

	Total Costs (real 2022 \$)
	Net Present Value in year of breaching
Scenario 1: 100% Clean Retail Sales	\$7.5 billion
Scenario 1: 100% Clean Retail Sales (2024 dam breaching)	\$11 billion
Scenario 2a: Deep Decarb. (Baseline Technologies)	\$11.5 billion
Scenario 2b: Deep Decarb. (Emerging Technologies)	\$7 billion
Scenario 2c: Deep Decarb. (No New Combustion)	\$46 billion

**Deep decarbonization without emerging technologies drives impractically high costs**

**From:** James,Eve A L (BPA) - PG-5

**Sent:** Wednesday, June 29, 2022 12:17 PM

**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>

**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Angineh Zohrabian <[angineh.zohrabian@ethree.com](mailto:angineh.zohrabian@ethree.com)>; Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>

**Subject:** RE: Draft Exec Summary

**Deliberative, FOIA exempt**

Sounds good- I'll start reading and making notes to add to the version this afternoon.

Thanks,

Eve

**From:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>

**Sent:** Wednesday, June 29, 2022 12:14 PM

**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Angineh Zohrabian <[angineh.zohrabian@ethree.com](mailto:angineh.zohrabian@ethree.com)>; Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>

**Subject:** [EXTERNAL] RE: Draft Exec Summary

**Deliberative, FOIA exempt**

Eve,

Arne is still completing some edits, but I'm sending this "interim" draft version so you have the full report to start digging through. I'll send another version later today with all of Arne's edits, so suggest *E3 retains version control until later today when we share that version*, when it will transfer to BPA.

Note: Arne has made some changes to the exec summary, which I've keep tracked since you already reviewed that. I updated is response to your prior feedback (but did not track those changes).

All the best,  
Aaron

---

**From:** Aaron Burdick  
**Sent:** Tuesday, June 28, 2022 9:43 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Angineh Zohrabian <[angineh.zohrabian@ethree.com](mailto:angineh.zohrabian@ethree.com)>; Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>  
**Subject:** RE: Draft Exec Summary

**Deliberative, FOIA exempt**

Eve,

Status update: we're still working on a few remaining items in the draft and incorporating Arne's review. I'm hoping to send you the draft by mid-day tomorrow. Will either send of provide an update until then. I'm hoping we can get your review by end of day Thursday and update as needed on Friday before sharing the final version by Friday COB.

All the best,  
Aaron

---

**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Monday, June 27, 2022 3:36 PM  
**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Angineh Zohrabian <[angineh.zohrabian@ethree.com](mailto:angineh.zohrabian@ethree.com)>; Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>  
**Subject:** RE: Draft Exec Summary

**Deliberative, FOIA exempt**

Hi Aaron-

Attached are some comments on the Executive Summary for your consideration.

Arne- I saw the Council's note on providing materials ahead of the July 7<sup>th</sup> meeting. Internally we were thinking that if we share the PPT this early we would need to be prepared to start fielding incoming questions and for the info to be shared with others. We're still working on some talking points for our communications staff and Account Executives. Also, just so you are aware there is a discussion with some of DC folks tomorrow so I was going to wait and email the Council staff tomorrow after that meeting if you don't mind. If you have concerns about waiting to share materials please let me know.

Thanks,  
Eve

---

**From:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Sent:** Friday, June 24, 2022 3:12 PM



**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Angineh Zohrabian <[angineh.zohrabian@ethree.com](mailto:angineh.zohrabian@ethree.com)>; Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>

**Subject:** [EXTERNAL] Draft Exec Summary

**Deliberative, FOIA exempt**

Hi Eve,

I'm leaving for a weekend trip and OOO the rest of the afternoon. I'm providing the draft executive summary but the rest of the report draft will need to wait until Tuesday next week. Hopefully this provides enough to make sure we're aligned. I'm also copying the TOC for the draft report to make sure you're aware what we're working on.

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All the best,

Aaron Burdick, Associate Director  
 Energy and Environmental Economics, Inc. (E3)  
 44 Montgomery Street, Suite 1500 | San Francisco, CA 94104



---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH  
**Sent:** Friday, July 1, 2022 3:49 PM  
**To:** James,Eve A L (BPA) - PG-5  
**Cc:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: E3 Key Dates

No problem. Have a great week off!

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 1, 2022 5:45 PM, "James,Eve A L (BPA) - PG-5" <[eajames@bpa.gov](mailto:eajames@bpa.gov)> wrote:  
[I will be out next week so if you could set up the WebEx meetings I would appreciate it!](#)

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Friday, July 1, 2022 3:44 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: E3 Key Dates

Let's allow little space to avoid run over time (although I doubt that would occur). 1:30p-2:30p eastern for the all NW and then 3:00p for Sen Murray works.

If it's now a done deal that we will do this, I can send the save the date on Tuesday with a reminder on Thursday to all NW staff, and let Sen Murray's staff know we are confirmed for their time.

I can set-up the webexes unless you want to.

Thanks!

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 1, 2022 5:27 PM, "James,Eve A L (BPA) - PG-5" <[eajames@bpa.gov](mailto:eajames@bpa.gov)> wrote:  
[He is available any time that day- so we should just pick an hour and let them know. Does it make sense to do them back-to-back or would you prefer it spaced out some?](#)

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Friday, July 1, 2022 3:23 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: E3 Key Dates

Hey there. The other meeting is for all NW staff - any invited staff can attend. It can be at any time Arne wants to do it of course except the Murray time. If it could be before the Murray time, that would be ideal. One hour is all that's needed.

All I need is what time he would like to do it on eastern time.

Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 1, 2022 5:17 PM, "James,Eve A L (BPA) - PG-5" <[eajames@bpa.gov](mailto:eajames@bpa.gov)> wrote:  
[Hi Sonya-](#)

Arne has the July 8 from 12-1 PDT (3 -4 PM EDT) hour blocked off for the Murray staff briefing. Has any other Congressional briefing been set up? I was expecting one more hour for other Congressional staff. I will be out of the office next week so if you could make sure to include Birgit Koehler she can work with E3 on scheduling. Or if there are meeting invitations they can be sent to: Arne Olson [arne@ethree.com](mailto:arne@ethree.com) and include Birgit on those communications so she can participate as well.

Thanks,  
Eve

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 1:39 PM

**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Subject:** RE: E3 Key Dates

No problem. We can schedule the all NW on the 8th as well.

Sonya Baskerville

BPA National Relations

(b)(6) m

On Jun 29, 2022 4:37 PM, "James,Eve A L (BPA) - PG-5" <[eajames@bpa.gov](mailto:eajames@bpa.gov)> wrote:

Hi Sonya- I let Arne know about the meeting on the 8<sup>th</sup> and he blocked that time off. I asked if his availability has changed at all since we last asked about it and this is what he sent:

Apologies, I now have a conflict until 4 PM EDT on the 7<sup>th</sup>. Could probably skip the last hour of the seminar I'm participating in and be available at 3 PM EDT if necessary. I've blocked off the hour on the 8<sup>th</sup>.

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 1:12 PM

**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Subject:** RE: E3 Key Dates

The other Congressional briefing would be an all NW staff briefing on one of the times Arne had available, either afternoon of July 7 or anytime on the 8 (of course not 3:00p-4:00p since Murray wants that separately). Thanks.

Sonya Baskerville

BPA National Relations

(b)(6) m

---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 4:10 PM

**To:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Subject:** RE: E3 Key Dates

Thanks, Sonya – any other congressional office requests we should flag?

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 1:09 PM

**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Subject:** RE: E3 Key Dates

Murray's office wants July 8 at 3:00p eastern for an E3 briefing, to be added to the rollout. Thanks.

Sonya Baskerville

BPA National Relations

(b)(6) m

---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 3:49 PM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;

Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>;

Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Chong

Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>

**Subject:** RE: E3 Key Dates

(b)(5)

**From:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 11:29 AM

**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>

**Subject:** RE: E3 Key Dates

Thanks Jill,

(b)(5)

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Wednesday, June 29, 2022 11:19 AM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>

**Subject:** RE: E3 Key Dates

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)

Jill

**From:** Leary,Jill C (BPA) - LN-7

**Sent:** Tuesday, June 28, 2022 1:14 PM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>

**Subject:** FW: E3 Key Dates

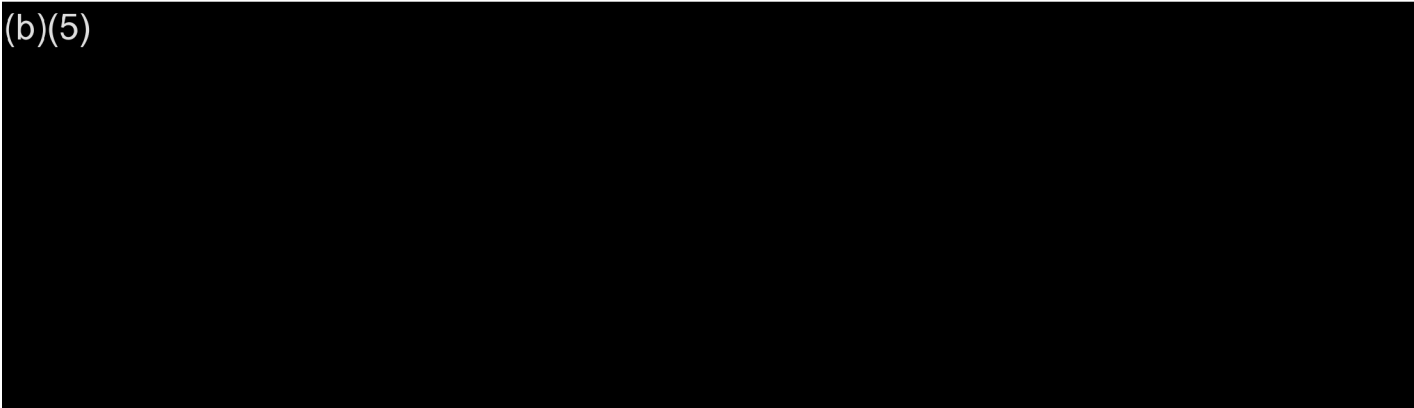
*Confidential and privileged attorney client communication/FOIA-exempt*

Hi John,

(b)(5)



(b)(5)



Thanks,  
Jill

---

**From:** Leary, Jill C (BPA) - LN-7

**Sent:** Tuesday, June 28, 2022 12:55 PM

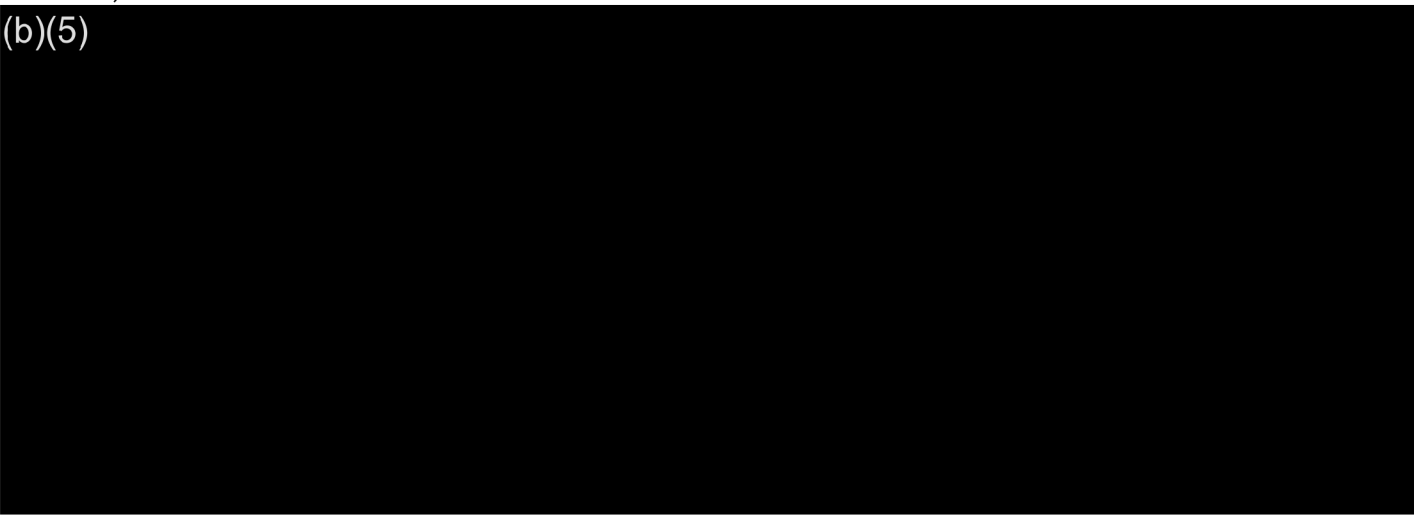
**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>

**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>

**Subject:** E3 Key Dates

Hi Gabe,

(b)(5)



Jill

---

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Friday, May 20, 2022 10:44 AM  
**To:** Kennedy, David K (BPA) - EC-4; Eraut, Michelle L (BPA) - EC-4; Grange, Katey C (BPA) - EC-4; Biegel, Sarah T (BPA) - EC-4  
**Cc:** Godwin, Mary E (BPA) - LN-7; James, Eve A L (BPA) - PG-5; Koehler, Birgit G (BPA) - PG-5; Senter, Anne E (BPA) - LN-7; Armentrout, Scott G (BPA) - E-4; Baskerville, Sonya L (BPA) - AIN-WASH  
**Subject:** RE: E3 Study and NEPA

***Confidential and privileged attorney client communication/attorney work product/FOIA-exempt***

(b)(5)

---

**From:** Kennedy, David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>  
**Sent:** Friday, May 20, 2022 10:30 AM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Eraut, Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>; Grange, Katey C (BPA) - EC-4 <[kcgrange@bpa.gov](mailto:kcgrange@bpa.gov)>; Biegel, Sarah T (BPA) - EC-4 <[stbiegel@bpa.gov](mailto:stbiegel@bpa.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Senter, Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** RE: E3 Study and NEPA

(b)(5)

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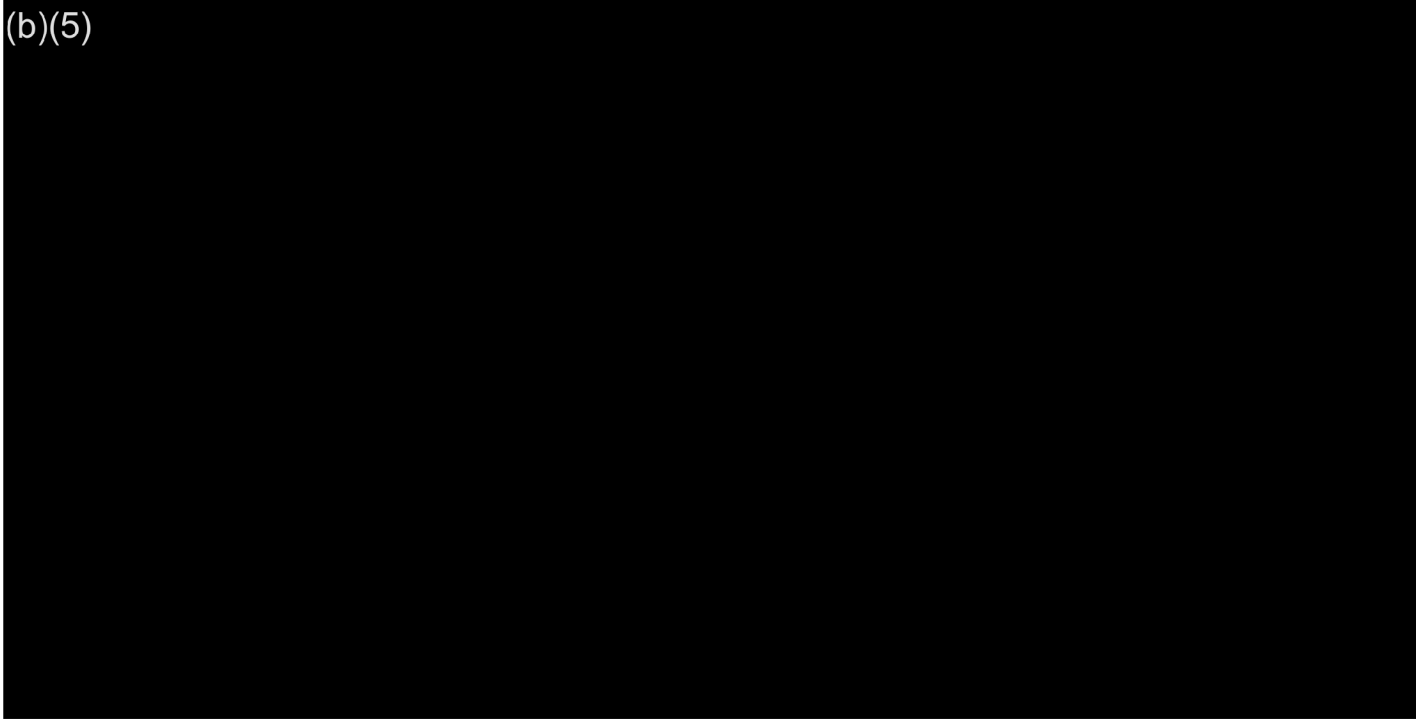
**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, May 20, 2022 10:07 AM  
**To:** Kennedy, David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut, Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>; Grange, Katey C (BPA) - EC-4 <[kcgrange@bpa.gov](mailto:kcgrange@bpa.gov)>; Biegel, Sarah T (BPA) - EC-4 <[stbiegel@bpa.gov](mailto:stbiegel@bpa.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Senter, Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** E3 Study and NEPA

***Confidential and privileged attorney client communication/attorney work product/FOIA-exempt***

Hello,

(b)(5)

(b)(5)



Jill

---

**From:** Leary,Jill C (BPA) - LN-7  
**Sent:** Friday, July 8, 2022 11:45 AM  
**To:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: E3 presentation to DC on Monday

Eve coordinated with Arne...we were just waiting for the invite information, but alas...

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, July 8, 2022 11:43 AM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** RE: E3 presentation to DC on Monday

I'm glad this was canceled, because neither Arne nor I had this on our calendars. And I couldn't find it on any other BPA calendars either.

---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 10:10 AM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>  
**Subject:** FW: E3 presentation to DC on Monday

Hi Birgit,  
See Gabe's note below – please let Arne know he no longer has to hold the time on Monday to brief the Deputy Secretaries.

Thanks,  
Jill

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 10:05 AM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Subject:** [EXTERNAL] E3 presentation to DC on Monday

Jill,

I just spoke with Justin at CEQ. He has not yet circulated an agenda/readahead for Monday, but he said that he is no longer planning for E3 to present its report to the Deputies Committee at the Monday morning meeting. I'm very sorry for the last minute notice. I hope you can tell E3 that they can take that off their calendars.

Thanks,  
Gabe

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**From:** Hairston,John L (BPA) - A-7  
**Sent:** Monday, June 6, 2022 2:53 PM  
**To:** James,Eve A L (BPA) - PG-5; Leary,Jill C (BPA) - LN-7; Armentrout,Scott G (BPA) - E-4; Cook,Joel D (BPA) - K-7; Cooper,Suzanne B (BPA) - P-6; Leady Jr,William J (BPA) - PG-5; Koehler,Birgit G (BPA) - PG-5; Godwin,Mary E (BPA) - LN-7; Senters,Anne E (BPA) - LN-7; Zelinsky,Benjamin D (BPA) - E-4; Sullivan,Leah S (BPA) - EWP-4  
**Subject:** RE: E3 results presentations

Thanks Eve,

I appreciate the work on this and the comments being offered by all. I think the study is well done and will serve its purpose well. I also feel the BPA perspective slides are very good. I don't have any additional comments at this time and look forward to seeing what the DOE review yields, Well done!

John

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**From:** James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Sent:** Monday, June 6, 2022 1:33 PM  
**To:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Cook,Joel D (BPA) - K-7 <jdcook@bpa.gov>; Cooper,Suzanne B (BPA) - P-6 <sbcooper@bpa.gov>; Leady Jr,William J (BPA) - PG-5 <wjleady@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Senters,Anne E (BPA) - LN-7 <aesenters@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Sullivan,Leah S (BPA) - EWP-4 <lsullivan@bpa.gov>  
**Subject:** RE: E3 results presentations


Thanks Jill and Scott- I've edited the language in the slide deck as requested. Once we've received the DOE feedback I'll compile that all the internal edits/comments and send an updated version.

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**From:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Sent:** Monday, June 6, 2022 1:05 PM  
**To:** Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Cook,Joel D (BPA) - K-7 <jdcook@bpa.gov>; Cooper,Suzanne B (BPA) - P-6 <sbcooper@bpa.gov>; Leady Jr,William J (BPA) - PG-5 <wjleady@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Senters,Anne E (BPA) - LN-7 <aesenters@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Sullivan,Leah S (BPA) - EWP-4 <lsullivan@bpa.gov>  
**Subject:** RE: E3 results presentations

Hi Eve,

(b)(5)



Thanks,  
Jill

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**From:** Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Sent:** Monday, June 6, 2022 7:10 AM  
**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Hairston, John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook, Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Cooper, Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr, William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senter, Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Sullivan, Leah S (BPA) - EWP-4 <[lsullivan@bpa.gov](mailto:lsullivan@bpa.gov)>  
**Subject:** RE: E3 results presentations  
**Importance:** High

A couple thoughts on the BPA portion of this. Suggest modification of the slides to eliminate any indication of defensiveness, etc. Make it very fact based. Example – Eliminate “No, in fact the E3 study reinforces the decision” to “**There is no new information that fundamentally changes the basis for the decision**”. Also eliminate the “not cheap, fast or easy” language. If we are quoting some other study that said that, we should attribute it. Otherwise state it as facts, e.g. “**expensive, spanning many years and complex**”. Anyway that is a start – but overall it is to make it straightforward but not tone based. Scott

**SCOTT G ARMENTROUT**

Executive Vice President, Environment, Fish & Wildlife, SES | E-4

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**From:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Friday, June 3, 2022 4:06 PM  
**To:** Hairston, John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook, Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Cooper, Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr, William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Senter, Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>; Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Sullivan, Leah S (BPA) - EWP-4 <[lsullivan@bpa.gov](mailto:lsullivan@bpa.gov)>  
**Subject:** E3 results presentations

**Deliberative, FOIA exempt**

Hello-

Attached are the presentations sent to DOE for feedback- the E3 study results and BPA's perspective on the study results. DOE will be providing feedback by Wednesday and I believe there is coordination to schedule a time to present to CEO.

Thanks,  
Eve



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**From:** Pruder Scruggs, Kathryn M (BPA) - E-4  
**Sent:** Wednesday, May 25, 2022 1:05 PM  
**To:** James, Eve A L (BPA) - PG-5; Koehler, Birgit G (BPA) - PG-5  
**Subject:** RE: Fast action request for information

I have an idea... to address Scott's nameplate capacity input, how about if we remove from the first slide "peaking capability of **more than 2,000 MW** to avoid power shortages during cold weather events" and put it on the second slide like this? :

- What are the services we need to replace, and what is the cost of each?
  - Energy, including peaking capability of **more than 2,000 MW** to avoid power shortages during cold weather events :
  - Instantaneous and sustained capacity :
  - Reserve carrying capacity:
  - Fast ramping:

---

**From:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Wednesday, May 25, 2022 12:58 PM  
**To:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Pruder Scruggs, Kathryn M (BPA) - E-4 <[kpruder@bpa.gov](mailto:kpruder@bpa.gov)>  
**Subject:** FW: Fast action request for information

Well- that's what I was worried the answer would be. We'll need to revise those first slides.

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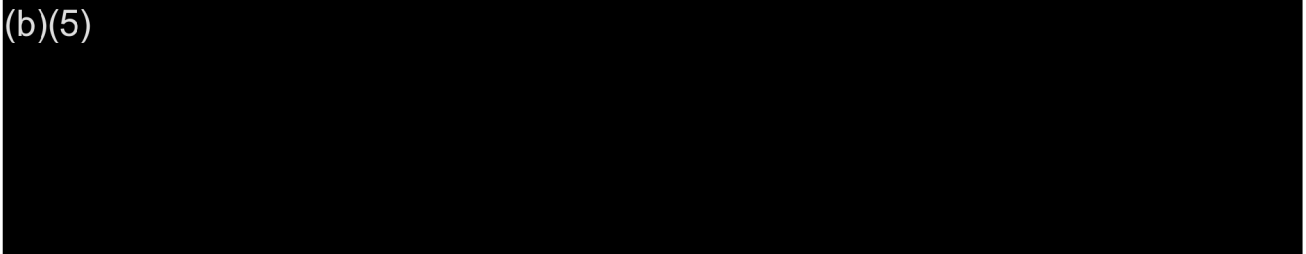
**From:** Wiser, Ryan (CONTR) <[ryan.wiser@hq.doe.gov](mailto:ryan.wiser@hq.doe.gov)>  
**Sent:** Wednesday, May 25, 2022 12:32 PM  
**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Capanna, Steve <[steve.capanna@hq.doe.gov](mailto:steve.capanna@hq.doe.gov)>  
**Cc:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Fast action request for information

Hi Eve

(b)(5)



- (b)(5)



Ryan

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Ryan Wiser  
Senior Scientist  
Office of Policy (detail)  
U.S. Department of Energy

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**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Wednesday, May 25, 2022 11:12 AM  
**To:** Wiser, Ryan (CONTR) <[ryan.wiser@hq.doe.gov](mailto:ryan.wiser@hq.doe.gov)>; Capanna, Steve <[steve.capanna@hq.doe.gov](mailto:steve.capanna@hq.doe.gov)>  
**Cc:** Koehler, Birgit G <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** Fast action request for information  
**Importance:** High

**Deliberative; FOIA exempt**

Attached are some very rough draft slides that we are preparing for CEQ and other briefings. Most of the information will come from E3 but there may be some transmission grid pieces that you will be able to provide. The green boxes are where we were thinking DOE might have expertise in this area.

Thanks,  
Eve James

---

**From:** Scruggs,Joel L (BPA) - DK-7  
**Sent:** Wednesday, July 13, 2022 2:27 PM  
**To:** Hairston,John L (BPA) - A-7; Habibi,Maryam A (BPA) - DKP-7; Cook,Joel D (BPA) - K-7; Armentrout,Scott G (BPA) - E-4; Baskerville,Sonya L (BPA) - AIN-WASH; Godwin,Mary E (BPA) - LN-7; Zelinsky,Benjamin D (BPA) - E-4; James,Daniel M (BPA) - D-7; Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5  
**Cc:** Johnson,G Douglas (BPA) - DK-7  
**Subject:** RE: Potential response to PPC letter (DRAFT)

(b)(5)

Joel Scruggs (He/Him)  
Director of Communications | Communications (DK)  
**BONNEVILLE POWER ADMINISTRATION**  
[bpa.gov](http://bpa.gov) | P 503-230-5511 | C (b)(6)



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**From:** Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>  
**Sent:** Wednesday, July 13, 2022 2:20 PM  
**To:** Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Cook,Joel D (BPA) - K-7 <jdcook@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; James,Daniel M (BPA) - D-7 <dmjames@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Cc:** Johnson,G Douglas (BPA) - DK-7 <gdjohnson@bpa.gov>  
**Subject:** RE: Potential response to PPC letter (DRAFT)

(b)(5)

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**From:** Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>  
**Sent:** Wednesday, July 13, 2022 2:17 PM  
**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlscruggs@bpa.gov](mailto:jlscruggs@bpa.gov)>; Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Daniel M (BPA) - D-7 <[dmjames@bpa.gov](mailto:dmjames@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>  
**Subject:** RE: Potential response to PPC letter (DRAFT)

(b)(5)

Maryam Habibi  
Manager | Media Relations, Policy Communications and Writing

---

**From:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>

**Sent:** Wednesday, July 13, 2022 2:14 PM

**To:** Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Daniel M (BPA) - D-7 <[dmjames@bpa.gov](mailto:dmjames@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gjohnson@bpa.gov](mailto:gjohnson@bpa.gov)>

**Subject:** RE: Potential response to PPC letter (DRAFT)

Thanks Joel,

(b)(5)

Any thoughts from others on this?

