly less cycling
- \* 95% AFUE delivers much greater savings relative to 92% AFUE for those noncondensing furnaces over the capacity threshold that would otherwise be sold. And there are a lot of larger noncondensing furnaces sold, according to the shipments data.

In contrast to energy savings, which seems pretty much a wash between the NOPR and 95%/70, the impact of 95% & 70 kbtu/h on consumer LCC seems clearly beneficial under reasonable assumptions.

I doubt that a lot of detailed analysis by us, DOE or others would greatly illuminate and reduce the uncertainties; and 95%/70 would under any reasonable assumptions be a big step forward and may be less risky than the NOPR proposal. That's why I'm game for an agreement with AGA & manufacturers at 95% even up to 70 kbtu/h.

From: <Lis>, David <[djlis@NEEP.org](mailto:djlis@NEEP.org)<<mailto:djlis@NEEP.org><<mailto:djlis@NEEP.org><<mailto:djlis@NEEP.org>>>>>

Date: Monday, 6July2015 at 9:27 AM

To: Andrew DeLaski

<[adelaski@standardsasap.org](mailto:adelaski@standardsasap.org)<<mailto:adelaski@standardsasap.org><<mailto:adelaski@standardsasap.org><<mailto:adelaski@standardsasap.org>>>>>

, Robin Roy <[rroy@nrdc.org](mailto:rroy@nrdc.org)<<mailto:rroy@nrdc.org><<mailto:rroy@nrdc.org><<mailto:rroy@nrdc.org>>>>>

Cc: Ben Longstreth <[blongstreth@nrdc.org](mailto:blongstreth@nrdc.org)<<mailto:blongstreth@nrdc.org><<mailto:blongstreth@nrdc.org><<mailto:blongstreth@nrdc.org>>>>>

, Brad Penney <[BPenney@ase.org](mailto:BPenney@ase.org)<<mailto:BPenney@ase.org><<mailto:BPenney@ase.org><<mailto:BPenney@ase.org>>>>>

, Charlie Harak <[charak@nclc.org](mailto:charak@nclc.org)<<mailto:charak@nclc.org><<mailto:charak@nclc.org><<mailto:charak@nclc.org>>>>>

, David Goldstein

<dgoldstein@nrdc.org<mailto:dgoldstein@nrdc.org<mailto:dgoldstein@nrdc.org%3cmailto:dgoldstein@nrdc.org>>>, Elizabeth Noll  
<enoll@nrdc.org<mailto:enoll@nrdc.org<mailto:enoll@nrdc.org%3cmailto:enoll@nrdc.org>>>, Harvey Sachs  
<hsachs@aceee.org<mailto:hsachs@aceee.org<mailto:hsachs@aceee.org%3cmailto:hsachs@aceee.org>>>, Jeff Harris  
<JeffHarris22@outlook.com<mailto:JeffHarris22@outlook.com<mailto:JeffHarris22@outlook.com%3cmailto:JeffHarris22@outlook.com>>>, Joanna  
Mauer  
<jmauer@standardsasap.org<mailto:jmauer@standardsasap.org<mailto:jmauer@standardsasap.org%3cmailto:jmauer@standardsasap.org>>>, Kit  
Kennedy <kkennedy@nrdc.org<mailto:kkennedy@nrdc.org<mailto:kkennedy@nrdc.org%3cmailto:kkennedy@nrdc.org>>>, "Kristen@Energy Driskell"  
<Kristen.Driskell@energy.ca.gov<mailto:Kristen.Driskell@energy.ca.gov<mailto:Kristen.Driskell@energy.ca.gov%3cmailto:Kristen.Driskell@energy.ca.gov>>>,  
Marshall Hunt  
<marshall.hunt.pe@gmail.com<mailto:marshall.hunt.pe@gmail.com<mailto:marshall.hunt.pe@gmail.com%3cmailto:marshall.hunt.pe@gmail.com>>>,  
Marshall Hunt <MBH9@pge.com<mailto:MBH9@pge.com<mailto:MBH9@pge.com%3cmailto:MBH9@pge.com>>>, Mel Hall-Crawford  
<MelHC@consumerfed.org<mailto:MelHC@consumerfed.org<mailto:MelHC@consumerfed.org%3cmailto:MelHC@consumerfed.org>>>, Mike Murza  
<michael.murza@energy.ca.gov<mailto:michael.murza@energy.ca.gov<mailto:michael.murza@energy.ca.gov%3cmailto:michael.murza@energy.ca.gov>>>,  
"Saxton, Patrick@Energy"  
<Patrick.Saxton@energy.ca.gov<mailto:Patrick.Saxton@energy.ca.gov<mailto:Patrick.Saxton@energy.ca.gov%3cmailto:Patrick.Saxton@energy.ca.gov>>>,  
Steve Nadel <snadel@aceee.org<mailto:snadel@aceee.org<mailto:snadel@aceee.org%3cmailto:snadel@aceee.org>>>, Suzanne Watson  
<swatson@aceee.org<mailto:swatson@aceee.org<mailto:swatson@aceee.org%3cmailto:swatson@aceee.org>>>, Ballo Timothy  
<tballo@earthjustice.org<mailto:tballo@earthjustice.org<mailto:tballo@earthjustice.org%3cmailto:tballo@earthjustice.org>>>, Chris Granda  
<granda@grasteu.com<mailto:granda@grasteu.com<mailto:granda@grasteu.com%3cmailto:granda@grasteu.com>>>, Marianne DiMascio  
<mdimascio@standardsasap.org<mailto:mdimascio@standardsasap.org<mailto:mdimascio@standardsasap.org%3cmailto:mdimascio@standardsasap.org>>>