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**From:** Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>

**Sent:** Wednesday, July 13, 2022 11:57 AM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Daniel M (BPA) - D-7 <[dmjames@bpa.gov](mailto:dmjames@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gjohnson@bpa.gov](mailto:gjohnson@bpa.gov)>

**Subject:** Potential response to PPC letter (DRAFT)

(b)(5)

(b)(5)

**Joel Scruggs** (He/Him)

Director of Communications | Communications (DK)

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**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 1:32 PM  
**To:** Johnson,G Douglas (BPA) - DK-7; Leary,Jill C (BPA) - LN-7  
**Cc:** James,Eve A L (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH  
**Subject:** RE: Question from OMB on E3  
**Attachments:** E3 QA for OMB DJ edits.docx

I ran out of time on figuring out where the #s in Q3 are from. Arne is about to call, so I did what I could. I'll keep looking until my phone rings.

---

**From:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 1:00 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Cc:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** RE: Question from OMB on E3

One suggested edit. As written, it implied new tax credits for hydrogen plants and extensions of investor/production tax credits for renewables would "REDUCE" costs for public power. There will be an increase, but these incentives could reduce those costs slightly. I think there would still be sizeable rate increases – but will rely on Birgit to characterize that.

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**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 12:51 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** FW: Question from OMB on E3

On FMCS call, so have not read – please review and edit, thanks.

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Sent:** Thursday, July 7, 2022 12:50 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** [EXTERNAL] Question from OMB on E3

Good afternoon Jill – we have a question from OMB:

"Would you guys mind putting together a few Q&As on the energy price impacts that are summarized in the report? Specifically, timing considerations about how the impacts are estimates that would not be actualized in the near-term / the Admin is not endorsing a policy that will increase energy prices for households."

I am attaching a start – what changes/additions do you recommend?

Thank you,



Melissa Ardis  
Senior Advisor, Power Marketing Administrations  
Office of the Undersecretary for Infrastructure  
U.S. Department of Energy  
Energy.gov/bil

(b)(6)

**Question: need a few Q&As on the energy price impacts that are summarized in the report? Specifically, timing considerations about how the impacts are estimates that would not be actualized in the near-term / the Admin is not endorsing a policy that will increase energy prices for households.**

**1. What is the projected rate impact and timing impact to BPA customers?**

By 2045, scenarios 1, 2a and 2b, the rate impact would be between 8% and 18% or ~\$100 to \$230 per ratepayer/per year. By 2045, in a deep economy-wide decarbonization scenario (2c) with no emerging technologies, the cost would be approximately a 65% increase or \$850 per year per ratepayer/per year.

E3 estimates that adding additional renewable energy and firm capacity additions would take approximately five to seven years after Congressional approval to breach the dams and possibly up to 10 to 20 years assuming additional new large-scale transmission was required. There would be no immediate impact to BPA's ratepayers.

**2. Could these cost increases be offset?**

Yes, new federal tax credits for hydrogen plants/fuels or Investor Tax Credit/Production Tax Credit extension for renewables would be considered taxpayer contributions that would reduce upward rate pressure to public power customers.

Alternatively, using taxpayer funding to acquire the new generating resources through Congressional appropriations in lieu of utility financing would largely offset the rate increase.

**3. How much would it cost to replace the power benefits of the four LSR dams?**

The total net present value of replacement would be \$11.8B. In a deep carbonization scenario with higher loads and zero emissions by 2045, the net present value ranges from \$10.7 –\$ 19.0B.

**4. What net present rate was used to calculate financial impacts?**

These net present value costs were calculated using a 3% discount rate, consistent with the discount rate used in the Inslee/Murray draft report which is a reasonable rate for public financing of large utility projects.

**5. What scenarios did the E3 Study analyze?**

E3's scenarios analyzed emerging technologies, such as small modular nuclear reactors (SMRs) and gas plants with carbon capture or hydrogen-burning capability, which are not yet commercially available. In all scenarios, E3's model includes use of traditional renewable resources, such as wind, solar, storage and demand response.

In scenarios in which one or more new technology becomes commercially viable, new resources to replace the existing lower Snake River dams' energy and capacity would cost between \$10.7 to \$19.0 Billion.



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**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 3:37 PM  
**To:** Leary,Jill C (BPA) - LN-7; Johnson,G Douglas (BPA) - DK-7  
**Subject:** RE: Question from OMB on E3

(b)(5)

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**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 3:36 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gjohnson@bpa.gov)>  
**Subject:** FW: Question from OMB on E3

(b)(5)

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Sent:** Thursday, July 7, 2022 2:34 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Question from OMB on E3

(b)(5)

Melissa Ardis  
Senior Advisor, Power Marketing Administrations

(b)(6)

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**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 3:18 PM  
**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Subject:** RE: Question from OMB on E3

Hi Melissa,  
Here are quick edits from us.

Thanks,  
Jill

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Sent:** Thursday, July 7, 2022 12:50 PM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** [EXTERNAL] Question from OMB on E3

Good afternoon Jill – we have a question from OMB:

“Would you guys mind putting together a few Q&As on the energy price impacts that are summarized in the report? Specifically, timing considerations about how the impacts are estimates that would not be actualized in the near-term / the Admin is not endorsing a policy that will increase energy prices for households.”

I am attaching a start – what changes/additions do you recommend?

Thank you,

Melissa Ardis  
Senior Advisor, Power Marketing Administrations  
Office of the Undersecretary for Infrastructure  
U.S. Department of Energy  
Energy.gov/bil

(b)(6)

---

**From:** Hairston,John L (BPA) - A-7  
**Sent:** Monday, May 23, 2022 6:44 PM  
**To:** Cook,Joel D (BPA) - K-7; Koehler,Birgit G (BPA) - PG-5; Cooper,Suzanne B (BPA) - P-6; Leady Jr,William J (BPA) - PG-5; Zelinsky,Benjamin D (BPA) - E-4; Chong Tim,Marcus H (BPA) - L-7; Senters,Anne E (BPA) - LN-7  
**Cc:** Armentrout,Scott G (BPA) - E-4; Baskerville,Sonya L (BPA) - AIN-WASH; Leary,Jill C (BPA) - LN-7; Godwin,Mary E (BPA) - LN-7; James,Eve A L (BPA) - PG-5; Kennedy,David K (BPA) - EC-4; Eraft,Michelle L (BPA) - EC-4  
**Subject:** RE: Question of Public Review of E3 study

Thanks Birgit, Team,

(b)(5)

Thanks  
John

---

**From:** Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>  
**Sent:** Monday, May 23, 2022 3:58 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cooper,Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr,William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>  
**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4 <[dkkenedy@bpa.gov](mailto:dkkenedy@bpa.gov)>; Eraft,Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>  
**Subject:** RE: Question of Public Review of E3 study

Agree  
Thanks

---

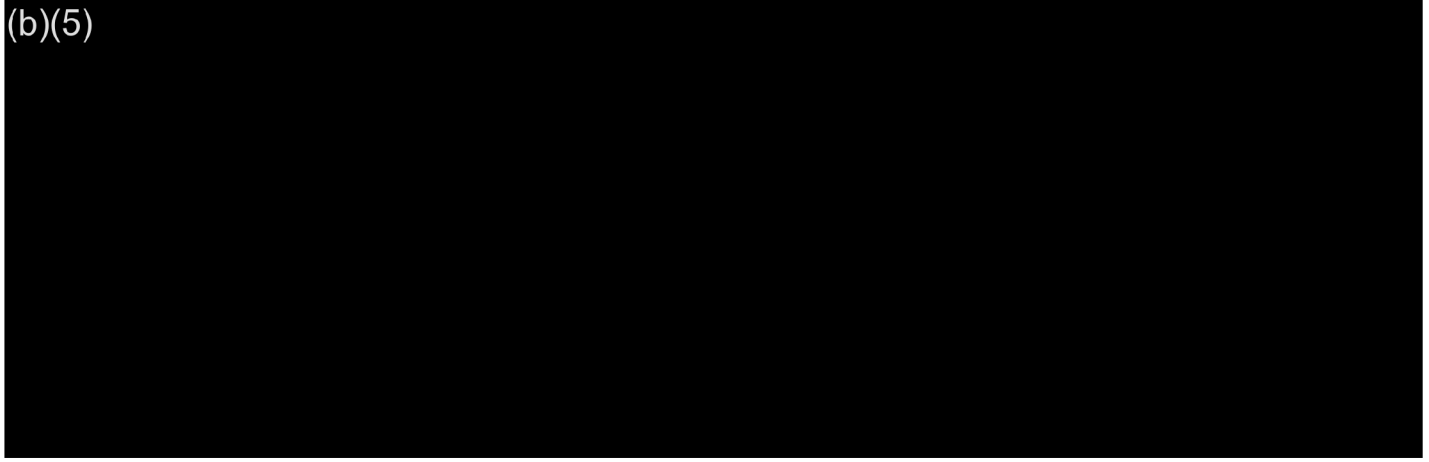
**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Monday, May 23, 2022 3:09 PM  
**To:** Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cooper,Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr,William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>  
**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4 <[dkkenedy@bpa.gov](mailto:dkkenedy@bpa.gov)>; Eraft,Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>  
**Subject:** RE: Question of Public Review of E3 study

*Deliberative Process Privilege; FOIA-exempt*



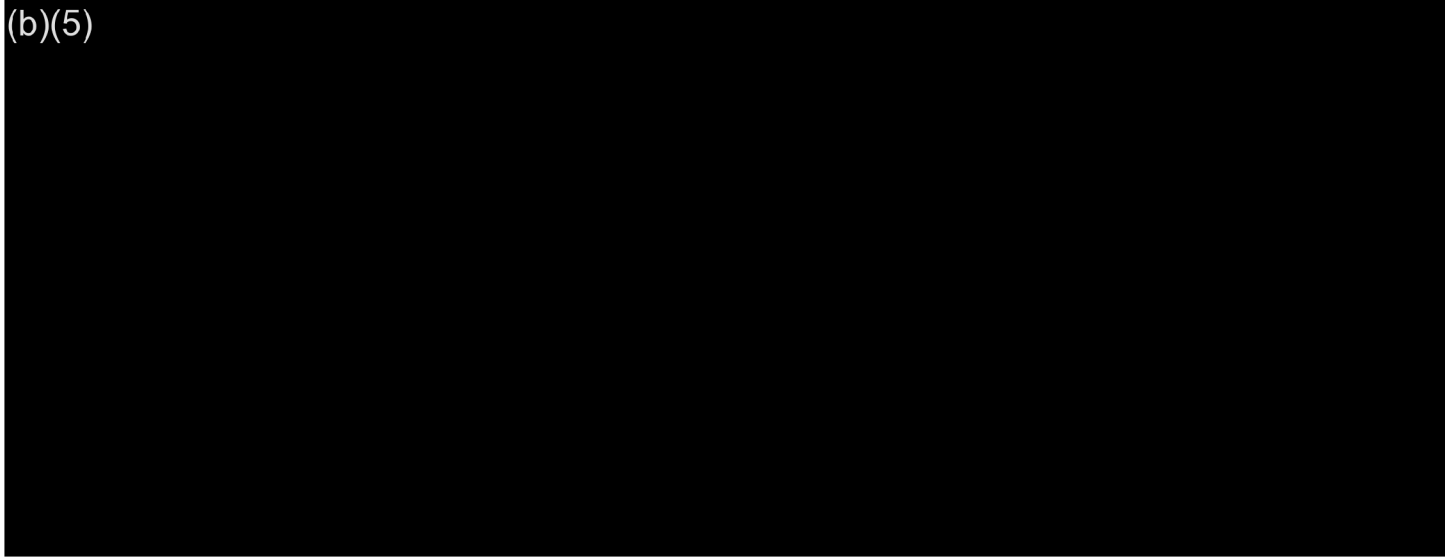
Hello Joel,

(b)(5)



Birgit

(b)(5)



---

**From:** Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>

**Sent:** Monday, May 23, 2022 2:28 PM

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**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut,Michelle L (BPA) - EC-4 <[mleraaut@bpa.gov](mailto:mleraaut@bpa.gov)>

**Subject:** RE: Question of Public Review of E3 study

Birgit,

(b)(5)

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Sent:** Friday, May 20, 2022 4:17 PM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Cooper,Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr,William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senter,Ane E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>

**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut,Michelle L (BPA) - EC-4 <[m ERAUT@bpa.gov](mailto:m ERAUT@bpa.gov)>

**Subject:** Question of Public Review of E3 study

*Deliberative, Confidential and privileged attorney client communication/FOIA-exempt*

Hello John,

(b)(5)

(b)(5)

(b)(5)

(b)(5)

Thanks,  
Birgit

-----Original Appointment-----

**From:** Koehler,Birgit G (BPA) - PG-5

**Sent:** Wednesday, May 18, 2022 3:48 PM

**To:** Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH; Armentrout,Scott G (BPA) - E-4; Godwin,Mary E (BPA) - LN-7; Leary,Jill C (BPA) - LN-7

**Cc:** Kennedy,David K (BPA) - EC-4

**Subject:** public review question re E3

**When:** Friday, May 20, 2022 8:30 AM-9:00 AM (UTC-08:00) Pacific Time (US & Canada).

**Where:** BPA Phone Bridge: (b)(6) #

I see a little window on Friday for all but one of us (sorry Sonya), so I'm snagging it.

BPA Phone Bridge ID: (b)(6)

---

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Friday, May 20, 2022 4:21 PM  
**To:** Koehler, Birgit G (BPA) - PG-5  
**Subject:** RE: Question of Public Review of E3 study

Nice work!

---

**From:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, May 20, 2022 4:17 PM  
**To:** Hairston, John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook, Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Cooper, Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr, William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim, Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senter, Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>  
**Cc:** Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy, David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Ert, Michelle L (BPA) - EC-4 <[mlert@bpa.gov](mailto:mlert@bpa.gov)>  
**Subject:** Question of Public Review of E3 study

*Deliberative, Confidential and privileged attorney client communication/FOIA-exempt*

Hello John,

(b)(5)



(b)(5)



(b)(5)



(b)(5)

(b)(5)

Thanks,  
Birgit

-----Original Appointment-----

**From:** Koehler,Birgit G (BPA) - PG-5

**Sent:** Wednesday, May 18, 2022 3:48 PM

**To:** Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH; Armentrout,Scott G (BPA) - E-4; Godwin,Mary E (BPA) - LN-7; Leary,Jill C (BPA) - LN-7

**Cc:** Kennedy,David K (BPA) - EC-4

**Subject:** public review question re E3

**When:** Friday, May 20, 2022 8:30 AM-9:00 AM (UTC-08:00) Pacific Time (US & Canada).

**Where:** BPA Phone Bridge: (b)(6) #

I see a little window on Friday for all but one of us (sorry Sonya), so I'm snagging it.

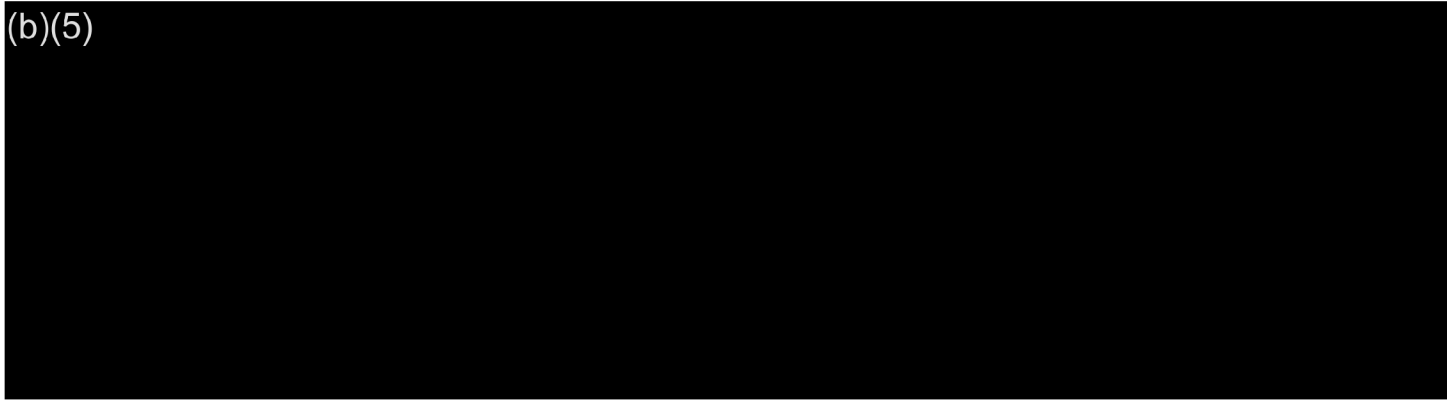
BPA Phone Bridge ID: (b)(6)

---

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Friday, May 20, 2022 4:07 PM  
**To:** Koehler, Birgit G (BPA) - PG-5  
**Subject:** RE: Question of Public Review of E3 study

*Deliberative, Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



---

**From:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, May 20, 2022 3:52 PM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** Question of Public Review of E3 study

*Deliberative, Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



(b)(5)



Thanks,  
Birgit

-----Original Appointment-----

**From:** Koehler,Birgit G (BPA) - PG-5

**Sent:** Wednesday, May 18, 2022 3:48 PM

**To:** Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH; Armentrout,Scott G (BPA) - E-4; Godwin,Mary E (BPA) - LN-7; Leary,Jill C (BPA) - LN-7

**Cc:** Kennedy,David K (BPA) - EC-4

**Subject:** public review question re E3

**When:** Friday, May 20, 2022 8:30 AM-9:00 AM (UTC-08:00) Pacific Time (US & Canada).

**Where:** BPA Phone Bridge: (b)(6)

I see a little window on Friday for all but one of us (sorry Sonya), so I'm snagging it.

BPA Phone Bridge ID: (b)(6)

---

**From:** James,Eve A L (BPA) - PG-5  
**Sent:** Tuesday, May 24, 2022 8:00 AM  
**To:** Koehler,Birgit G (BPA) - PG-5; Armentrout,Scott G (BPA) - E-4  
**Subject:** RE: Question of Public Review of E3 study

(b)(5)

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**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Tuesday, May 24, 2022 7:47 AM  
**To:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Cc:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: Question of Public Review of E3 study

Scott,

(b)(5)

Birgit

---

**From:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Sent:** Tuesday, May 24, 2022 6:32 AM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: Question of Public Review of E3 study

(b)(5)

**SCOTT G ARMENTROUT**

Executive Vice President, Environment, Fish & Wildlife, SES | E-4

**BONNEVILLE POWER ADMINISTRATION**

[bpa.gov](http://bpa.gov) | P 503-230-3076 | C (b)(6)



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**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Monday, May 23, 2022 3:09 PM  
**To:** Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cooper,Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr,William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>  
**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4



<[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut,Michelle L (BPA) - EC-4 <[m ERAUT@bpa.gov](mailto:m ERAUT@bpa.gov)>

**Subject:** RE: Question of Public Review of E3 study

*Deliberative Process Privilege; FOIA-exempt*

Hello Joel,

(b)(5)



Birgit

(b)(5)



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**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4

<[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut,Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>

**Subject:** RE: Question of Public Review of E3 study

Birgit,

(b)(5)



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**Sent:** Friday, May 20, 2022 4:17 PM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Cook,Joel D (BPA) - K-7 <[jdcook@bpa.gov](mailto:jdcook@bpa.gov)>; Cooper,Suzanne B (BPA) - P-6 <[sbcooper@bpa.gov](mailto:sbcooper@bpa.gov)>; Leady Jr,William J (BPA) - PG-5 <[wjleady@bpa.gov](mailto:wjleady@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Chong Tim,Marcus H (BPA) - L-7 <[mhchongtim@bpa.gov](mailto:mhchongtim@bpa.gov)>; Senters,Anne E (BPA) - LN-7 <[aesenters@bpa.gov](mailto:aesenters@bpa.gov)>

**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Kennedy,David K (BPA) - EC-4 <[dkkennedy@bpa.gov](mailto:dkkennedy@bpa.gov)>; Eraut,Michelle L (BPA) - EC-4 <[mleraut@bpa.gov](mailto:mleraut@bpa.gov)>

**Subject:** Question of Public Review of E3 study

***Deliberative, Confidential and privileged attorney client communication/FOIA-exempt***

Hello John,

(b)(5)



(b)(5)



(b)(5)

(b)(5)

Thanks,  
Birgit

-----Original Appointment-----

**From:** Koehler,Birgit G (BPA) - PG-5

**Sent:** Wednesday, May 18, 2022 3:48 PM

**To:** Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH; Armentrout,Scott G (BPA) - E-4; Godwin,Mary E (BPA) - LN-7; Leary,Jill C (BPA) - LN-7

**Cc:** Kennedy,David K (BPA) - EC-4

**Subject:** public review question re E3

**When:** Friday, May 20, 2022 8:30 AM-9:00 AM (UTC-08:00) Pacific Time (US & Canada).

**Where:** BPA Phone Bridge: (b)(6) #

I see a little window on Friday for all but one of us (sorry Sonya), so I'm snagging it.

BPA Phone Bridge ID: (b)(6)

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Monday, July 11, 2022 7:23 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH; Hairston,John L (BPA) - A-7; Armentrout,Scott G (BPA) - E-4; Scruggs,Joel L (BPA) - DK-7; Habibi,Maryam A (BPA) - DKP-7; Leary,Jill C (BPA) - LN-7; Godwin,Mary E (BPA) - LN-7  
**Subject:** RE: RE: Connecting on Press for Columbia River Basin Announcements

Let me see if I can recreate approximately what Sonya and I drafted but then deleted in favor of the edit to take all the number out.

The study on potential power portfolios [hyperlink], which was commissioned by the Department of Energy's Bonneville Power Administration (BPA) and conducted by the electric industry research firm Energy and Environmental Economics (E3), presents a range of power production scenarios and costs associated with replacing the electrical power from four Federal dams on the Lower Snake River in the event Congress were to authorize such an action. The study looks at two scenarios **with varying assuming and costs. If** emerging energy technologies become commercially available **and the study finds that replacing the energy and grid services provided by the dams is possible, predicting costs from \$11 billion to \$19 billion, within the ranges of other similar studies that have been commissioned.** [comment True? – cite Murray/Inslee?] **However if only currently commercially available technologies are included the study finds that replacing the energy and grid services provided by the dam costs from \$42 billion to \$77 billion.**

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 7:08 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>  
**Subject:** Fwd: RE: Connecting on Press for Columbia River Basin Announcements

Not sure why they feel they have to focus on the numbers other than to imply there is nothing new to see here. The substance of the report will speak for itself. Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

----- Forwarded message -----

From: "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
Date: Jul 11, 2022 10:00 PM  
Subject: RE: Connecting on Press for Columbia River Basin Announcements  
To: "Ridgeway, Charissee R. EOP/CEQ" <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>,"Troiano, Charisma L" <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
Cc: "Lee-Ashley, Matt G. EOP/CEQ" <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>,"Pidot, Justin R. EOP/CEQ" <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>  
That is accurate as drafted. Thanks!

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 9:56 PM, "Ridgeway, Charissee R. EOP/CEQ" <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)> wrote:  
Hi Charisma and Sonya,  
Our team would like to keep the below, which is consistent with what we covered on both calls. Do you see any inaccuracies in the following? Unfortunately, I did have to send a version to the Seattle times, who was running up on deadline but we can definitely get settled for the final tomorrow morning.

The updated sentence would read:

In two scenarios that assume that emerging energy technologies become commercially available, the study finds that replacing the energy and grid services provided by the dams is possible, and predicts costs from \$11 billion to \$19 billion, within the ranges of other similar studies that have been commissioned.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 9:31 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

Did you get this from BPA as an edit:

(b)(5)

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Tuesday, July 12, 2022 11:08:38 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

We'll just keep with what you sent me. Please disregard but let me know if you have any concerns.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <>  
**Sent:** Monday, July 11, 2022 9:01 PM  
**To:** 'Troiano, Charisma L' <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Hey – is there a good number to reach you? Sonya was flagging some thing for me. If we move forward, with what you just sent, is DOE good?

---

**From:** Ridgeway, Charissee R. EOP/CEQ <>  
**Sent:** Monday, July 11, 2022 8:03 PM  
**To:** 'Troiano, Charisma L' <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Thank you! Will be in touch with the final.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 7:49 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 7:33 PM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Understood. Are folks getting over soon? Would like to get this to reporters in the next hour and half. Let me know what you're hearing.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 6:16 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

No worries. To keep parity of representation from other offices.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Tuesday, July 12, 2022 7:23 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Thank you. Is there any particular reason you with Kathleen? Sorry I didn't ask this earlier.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 5:08 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

No, that will be Jeremiah Bauman (the chief of staff for Kathleen's office) that will be on the calls. Let me see re: final TPs version.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 5:03 PM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Thank you! And just to confirm, Kathleen is the one who will do the press call? Don't know that I have her address on the calendar invite if so.

Are you tracking a final version of your TPs?

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 5:00 PM

**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

We're still waiting for BPA to take a pass at the release. But here's our quote --

"The E3 study provides all stakeholders an independent analysis of the resources needed to maintain deployment of clean, reliable, and affordable power to communities in the Pacific Northwest under various scenarios," said **U.S. Department of Energy Principal Deputy Under Secretary for Infrastructure Kathleen Hogan**. "As the region continues to embrace the health and cost-savings of a decarbonized power sector and to further enhance its supply of clean energy, the E3 study can help inform long-term planning decisions, including to limit the impact to ratepayers."

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 12:44 PM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Hey Charisma – how is it looking on your end with edits and a quote? Also, heads up the zoom link will be changing but I will send an email and update the list. I understand our team may be throwing a prep call for both the Hill and press calls for anyone who can join at 5:30pm. Can you keep you posted on details.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <>  
**Sent:** Monday, July 11, 2022 11:23 AM  
**To:** 'Troiano, Charisma L' <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Thanks for these. A few notes below.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 11:17 AM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

A few things:

- I don't think Dept Sec Turk is available for today's call – **got it.**
- Chief of Staff for the Undersecretary for Infrastructure can do the call and is well versed on this issue – got it.  
**Mind sharing their name? Will this person be on the hill briefing as well?**
- We'd like the Undersecretary to deliver the press release quote **I'm sure that's could work**
- Is the only invite I received for today's call one I can share w/ other DOE colleagues who would like to listen in?  
**okay to share. I just might needs to be in before the call starts. Might have to do that verbally**

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Tuesday, July 12, 2022 1:06 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

I don't think so as long as it's a similar level, that should work. Do you have an email for David Turk?



---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 10:57 AM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

Thx! Does it have to be the same person for quote and call?

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 11:11:42 PM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Got it. Attaching the latest here in case it's helpful for sharing edits. Has NOAA and Army's quotes. We're collecting Quotes from folks who will be on the call.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 9:07 AM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

I think our undersecretary for infrastructure will provide a quote. At what level are the other quotes being provided?

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 9:49:30 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Sure thing. I haven't done a deep dive but here's what we've got from NOAA and what our policy leads have cleared.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Sunday, July 10, 2022 7:38 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Our tough Q+As attached

Any chance you can share any others from the sister agencies/depts?

---

**From:** Troiano, Charisma L  
**Sent:** Sunday, July 10, 2022 5:30 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Hey! Waiting on a few more folks to sign off on the quote draft; I have draft tough qs; let me confirm that they're good to send over.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Sunday, July 10, 2022 5:10 PM



**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>

**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

Hey Charisma – I know this afternoon was a tight deadline. Have you heard anything on the release? I did hear our policy folks have been in touch with Dave on the tough q/a. Thanks again for all of your help on this.

---

**From:** Ridgeway, Charissee R. EOP/CEQ <>

**Sent:** Saturday, July 9, 2022 6:53 AM

**To:** 'Troiano, Charisma L' <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Cherry, Tyler A <[tyler\\_cherry@ios.doi.gov](mailto:tyler_cherry@ios.doi.gov)>; Kelly, Katherine P <[Kate\\_Kelly@ios.doi.gov](mailto:Kate_Kelly@ios.doi.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; Lori Arguelles - NOAA Federal <[lori.arguelles@noaa.gov](mailto:lori.arguelles@noaa.gov)>; Letise LaFeir - NOAA Federal <[letise.lafeir@noaa.gov](mailto:letise.lafeir@noaa.gov)>

**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Ennis, Jessica A. EOP/CEQ <[Jessica.A.Ennis@ceq.eop.gov](mailto:Jessica.A.Ennis@ceq.eop.gov)>; Conger, Nicholas M. EOP/WHO <[Nicholas.M.Conger@who.eop.gov](mailto:Nicholas.M.Conger@who.eop.gov)>; Hill, Matt D. EOP/WHO <[Matthew.D.Hill@who.eop.gov](mailto:Matthew.D.Hill@who.eop.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>; Smith, Grace Y. EOP/CEQ <[Grace.Y.Smith@ceq.eop.gov](mailto:Grace.Y.Smith@ceq.eop.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; 'Colosimo, Robyn S CIV USARMY HQDA ASA CW (USA)' <[robyn.s.colosimo.civ@army.mil](mailto:robyn.s.colosimo.civ@army.mil)>; 'jay.f.shannon.civ@army.mil' <[jay.f.shannon.civ@army.mil](mailto:jay.f.shannon.civ@army.mil)>

**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

Looping the Army team here as well.

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>

**Sent:** Friday, July 8, 2022 11:22 PM

**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>; Cherry, Tyler A <[tyler\\_cherry@ios.doi.gov](mailto:tyler_cherry@ios.doi.gov)>; Kelly, Katherine P <[Kate\\_Kelly@ios.doi.gov](mailto:Kate_Kelly@ios.doi.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; Lori Arguelles - NOAA Federal <[lori.arguelles@noaa.gov](mailto:lori.arguelles@noaa.gov)>; Letise LaFeir - NOAA Federal <[letise.lafeir@noaa.gov](mailto:letise.lafeir@noaa.gov)>

**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Ennis, Jessica A. EOP/CEQ <[Jessica.A.Ennis@ceq.eop.gov](mailto:Jessica.A.Ennis@ceq.eop.gov)>; Conger, Nicholas M. EOP/WHO <[Nicholas.M.Conger@who.eop.gov](mailto:Nicholas.M.Conger@who.eop.gov)>; Hill, Matt D. EOP/WHO <[Matthew.D.Hill@who.eop.gov](mailto:Matthew.D.Hill@who.eop.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>; Smith, Grace Y. EOP/CEQ <[Grace.Y.Smith@ceq.eop.gov](mailto:Grace.Y.Smith@ceq.eop.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>

**Subject:** Re: Connecting on Press for Columbia River Basin Announcements

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**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>

**Sent:** Friday, July 8, 2022 5:57:52 PM

**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Cherry, Tyler A <[tyler\\_cherry@ios.doi.gov](mailto:tyler_cherry@ios.doi.gov)>; Kelly, Katherine P <[Kate\\_Kelly@ios.doi.gov](mailto:Kate_Kelly@ios.doi.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; Lori Arguelles - NOAA Federal <[lori.arguelles@noaa.gov](mailto:lori.arguelles@noaa.gov)>; Letise LaFeir - NOAA Federal <[letise.lafeir@noaa.gov](mailto:letise.lafeir@noaa.gov)>

**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Ennis, Jessica A. EOP/CEQ <[Jessica.A.Ennis@ceq.eop.gov](mailto:Jessica.A.Ennis@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Conger, Nicholas M. EOP/WHO <[Nicholas.M.Conger@who.eop.gov](mailto:Nicholas.M.Conger@who.eop.gov)>; Hill, Matt D. EOP/WHO <[Matthew.D.Hill@who.eop.gov](mailto:Matthew.D.Hill@who.eop.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>; Smith, Grace Y. EOP/CEQ <[Grace.Y.Smith@ceq.eop.gov](mailto:Grace.Y.Smith@ceq.eop.gov)>

**Subject:** [EXTERNAL] RE: Connecting on Press for Columbia River Basin Announcements

All - one update here. The Congressional briefing needs to be scheduled during our original time slot (previously 6pm) to avoid losing members during votes. The press call is now moved to 6:30pm ET so that speakers are able to join both. Let me know if this would cause any conflicts with your teams.

Thanks,  
Charissee

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 4:23 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>; Cherry, Tyler A <[tyler\\_cherry@ios.doi.gov](mailto:tyler_cherry@ios.doi.gov)>; Kelly, Katherine P <[Kate\\_Kelly@ios.doi.gov](mailto:Kate_Kelly@ios.doi.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; Lori Arguelles - NOAA Federal <[lori.arguelles@noaa.gov](mailto:lori.arguelles@noaa.gov)>; Letise LaFeir - NOAA Federal <[letise.lafeir@noaa.gov](mailto:letise.lafeir@noaa.gov)>  
**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Ennis, Jessica A. EOP/CEQ <[Jessica.A.Ennis@ceq.eop.gov](mailto:Jessica.A.Ennis@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Conger, Nicholas M. EOP/WHO <[Nicholas.M.Conger@who.eop.gov](mailto:Nicholas.M.Conger@who.eop.gov)>; Hill, Matt D. EOP/WHO <[Matthew.D.Hill@who.eop.gov](mailto:Matthew.D.Hill@who.eop.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>  
**Subject:** RE: Connecting on Press for Columbia River Basin Announcements

+Jasmine on our team

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Friday, July 8, 2022 3:53 PM  
**To:** Cherry, Tyler A <[tyler\\_cherry@ios.doi.gov](mailto:tyler_cherry@ios.doi.gov)>; Kelly, Katherine P <[Kate\\_Kelly@ios.doi.gov](mailto:Kate_Kelly@ios.doi.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Mayorga, David <[david.mayorga@hq.doe.gov](mailto:david.mayorga@hq.doe.gov)>; Lori Arguelles - NOAA Federal <[lori.arguelles@noaa.gov](mailto:lori.arguelles@noaa.gov)>; Letise LaFeir - NOAA Federal <[letise.lafeir@noaa.gov](mailto:letise.lafeir@noaa.gov)>  
**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Ennis, Jessica A. EOP/CEQ <[Jessica.A.Ennis@ceq.eop.gov](mailto:Jessica.A.Ennis@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Conger, Nicholas M. EOP/WHO <[Nicholas.M.Conger@who.eop.gov](mailto:Nicholas.M.Conger@who.eop.gov)>; Hill, Matt D. EOP/WHO <[Matthew.D.Hill@who.eop.gov](mailto:Matthew.D.Hill@who.eop.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>  
**Subject:** [EXTERNAL] Connecting on Press for Columbia River Basin Announcements

Hi everyone,

Reaching out here on Tuesday's Columbia River news. Hopefully, your teams have flagged that on Tuesday our agencies will announce the availability of two new studies resulting from a continued interagency initiative to restore salmon populations in the Columbia River Basin. The studies include a draft scientific analysis of actions required to achieve healthy and harvestable abundance of key fish stocks in the Basin and an assessment of power production portfolios that could offset the potential loss of electric generation from four Federal dams on the Lower Snake River, if Congress were to pursue a new long-term strategy for the management of the Columbia River hydropower system.

I have attached the draft press release for your review. We are requesting quotes from your deputies, who we're also asking to join the press call on Monday.

**Firstly**, could you please review the attached release and share your quotes and edits by this Sunday, July 10<sup>th</sup> at 1pm ET? We're aiming to finalize by Sunday afternoon.

**Secondly**, I wanted to share the attached press plan. We are working to firm up timing ASAP and will get back. The plan is to host an invite-only press call on Monday evening (likely around 6pm ET). CEQ will manage and moderate press call, as well as send out the invites. A couple notes below:

- You will see a list of key regional reporters in the rollout plan . If there are folks that you think should be included here from your agency's perspective, please flag that for us. We will aim to keep the group small (5-10) and can coordinate.
- We are asking teams to share their scripts ASAP so that we can coordinate. Your teams got a heads up on yesterday's rollout call.
- For NOAA/FWS, and DOE: could you also plan to share embargoed pdf's of your reports by noon on Monday? We will work to make sure the key reporters we land on have the embargoed release and the reports one hour before the call.
- We will soon share the zoom invite. Let me know who we should plan to keep a lookout for from your team.

Please loop if there are others who should be on this chain. We will keep you posted if anything changes with the plan. Thanks for your patience as this comes together.

Best,  
Charissee

**Charissee R. Ridgeway** (she/her)  
Press Secretary, Council on Environmental Quality  
Executive Office of the President  
(b)(6) (cell)

[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)

[www.whitehouse.gov/ceq/](http://www.whitehouse.gov/ceq/)



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**From:** Hairston,John L (BPA) - A-7  
**Sent:** Thursday, July 7, 2022 2:44 PM  
**To:** Koehler,Birgit G (BPA) - PG-5; Baskerville,Sonya L (BPA) - AIN-WASH; Zelinsky,Benjamin D (BPA) - E-4; Leary,Jill C (BPA) - LN-7; Armentrout,Scott G (BPA) - E-4  
**Subject:** RE: RE: Is everything in order?

Thanks for Birgit for the update.

---

**From:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>  
**Sent:** Thursday, July 7, 2022 2:17 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>  
**Subject:** RE: RE: Is everything in order?

*Deliberative Process Privilege; FOIA-exempt.*

I'm adding Scott to this thread.

(b)(5)



---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 2:04 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** RE: RE: Is everything in order?

(b)(5)

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 7, 2022 4:00 PM, "Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:

(b)(5)

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Thursday, July 7, 2022 6:43 AM

**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Subject:** Fwd: RE: Is everything in order?

(b)(5)

I talked with Melissa this morning about this. She is going to talk with S2.

Also, just FYI that (b)(5)

Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

----- Forwarded message -----

From: "Ardis, Melissa" <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

Date: Jul 6, 2022 10:24 PM

Subject: RE: Is everything in order?

To: "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

Cc:

It's been a busy evening. Let me know if you can/want to touch base tomorrow.

Melissa Ardis



Senior Advisor, Power Marketing Administrations

(b)(6)

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Wednesday, July 6, 2022 9:18 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

**Subject:** RE: Is everything in order?

Whew!

Sonya Baskerville

BPA National Relations

(b)(6)

m

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

**Sent:** Wednesday, July 6, 2022 10:05 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Subject:** FW: Is everything in order?

Melissa Ardis

Senior Advisor, Power Marketing Administrations

(b)(6)

---

**From:** Mallory, Brenda EOP/CEQ (b)(6)

**Sent:** Wednesday, July 6, 2022 9:02 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>

**Cc:** Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>;

Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Hairston, John L <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>

**Subject:** [EXTERNAL] RE: Is everything in order?

DOE/BPA teams – Circling back to thank you all for the discussions that achieved the postponement. I just noticed that John was on this chain. Thank you, John, for your cooperation as well.

I look forward to our continued engagement on this important matter. Take care. B

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

**Sent:** Wednesday, July 6, 2022 10:30 PM

**To:** Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>; Mallory, Brenda EOP/CEQ (b)(6)

**Cc:** Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>;

Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Hairston, John L <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>

**Subject:** RE: Is everything in order?

DS Turk –

Yes, we have BPA – with S3 and S2 support as needed - on point to relay the following message:

*E3's presentation to the Council on analysis of potential replacement resources and costs for the lower Snake River dams is being rescheduled. There is ongoing coordination with other federal agencies and officials on the broader release plan for the presentation and final study. It is expected that the presentation and final study will be released in mid-July.*

Additionally, with agreement from NWPCC – who has just pushed a postponement of tomorrow’s meeting to all registered attendees – **to July 12** – we have additional time to coordinate with CEQ on the E3 Study.

Thank you,

Melissa Ardis  
Senior Advisor, Power Marketing Administrations

(b)(6)

---

**From:** Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>  
**Sent:** Wednesday, July 6, 2022 8:13 PM  
**To:** Mallory, Brenda EOP/CEQ (b)(6)  
**Cc:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Subject:** Re: Is everything in order?

Melissa,

All set on the plan for tomorrow?

Dave

---

**From:** Mallory, Brenda EOP/CEQ (b)(6)  
**Sent:** Wednesday, July 6, 2022 9:51 PM  
**To:** Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>  
**Subject:** [EXTERNAL] Is everything in order?

We need to let folks know where things stand. Thanks. B

Sent from my iPhone

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---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 10:11 AM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH; Hairston,John L (BPA) - A-7; Zelinsky,Benjamin D (BPA) - E-4; Leary,Jill C (BPA) - LN-7; Armentrout,Scott G (BPA) - E-4  
**Subject:** RE: RE: Is everything in order?

From the I/M report, page 8,the E3 information can be included even separately from the formal, July 11 deadline comments.

## Next steps in the Murray-Inslee process

This draft report will be available for public review from June 9, 2022, through July 11, 2022. Comments on the draft report can be provided via email, through the project website or by mail. All comments must be submitted by 5 p.m., PST, on July 11, 2022.

- Emailed comments can be sent to [info@lsrdoptions.org](mailto:info@lsrdoptions.org) with the email subject line “Draft LSRD Benefit Replacement Study.”
- Online comments can be submitted through the project website: <https://www.lsrdoptions.org/>.

This draft report is not the final report and does not constitute a recommendation on whether the Lower Snake River Dams should be either breached or retained. This report will continue to be informed by input occurring between now and the conclusion of the Murray-Inslee process. This input includes, but is not limited to, public comment received in the June-July period, direct engagement led by the senator and the governor, and further relevant data made available before the process completes in summer 2022. When the process completes, a final version of the report will be released and will form a component of the governor and senator’s recommendations on a path forward for the region.

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 7:10 AM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: RE: Is everything in order?

John,

(b)(5)

I don’t know if there is room to squeeze into your calendar, but it might be good to have a short group conversation. We collectively have a lot of emotions to work through, but also a few logistics questions to coordinate. Doable by email, but it might be healthy to do it live, preferably before the 11 am FMCS meeting.

Birgit

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 6:43 AM  
**To:** Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Leary,Jill C

(BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Subject:** Fwd: RE: Is everything in order?

(b)(5)

I talked with Melissa this morning about this. She is going to talk with S2.

Also, just FYI that (b)(5)

Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

----- Forwarded message -----

From: "Ardis, Melissa" <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

Date: Jul 6, 2022 10:24 PM

Subject: RE: Is everything in order?

To: "Baskerville, Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

Cc:

It's been a busy evening. Let me know if you can/want to touch base tomorrow.

Melissa Ardis

Senior Advisor, Power Marketing Administrations

(b)(6)

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**Sent:** Wednesday, July 6, 2022 9:18 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

**Subject:** RE: Is everything in order?

Whew!

Sonya Baskerville  
BPA National Relations

(b)(6) m

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**Sent:** Wednesday, July 6, 2022 10:05 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Subject:** FW: Is everything in order?

Melissa Ardis

Senior Advisor, Power Marketing Administrations

(b)(6)

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**From:** Mallory, Brenda EOP/CEQ (b)(6)  
**Sent:** Wednesday, July 6, 2022 9:02 PM  
**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>  
**Cc:** Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Hairston, John L <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Is everything in order?

DOE/BPA teams – Circling back to thank you all for the discussions that achieved the postponement. I just noticed that John was on this chain. Thank you, John, for your cooperation as well.

I look forward to our continued engagement on this important matter. Take care. B

---

**From:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Sent:** Wednesday, July 6, 2022 10:30 PM  
**To:** Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>; Mallory, Brenda EOP/CEQ (b)(6)  
**Cc:** Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Hairston, John L <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>  
**Subject:** RE: Is everything in order?

DS Turk –

Yes, we have BPA – with S3 and S2 support as needed - on point to relay the following message:

*E3's presentation to the Council on analysis of potential replacement resources and costs for the lower Snake River dams is being rescheduled. There is ongoing coordination with other federal agencies and officials on the broader release plan for the presentation and final study. It is expected that the presentation and final study will be released in mid-July.*

Additionally, with agreement from NWPCC – who has just pushed a postponement of tomorrow's meeting to all registered attendees – **to July 12** – we have additional time to coordinate with CEQ on the E3 Study.

Thank you,

Melissa Ardis  
Senior Advisor, Power Marketing Administrations

(b)(6)

---

**From:** Turk, David <[david.turk@hq.doe.gov](mailto:david.turk@hq.doe.gov)>  
**Sent:** Wednesday, July 6, 2022 8:13 PM  
**To:** Mallory, Brenda EOP/CEQ (b)(6)  
**Cc:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Subject:** Re: Is everything in order?

Melissa,

All set on the plan for tomorrow?

Dave

**From:** Mallory, Brenda EOP/CEQ <(b)(6)>  
**Sent:** Wednesday, July 6, 2022 9:51 PM  
**To:** Turk, David <david.turk@hq.doe.gov>  
**Subject:** [EXTERNAL] Is everything in order?

We need to let folks know where things stand. Thanks. B

Sent from my iPhone

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This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*  
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This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

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**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Monday, July 11, 2022 4:19 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH; Armentrout,Scott G (BPA) - E-4; Hairston,John L (BPA) - A-7; James,Eve A L (BPA) - PG-5; Zelinsky,Benjamin D (BPA) - E-4; Scruggs,Joel L (BPA) - DK-7; Habibi,Maryam A (BPA) - DKP-7  
**Subject:** RE: RE: urgent RE: E3 Talking Points/Other Materials

[How about adding](#)

An additional scenario using only currently available technology extends the range of costs up to \$75 billion.

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 4:08 PM  
**To:** Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; James,Eve A L (BPA) - PG-5 <ejames@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bškoehler@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>  
**Subject:** Fwd: RE: urgent RE: E3 Talking Points/Other Materials

Sending to the others who don't have this. Reading through it now.

Sonya Baskerville  
BPA National Relations

(b)(6) m

----- Forwarded message -----

**From:** "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Date:** Jul 11, 2022 4:57 PM  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials  
**To:** "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>,"Ardis, Melissa" <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>,"Daly, Gabriel" <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>,"Bhattacharyya, Arpita" <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>,"Godwin,Mary E (BPA) - LN-7" <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>,"Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>,"Dimitriou, Jasmine" <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>,"Troiano, Charisma L" <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Cc:**

Sonya and BPA team – attached is the WH press release for tonight, with my edits – can you review ASAP, like in a matter of minutes?

---

**From:** Baumann, Jeremiah  
**Sent:** Monday, July 11, 2022 4:25 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** urgent RE: E3 Talking Points/Other Materials

Sonya and BPA team – can you please figure out ASAP whether it’s feasible, and who would release (E3?) the full study tonight, for 6am embargo? Or do we need to insist that the salmon paper and E3 study both be held for embargo/release **\*after\*** the NWPCC briefing? (I’m sensitive to stepping on your/E3 plans for releasing the full study.)

The draft WH press release says “Federal agencies release” so at least we all agree the studies are supposed to be being released at the same time...will forward you the draft release in a minute (am adding my own edits)

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 4:21 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Yep.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 4:16 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

They are both embargoed, and I’ve seen the CEQ talking points that say very clearly it is **\*not\*** administration policy. But there’s still a gap, which is that right now the salmon paper would go out, embargoed until 6am, but the E3 paper will only have been briefed without paper. I’m going to flag this for CEQ – the E3 study would need to be released for the 6am embargo I think....

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 3:38 PM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

I pushed send before i was done. Sorry. I think that would be past all press deadlines for media prior to the Council briefing with the exception of news alerts of online reporting that could be done quickly. I will check with our media lead on any requests he is fielding today.

I think the concerning issue I'm hearing from the Hill and we share is that CEQ appears to be pushing the NOAA paper as an administration document and also saying they support it, in addition to it being prior to release of the E3 analysis. If both the NOAA paper and the E3 analysis are embargoed until the 6:00a, that at least may calm some concern.

Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m



On Jul 11, 2022 3:21 PM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:  
Here is the agenda item, Mountain Time.

3:30 – 5 p.m. Mountain Time

Energy and Environmental Economics (E3) study on Lower Snake River Dams Power Replacement: Arne Olsen, E3.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 3:01 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

Sonya what time is the NWPCC briefing tomorrow? I think WH is saying the press embargo on tonight's briefing lifts at 6am tomorrow, which would allow for stories running before the NWPCC briefing...do we need to push back on that?

---

**From:** Baumann, Jeremiah

**Sent:** Monday, July 11, 2022 12:42 PM

**To:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Hi Sonya – adding Jasmine and Arpita from the S1/S2 office, as this is all moving very quickly – (b)(6)

(b)(6) so just putting pieces together myself....what seems to be happening is—

- to get comfortable with briefing the E3 results, they are aligning comms around the NOAA/FWS salmon science “summary” and the E3 study.
- This is actually something John and I were in conversations about last week and the week before, i.e. we were suggesting that rather than objecting to BPA/E3 releasing the study, they align the narrative that the science paper talks about what it would take to reach certain fish levels (with clarity those are not ESA/litigation relevant levels) and E3 says what it would cost
- They seem to be doing that, but doing it TODAY, bc of the NWPCC briefing happening tomorrow
- Plan is a 30-min Member briefing and 30-min press briefing with brief overviews of both documents
- We need to make sure they are NOT calling it a DOE study
- We also need to get clarity on embargo

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 11:12 AM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

The invitation. And I'm told that they also are going to over the "DOE" report.

From: Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>

Sent: Sunday, July 10, 2022 12:38 PM

To: Jones, Ashley A. EOP/WHO <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Black, Jonathan Y. EOP/WHO <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>

Subject: FW: Invitation to embargoed member briefing

Good afternoon,

I hope your weekend is going well. I wanted to ensure you saw my note from Friday evening inviting your boss to a member briefing. If your boss and staff are able to join, I hope you will register in advance.

Best,

Radha

From: Adhar, Radha EOP/CEQ <>

Sent: Friday, July 8, 2022 8:14 PM

To: Ashley A. EOP/WHO Jones ([Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)) <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Jonathan Y. EOP/WHO Black ([Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)) <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>; Buetow, Zephra N. EOP/WHO <[Zephra.N.Buetow@who.eop.gov](mailto:Zephra.N.Buetow@who.eop.gov)>

Subject: Invitation to embargoed member briefing

The White House Logo

Good evening,

Your boss is invited to join an embargoed member briefing Monday, July 11th at 6:00pm ET. This briefing will feature senior officials from the White House, the National Oceanic and Atmospheric Administration, the Department of Energy and Fish and Wildlife Service and will provide an update on the Columbia River Basin. Please register your member and any staff attending here: <https://pitc.zoomgov.com/meeting/register/vJltcuigpzorEtWx1TOuXZkGtuys6hsUx48>

Please let me know if you have any questions, and hope you have a wonderful weekend.

Radha

Radha Adhar

202-881-8151

Director of Legislative Affairs

Council on Environmental Quality

Executive Office of the President

Sonya Baskerville

BPA National Relations

(b)(6) m

On Jul 11, 2022 11:04 AM, "Baskerville, Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:



Hey there. I understand that CEQ is meeting with Members/Senators this afternoon. I'm not sure we knew about it, and it's curious because they have asked us all to be coordinated on comms. Yet they are having this meeting without the comms plan being complete. Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 8, 2022 1:10 PM, "Leary, Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:  
Great, thanks.

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 10:04 AM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** [EXTERNAL] RE: E3 Talking Points/Other Materials

I just heard from CEQ – they expect White House comms to reach out this afternoon with a comms package.

Gabe

---

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 10:42 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Cc:** Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)  
**Subject:** E3 Talking Points/Other Materials

Good morning,  
Do you have a sense of when the media package for E3 will be ready?

I know it is in process, but would love to know when to expect so I can help set internal expectations.

Thanks,  
Jill

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 21, 2022 12:05 PM  
**To:** Godwin,Mary E (BPA) - LN-7; James,Eve A L (BPA) - PG-5; Johnson,G Douglas (BPA) - DK-7; Goodwin,Summer G (BPA) - DKS-7; Habibi,Maryam A (BPA) - DKP-7; Baskerville,Sonya L (BPA) - AIN-WASH; Scruggs,Joel L (BPA) - DK-7; Leary,Jill C (BPA) - LN-7  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

Yes, the rescheduled Council presentation was Tuesday, July 12

---

**From:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Sent:** Thursday, July 21, 2022 12:03 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Goodwin,Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>; Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[sibaskerville@bpa.gov](mailto:sibaskerville@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

Hi All,  
I had a correction on the day for the E3 presentation to the Council. I **\*think\*** it occurred on the 12<sup>th</sup>. Please check me on that.

(b)(5)



Thanks,  
Mary

Mary E. Godwin  
Attorney-Adviser  
Office of General Counsel  
Bonneville Power Administration  
905 NE 11<sup>th</sup> Avenue  
Portland, OR 97232  
(503) 230-4750

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---

**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Wednesday, July 20, 2022 2:04 PM  
**To:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Goodwin,Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>;

Habibi, Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Scruggs, Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

Thanks Doug- attached is a version with a few edits for your consideration.

---

**From:** Johnson, G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gjohnson@bpa.gov)>  
**Sent:** Wednesday, July 20, 2022 1:55 PM  
**To:** Goodwin, Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>; Habibi, Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Scruggs, Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

Here is what I propose we send via Comms email regarding the E3 presentation, etc.

---

**From:** Johnson,G Douglas (BPA) - DK-7  
**Sent:** Thursday, July 21, 2022 12:48 PM  
**To:** Godwin,Mary E (BPA) - LN-7; James,Eve A L (BPA) - PG-5; Goodwin,Summer G (BPA) - DKS-7; Habibi,Maryam A (BPA) - DKP-7; Baskerville,Sonya L (BPA) - AIN-WASH; Scruggs,Joel L (BPA) - DK-7; Leary,Jill C (BPA) - LN-7  
**Cc:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

As long as they have the E3 stuff, which was a large part of our response to the Murray-Inslee draft, we can hold off. We can always send in week or so ....