Subject: RE: First draft of possible joint furnace comments

Yes, thanks for your work here Robin and others.

My main outstanding question is around sacrificed savings. The letter includes:

Each of the Joint Commenters has conducted its own assessment of the above approach. Each finds that, compared to the NOPR proposal, it would deliver improved consumer outcomes, similar energy and environmental savings, superior manufacturer outcomes, and opportunities for enhanced gas utility energy efficiency programs

When you say similar energy/enviro benefits, what's your estimation of sacrificed energy/enviro savings (between DOE's proposal and moving to this scenario)? 10%, 25%, 50%?

Thanks.

David Lis

Director of Market Strategies

[djlis@neep.org](mailto:djlis@neep.org)<mailto:djlis@neep.org<mailto:djlis@neep.org%3cmailto:djlis@neep.org>>

From: Andrew deLaski [<mailto:adelaski@standardsasap.org>]

Sent: Monday, July 06, 2015 12:14 PM

To: Roy, Robin

Cc: Longstreth, Ben; Brad Penney; Charlie Harak; Goldstein, David; Lis, David; Noll, Elizabeth; Harvey Sachs; Jeff Harris; Joanna Mauer; Kennedy, Kit; Kristen@Energy Driskell; Marshall Hunt; Marshall Hunt; Mel Hall-Crawford; Mike Murza; Patrick@Energy Saxton; Steve Nadel; Suzanne Watson; Timothy Ballo; Chris Granda; Marianne DiMascio

Subject: Re: First draft of possible joint furnace comments

Robin: This letter strikes me as a reasonable compromise to gain industry support. If there is no industry support, then I'd suggest we advocate for a 50 kbtuh cut off for the small furnace product class, as discussed on the call.

I also agree that moving the standard from 92% to 95% is more valuable than shaving 5000 kbtuh from the small furnace product class break point.

Thanks for all your work to move this ahead.

Andrew

Andrew deLaski

Appliance Standards Awareness Project

[www.appliance-standards.org](http://www.appliance-standards.org)<<http://www.appliance-standards.org><<http://www.appliance-standards.org><<http://www.appliance-standards.org>>>>

(617) 363-9470

On Mon, Jul 6, 2015 at 11:54 AM, Roy, Robin <[roy@nrdc.org](mailto:roy@nrdc.org)<<mailto:roy@nrdc.org><<mailto:roy@nrdc.org>>>>> wrote:

Hi all,

As discussed, here's a DRAFT JOINT furnace comment letter for your consideration.

(NRDC would also submit supplementary detailed comments along the lines of our draft circulated last week, with some modifications for consistency with this joint letter.)

Your thoughts, and any sign-ons on either draft are most welcome.

Robin

From: [roy@nrdc.org](mailto:roy@nrdc.org)<<mailto:roy@nrdc.org>>  
<<mailto:roy@nrdc.org><<mailto:roy@nrdc.org><<mailto:roy@nrdc.org>>>>>

When: 8:00 AM - 8:30 AM 6Jul15

Subject: Furnace negotiations update

Location: (212) 727-4600 4193092#

Hi all,

There's been some positive development on furnace negotiations. (This development isn't reflected in NRDC's draft comments that you'll receive today (Thursday) morning, as it's still a work in progress, but if successful we'd amend our final comments accordingly.)

Cheers,

Robin