---

**From:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Sent:** Thursday, July 21, 2022 12:03 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Goodwin,Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>; Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email

Hi All,

I had a correction on the day for the E3 presentation to the Council. I **\*think\*** it occurred on the 12<sup>th</sup>. Please check me on that.

(b)(5)

Thanks,  
Mary  
Mary E. Godwin  
Attorney-Adviser  
Office of General Counsel  
Bonneville Power Administration  
905 NE 11<sup>th</sup> Avenue  
Portland, OR 97232  
(503) 230-4750

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---

**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Wednesday, July 20, 2022 2:04 PM  
**To:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Goodwin,Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>; Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email  
Thanks Doug- attached is a version with a few edits for your consideration.

---

**From:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>  
**Sent:** Wednesday, July 20, 2022 1:55 PM  
**To:** Goodwin,Summer G (BPA) - DKS-7 <[sggoodwin@bpa.gov](mailto:sggoodwin@bpa.gov)>; Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** REVIEW REQUESTED: E3 presentation, study and Council meeting recording Comms email  
Here is what I propose we send via Comms email regarding the E3 presentation, etc.

---

**From:** Johnson,G Douglas (BPA) - DK-7  
**Sent:** Friday, July 8, 2022 7:28 AM  
**To:** Koehler,Birgit G (BPA) - PG-5; Leary,Jill C (BPA) - LN-7  
**Cc:** Godwin,Mary E (BPA) - LN-7  
**Subject:** RE: Touching base on Snake River Comms

Yep. I am assuming they are still reviewing the talking points and other materials. Any idea when those will be done?

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, July 8, 2022 7:26 AM  
**To:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** RE: Touching base on Snake River Comms

That's just weird. CEQ insists that they will do the comms, but then don't want to say that they are involved?

It is bizarre.

---

**From:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>  
**Sent:** Friday, July 8, 2022 7:18 AM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** RE: Touching base on Snake River Comms

Yeah. They advised that last night. I'll refrain from commenting.

---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 7:17 AM  
**To:** Johnson,G Douglas (BPA) - DK-7 <[gdjohnson@bpa.gov](mailto:gdjohnson@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** FW: Touching base on Snake River Comms

FYI

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Thursday, July 7, 2022 6:04 PM  
**To:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Cc:** Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>  
**Subject:** [EXTERNAL] RE: Touching base on Snake River Comms

Will advise BPA to remove. Answering Charissee's Q—the outlet is Clearing up (part of NewsData)

---

**From:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>  
**Sent:** Thursday, July 7, 2022 8:52 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Cc:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>; Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov); Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>  
**Subject:** [EXTERNAL] Re: Touching base on Snake River Comms

I don't see a benefit of adding the sentence in red.

On Jul 7, 2022, at 8:47 PM, Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)> wrote:

Hi Charisma,

Thanks for reaching out on this. What's the name of the publication? I had received a similar inquiry as we were nailing down timelines today from NewsData.

I'm looping a few other folks from our team for visibility.

Yes, we had an initial rollout call today and will soon circulate a release and tick tock with the full group.

Matt/Sara, do you have recommendations here. I know you have been working with a number of folks.

Thanks,  
Charissee

---

**From:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Sent:** Thursday, July 7, 2022 8:38 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Cc:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov); Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Hasan, Abdullah EOP/WHO <[Abdullah.Hasan@who.eop.gov](mailto:Abdullah.Hasan@who.eop.gov)>  
**Subject:** Touching base on Snake River Comms  
**Importance:** High

Hey Charissee,

I learned that CEQ is the lead on this item -- a study coming from electric industry research firm Energy and Environmental Economics (E3) which was contracted by Bonneville Power Administration (BPA) to conduct an independent analysis of the electricity system value of the four lower Snake River dams.

Clearing Up, a widely read trade publication in the Northwest, is working on story that will be published tomorrow (Friday, July 7). The reporter intends to use this passage in the story. I'm wondering if you have any concerns with the language in red. (this is coming from BPA)

*E3's presentation to the Council on analysis of potential replacement resources and costs for the lower Snake River dams is being rescheduled. We continue to coordinate with other federal agencies and*

*officials on the broader release plan for the presentation and final study. The briefing has been rescheduled for Tuesday. DOE and CEQ are involved in the discussions.*

In addition, is CEQ taking lead on comms around this? In other words, should we send inquiries your way?

--  
**Charisma L. Troiano**  
Press Secretary  
U.S. Department of Energy  
[Charisma.Troiano@hq.doe.gov](mailto:Charisma.Troiano@hq.doe.gov) | 240.751.8380

\*\*\*\*\*

This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*



---

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Wednesday, June 1, 2022 1:54 PM  
**To:** James, Eve A L (BPA) - PG-5  
**Cc:** Koehler, Birgit G (BPA) - PG-5; Pruder Scruggs, Kathryn M (BPA) - E-4  
**Subject:** RE: UNTITLED.pptx

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(b)(5)

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**From:** James, Eve A L (BPA) - PG-5 <[ejames@bpa.gov](mailto:ejames@bpa.gov)>  
**Sent:** Wednesday, June 1, 2022 1:27 PM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Pruder Scruggs, Kathryn M (BPA) - E-4 <[kpruder@bpa.gov](mailto:kpruder@bpa.gov)>  
**Subject:** UNTITLED.pptx

**Deliberative, FOIA exempt**

Hi Jill-

(b)(5)

Thanks,  
Eve

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**From:** Leary,Jill C (BPA) - LN-7  
**Sent:** Friday, July 8, 2022 12:43 PM  
**To:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: briefings for D/As

Please do, thanks.

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, July 8, 2022 12:42 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** RE: briefings for D/As

Chances are good that he's free. This is as of a couple of days ago.. 2-3 pm ET is 11 PDT. Should I confirm and tell him to mark it off?

Here is my availability for next week (as of Wed evening's email 7/6):

Tuesday, 7/12  
- 8-11 AM  
- 1-5 PM  
Wednesday, 7/13  
- Anytime  
Thursday, 7/14  
- After 10 AM  
Friday, 7/15  
- 8-10 AM

---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 12:40 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** FW: briefings for D/As

Hi Birgit,  
Would you check on Arne's availability for a briefing on July 14 from 2 to 3pm ET (10 to 11an Pacific)?

Thanks,  
Jill

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 12:36 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** [EXTERNAL] FW: briefings for D/As

Jill,

See below. Would it be possible to get E3 to brief on 7/14 instead?

Thanks,  
Gabe

---

**From:** Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>  
**Sent:** Friday, July 8, 2022 1:18 PM  
**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Zachary Penney - NOAA Federal <[zachary.penney@noaa.gov](mailto:zachary.penney@noaa.gov)>  
**Cc:** Lee-Ashley, Matt G. EOP/CEQ <[Matthew.G.Lee-Ashley@ceq.eop.gov](mailto:Matthew.G.Lee-Ashley@ceq.eop.gov)>; Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>  
**Subject:** [EXTERNAL] briefings for D/As

Gabe and Zack,

Given the flurry of activity going on in the next few days and the burden that is creating, I would propose moving the briefing of the E3 study and salmon science report for Departments and Agencies—including regional execs—from Monday July 11 to Thursday, July 14 from 2-3 PM Eastern (taking advantage of the 30 minutes we already have scheduled for our interagency check in). I would propose a 30 minute briefing on each report to ensure that D/As understand the materials that have been released. What do you think?

Justin

Justin Pidot  
General Counsel  
Council on Environmental Quality  
Executive Office of the President

\*\*\*\*\*

This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*

---

**From:** Ashby,Gordon S (BPA) - PGA-6  
**Sent:** Friday, July 8, 2022 7:09 AM  
**To:** Leary,Jill C (BPA) - LN-7; Koehler,Birgit G (BPA) - PG-5; Welch,Dorothy W (BPA) - E-4  
**Cc:** James,Eve A L (BPA) - PG-5  
**Subject:** RE: e3 numbers, paragraph on p. 37  
**Attachments:** RE: Updated LSN project costs

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

Attached is the only email I remember on the subject.

Gordon

---

**From:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Sent:** Thursday, July 7, 2022 5:27 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Ashby,Gordon S (BPA) - PGA-6 <gsashby@bpa.gov>; Welch,Dorothy W (BPA) - E-4 <dwwelch@bpa.gov>  
**Cc:** James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Subject:** RE: e3 numbers, paragraph on p. 37

And it is really me😊

---

**From:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>  
**Sent:** Thursday, July 7, 2022 4:56 PM  
**To:** Ashby,Gordon S (BPA) - PGA-6 <gsashby@bpa.gov>; Welch,Dorothy W (BPA) - E-4 <dwwelch@bpa.gov>  
**Cc:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Subject:** FW: e3 numbers, paragraph on p. 37

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

Gordon and Dorie,  
It's me again, and the topic is again about the LSRCF.

(b)(5)



Thanks,  
Birgit

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 4:50 PM  
**To:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>  
**Subject:** RE: e3 numbers, paragraph on p. 37

Jill,

(b)(5)



Birgit

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 3:48 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;  
Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 3:46 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;  
Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

Hi Birgit,

(b)(5)



Thanks,  
Jill

From: Ashby, Gordon S (BPA) - PGA-6

Sent: Wed Mar 16 07:34:47 2022

To: James, Eve A L (BPA) - PG-5; Leary, Jill C (BPA) - LN-7

Cc: Godwin, Mary E (BPA) - LN-7; Johnson, Kimberly O (BPA) - PGAF-6; Todd, Wayne A (BPA) - PGA-6; Welch, Dorothy W (BPA) - E-4


Subject: RE: Updated LSN project costs

Importance: Normal

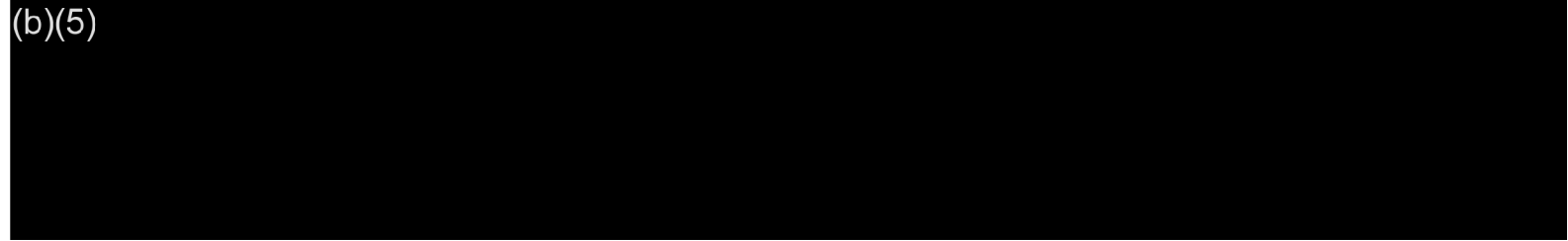
Attachments: image001.png

***Confidential and privileged attorney client communication/FOIA-exempt***

(b)(5)

A solid black rectangular redaction box covering the first paragraph of the email body.

(b)(5)

A large solid black rectangular redaction box covering the majority of the email body.

Gordon

**From:** James,Eve A L (BPA) - PG-5 <ejames@bpa.gov>  
**Sent:** Wednesday, March 16, 2022 6:54 AM  
**To:** Ashby,Gordon S (BPA) - PGA-6 <gsashby@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Johnson,Kimberly O (BPA) - PGAF-6 <kojohnson@bpa.gov>; Todd,Wayne A (BPA) - PGA-6 <watodd@bpa.gov>; Welch,Dorothy W (BPA) - E-4 <dwwelch@bpa.gov>  
**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

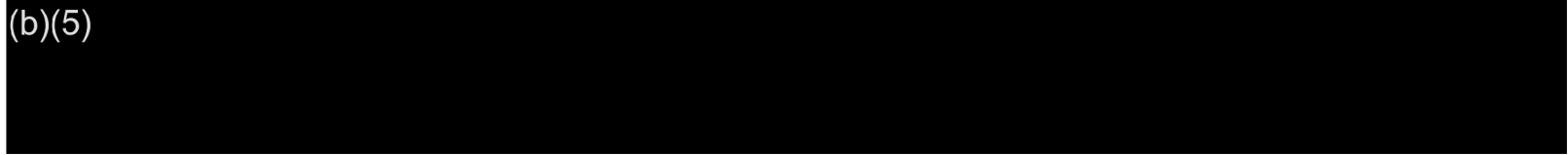
(b)(5)

**From:** Ashby,Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Sent:** Tuesday, March 15, 2022 5:16 PM  
**To:** James,Eve A L (BPA) - PG-5 <[ejames@bpa.gov](mailto:ejames@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson,Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd,Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch,Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

Eve,



(b)(5)



Gordon

**From:** James,Eve A L (BPA) - PG-5 <[ejames@bpa.gov](mailto:ejames@bpa.gov)>

**Sent:** Tuesday, March 15, 2022 5:11 PM


**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ashby,Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson,Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd,Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch,Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>

**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Tuesday, March 15, 2022 4:34 PM

**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6  
<[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch, Dorothy W (BPA) - E-4  
<[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)

**From:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Sent:** Tuesday, March 15, 2022 4:29 PM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6  
<[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch, Dorothy W (BPA) - E-4  
<[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Tuesday, March 15, 2022 3:32 PM

**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

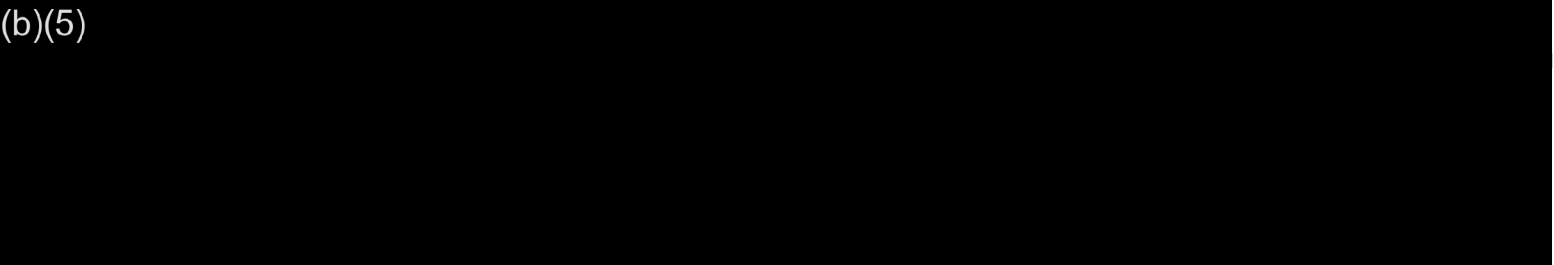
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>

**Subject:** RE: Updated LSN project costs

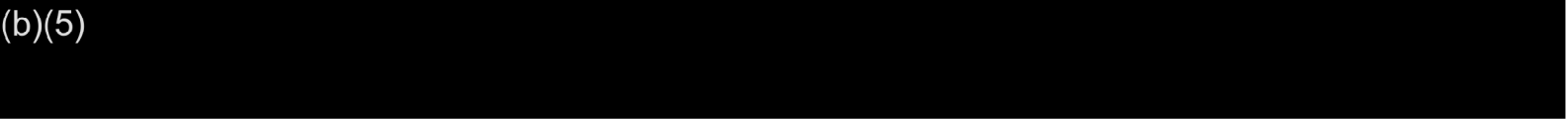
***Confidential and privileged attorney client communication/FOIA-exempt***

Hi Eve,

(b)(5)



(b)(5)



Thanks,

Jill

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Tuesday, March 15, 2022 12:47 PM  
**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)> <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)

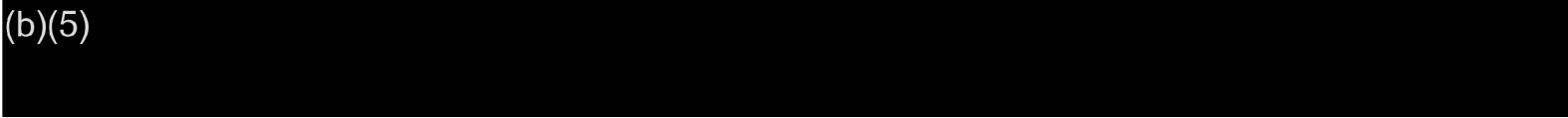
(b)(5)

**From:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Sent:** Tuesday, March 15, 2022 12:44 PM  
**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

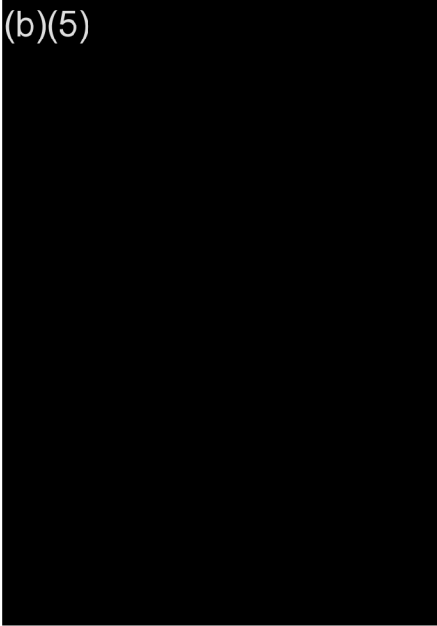
**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>;  
Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



(b)(5)



(b)(5)

**From:** James,Eve A L (BPA) - PG-5 <[ejames@bpa.gov](mailto:ejames@bpa.gov)>  
**Sent:** Tuesday, March 15, 2022 11:58 AM  
**To:** Ashby,Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Cc:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>;  
Johnson,Kimberly O (BPA) - PGA-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd,Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>  
**Subject:** RE: Updated LSN project costs

***Confidential and privileged attorney client communication/FOIA-exempt***

Hi Gordon-

(b)(5)

Thanks,

Eve

**From:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>

**Sent:** Friday, March 11, 2022 12:28 PM

**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>

**Subject:** RE: Updated LSN project costs

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)

(b)(5)

Gordon

**From:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Sent:** Friday, March 11, 2022 12:21 PM


**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>

**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>

**Subject:** RE: Updated LSN project costs

***Confidential and privileged attorney client communication/FOIA-exempt***

(b)(5)



**From:** James, Eve A L (BPA) - PG-5

**Sent:** Friday, March 11, 2022 12:07 PM

**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>

**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>

**Subject:** RE: Updated LSN project costs

***Confidential and privileged attorney client communication/FOIA-exempt***

(b)(5)



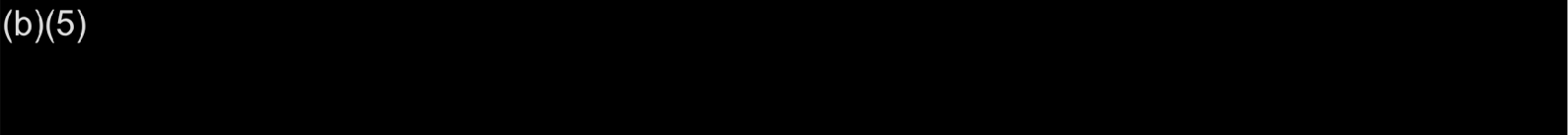


**From:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Sent:** Tuesday, March 8, 2022 4:26 PM  
**To:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>;  
Johnson, Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd, Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>  
**Subject:** RE: Updated LSN project costs


*Confidential and privileged attorney client communication/FOIA-exempt*

Hi Eve,

(b)(5)


A large rectangular area of the document is completely blacked out, indicating redacted content.

(b)(5)

A rectangular area of the document is completely blacked out, indicating redacted content.

Let me know if you need anything else or need me to clarify anything.

(b)(5)



(b)(5)

(b)(5)



Gordon

**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Sent:** Tuesday, March 8, 2022 3:38 PM

**To:** Ashby,Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>

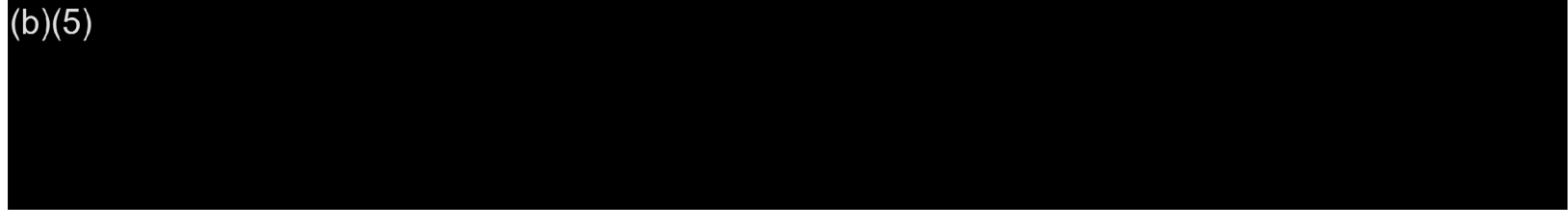
**Cc:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>;  
Johnson,Kimberly O (BPA) - PGAF-6 <[kojohnson@bpa.gov](mailto:kojohnson@bpa.gov)>; Todd,Wayne A (BPA) - PGA-6 <[watodd@bpa.gov](mailto:watodd@bpa.gov)>

**Subject:** Updated LSN project costs


***Confidential and privileged attorney client communication/FOIA-exempt***

Hi Gordon-

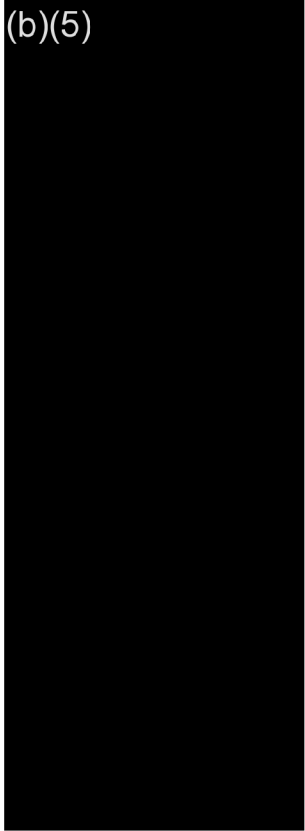
(b)(5)



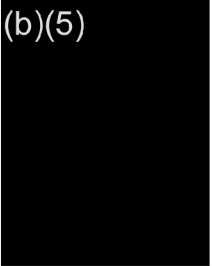
(b)(5)



(b)(5)



(b)(5)



Thanks!

Eve

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 4:50 PM  
**To:** Leary,Jill C (BPA) - LN-7; Baskerville,Sonya L (BPA) - AIN-WASH  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4; James,Eve A L (BPA) - PG-5; Godwin,Mary E (BPA) - LN-7; Armentrout,Scott G (BPA) - E-4  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

Jill,

(b)(5)



Birgit

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 3:48 PM  
**To:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



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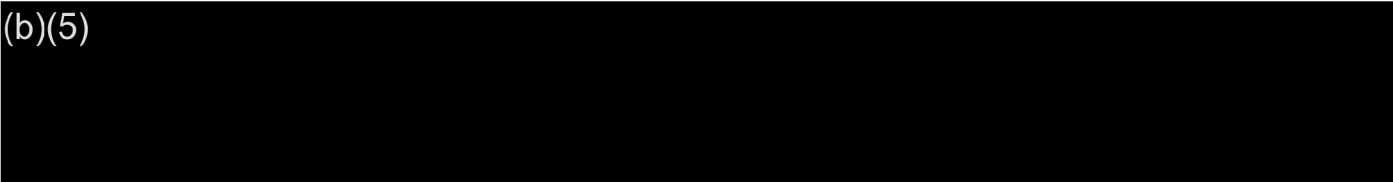
**From:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Sent:** Thursday, July 7, 2022 3:46 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>;

Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

Hi Birgit,

(b)(5)



Thanks,  
Jill

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Sent:** Thursday, July 7, 2022 1:28 PM

**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;

Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>

**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

(b)(5)



---

**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Tuesday, July 5, 2022 11:18 AM

**To:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;

Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers

*Confidential and privileged attorney client communication/FOIA-exempt*

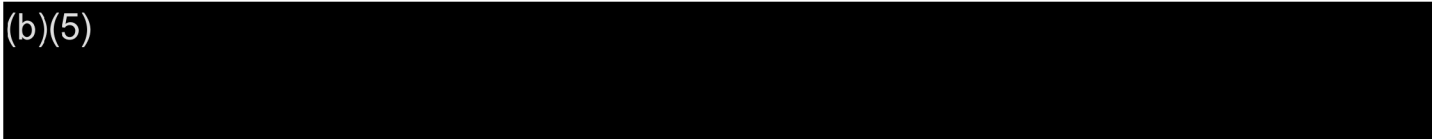
(b)(5)



---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Tuesday, July 5, 2022 10:39 AM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>;  
Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** FW: e3 numbers

(b)(5)



Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 5, 2022 11:41 AM, "Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:

*Confidential and privileged attorney client communication/FOIA-exempt*

Hi Birgit,

I will give you a call momentarily, but please note Justin Pidot's email to Gabe.

DOE would like to respond today, so will call you in a moment to discuss, thanks.

Jill

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Tuesday, July 5, 2022 8:51 AM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Subject:** [EXTERNAL] Fwd: e3 numbers

Hi Jill,

See below. If there's anything you can tell me about these questions, that would also be very helpful.



Thanks,  
Gabe

---

**From:** Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>  
**Sent:** Tuesday, July 5, 2022 11:48:39 AM  
**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Cc:** Gonzalez-Rothi, Sara R. EOP/CEQ <[Sara.R.Gonzalez-Rothi@ceq.eop.gov](mailto:Sara.R.Gonzalez-Rothi@ceq.eop.gov)>  
**Subject:** [EXTERNAL] RE: e3 numbers

Hi Gabe,

(b)(5)



Justin

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Tuesday, July 5, 2022 9:50 AM  
**To:** Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Subject:** RE: e3 numbers

Hi Justin,

(b)(5)



Gabe

---

**From:** Pidot, Justin R. EOP/CEQ <[Justin.R.Pidot@ceq.eop.gov](mailto:Justin.R.Pidot@ceq.eop.gov)>  
**Sent:** Tuesday, July 5, 2022 9:36 AM  
**To:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Subject:** [EXTERNAL] e3 numbers

Hi Jeremiah and Gabe,

(b)(5)



Thanks,

Justin

Justin Pidot  
General Counsel

\*\*\*\*\*  
This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*  
\*\*\*\*\*  
This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*

---

**From:** Leary, Jill C (BPA) - LN-7  
**Sent:** Friday, July 8, 2022 7:26 AM  
**To:** Koehler, Birgit G (BPA) - PG-5; Ashby, Gordon S (BPA) - PGA-6; Welch, Dorothy W (BPA) - E-4  
**Cc:** James, Eve A L (BPA) - PG-5; Godwin, Mary E (BPA) - LN-7  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

Thanks, Birgit.

(b)(5)



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**From:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Friday, July 8, 2022 7:19 AM  
**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Cc:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

(b)(5)



---

**From:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>  
**Sent:** Friday, July 8, 2022 7:09 AM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Cc:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

Attached is the only email I remember on the subject.

Gordon

---

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 5:27 PM  
**To:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Cc:** James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

And it is really me☺

---

**From:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 4:56 PM  
**To:** Ashby, Gordon S (BPA) - PGA-6 <[gsashby@bpa.gov](mailto:gsashby@bpa.gov)>; Welch, Dorothy W (BPA) - E-4 <[dwwelch@bpa.gov](mailto:dwwelch@bpa.gov)>  
**Cc:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** FW: e3 numbers, paragraph on p. 37

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Gordon and Dorie,  
It's me again, and the topic is again about the LSRCP.

(b)(5)



Thanks,  
Birgit

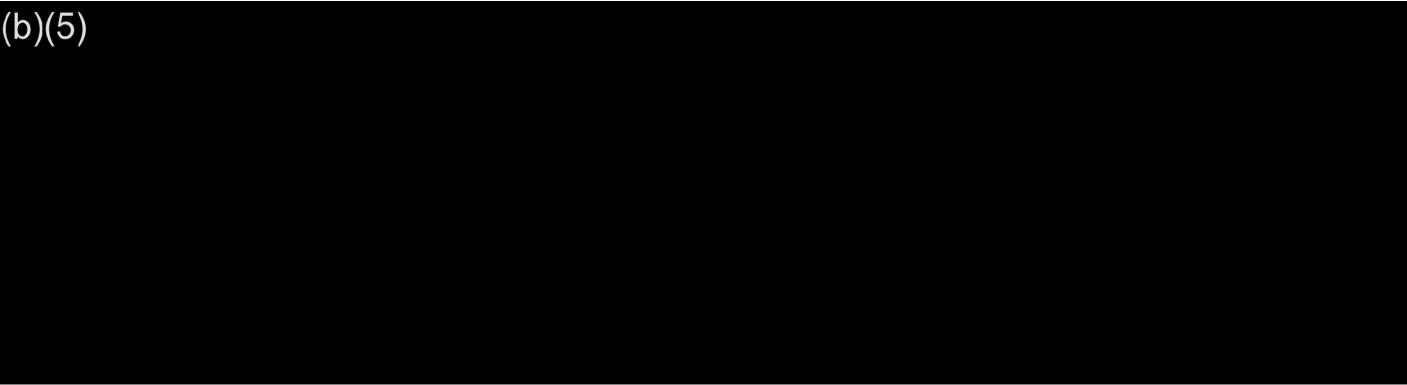
---

**From:** Koehler, Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 4:50 PM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Cc:** Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and Privileged, Attorney-Client Communication, Do Not Release under FOIA*

Jill,

(b)(5)



(b)(5)

Birgit

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Thursday, July 7, 2022 3:48 PM  
**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

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(b)(5)

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**From:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Thursday, July 7, 2022 3:46 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Cc:** Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** RE: e3 numbers, paragraph on p. 37

*Confidential and privileged attorney client communication/FOIA-exempt*

Hi Birgit,

(b)(5)

Thanks,  
Jill

---

**From:** James,Eve A L (BPA) - PG-5  
**Sent:** Tuesday, May 24, 2022 11:05 AM  
**To:** Pruder Scruggs,Kathryn M (BPA) - E-4; Armentrout,Scott G (BPA) - E-4  
**Cc:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: suggestions to make E3 study less technical for lay audience 5 24.pptx

(b)(5)



---

**From:** Pruder Scruggs,Kathryn M (BPA) - E-4 <[kpruder@bpa.gov](mailto:kpruder@bpa.gov)>  
**Sent:** Tuesday, May 24, 2022 11:03 AM  
**To:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Cc:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: suggestions to make E3 study less technical for lay audience 5 24.pptx

(b)(5)



On May 24, 2022 10:55 AM, "Armentrout,Scott G (BPA) - E-4" <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)> wrote:

(b)(5)



**SCOTT G ARMENTROUT**

Executive Vice President, Environment, Fish & Wildlife, SES | E-4

**BONNEVILLE POWER ADMINISTRATION**

[bpa.gov](http://bpa.gov) | P 503-230-3076 | C (b)(6)



---

**From:** Pruder Scruggs,Kathryn M (BPA) - E-4 <[kpruder@bpa.gov](mailto:kpruder@bpa.gov)>  
**Sent:** Tuesday, May 24, 2022 9:59 AM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Cc:** Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>  
**Subject:** suggestions to make E3 study less technical for lay audience 5 24.pptx  
**Importance:** High

Scott – this is FYI only. Eve and Birgit will likely have edits so this is still draft. However, I do welcome your comments at any point in the process.

Eve and Birgit – Here's my first take on this. I'm available to continue working with you, but I need to be offline for a few hours over lunchtime for a personal errand. I will, however, have my BPA phone and will take calls and I'll be back at my post this afternoon.

Katie Pruder Scruggs  
Environmental Communication Specialist  
Bonneville Power Administration  
503-230-3111  
(b)(6)

---

**From:** Godwin,Mary E (BPA) - LN-7  
**Sent:** Monday, July 11, 2022 4:53 PM  
**To:** Koehler,Birgit G (BPA) - PG-5  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Okay good.

Thanks,  
Mary

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:52 PM  
**To:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Thanks. We just went through the talking points more methodically. Sonya found a number of things to change. And if they don't get accepted, at least we have a record that BPA asked for edits.

---

**From:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:22 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Sonya is on the email from Jeremiah Baumann. She could send edits to him.

Thanks,  
Mary

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:21 PM  
**To:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

On phone w Sonya and John H now. They may want to change this one point. Do you know how we can put edits in?

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Monday, July 11, 2022 2:16 PM  
**To:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Seems OK.

(They didn't mention the high cost scenario without emerging technology. Makes sense that DOE would omit that.)



---

**From:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>  
**Sent:** Monday, July 11, 2022 2:12 PM  
**To:** Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** FW: urgent RE: E3 Talking Points/Other Materials

Any concerns?

Thanks,  
Mary

---

**From:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 1:57 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** [EXTERNAL] RE: urgent RE: E3 Talking Points/Other Materials

Sonya and BPA team – attached is the WH press release for tonight, with my edits – can you review ASAP, like in a matter of minutes?

---

**From:** Baumann, Jeremiah  
**Sent:** Monday, July 11, 2022 4:25 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Subject:** urgent RE: E3 Talking Points/Other Materials

Sonya and BPA team – can you please figure out ASAP whether it's feasible, and who would release (E3?) the full study tonight, for 6am embargo? Or do we need to insist that the salmon paper and E3 study both be held for embargo/release \*after\* the NWPCC briefing? (I'm sensitive to stepping on your/E3 plans for releasing the full study.)

The draft WH press release says "Federal agencies release" so at least we all agree the studies are supposed to be being released at the same time...will forward you the draft release in a minute (am adding my own edits)

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:21 PM  
**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Subject:** RE: E3 Talking Points/Other Materials

Yep.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 4:16 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

They are both embargoed, and I've seen the CEQ talking points that say very clearly it is **\*not\*** administration policy. But there's still a gap, which is that right now the salmon paper would go out, embargoed until 6am, but the E3 paper will only have been briefed without paper. I'm going to flag this for CEQ – the E3 study would need to be released for the 6am embargo I think....

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 3:38 PM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

I pushed send before i was done. Sorry. I think that would be past all press deadlines for media prior to the Council briefing with the exception of news alerts of online reporting that could be done quickly. I will check with our media lead on any requests he is fielding today.

I think the concerning issue I'm hearing from the Hill and we share is that CEQ appears to be pushing the NOAA paper as an administration document and also saying they support it, in addition to it being prior to release of the E3 analysis. If both the NOAA paper and the E3 analysis are embargoed until the 6:00a, that at least may calm some concern.

Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 3:21 PM, "Baskerville, Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:

Here is the agenda item, Mountain Time.

3:30 – 5 p.m. Mountain Time

Energy and Environmental Economics (E3) study on Lower Snake River Dams Power Replacement: Arne Olsen, E3.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 3:01 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

Sonya what time is the NWPCC briefing tomorrow? I think WH is saying the press embargo on tonight's briefing lifts at 6am tomorrow, which would allow for stories running before the NWPCC briefing...do we need to push back on that?

---

**From:** Baumann, Jeremiah

**Sent:** Monday, July 11, 2022 12:42 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Hi Sonya – adding Jasmine and Aprita from the S1/S2 office, as this is all moving very quickly – (b)(6) so just putting pieces together myself....what seems to be happening is—

- to get comfortable with briefing the E3 results, they are aligning comms around the NOAA/FWS salmon science “summary” and the E3 study.
- This is actually something John and I were in conversations about last week and the week before, i.e. we were suggesting that rather than objecting to BPA/E3 releasing the study, they align the narrative that the science paper talks about what it would take to reach certain fish levels (with clarity those are not ESA/litigation relevant levels) and E3 says what it would cost
- They seem to be doing that, but doing it TODAY, bc of the NWPCC briefing happening tomorrow
- Plan is a 30-min Member briefing and 30-min press briefing with brief overviews of both documents
- We need to make sure they are NOT calling it a DOE study
- We also need to get clarity on embargo

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 11:12 AM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

The invitation. And I'm told that they also are going to over the "DOE" report.

From: Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>

Sent: Sunday, July 10, 2022 12:38 PM

To: Jones, Ashley A. EOP/WHO <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Black, Jonathan Y. EOP/WHO <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>

Subject: FW: Invitation to embargoed member briefing

Good afternoon,

I hope your weekend is going well. I wanted to ensure you saw my note from Friday evening inviting your boss to a member briefing. If your boss and staff are able to join, I hope you will register in advance.

Best,

Radha

From: Adhar, Radha EOP/CEQ <>

Sent: Friday, July 8, 2022 8:14 PM

To: Ashley A. EOP/WHO Jones (<[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)> <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Jonathan Y. EOP/WHO Black (<[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)> <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>; Buetow, Zephrahanie N. EOP/WHO (<[Zephrahanie.N.Buetow@who.eop.gov](mailto:Zephrahanie.N.Buetow@who.eop.gov)> <[Zephrahanie.N.Buetow@who.eop.gov](mailto:Zephrahanie.N.Buetow@who.eop.gov)>

Subject: Invitation to embargoed member briefing

The White House Logo

Good evening,

Your boss is invited to join an embargoed member briefing Monday, July 11th at 6:00pm ET. This briefing will feature senior officials from the White House, the National Oceanic and Atmospheric Administration, the Department of Energy and Fish and Wildlife Service and will provide an update on the Columbia River Basin. Please register your member and any staff attending here: <https://pitc.zoomgov.com/meeting/register/vJltcuigpzorEtWx1TOuXZkGtuys6hsUx48>

Please let me know if you have any questions, and hope you have a wonderful weekend.

Radha

Radha Adhar

202-881-8151

Director of Legislative Affairs

Council on Environmental Quality

Executive Office of the President

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 11:04 AM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:  
Hey there. I understand that CEQ is meeting with Members/Senators this afternoon. I'm not sure we knew about it, and it's curious because they have asked us all to be coordinated on comms. Yet they are having this meeting without the comms plan being complete. Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 8, 2022 1:10 PM, "Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:  
[Great, thanks.](#)

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>

**Sent:** Friday, July 8, 2022 10:04 AM

**To:** Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>

**Cc:** Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Subject:** [EXTERNAL] RE: E3 Talking Points/Other Materials

I just heard from CEQ – they expect White House comms to reach out this afternoon with a comms package.

Gabe

---

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>

**Sent:** Friday, July 8, 2022 10:42 AM

**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>

**Cc:** Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)

**Subject:** E3 Talking Points/Other Materials

Good morning,

Do you have a sense of when the media package for E3 will be ready?

I know it is in process, but would love to know when to expect so I can help set internal expectations.

Thanks,

Jill

---

**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Monday, July 11, 2022 2:42 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials  
**Attachments:** E3 BPA LSR Dams Report\_071122, Birgit finalizing w WM.pdf

Here's the report. I'll resend once I have the ppt too.

I did not scrub out metadata. My computer is slow.

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 2:39 PM  
**To:** Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

I need to have the documents FOR a 3:00p eastern meeting, so I need to receive it prior to 6:00p eastern. Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

---

**From:** Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Sent:** Monday, July 11, 2022 5:38 PM  
**To:** Habibi,Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Zelinsky,Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Godwin,Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary,Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Hairston,John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Armentrout,Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Scruggs,Joel L (BPA) - DK-7 <[jlscruggs@bpa.gov](mailto:jlscruggs@bpa.gov)>; James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Here's where we stand

For 3 PDT, 6 EDT

A ppt that has a range on the highest cost scenario and watermark for embargoed

Full report with watermark but without the update on that highest cost scenario (and removed paragraph that Mary and Jill coordinated to remove)

A little later

PPT and report without watermark, with the updates that E3 really wants to make on the highest-cost scenario



---

**From:** Habibi, Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>  
**Sent:** Monday, July 11, 2022 1:42 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Hairston, John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Scruggs, Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

We can use this bridge:

503-230-4000,,(b)(6) #

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 1:35 PM  
**To:** Zelinsky, Benjamin D (BPA) - E-4 <[bdzelinsky@bpa.gov](mailto:bdzelinsky@bpa.gov)>; Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Hairston, John L (BPA) - A-7 <[jlhairston@bpa.gov](mailto:jlhairston@bpa.gov)>; Armentrout, Scott G (BPA) - E-4 <[sgarmentrout@bpa.gov](mailto:sgarmentrout@bpa.gov)>; Scruggs, Joel L (BPA) - DK-7 <[jlsruggs@bpa.gov](mailto:jlsruggs@bpa.gov)>; Habibi, Maryam A (BPA) - DKP-7 <[maasgharian@bpa.gov](mailto:maasgharian@bpa.gov)>; Koehler, Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>; James, Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Subject:** Fwd: urgent RE: E3 Talking Points/Other Materials

Should we huddle quickly?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

----- Forwarded message -----

From: "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
Date: Jul 11, 2022 4:25 PM  
Subject: urgent RE: E3 Talking Points/Other Materials  
To: "Baskerville, Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>, "Ardis, Melissa" <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>, "Daly, Gabriel" <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>, "Bhattacharyya, Arpita" <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>, "Godwin, Mary E (BPA) - LN-7" <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>, "Leary, Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>, "Dimitriou, Jasmine" <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>, "Troiano, Charisma L" <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
Cc:

Sonya and BPA team – can you please figure out ASAP whether it's feasible, and who would release (E3?) the full study tonight, for 6am embargo? Or do we need to insist that the salmon paper and E3 study both be held for embargo/release **\*after\*** the NWPC briefing? (I'm sensitive to stepping on your/E3 plans for releasing the full study.)

The draft WH press release says "Federal agencies release" so at least we all agree the studies are supposed to be being released at the same time...will forward you the draft release in a minute (am adding my own edits)

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:21 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Yep.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 4:16 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

They are both embargoed, and I've seen the CEQ talking points that say very clearly it is **\*not\*** administration policy. But there's still a gap, which is that right now the salmon paper would go out, embargoed until 6am, but the E3 paper will only have been briefed without paper. I'm going to flag this for CEQ – the E3 study would need to be released for the 6am embargo I think....

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 3:38 PM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

I pushed send before i was done. Sorry. I think that would be past all press deadlines for media prior to the Council briefing with the exception of news alerts of online reporting that could be done quickly. I will check with our media lead on any requests he is fielding today.

I think the concerning issue I'm hearing from the Hill and we share is that CEQ appears to be pushing the NOAA paper as an administration document and also saying they support it, in addition to it being prior to release of the E3 analysis. If both the NOAA paper and the E3 analysis are embargoed until the 6:00a, that at least may calm some concern.

Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 3:21 PM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:

Here is the agenda item, Mountain Time.

3:30 – 5 p.m. Mountain Time

Energy and Environmental Economics (E3) study on Lower Snake River Dams Power Replacement: Arne Olsen, E3.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 3:01 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:



Sonya what time is the NWPCC briefing tomorrow? I think WH is saying the press embargo on tonight's briefing lifts at 6am tomorrow, which would allow for stories running before the NWPCC briefing...do we need to push back on that?

---

**From:** Baumann, Jeremiah

**Sent:** Monday, July 11, 2022 12:42 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Hi Sonya – adding Jasmine and Arpita from the S1/S2 office, as this is all moving very quickly – (b)(6) so just putting pieces together myself....what seems to be happening is—

- to get comfortable with briefing the E3 results, they are aligning comms around the NOAA/FWS salmon science “summary” and the E3 study.
- This is actually something John and I were in conversations about last week and the week before, i.e. we were suggesting that rather than objecting to BPA/E3 releasing the study, they align the narrative that the science paper talks about what it would take to reach certain fish levels (with clarity those are not ESA/litigation relevant levels) and E3 says what it would cost
- They seem to be doing that, but doing it TODAY, bc of the NWPCC briefing happening tomorrow
- Plan is a 30-min Member briefing and 30-min press briefing with brief overviews of both documents
- We need to make sure they are NOT calling it a DOE study
- We also need to get clarity on embargo

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 11:12 AM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

The invitation. And I'm told that they also are going to over the "DOE" report.

From: Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>

Sent: Sunday, July 10, 2022 12:38 PM

To: Jones, Ashley A. EOP/WHO <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Black, Jonathan Y. EOP/WHO <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>

Subject: FW: Invitation to embargoed member briefing

Good afternoon,

I hope your weekend is going well. I wanted to ensure you saw my note from Friday evening inviting your boss to a member briefing. If your boss and staff are able to join, I hope you will register in advance.

Best,

Radha

From: Adhar, Radha EOP/CEQ <>  
Sent: Friday, July 8, 2022 8:14 PM  
To: Ashley A. EOP/WHO Jones ([Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)) <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Jonathan Y. EOP/WHO Black ([Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)) <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>; Buetow, Zephra N. EOP/WHO <[Zephra.N.Buetow@who.eop.gov](mailto:Zephra.N.Buetow@who.eop.gov)>  
Subject: Invitation to embargoed member briefing

The White House Logo

Good evening,

Your boss is invited to join an embargoed member briefing Monday, July 11th at 6:00pm ET. This briefing will feature senior officials from the White House, the National Oceanic and Atmospheric Administration, the Department of Energy and Fish and Wildlife Service and will provide an update on the Columbia River Basin. Please register your member and any staff attending here: (b)(6)

Please let me know if you have any questions, and hope you have a wonderful weekend.

Radha

Radha Adhar

202-881-8151

Director of Legislative Affairs

Council on Environmental Quality

Executive Office of the President

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 11:04 AM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:  
Hey there. I understand that CEQ is meeting with Members/Senators this afternoon. I'm not sure we knew about it, and it's curious because they have asked us all to be coordinated on comms. Yet they are having this meeting without the comms plan being complete. Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 8, 2022 1:10 PM, "Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:  
[Great, thanks.](#)

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 10:04 AM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** [EXTERNAL] RE: E3 Talking Points/Other Materials

I just heard from CEQ – they expect White House comms to reach out this afternoon with a comms package.

Gabe

---

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 10:42 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Cc:** Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)  
**Subject:** E3 Talking Points/Other Materials

Good morning,  
Do you have a sense of when the media package for E3 will be ready?

I know it is in process, but would love to know when to expect so I can help set internal expectations.

Thanks,  
Jill

# BPA Lower Snake River Dams Power Replacement Study

July 2022

Embargoed until  
6:00 am EDT July 12, 2022



Energy+Environmental Economics

# BPA Lower Snake River Dams Power Replacement Study

July 2022

© 2022 Energy & Environmental Economics, Inc.

Energy and Environmental Economics, Inc. (E3)  
44 Montgomery Street, Suite 1500  
San Francisco, CA 94104

415.391.5100

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## Acronym Definitions

Acronym	Definition
BPA	Bonneville Power Administration
BTM Solar	Behind-the-meter Solar
CA	California
CCGT	Combined cycle gas turbine
CCS	Carbon capture and storage
CES	Clean Energy Standard
CRSO EIS	Columbia River System Operations Environmental Impact Statement
DR	Demand response
EE	Energy efficiency
EIA	Energy Information Administration
ELCC	Effective load carrying capability
HDV	Heavy-duty vehicles
H2	Hydrogen
LDV	Light-duty vehicles
LSR	Lower Snake River
NERC	North American Electric Reliability Corporation
NG	Natural Gas
NV	Nevada
NW	Northwest
PNUCC	Pacific Northwest Utilities Conference Committee
PRM	Planning Reserve Margin
RM	Rocky Mountains
RPS	Renewable Energy Standard
SMR	Small modular reactor
SW	Southwest
WECC	Western Electricity Coordinating Council

## Executive Summary

E3 was contracted by the Bonneville Power Administration to conduct an independent study of the value of the lower Snake River dams (“LSR dams”) to the Northwest power system. The dams provide approximately 3,500 megawatts (“MW”) of total capacity<sup>1</sup> and approximately 2,300 MW of firm peaking capability<sup>2</sup> to support regional reliability. They also generate approximately 900 average MW of zero-carbon energy each year<sup>3</sup>, provide essential grid services such as operating reserves and voltage support, and operational flexibility to support renewable integration. If the dams are breached, these power services will need to be replaced to ensure the Northwest power system can continue to provide reliable electricity service. Replacing the dams is complicated by the clean energy policies adopted either statutorily or voluntarily by jurisdictions and utilities throughout the region, which will necessitate a transformation of the power system over time toward non-emitting resources even as electricity demand grows substantially due to electrification of the transportation and building sectors.

This study uses E3’s Northwest RESOLVE model to study optimal capacity expansion scenarios with and without the lower Snake River dams, to determine the replacement resources and cost impacts to replace the dams’ power output. RESOLVE is an optimal capacity expansion and dispatch model that determines a least-cost set of investment and operational strategies to enable the “Core Northwest” region – consisting of Washington, Oregon, Northern Idaho, and Western Montana – to achieve its long-term clean energy policy goals at least-cost, while ensuring resource adequacy and operational reliability. RESOLVE has been used in several prior studies of electricity sector decarbonization in the Pacific Northwest<sup>4</sup>. Using RESOLVE allows for a dynamic optimization that considers replacement resource needs in the context of long-term system load and policy drivers, not just the near-term resource mix and needs of the system today. The dams are assumed to be breached in 2032, except for one sensitivity that considered 2024 breaching.

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<sup>1</sup> Hydro traditionally operates above nameplate and closer to overload capacity (~15% above nameplate) and FERC uses these peak generation values in hydro licensing. The “total capacity” refers to the overload capacity, not the nameplate capacity. Historical peak generation was 3,431 MW.

<sup>2</sup> LSR dam firm capacity contributions are estimated using the PNUCC regional hydropower 65% capacity value, which was validated by looking at LSR Dam wintertime power and reserve provision during low hydro conditions. Additionally, E3 considered estimates on the impact of a lower firm capacity value in the results chapter.

<sup>3</sup> The data for the LSR dams was adjusted to reflect the Preferred Alternative operations defined in the Columbia River Systems Operation Environmental Impact Statement (CRSO EIS). E3’s RESOLVE model uses 2001, 2005, and 2011 hydro years, which resulted in ~700 average MW of lower Snake River dams generation, making it a conservative estimate of the dams’ GHG-free energy value.

<sup>4</sup> Pacific Northwest Low Carbon Scenario Analysis, December 2017, <https://www.ethree.com/projects/study-policies-decarbonize-electric-sector-northwest-public-generating-pool-2017-present/>; Pacific Northwest Zero-Emitting Resources Study, January 2020, <https://www.ethree.com/e3-examines-role-of-nuclear-power-in-a-deeply-decarbonized-pacific-northwest/>

This study's scenario design focuses on three key variables – clean energy policy, load growth, and emerging technology availability – that impact the cost to replace the dams. The scenarios and key assumptions are shown in Table 1.

Even with the dams in place, the region's clean energy goals and potential electrification load growth drive a significant need for new resources. In all scenarios, significant energy efficiency and customer solar is

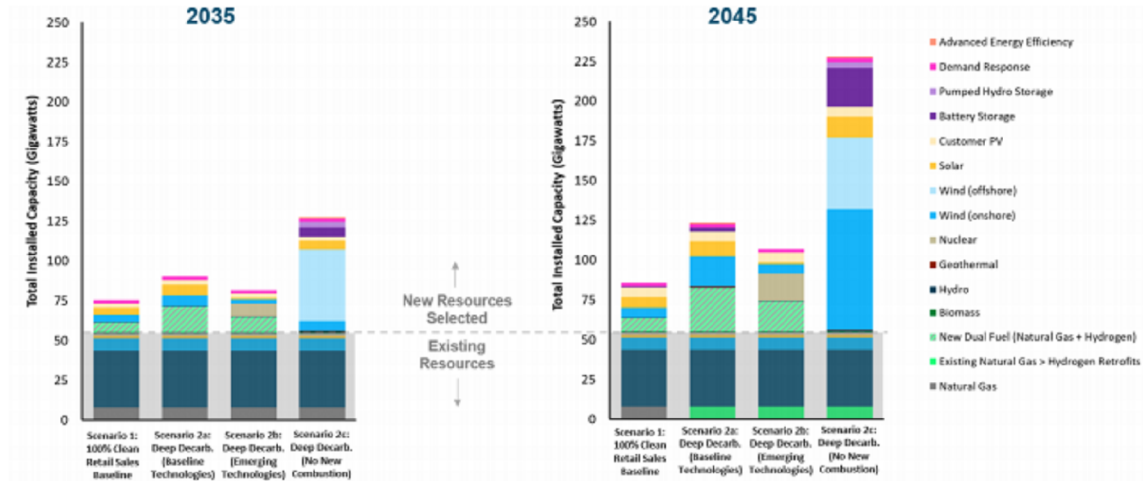
embedded into the load forecast, based on the NWPCC's 8<sup>th</sup> Power Plan. Additionally, 6 gigawatts ("GW" or 6,000 MW) of coal capacity is retired by 2030, while increasing carbon prices incentivize further clean energy resource additions. In Scenario 1, the regional power system is required to meet a goal of generating enough clean energy to provide 100% of retail electricity sales, on an average basis over a calendar year. This requires an additional 5 GW of solar and 5 GW of wind by 2045 to achieve the clean energy goal; 0.6 GW of battery storage, 2 GW of demand response, and 9 GW of dual fuel natural gas + hydrogen combustion plants are also added to meet the region's resource adequacy needs.

Though all scenarios require more "firm" resources – resources that can start when needed and operate for as long as needed – to meet peak loads, these resources are in higher demand in Scenario 2, in which all greenhouse gas emissions are eliminated from the regional power system by 2045. This scenario also assumes that electrification results in much higher electric loads, particularly in wintertime due to electrification of natural gas space heating in buildings. The baseline scenario (2a) selects additional wind, solar, and geothermal to meet clean energy needs as well as demand response, some battery storage, and 27 GW natural gas and hydrogen dual fuel combustion plants to meet reliability needs. An alternative "emerging technology" scenario selects 17 GW of advanced nuclear technology (small modular reactors or "SMRs") by 2045, in place of the firm capacity provided by natural gas generators while reducing the required quantities of wind, solar and batteries that are needed. The "no new combustion" scenario does not allow clean firm technologies such as hydrogen combustion turbines, gas generation with carbon capture and sequestration (CCS) or SMRs. As a result, it requires impractically high levels of additional onshore wind, offshore wind, and battery storage to meet firm capacity and carbon reduction needs, quadrupling the total installed MW of the Northwest grid by 2045.

**Table 1. Scenario Design**

Scenario	Clean Energy Policy	Load Growth	Technology Availability
1 100% Clean Retail Sales <sup>1</sup>	100% retail sales (85% carbon reduction)	8 <sup>th</sup> Power Plan Baseline	Baseline (incl. natural gas / hydrogen dual fuel plants)
2a Deep Decarbonization (Baseline Tech.)	100% carbon reduction	High Electrification	Baseline
2b Deep Decarbonization (Emerging Tech.)	100% carbon reduction	High Electrification	Baseline + offshore wind, gas w/ CCS, nuclear SMR
2c Deep Decarbonization (No New Combustion)	100% carbon reduction	High Electrification	Baseline (excluding natural gas / hydrogen dual fuel plants)



**Figure 1. Northwest Installed Capacity Mix in Scenarios with the Lower Snake River Dams**

When the power services provided by the dams are removed from the regional power system, RESOLVE selects an optimal, i.e., least-cost portfolio of replacement resources that meets the Northwest's clean energy and system reliability needs. These replacement resources require a large investment and come at a substantial cost that increase over time as the region's clean energy goals become more stringent. In the latter years, the replacement costs are highly dependent on scenario-specific assumptions about the availability of emerging technologies. RESOLVE primarily replaces the carbon-free energy from the dams with additional wind power and the firm capacity with dual fuel natural gas and hydrogen combustion plants. Small amounts of additional energy efficiency and battery storage are also selected in some scenarios. By 2045, the dual fuel plants added burn additional hydrogen on low wind days to replace the carbon-free energy provided by the dams. Scenario 2b selects additional nuclear SMRs in lieu of some of the wind and gas resources. Scenario 2c disallows the new combustion plants, even those that would burn green hydrogen, and other emerging technologies, requiring a very large buildout of wind and solar power to replace both the firm capacity and the carbon-free energy of the dams.

The long-term emissions impact of removing the generation of the lower Snake River dams will depend on the implementation of the Oregon and Washington electric clean energy policies. Both a 100% clean retail sales and a zero-carbon emissions target require replacement of most or all of the LSR dams' GHG-free energy. However, without additional earlier carbon-free resource investments beyond those modeled in this study to meet clean energy policy trajectories, carbon emissions may increase initially when the dams are breached, before declining by 2045 as the carbon policy becomes more stringent.

**Table 2. Summary of LSR Dams Replacement Resources and Cost Impacts (costs in the table below and throughout this report are shown in real 2022 dollars)**

Scenario	Replacement Resources Selected, Cumulative by 2045 (GW)	NPV Replacement Costs <sup>5</sup>	Annual Replacement Costs <sup>6</sup>			Public Power Rate Impact <sup>7</sup>
			2025	2035	2045	
Scenario 1: 100% Clean Retail Sales	+ 2.1 GW dual fuel NG/H2 CCGT + 0.5 GW wind	\$11.8 Billion	-	\$434 million/yr	\$478 million/yr	0.8 ¢/kWh [+9%]
Scenario 1b: 100% Clean Retail Sales (2024 dam removal)	+ 2.1 GW dual fuel NG/H2 CCGT + 0.5 GW wind	\$12.8 Billion	\$495 million/yr	\$466 million/yr	\$509 million/yr	0.8 ¢/kWh [+9%]
Scenario 2a: Deep Decarbonization (Baseline Technologies)	+ 2.0 GW dual fuel NG/H2 CCGT + 0.3 GW li-ion battery + 0.4 GW wind + 0.05 GW advanced EE + 1.2 TWh H2-fueled generation	\$19.0 Billion	-	\$496 million/yr	\$860 million/yr	1.5 ¢/kWh [+18%]
Scenario 2b: Deep Decarbonization (Emerging Technologies)	+ 1.5 GW dual fuel NG/H2 CCGT + 0.7 GW nuclear SMR	\$10.7 Billion	-	\$415 million/yr	\$428 million/yr	0.7 ¢/kWh [+8%]
Scenario 2c: Deep Decarbonization (No New Combustion)	+ 10.6 GW wind + 1.4 GW solar	\$75.2 billion	-	\$1,953 million/yr	\$3,199 million/yr	5.5 ¢/kWh [+65%]

### KEY FINDINGS:

- + **Replacing the four lower Snake River dams while meeting clean energy goals and system reliability is possible but comes at a substantial cost**, even assuming emerging technologies are available:
  - Requires 2,300 – 2,700 MW of replacement resources
  - An annual cost of \$415 million – \$860 million by 2045
  - Total net present value cost of \$10.7-19.0 billion based on 3% discounting over a 50-year time horizon following the date of breaching
  - Increase in costs for public power customers of \$100 – 230 per household per year (an 8 – 18% increase) by 2045
- + The biggest cost drivers for replacement resources are the need to replace the lost **firm capacity for regional resource adequacy** and the need to replace the lost **zero-carbon energy**
- + Replacement becomes **more costly over time** due to increasingly stringent clean energy standards and electrification-driven load growth

<sup>5</sup> These NPV values are calculated assuming a 3% discount rate to represent the public power cost of capital, discounting 50-year of costs starting from the year of breaching (either 2032 or 2024).

<sup>6</sup> Replacement resource costs are calculated assuming project financing per E3's pro forma calculator, rather than assuming upfront congressional appropriation.

<sup>7</sup> This assumes that the annual replacement costs will be borne by BPA's Tier I public power customers. Percentage changes are shown relative to today's average OR + WA retail rate of ~8.5 ¢/kWh.

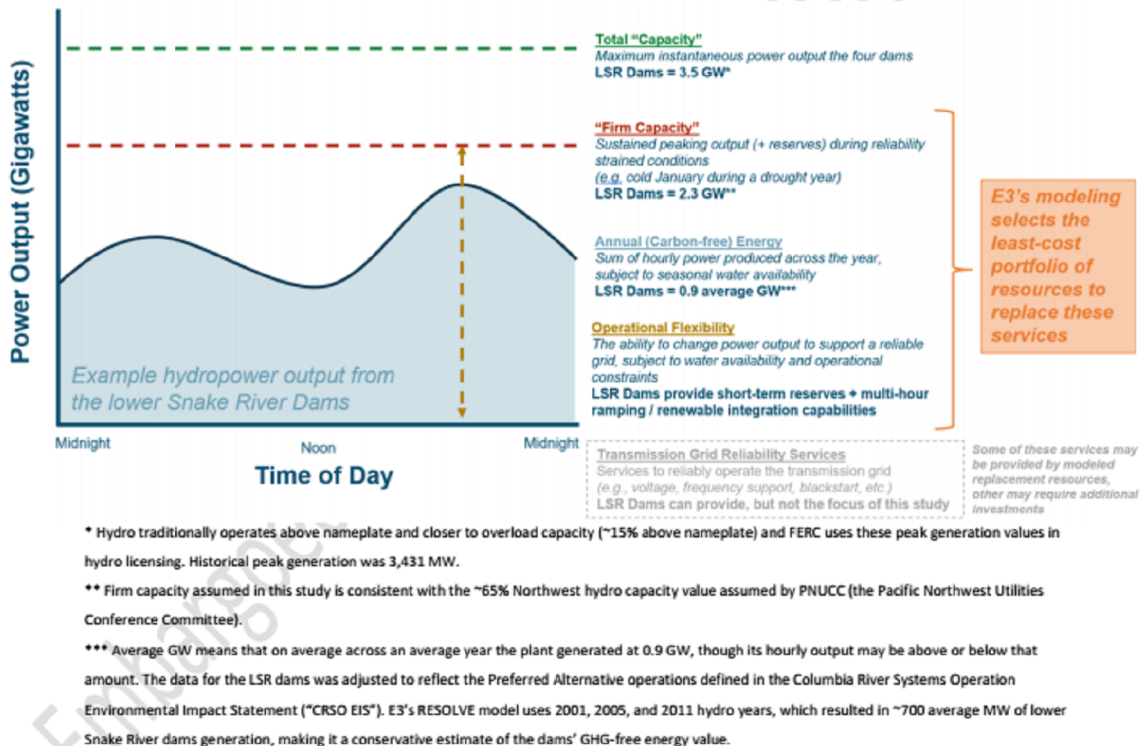
- + **Emerging technologies** such as hydrogen, advanced nuclear, and carbon capture *can limit the cost of replacement resources* to meet a zero emissions electric system, but the pace of their commercialization is highly uncertain
  - In economy-wide deep decarbonization scenarios, *replacement without any emerging technologies requires very large renewable resource additions at a very high cost* (12 GW of wind and solar at \$75.2 billion NPV cost)



## Background

E3 was contracted by the Bonneville Power Administration to conduct an independent study of the value of the lower Snake River dams ("LSR dams") to the Northwest power system. The dams provide approximately 3,500 megawatts ("MW") of total capacity<sup>8</sup> and approximately 2,300 MW of firm peaking capability<sup>9</sup> to support regional reliability. They also generate approximately 900 average MW of zero-carbon energy each year, provide essential grid services such as operating reserves and voltage support, and operational flexibility to support renewable integration. Figure 2 shows the power services that are the focus of this study and those that are out of scope.

**Figure 2. Power Services Considered for Replacement in this Study**



If the dams are breached, these power services will need to be replaced to ensure the Northwest power system can continue to provide reliable electricity service. Replacing the dams is complicated by the clean energy policies adopted either statutorily or voluntarily by jurisdictions and utilities throughout the region,

<sup>8</sup> Hydro traditionally operates above nameplate and closer to overload capacity (~15% above nameplate) and FERC uses these peak generation values in hydro licensing. The "total capacity" refers to the overload capacity, not the nameplate capacity. Historical peak generation was 3,431 MW.

<sup>9</sup> LSR dam firm capacity contributions are estimated using the PNUCC regional hydropower 65% capacity value, which was validated by looking at LSR Dam wintertime power and reserve provision during low hydro conditions. Additionally, E3 considered estimates on the impact of a lower firm capacity value in the results chapter.

which will necessitate a transformation of the power system over time toward non-emitting resources even as electricity demand grows substantially due to electrification of the transportation and building sectors.

This study uses E3's Northwest RESOLVE model to study optimal capacity expansion scenarios with and without the lower Snake River dams, to determine the replacement resources and cost impacts to replace the dams' power output. RESOLVE is an optimal capacity expansion and dispatch model that determines a least-cost set of investment and operational strategies to enable the "Core Northwest" region – consisting of Washington, Oregon, Northern Idaho and Western Montana – to achieve its long-term clean energy policy goals at least-cost, while ensuring resource adequacy and operational reliability. RESOLVE has been used in several prior studies of electricity sector decarbonization in the Pacific Northwest<sup>10</sup>. Using RESOLVE allows for a dynamic optimization that considers replacement resource needs in the context of long-term system load and policy drivers, not just the near-term resource mix and needs of the system today. The dams are assumed to be breached in 2032, except for one sensitivity that considered 2024 breaching.<sup>11</sup>

#### Key Study Questions:

- + What **additional resources** would be needed to replace the power services provided by the LSR Dams through 2045?
- + What is the **net cost** to BPA ratepayers?
- + How do costs and resource needs change under **different types of clean energy futures**?
- + How much does replacing the dams rely on **emerging, not-yet-commercialized technologies**?

This study builds off previous LSR dams replacement analysis by using a least-cost optimization-based modeling framework to replace the dams' power services. This optimization ensures that the region meets its aggressive clean energy policy goals, including both decarbonization of electricity as well as high electrification load growth consistent with economy-wide decarbonization goals set by Oregon and Washington.

The other key component of the optimization is maintaining resource adequacy for the region to ensure a reliable electricity supply to existing and any newly electrified loads. This is done using a planning reserve margin constraint and counting non-firm resources like solar, wind, battery storage, pumped hydro storage, and demand response at their effective load carrying capability ("ELCC"), based on E3's prior detailed loss of load probability modeling of the Northwest region.<sup>12</sup>

<sup>10</sup> Pacific Northwest Low Carbon Scenario Analysis, December 2017, <https://www.ethree.com/projects/study-policies-decarbonize-electric-sector-northwest-public-generating-pool-2017-present/>; Pacific Northwest Zero-Emitting Resources Study, January 2020, <https://www.ethree.com/e3-examines-role-of-nuclear-power-in-a-deeply-decarbonized-pacific-northwest/>

<sup>11</sup> The study examines LSRD breaching in 10 years (2032) and in 2 years (2024), based on with the approach used in the CRSO EIS.

<sup>12</sup> Resource Adequacy in the Pacific Northwest, March 2019, [https://www.ethree.com/wp-content/uploads/2019/03/E3\\_Resource\\_Adequacy\\_in\\_the\\_Pacific-Northwest\\_March\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf)

This modeling framework ensures that when the LSR dams are removed from the Northwest power system, a least-cost replacement mix of new investments and operational changes is found. Through the constraints of the optimization, this least-cost replacement mix meets the same clean energy policy and level of reliability as a system with the LSR dams still intact. This dynamic approach considers replacement resource needs in the context of the evolving long-term system load and policy drivers, not just the near-term resource mix and needs of the system today. It recognizes that significant levels of new renewable energy and other resources are already needed to meet long-term regional needs, ensuring that the replacement resource mix selected is incremental to the long-term buildout, not just an interim solution before clean energy policies reach their apex in the 2040s.

## Scenario Design

### Regional Policy Landscape

To properly understand the resources needed to replace the power services of the lower Snake River dams, it is critical to consider the regional policy landscape of the Pacific Northwest. In the last few years, the states of Oregon and Washington have adopted some of the most aggressive clean energy policies in the nation. While the Pacific Northwest was already a leader in renewable energy production due to its abundant hydropower resource, these aggressive policies will require key changes to the region. First, coal power must be phased out in the Northwest during this decade and, at least in Washington, carbon will be priced via a market-based cap-and-trade mechanism<sup>13</sup>. Second, additional zero-carbon generation must be added to replace that coal power and to displace remaining emissions from natural gas resources whose firm capacity may still be needed by the region, but which will operate less over time as electric carbon emissions are reduced. Ultimately, to reach a zero-carbon system, those natural gas plants must retire, be converted to zero-carbon fuels (such as green hydrogen), or their emissions be offset in some other manner. Third, economy-wide carbon reduction goals will drive the transformation of the Northwest transportation, building, and industrial sectors, with the general expectation of significant electric load growth in annual energy and peak demand. Key policies in the Northwest and California are summarized in Table 3.

**Table 3. Policy landscape in Washington, Oregon, and California**

	RPS or Clean Energy Standard?	Coal Prohibition?	Cap-and-Trade?	New Gas?	Economy-Wide Carbon Reduction?
<b>WA</b>	✓ Carbon neutral by 2030, 100% carbon free electricity by 2045	✓ Eliminate by 2025	✓ Cap-and-invest program established in 2021, SCC in utility planning	✓	✓ 95% GHG emission reduction below 1990 levels and achieve net zero emissions by 2050
<b>OR</b>	✓ 50% RPS by 2040, 100% GHG emission reduction by 2040, relative to 2010 levels	✓ Eliminate by 2030	✓ Climate Protection Plan adopted by DEQ in 2021 (power sector not included)	✗ HB 2021 bans expansion or construction of power plants that burn fossil fuels	✓ 90% GHG emission reduction from fossil fuel usage relative to 2022 baseline
<b>CA</b>	✓ 60% RPS by 2030, 100% clean energy by 2045	✓ Coal-fired electricity generation already phased out	✓	✗ CPUC IRP did not allow in recent procurement order	✓ 40% GHG emission reduction below 1990 levels by 2030 and 80% by 2050

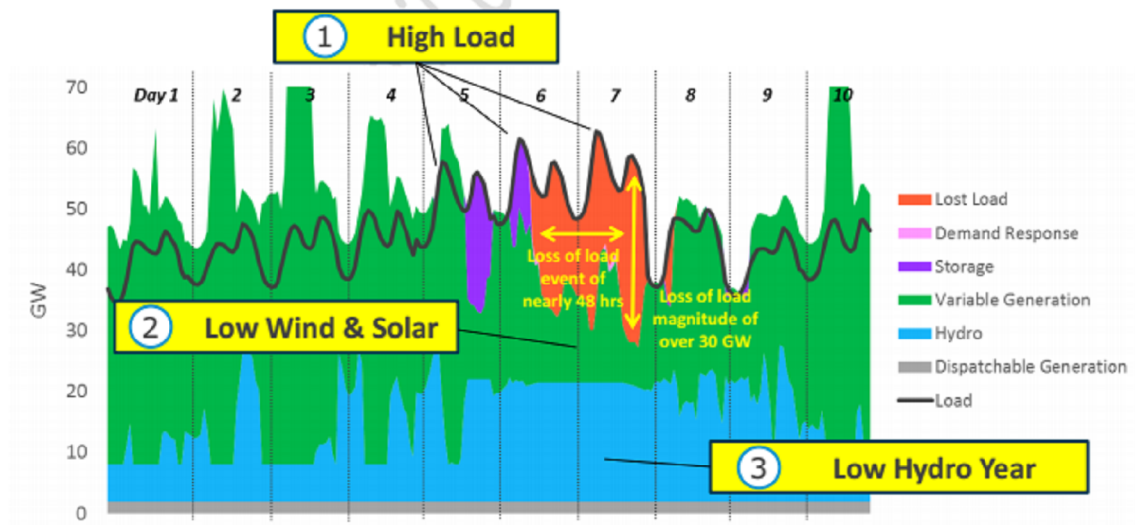
<sup>13</sup> For simplicity, this study assumes a uniform carbon price across the Core Northwest region beginning in 2023.



## Maintaining Resource Adequacy in Low-carbon Grids

Like other regions pursuing aggressive climate policies, the Northwest faces a key decarbonization challenge: how to maintain a reliable electricity supply, while simultaneously increasing electric loads and retiring the firm, but emitting, capacity that currently supports regional reliability. In 2019, E3 used its RECAP loss of load probability model to study how decarbonizing the electricity supply impacts regional reliability.<sup>14</sup> This study found that clean energy resources such as solar, wind, batteries, and demand response can each provide a certain amount of reliable capacity and that combinations of them can provide even more by capturing “diversity benefits” (such as solar shifting the reliability risk into evening hours when wind output is higher). However, these resources also have limits to the amount of reliable capacity they can provide, and their contributions decline as more of them are added (the decline in capacity contributions of these resources is known as “saturation effects”). Figure 3 shows a graph from E3’s 2019 study that illustrates the key drivers of reliability in a decarbonized grid: high load, low renewables, and low hydro conditions. Unlike a summer peaking *capacity constrained* system like the desert southwest, these conditions make it particularly challenging for battery storage to replace the Northwest’s firm capacity resources, since batteries are unable to charge during *energy constrained* periods of low renewable energy and low hydro availability. The study concluded therefore that additional firm generating capacity may be needed, even in scenarios that add significant amounts of non-firm solar, wind, batteries, and demand response. The resource adequacy modeling approach is described further in the section *Resource Adequacy Needs and Resource Contributions*.

**Figure 3. Key Drivers of Pacific Northwest Reliability Events in a Decarbonized Grid**



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<sup>14</sup> E3, 2019. *Resource Adequacy in the Pacific Northwest*. [https://www.ethree.com/wp-content/uploads/2019/03/E3\\_Resource\\_Adequacy\\_in\\_the\\_Pacific-Northwest\\_March\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf)

Since the 2019 study, “emerging” technologies are increasingly seen as potentially viable options to reduce all of the carbon emissions in the Northwest. “Clean firm” resources like green hydrogen, gas with carbon capture and storage, and nuclear small modular reactors provide the firm capacity necessary to backup renewable resources and can provide the zero-carbon energy needed on low renewable days to operate a zero-carbon grid. While their costs and commercialization trajectories remain uncertain, this LSR dams replacement study considers various scenarios of their availability.

**Table 4. Summary of Resource Adequacy Capacity Contributions of LSR Dam Replacement Resource Options**

Replacement Resource Option	RA Capacity Contributions
Battery storage	Sharply declining ELCCs <sup>15</sup>
Pumped storage	Sharply declining ELCCs
Solar	Declining ELCCs
Wind	Declining ELCCs
Demand Response	Declining ELCCs
Energy Efficiency	Limited potential vs. cost
Small Hydro	Limited potential
Geothermal	Limited potential
Natural gas to H2 retrofits	Clean firm, but not fully commercialized
New dual fuel natural gas + H2 plants	Clean firm, but not fully commercialized
New H2 only plants	Clean firm, but not fully commercialized
Gas w/ 90-100% carbon capture + storage	Clean firm, but not fully commercialized
Nuclear Small Modular Reactors	Clean firm, but not fully commercialized

## Scenarios Modeled

This study focuses on three key variables (clean energy policy, load growth, and emerging technology availability) that impact the cost to replace the dams.

### Clean Energy Policy

Clean energy policy for the electric sector is modeled at either 100% clean retail sales or zero-carbon by 2045. A 100% clean retail sales policy requires serving 100% of electricity sold on an annual basis to be met by clean energy resources. This allows generation not used to serve retail sales (i.e., transmission and distribution losses) to be met by emitting resources. It also allows emitting generation or unspecified

<sup>15</sup> E3 performed a sensitivity with battery ELCCs that do not decline so sharply. This sensitivity shows minor changes in the LSR dam replacement resources, but little to no change in the replacement costs.

imports in one hour to be offset by exported generation in another hour of the year. In the baseline load scenario, reaching 100% clean retail sales by 2045 results in ~85% carbon reduction compared to 1990 levels. The zero-carbon scenario ensures that all electricity generated in the Northwest or imported from other regions emits no carbon emissions in every hour of the year.

### *Load Growth*

With aggressive clean energy policies, load growth determines the amount of new zero-emitting resources that must be added to the Northwest power system. A baseline load growth scenario is modeled, based on the forecast in the NWPCC 8<sup>th</sup> Power Plan. A second high electrification scenario is developed based on the high electrification case in the Washington State Energy Strategy.<sup>16</sup> Based on E3's analysis of the electrification of transportation, buildings, and industry in that study, this scenario results in an additional annual energy demand increase of 28% by 2045 (above the baseline scenario) and an additional winter peak demand increase of 68%. The peak demand increase is high due to the electrification of space heating end uses, which requires replacing the significant quantities of energy provided by the natural gas system during extreme wintertime cold weather events with electricity.

### *Technology Availability*

It is expected that the availability of emerging technologies may be critically important for replacing the LSR dam power services while reaching a deeply decarbonized grid. All scenarios include "mature technologies" such as solar, wind, battery storage, pumped hydro storage, demand response, energy efficiency, small hydro, and geothermal. Three scenarios of emerging technology availability are developed as follows:

- A. **Baseline technologies:** mature technologies and dual fuel natural gas + hydrogen combustion plants
- B. **Emerging technologies:** mature technologies, dual fuel natural gas + hydrogen combustion plants, small modular nuclear reactors, natural gas with carbon capture and storage, and floating offshore wind
- C. **No new combustion (limited technologies):** mature technologies and floating offshore wind

All scenarios assume that the existing natural gas capacity fleet can convert to green hydrogen, i.e., hydrogen produced using zero-carbon electricity. However, new firm resources are needed in all scenarios to replace retiring resources and meet growing electric loads.

Table 5 shows a summary of the four scenarios that are the focus of this study.

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<sup>16</sup> See Washington State's 2021 State Energy Strategy, <https://www.commerce.wa.gov/growing-the-economy/energy/2021-state-energy-strategy/>

**Table 5. Scenario Design**

Scenario	Clean Energy Policy	Load Growth	Technology Availability
<b>1 100% Clean Retail Sales<sup>1</sup></b>	100% retail sales (85% carbon reduction)	8 <sup>th</sup> Power Plan Baseline	Baseline (incl. natural gas / hydrogen dual fuel plants)
<b>2a Deep Decarbonization (Baseline Tech.)</b>	100% carbon reduction	High Electrification	Baseline
<b>2b Deep Decarbonization (Emerging Tech.)</b>	100% carbon reduction	High Electrification	Baseline + offshore wind, gas w/ CCS, nuclear SMR
<b>2c Deep Decarbonization (No New Combustion)</b>	100% carbon reduction	High Electrification	Baseline (excluding natural gas / hydrogen dual fuel plants)



## Modeling Approach

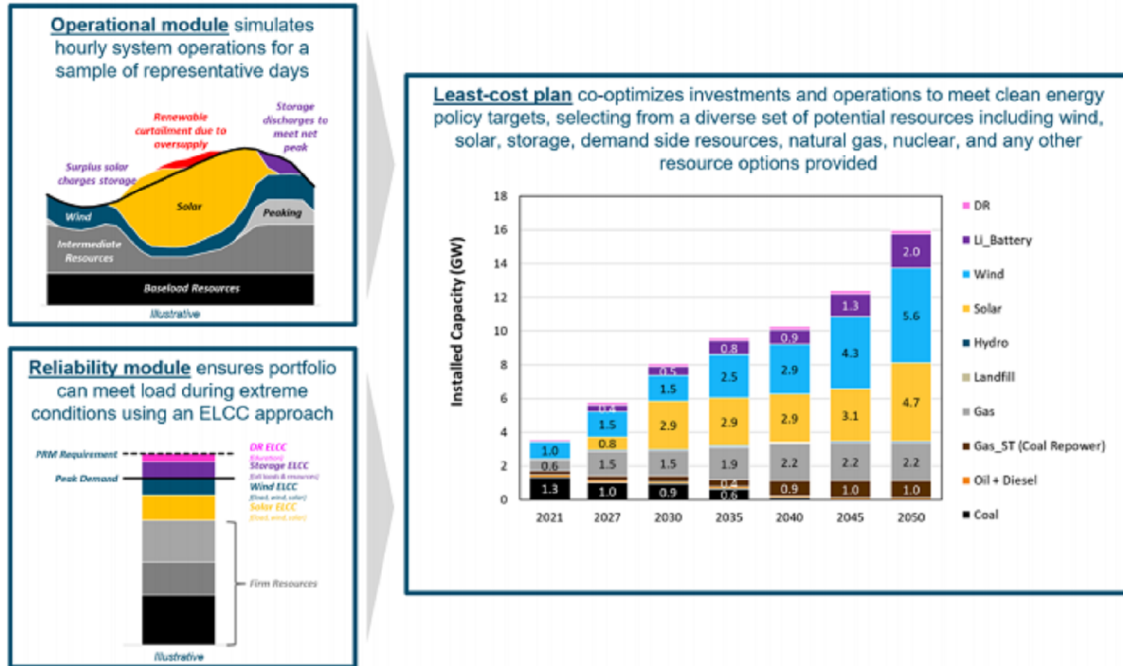
### RESOLVE Model

E3's Renewable Energy Solutions Model (RESOLVE) is used to perform a portfolio optimization of Northwest system's electric generating resource needs between 2025 and 2045. RESOLVE is an optimal capacity expansion and dispatch model that uses linear programming to identify optimal long-term generation and transmission investments in an electric system, subject to reliability, operational, and policy constraints. Designed specifically to address the capacity expansion questions for systems seeking to integrate large quantities of variable energy resources, RESOLVE layers capacity expansion logic on top of a production cost model to determine the least-cost investment plan, accounting for both the up-front capital costs of new resources and the variable costs to operate the grid reliably over time. In an environment in which most new investments in the electric system have fixed costs significantly larger than their variable operating costs, this type of model provides a strong foundation to identify potential investment benefits associated with alternative scenarios.

The three primary drivers of optimized resource portfolios include:

- + **Reliability:** all portfolios ensure system meets resource adequacy requirements. In this case, the target reliability need is to meet 1-in-2 system peak plus additional 15% of planning reserve margin (PRM) requirement.
- + **Clean Energy Standard ("CES") and/or carbon reduction targets:** all portfolios meet the clean energy standard and/or a carbon-reduction trajectory
- + **Least cost:** the model's optimization develops a portfolio that minimizes costs

Figure 4 illustrates the use of RESOLVE's operational module, which tracks hourly system operations including cost and greenhouse gas emissions across a representative set of days, and RESOLVE's reliability module, that uses exogenously calculated input parameters to characterize system reliability of candidate portfolios using effective load carrying capability (ELCC) for solar and wind resources.

**Figure 4. Schematic Representation of the RESOLVE Model Functionality**

RESOLVE develops least-cost portfolios using key inputs and assumptions including loads, existing resources, new resource options, retirement or repowering resource options, resource costs, resource operating characteristics including resource adequacy contributions, a zonal transmission transfer topology, and new resource transmission costs.

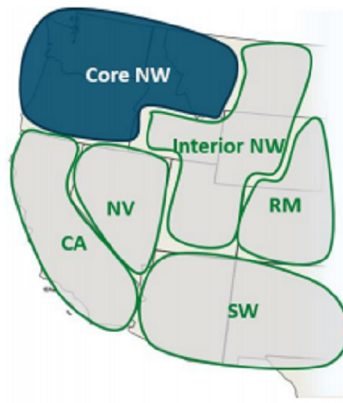
### Northwest RESOLVE Model

The Northwest RESOLVE model was developed in 2017 for E3's *Pacific Northwest Low Carbon Scenario Analysis* study.<sup>17</sup> It uses a zonal transmission topology to simulate flows among the various regions in the Western Interconnection. In this study, RESOLVE is designed to include six zones: the Core Northwest region and five external areas that represent the loads and resources of utilities throughout the rest of the Western Interconnection (see Figure 5). This study focuses on the Core Northwest region as the "Primary Zone"—the zone for which RESOLVE makes resource investment decisions. This zone covers Washington, Oregon, Northern Idaho and Western Montana. The remaining balancing authorities outside of the Core Northwest are grouped into five additional zones: (1) Other Northwest, (2) California, (3) Southwest, (4) Nevada and (5) Rockies. For these zones, investments are not optimized; rather, the trajectory of new builds is established based on regional capacity needs to meet PRM targets, as well as renewable needs to comply with existing RPS and GHG policies in their respective regions, and held

<sup>17</sup> Pacific Northwest Low Carbon Scenario Analysis - Achieving Least-Cost Carbon Emissions Reductions in the Electricity Sector, 2017. [https://www.ethree.com/wp-content/uploads/2018/01/E3\\_PGP\\_GHGReductionStudy\\_2017-12-15\\_FINAL.pdf](https://www.ethree.com/wp-content/uploads/2018/01/E3_PGP_GHGReductionStudy_2017-12-15_FINAL.pdf)

constant across all scenarios. E3's WECC-wide resource mix incorporates aggressive climate policy across the interconnection, as described in section *Baseline resources*.

**Figure 5. RESOLVE Northwest zonal representation**



The Northwest RESOLVE model simulates the operations of the WECC system for 41 independent days sampled from the historical meteorological record of the period 2007-2009. An optimization algorithm is used to select the 41 days and identify the weight for each day such that distributions of load, net load, wind, and solar generation match long-run distributions. Daily hydro conditions are sampled separately from dry (2001), average (2005), and wet (2011) hydro years to provide a complete distribution of potential hydro conditions. This allows RESOLVE to approximate annual operating costs and dynamics while limiting detailed operational simulations of grid operations to 41 days.

### LSR Dams Modeling Approach

The LSR dams' capacity and operation are characterized with several input parameters that are presented in Section *Hydro parameters*. The approach taken in this analysis is to model LSR dams as an *in/out* resource to determine the dams' replacement costs and replacement portfolio. In other words, "in" scenarios include LSR dams in the existing resource portfolio of Core Northwest throughout the entire modeling period (i.e., 2025-2045); whereas "out" scenarios exclude LSR dams with preset retirement dates of 2032. An earlier retirement of LSR dams, 2024, is considered in a sensitivity case. The difference between the costs and resource portfolios for in and out cases reveals the value of LSR dams, as shown in Figure 6. Total NPV costs of resources replacing LSR dams are estimated in the year of breaching the dams.<sup>18</sup> NPV replacement costs are calculating using a 3% discount rate to represent the public power cost of capital.

<sup>18</sup> I.e. when the dams are removed in 2032, future costs after 2032 are discounted to the year 2032 to calculate the NPV replacement costs.

**Figure 6. Modeling Approach to Calculate the LSR Dams Replacement Resources and Costs**

- 1 **With the lower Snake River dams, optimize long-term resource needs and operations for the Pacific Northwest**
  - Produces necessary resource additions and total system costs and emissions
- 2 **Remove the lower Snake River dam generating capacity, then re-optimize long-term resource needs and operations for the Pacific Northwest**
  - Produces a second set of resource additions and total system costs and emissions
  - All scenarios breach the dams in 2032, except for one scenario in 2024
- 3 **Calculate additional resources and investment + operational costs required to replace the dams**
  - Calculated as the difference between steps 1 and 2 above

This modeling approach inherently considers the benefits of avoiding the LSR dams ongoing fixed and variable costs. The costs associated with breaching the LSR dams themselves are not included in this study. Other power services (i.e., transmission grid reliability services provided by the dams) are also not included but are summarized qualitatively in the Appendix.

## Key Input Assumptions

### Load forecast

Base load forecast is from NWPCC 2021 Plan and is adjusted to E3's boundary of Core Northwest which roughly represents 87.5% of load of the Northwest system in the NWPCC 2021 Plan. Additionally, a high electrification scenario is modeled which takes Washington's State Energy Strategy high electrification load, scaled up and benchmarked to the Core Northwest region. The baseline high electrification load trajectories are displayed in Figure 7. It is notable that in the high electrification scenario, electric energy demand grows by about 28% by 2045 across all sectors, most noticeably in the commercial building and transportation sectors, to meet net-zero emissions by 2050. In the commercial and residential space heating sectors, electrification indicates a switch to high electric resistance and heat pump adoption, which will significantly impact load profiles and ultimately peak load. Hourly loads are modeled in RESOLVE by scaling normalized hourly shapes with annual energy forecasts. The normalized shapes are adopted from E3's 2017 study *Pacific Northwest Low Carbon Scenario Analysis*.<sup>19</sup>

<sup>19</sup> Pacific Northwest Low Carbon Scenario Analysis - Achieving Least-Cost Carbon Emissions Reductions in the Electricity Sector, 2017. [https://www.ethree.com/wp-content/uploads/2018/01/E3\\_PGP\\_GHGRReductionStudy\\_2017-12-15\\_FINAL.pdf](https://www.ethree.com/wp-content/uploads/2018/01/E3_PGP_GHGRReductionStudy_2017-12-15_FINAL.pdf)



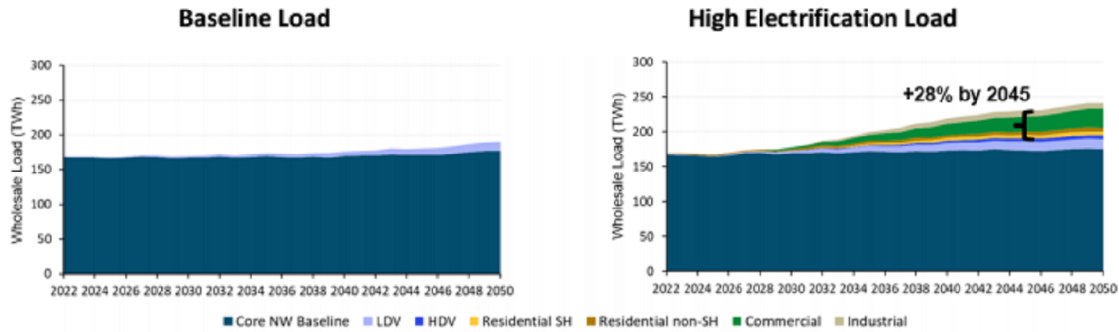
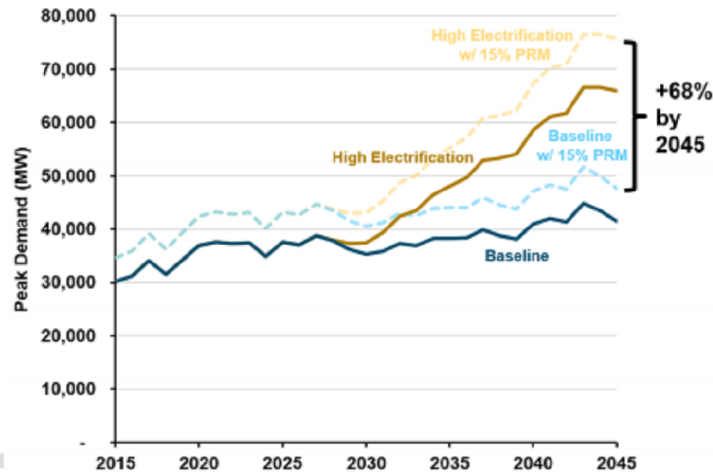
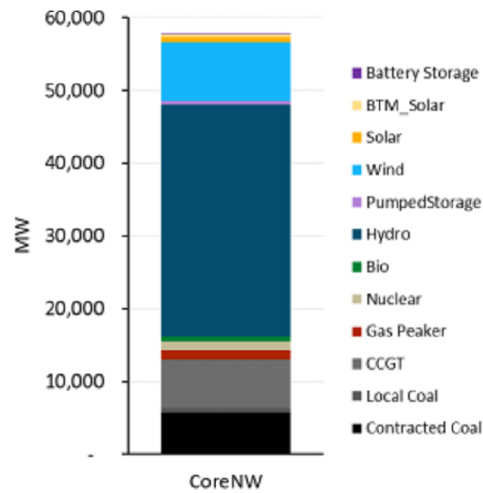
**Figure 7. Annual energy load forecasts for Core Northwest**

Figure 8 shows the peak demand impacts (including the 15% planning reserve margin) of the high electrification case relative to the baseline, showing a 68% increase by 2045. This high growth is driven by the winter peaking capacity required to replace the gas system peaking capacity to serve peak space heating needs.

**Figure 8. Peak demand forecasts for Core Northwest**

#### Baseline resources

Baseline resources include the existing conventional resources such as natural gas and coal-fired technologies, existing nuclear capacity, hydro as well as pumped storage, battery storage, solar PV, BTM PV and onshore wind technologies. As shown in Figure 9, today's Northwest system has 58 GW capacity. The 1,185 MW nuclear capacity in the Northwest zone remains active throughout the modeling period while the 670 MW local coal capacity is retired by 2025 and the 5,700 MW contracted out of region coal capacity is retired by 2030. The WECC 2020 Anchor Data Set is used for Northwest's existing and planned resources. By 2045, about 5.8 GW additional customer PV is included as planned capacity to capture the growth in behind-the-meter generation forecasted in NWPCC 2021 Power Plan.

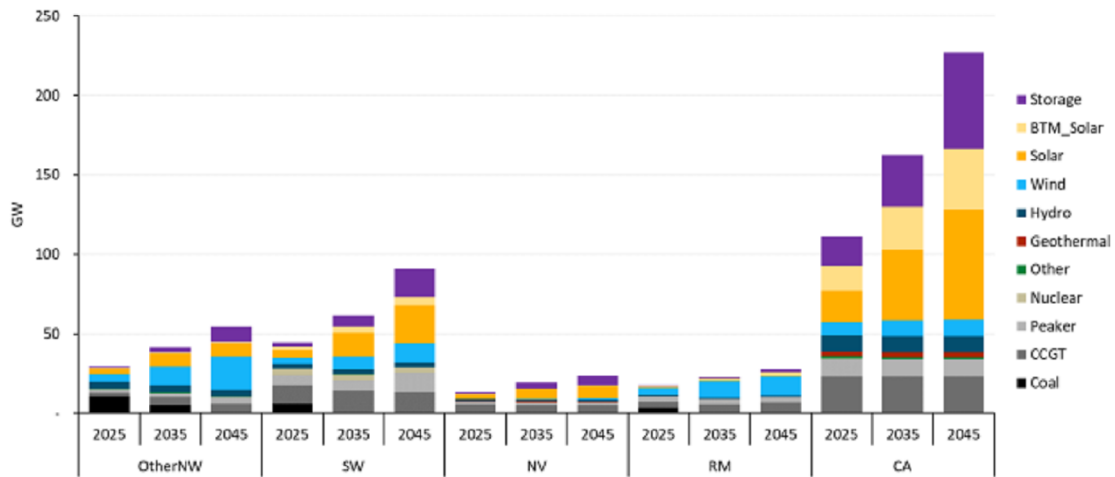
**Figure 9. Northwest resource capacity in 2022**

The investment decisions for external zones are pre-determined based on capacity expansion analysis completed by E3 that accounts for policy targets in each zone as summarized in Table 6. The new builds consist of significant increases in solar and battery capacity additions due to the more aggressive RPS targets, assumed electrification, and the decline of technology cost forecasts (see Figure 10). All future builds in these zones include mature technologies but as discussed in the next section, emerging technologies are made available for RESOLVE to optimize the future resource portfolios in the Northwest zone. There is significant solar and battery storage growth in California, the Southwest, and Nevada that generally lower the marginal value of solar energy produced across the WECC.

**Table 6. Policy targets for builds in external zones**

State	Requirement	Policy	2050 Renewable Target
AZ	40% by 2030; 60% by 2045	Transitions to CES <sup>20</sup>	70%
CA	60% by 2030; 100% by 2045	Transitions to CES	100%
CO	30% by 2020; 50% by 2030, 76% by 2050 (Xcel reaches 100% while other utilities stay at 50%)	Transitions to CES	75%
ID	90% by 2045 (ID Power's announced utility goals)	RPS	90%
MT	87% by 2045 (state carbon reduction goal)	RPS	87%
NM	40% by 2025; 100% by 2045	Transitions to CES	100%
NV	50% by 2030; 100% by 2050	Transitions to CES	95%
UT	50% by 2030; 55% by 2045 (PacifiCorp's IRP)	RPS	55%
WY	50% by 2030, 55% by 2045 (PacifiCorp's IRP)	RPS	55%

<sup>20</sup> CES = "Clean Energy Standard", an annual based clean generation standard.

**Figure 10. Total installed capacity for external zones****Candidate resource options, potential, and cost**

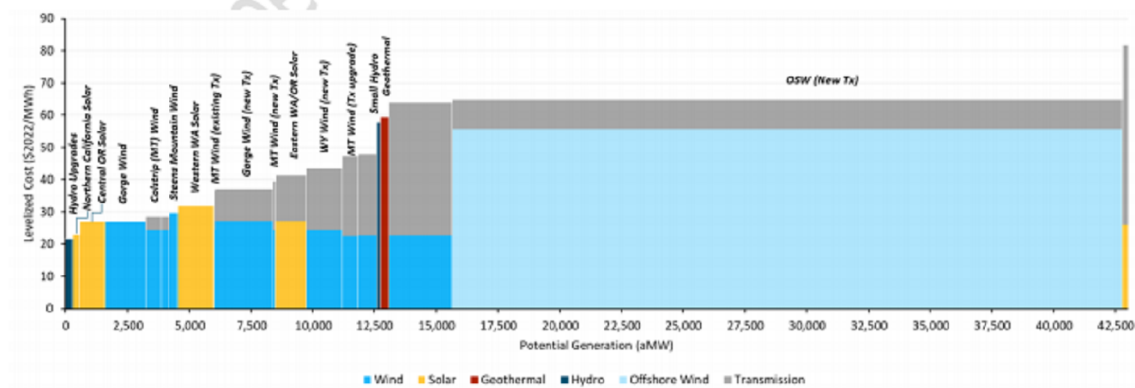
A wide range of technologies and resources are made available in RESOLVE, including mature and emerging technologies. The list of technologies made available in each modeled scenario is presented in Table 7. Some technologies such as solar and onshore wind are low-cost zero-carbon energy resources with limited resource potential and declining capacity values. Storage resources such as battery storage and pumped hydro support renewable integration but show limited capacity value given the large shares of hydro in the Northwest region. Demand response supports peak reduction but also faces declining ELCCs. Energy efficiency supports energy and peak reduction but increasingly competes against low-cost renewables. Geothermal is relatively high cost and has limited potential but provides highly valuable “clean firm” capacity.

Some emerging technologies are also made available in several scenarios to allow for firm zero-carbon technologies to be selected from. Hydrogen-capable generators such as dual fuel combustion turbines and combined cycles (i.e., capable of burning both natural gas and hydrogen) as well as retrofits of existing gas generators to burn hydrogen are modeled. These technologies provide low-cost capacity options with very high energy cost when burning expensive hydrogen fuel, therefore RESOLVE selects them for firm capacity needs but limits their hydrogen energy production. Natural gas with carbon capture and storage (CCS) technologies are moderately high cost in terms of both energy and capacity. Nuclear SMR provides moderately high capital cost but low operating cost for firm zero-carbon energy generation. This technology is made available to the model after 2035, to account for the time needed for technology development, licensing, and installation. Floating offshore wind is also modeled as an emerging technology which address onshore resource and land constraints, but is generally higher cost than onshore wind while providing a similar annual capacity factor to high quality Montana and Wyoming wind.

**Table 7. Available technologies in each modeled scenario**

Resource	A. Baseline	B. Emerging Tech	C. No New Combustion (Limited Tech)
Mature resources: solar, wind, battery storage, pumped storage, demand response, energy efficiency, small hydro, geothermal	✓	✓	✓
Natural gas to hydrogen retrofits	✓	✓	✓
Dual fuel natural gas + hydrogen plants	✓	✓	✗
Natural gas with 90-100% carbon capture and storage	✗	✓	✗
Nuclear small modular reactors	✗	✓	✗
Floating offshore wind	✗	✓	✓

There are physical limits to the quantity of renewable resources that can be developed in a given location; RESOLVE enforces limits on the maximum potential of each new resource that can be included in the portfolio. Moreover, some new resources will need extensive transmission upgrades which are accounted for in the renewable energy supply curve.<sup>21</sup> Figure 11 shows a “supply curve” for renewables in the year 2045, ordered by total generation plus transmission cost. While the quantity of solar and onshore wind energy is limited, offshore wind potential is effectively unlimited in the model although its cost remains high relative to land-based renewables through 2045. It should be noted that RESOLVE doesn’t select resources based on their cost alone; it also considers the value these resources provide as part of a regional portfolio. More detail information on technology cost trajectories and data sources can be found in the Appendix.

**Figure 11. Renewable resource supply curve in 2045, including transmission cost adders**

<sup>21</sup> Note: certain solar resources (i.e., Western WA solar) might require transmission upgrades to bring the supply to load centers, which are not captured.



### Clean energy policy targets

RESOLVE enforces a clean energy standard (“CES”) requirement as a percentage of retail sales to ensure that the total quantity of energy procured from renewable resources meets the CES target in each year. The clean energy standard percentage is calculated as follows, and the target values are summarized in Table 2:

$$CES \% = \frac{\text{Annual Renewable Energy or Zero Emitting Generation}}{\text{Annual CoreNW Retail Electric Sales}}$$

Eligible renewable energy and zero-emitting resources include: solar, wind, geothermal, hydropower, nuclear, biomass, green hydrogen, and natural gas with carbon capture and storage.

Regarding GHG emissions, RESOLVE enforces a greenhouse gas constraint on the CoreNW region such that total annual emission generated in the zone must be less than or equal to the emissions cap. The greenhouse gas accounting for the Northwest zone follows the rules established by the California Air Resources Board. The CoreNW carbon emissions baseline is set as 33 MMT at the 1990 level. The total greenhouse gas emissions attributed to the Core Northwest region include:

- + **In-region generation:** all greenhouse gas emissions emitted by fossil generators (coal and natural gas) within the region, based on the simulated fuel burned and fuel-specific CO<sub>2</sub> emissions intensity;
- + **External resources owned/contracted by Core Northwest utilities:** greenhouse gas emissions emitted by resources located outside the Core Northwest but currently owned or contracted by utilities that serve load within the region, based on fuel burn and fuel-specific CO<sub>2</sub> emissions intensity; and
- + **“Unspecified” imports to the Core Northwest:** assumed emissions associated with economic imports to the Core Northwest that are not attributed to a specific resource but represent unspecified flows of power into the region, based on a deemed emissions rate of 0.43 tons/MWh.

**Table 8. Annual CES and carbon emissions targets modeled for CoreNW in RESOLVE**

Resource	2025	2030	2035	2040	2045
Clean energy standard % (used in Scenarios 1 and 2 <sup>22</sup> )	29%	49%	68%	88%	100%
Carbon reduction emissions target (used only in Scenario 2)	22.7 MMT	17.0 MMT	11.3 MMT	5.7 MMT	0 MMT

### Hydro parameters

RESOLVE characterizes the generation capability of the hydroelectric system by including three types of constraints from actual operational data: (1) daily energy budgets, which limit the amount of hydro generation in a day; (2) maximum and minimum hydro generation levels, which constrain the hourly hydro

<sup>22</sup> While a clean energy standard is modeled in scenario 2, the mass-based carbon reduction target constraint is a more binding constraint, pushing the model beyond the minimum CES %'s shown here.

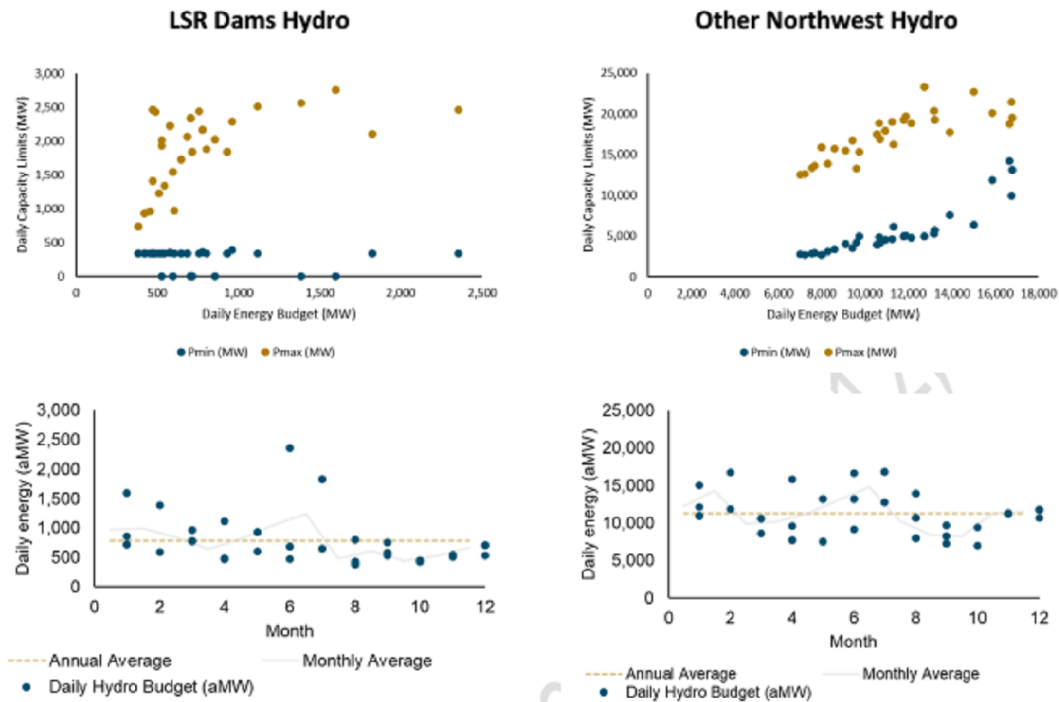
generation; and (3) multi-hour ramp rates, which limit the rate at which the output of the collective hydro system can change from one to four hours. Combined, these constraints limit the generation of the hydro fleet to reflect realistic seasonal limits on water availability, downstream flow requirements, and non-power factors that impact the operations of the hydro system.

In this analysis, hydro operating data are parameterized using conditions for three different hydrological years, i.e., 2001 for dry, 2005 for average and 2011 for wet conditions. For LSR dams, we use hourly generation data provided by BPA, which are adjusted for latest fish protection and spill constraints. For the remainder of the northwest hydro fleet, we rely on historical hydro dispatch data used to develop the TEPPC 2022 Common Case dataset. Using multi-year historical hydro operational data allows capturing the complete set of physical and institutional factors, such as cascading hydro, streamflow constraints, fish protection, navigation, irrigation, and flood control, that limit the amount of flexibility in the hydro system.

For each RESOLVE sampled day, the hydro daily energy budget is calculated as the average of daily electricity generated in the month of each sampled RESOLVE day in its corresponding matched hydro year.<sup>23</sup> The maximum and minimum hydro generation levels ( $P_{\min}$  and  $P_{\max}$ ) are calculated as the absolute min and max of generation in the month of each sampled RESOLVE day in its corresponding matched year. Multi-hour ramp rates are estimated based on the 99<sup>th</sup> percentile of upward ramps observed across the three hydrological years of hourly data. In addition, for non-LSR Northwest hydro, the model allows 5% of the hydro energy in each day to be shifted to a different day within two months to capture additional flexibility for day-to-day hydro energy shift.

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<sup>23</sup> LSR dams generate about 900 average MW of energy during an average hydro year. However, during the three years modeled in RESOLVE, the LSR dams produced only ~700 average MW generation for LSR dams. This means our estimate of the replacement cost of the dams is quite conservative relative to a longer-term expected average of ~900 MW.

**Figure 12. RESOLVE Hydro inputs for LSR Dams and other Northwest hydro****Table 9. Multi-hour ramping constraints applied to Northwest hydro**

	One hour	Two hours	Three hours	Four hours
LSR Dams Hydro	36%	43%	45%	48%
Other Northwest Hydro	14%	23%	29%	32%

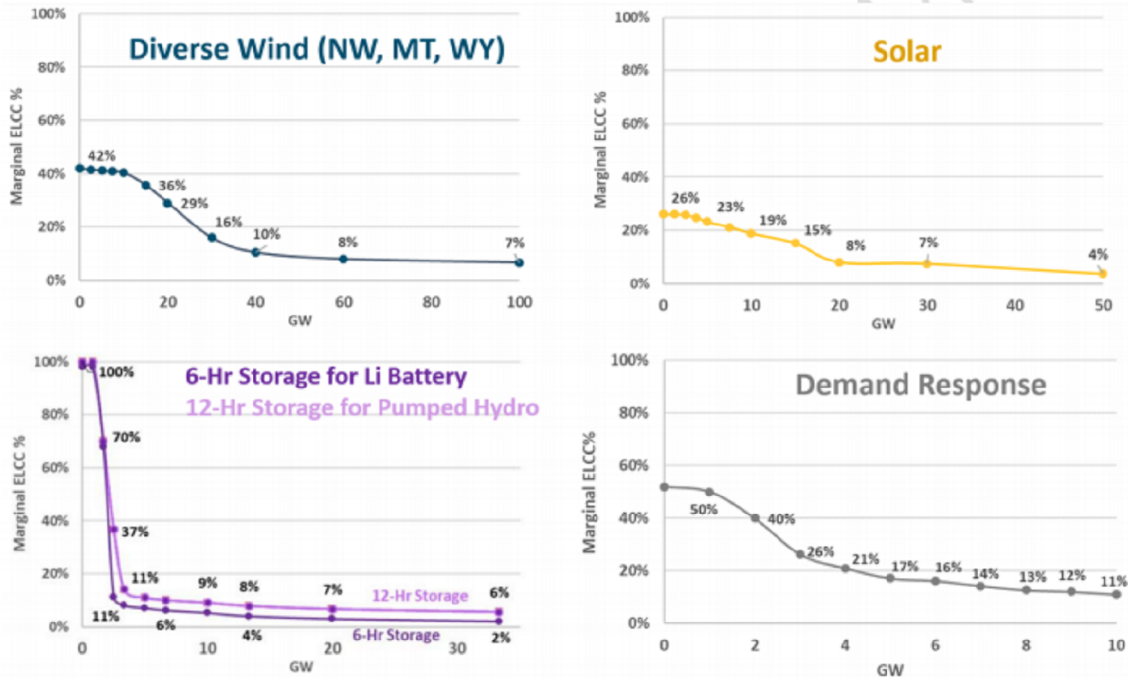
### Resource Adequacy Needs and Resource Contributions

Hydro firm capacity contribution for both LSR dams and other Northwest hydro is assumed to be 65% of nameplate, per PNUCC methodology (based on 10-hr sustaining peaking capacity). This means that the LSR dams provide 2,284 MW of firm capacity that must be replaced if the dams are breached. This assumption was validated based on BPA modeled LSR dam performance data during the 2001 dry hydro year, as described in the section *Key Uncertainties for the Value of the Lower Snake River Dams*, which also describes estimates of the NPV impact of assuming a lower firm capacity value for the dams.

Resource adequacy needs are captured in RESOLVE by ensuring that all resource portfolios have enough capacity to meet the peak Core Northwest median peak demand plus a 15% planning reserve margin. Firm capacity resources are counted at their installed capacity. Hydro resources are counted at the 65% regional value used in PNUCC's 2021 resource adequacy analysis. Solar, wind, battery storage, pumped hydro storage, and demand response are counted at their effective load carrying capability ("ELCC") based

on E3's RECAP modeling from its 2019 *Resource Adequacy in the Pacific Northwest* study.<sup>24</sup> Figure 13 shows the initial capacity values for these resources, as well as the declining marginal contributions as more of the resource is added. RESOLVE uses these data points to develop tranches of energy storage and demand response resources with declining marginal ELCCs for each tranche. Solar and wind ELCCs are input into RESOLVE using a 2-dimensional ELCC surface that captures the interactive benefits of adding various combinations of solar and wind together. Resources on the surface (such as different wind zones) are scaled in their ELCC based on their capacity factor relative to the base capacity factor assumed in the surface, and the entire surface is scaled as peak demand grows.

**Figure 13. Solar, Wind, Storage, and Demand Response Capacity Values**



The capacity value for energy storage resources shown in Figure 13 are very different from those in other regions, such as California or the Desert Southwest, declining much more quickly as a function of penetration. There are two reasons for this. First, the Pacific Northwest is a winter peaking region in which loss-of-load events are primarily expected to occur during extreme cold weather events that occur under drought conditions in which the region faces an energy shortfall. These events, such as the one illustrated in Figure 3 above, result in multi-day periods in which there is insufficient energy available to charge storage resources, severely limiting their usefulness. This is unlike the Southwest, where the most stressful system conditions occur on hot summer days in which solar power is expected to be abundant and batteries can recharge on a diurnal cycle. Second, the Pacific Northwest already has a very substantial amount of reservoir storage which can shift energy production on a daily or even weekly basis. Thus, the

<sup>24</sup> Resource Adequacy in the Pacific Northwest, 2019. [https://www.ethree.com/wp-content/uploads/2019/03/E3\\_Resource\\_Adequacy\\_in\\_the\\_Pacific-Northwest\\_March\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf)

Pacific Northwest is already much closer to the saturation point where additional diurnal energy shifting has limited value.

Nevertheless, recognizing that the capacity value of energy storage is still being researched, in the Northwest and elsewhere, we include a sensitivity case in which energy storage resources are assumed to have much higher ELCC values, similar to what is expected in the Southwest at comparable penetrations. This test case was used to assess whether a higher energy storage ELCC would change the replacement resources and replacement cost of the LSR dams. The results are presented in the section *Replacement Resources Firm Capacity Counting*.



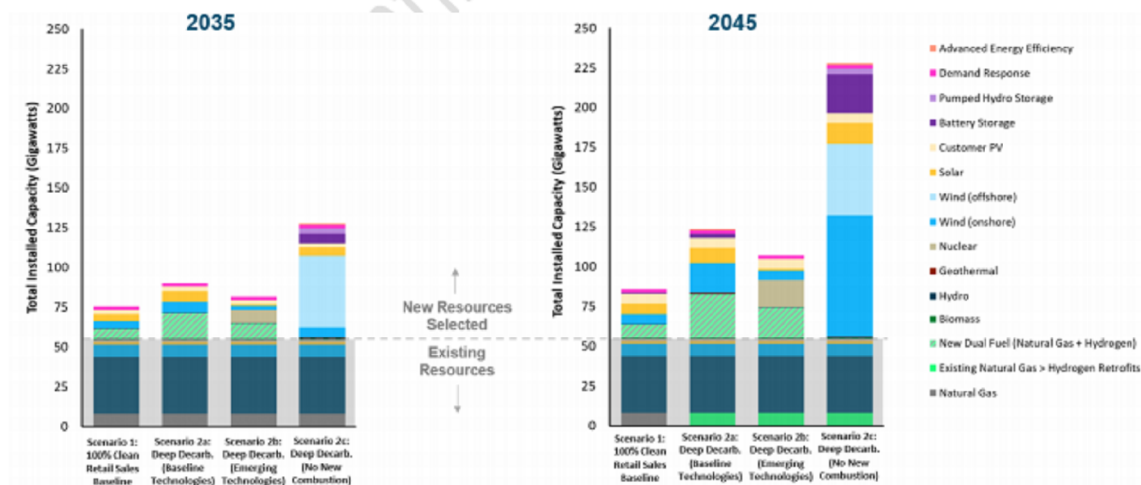
## Results

RESOLVE model runs for the 2025-2045 period produce optimal resource portfolios of additions and retirements by resource type, as well as metrics of annual and hourly resource generation, carbon emissions, and total system costs. This section presents the RESOLVE modeling results, focused on the years of 2035 and 2045 to highlight the mid-term and long-term resource needs. Following that, the result of the RESOLVE runs with the LSR dams breached are presented, with the replacement resource and costs to replace the dams' power services.

### Electricity Generation Portfolios With the Lower Snake River Dams Intact

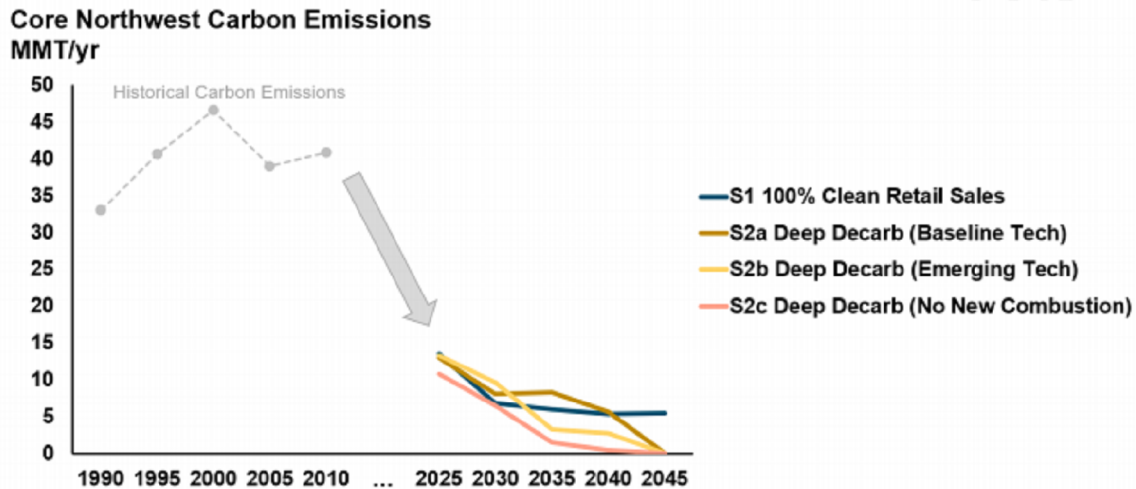
In the scenarios that do not assume breaching of the LSR dams, large amounts of utility-scale solar PV, onshore wind, offshore wind, hydrogen-capable combined cycle, and some amounts of energy efficiency and demand response are selected to meet the growing electricity demand, PRM, and emissions reductions. Electrification load growth along with zero emissions targets drive higher needs in deep decarbonization scenarios (i.e., S2a, S2b and S2c) compared to the reference scenario (S1) in both snapshot years of 2035 and 2045. In S2b, clean firm technologies such as SMR nuclear are selected in place of additional onshore wind, solar and dual-fuel CCGT selected in S2a. In the absence of clean firm technologies (no new combustion) in S2c, massive amounts of offshore wind (~45 GW) as well as more battery storage, pumped storage, demand response, and energy efficiency are selected as early as 2035 such that in this scenario, the new resource additions are almost five times the new builds in S1. These capacity additions increase even more substantially by 2045.

**Figure 14. Large levels of new resource additions to meet the growing load, PRM needs and emissions reductions (assumes LSR Dams are NOT breached)**



As shown in Figure 15 below, all four scenarios result in a sharp near-term decline in carbon emissions, driven by Washington and Oregon policies that drive coal retirement this decade. By 2045, Scenario 1, which requires 100% clean retail sales, shows an ~85% decline in carbon emissions relative to 1990 levels. Scenario 2 eliminates all carbon emissions by 2045.

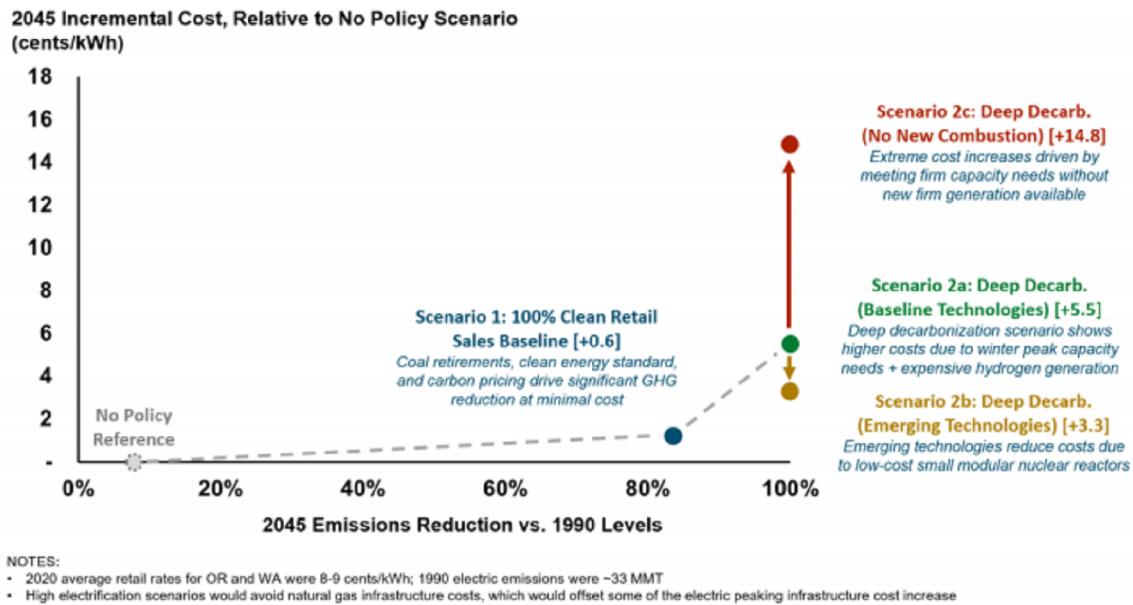
**Figure 15. Northwest Carbon Emissions**



To put cost impacts in context, a “No Policy Reference” case uses the baseline load forecast and removes all electric clean energy policies, retaining the region’s coal power with little emissions decline. The four clean energy futures modeled are compared against this Reference Case on A) their cost impacts, measured in incremental cents/kWh relative to the Reference, and B) their carbon emissions reductions, relative to 1990 levels. By 2045, as shown in Figure 16, with the region’s aggressive carbon policies in place, emissions can be reduced by over 80% with a relatively small cost impact (+0.6 cents/kWh relative to the region’s current average retail rate of 8-9 cents/kWh). Reaching a zero-carbon grid with increasing electric loads requires significantly more investment, increasing carbon reductions to 100% of 1990 levels, but also increasing costs by 3.3-14.8 cents/kWh. This range is highly dependent upon the availability of emerging technologies and their assumed costs. The low end assumes that low-cost small modular nuclear reactors become commercialized by 2035. The high end assumes no new combustion resources (such as green hydrogen)<sup>25</sup> or other emerging technologies are available<sup>26</sup>, showing that relying only on non-firm resource additions (renewable energy, demand side resources, and short- to medium-duration storage) leads to much higher costs.

<sup>25</sup> The authors recognize that hydrogen can be used to generate electricity by fuel cells instead of combustion turbines. That scenario would look similar to Scenario 2a, where the combustion plant additions are replaced with many GW of fuel cells for firm capacity needs.

<sup>26</sup> Floating offshore wind was allowed in the no new combustion case since it was required to allow a feasible solution without making any other firm capacity additions available in the model.

**Figure 16. Cost Impacts Compared to Emissions Reduction Impacts**

## LSR Dams Replacement

The resource replacement portfolios and costs of replacing the LSR dams are reported in this section, which is also focused on the midterm (2035) and long term (2045).

### Capacity and energy replacement

In the midterm, given the expectations of load growth and coal capacity retirements resource adequacy needs are a primary driver of LSR dam replacement needs, with around 2 GW of additional firm dual fuel natural gas and hydrogen combustion plants selected to replace the LSR dams' capacity in Scenarios 1, 2a, and 2b (see Table 10). (Note that, these turbines may initially burn natural gas when needed during reliability challenged periods but would transition to hydrogen by 2045 to reach zero-emissions.) If advanced nuclear is available as assumed in Scenario 2b, it replaces renewables and some of the combustion resource builds. In addition to firm resources, some of the LSR capacity is replaced by renewables in Scenarios 1 and 2a, mostly by wind resources and some battery storage. In Scenario 2c, with no combustion or advanced nuclear available, a very large buildout of renewable capacity (in the order of 12 GW) is required to replace the capacity of LSR dams, due to resource availability and the fast decline in solar and wind ELCCs as early as 2035. Small amount of geothermal capacity is also part of the portfolio in 2035.

In the long term, the dam's carbon-free energy is replaced by a combination of wind power and another "clean firm" resource when available. Scenario 2a shows additional hydrogen generation, as well as small levels of energy efficiency and battery storage. In Scenario 2b, the LSR dams are entirely replaced by clean firm capacity of hydrogen combustion plants and nuclear SMRs, whereas in Scenario 2c, a large capacity



of wind and solar is relied upon to replace both the carbon-free energy and firm capacity of the LSR dams. Overall, the magnitude of replacement portfolio capacities is close in both snapshot years (2035 and 2045) meaning that immediate capacity additions are necessary to replace LSR dams given the retirement year of 2032 while the capacity needs sustain throughout the modeling period. The early removal of LSR dams (i.e., by 2024) moves up the timing of the replacement portfolio to 2025 instead of 2035 in S1b, but the replacement portfolio remains similar.

**Table 10. Optimal portfolios to replace the LSR dams**

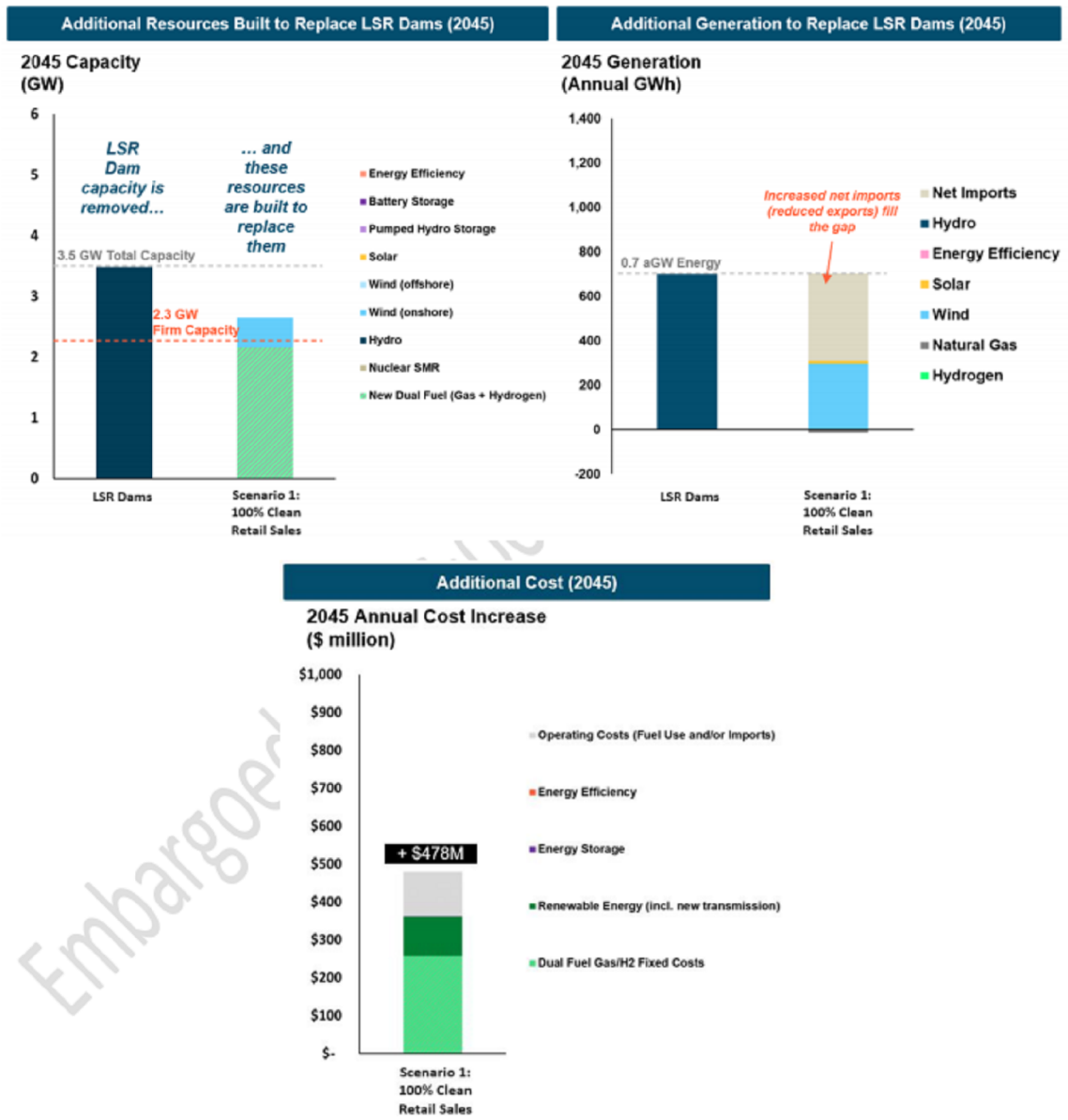
Scenario	Replacement Resources Selected, Cumulative by 2035 <sup>27</sup> (GW)	Replacement Resources Selected, Cumulative by 2045 (GW)
<b>Scenario 1: 100% Clean Retail Sales</b>	+ 1.8 GW dual fuel NG/H2 CCGT - 0.5 GW solar + 1.3 GW wind + 0.1 GW li-ion battery	+ 2.1 GW dual fuel NG/H2 CCGT + 0.5 GW wind
<b>S1b: 100% Clean Retail Sales (2024 dam removal)</b>	+ 1.8 GW dual fuel NG/H2 CCGT - 0.5 GW solar + 1.4 GW wind + 0.1 GW li-ion battery	+ 2.1 GW dual fuel NG/H2 CCGT + 0.5 GW wind
<b>Scenario 2a: Deep Decarbonization (Baseline Technologies)</b>	+ 2.0 GW dual fuel NG/H2 CCGT + 0.6 GW wind + 0.1 GW li-ion battery	+ 2.0 GW dual fuel NG/H2 CCGT + 0.3 GW li-ion battery + 0.4 GW wind + 0.05 GW advanced EE + 1.2 TWh H2-fueled generation
<b>Scenario 2b: Deep Decarbonization (Emerging Technologies)</b>	+ 1.7 GW dual fuel NG/H2 CCGT + 0.6 GW nuclear SMR	+ 1.5 GW dual fuel NG/H2 CCGT + 0.7 GW nuclear SMR
<b>Scenario 2c: Deep Decarbonization (No New Combustion)</b>	+ 9.1 GW offshore wind + 0.1 GW wind + 1.0 GW solar + 0.3 GW geothermal + 1.5 GW li-ion battery	+ 10.6 GW wind + 1.4 GW solar

Figure 17 through Figure 20 show details of the capacity replacement, energy replacement, and cost breakdown for Scenarios 1 and 2a. LSR dams energy in these scenarios is replaced with wind, net imports (i.e. reduced exports of hydropower outside the Core NW), and – in Scenario 2a – additional hydrogen generation, which is necessary in 2045 to meet the zero-carbon goal without the flexible LSR dam winter generation. The cost charts show that the dual fuel gas plants make up approximately half of the 2045

<sup>27</sup> Replacement resources are calculated by comparing the “with LSR dams” RESOLVE portfolio to the “without LSR dams” RESOLVE portfolio. This means some resources may be built in 2035, such as 0.3 GW of geothermal in scenario 2c, that are not built when the dams are included. However, those resources may have already been selected in the “with LSR dams” case by 2045, hence do not show up as additional resource replacement needs in 2045. This explains the different resource changes between 2035 and 2045.

annual costs in Scenario 1 and approximately a quarter of the 2045 annual costs in Scenario 2a, which includes additional costs for energy efficiency and hydrogen generation.

Figure 17. Scenario 1: Capacity Replacement, Energy Replacement, and Costs<sup>28</sup>



<sup>28</sup> Regarding the “net imports” component of the energy replacement, this refers to either increased imports, decreased exports (generally of carbon-free energy), or a combination of both, such that RESOLVE does not need to build enough new generation to fully replace the LSR dams output. For instance, the region could export less hydropower to California and other neighbors to replace the LSR dams output without necessarily increasing Northwest carbon emissions in Scenario 1.

**Figure 18. Scenario 2a Capacity Replacement, Energy Replacement, and Costs**

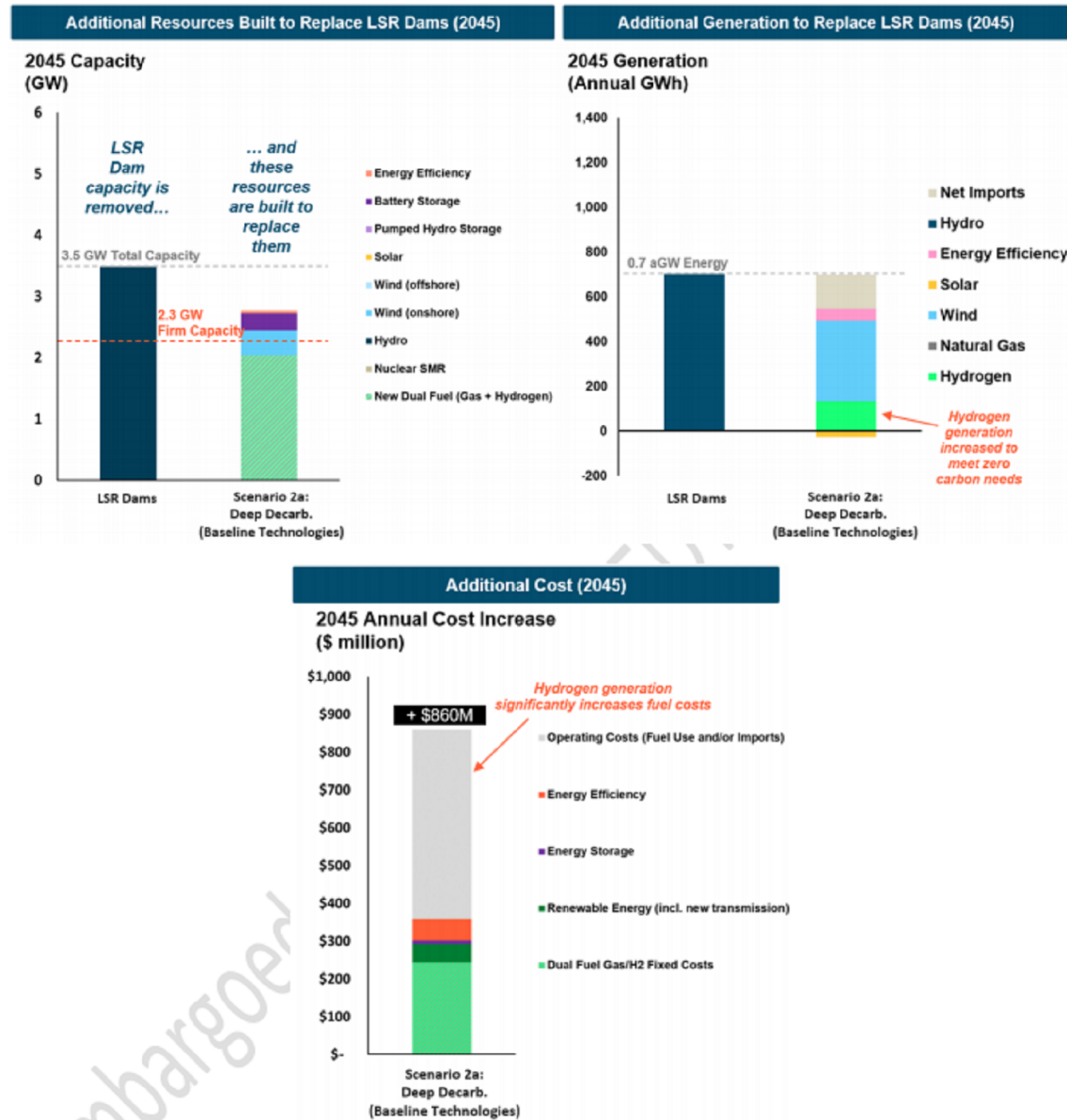


Figure 19. Scenario 2b Capacity Replacement, Energy Replacement, and Costs

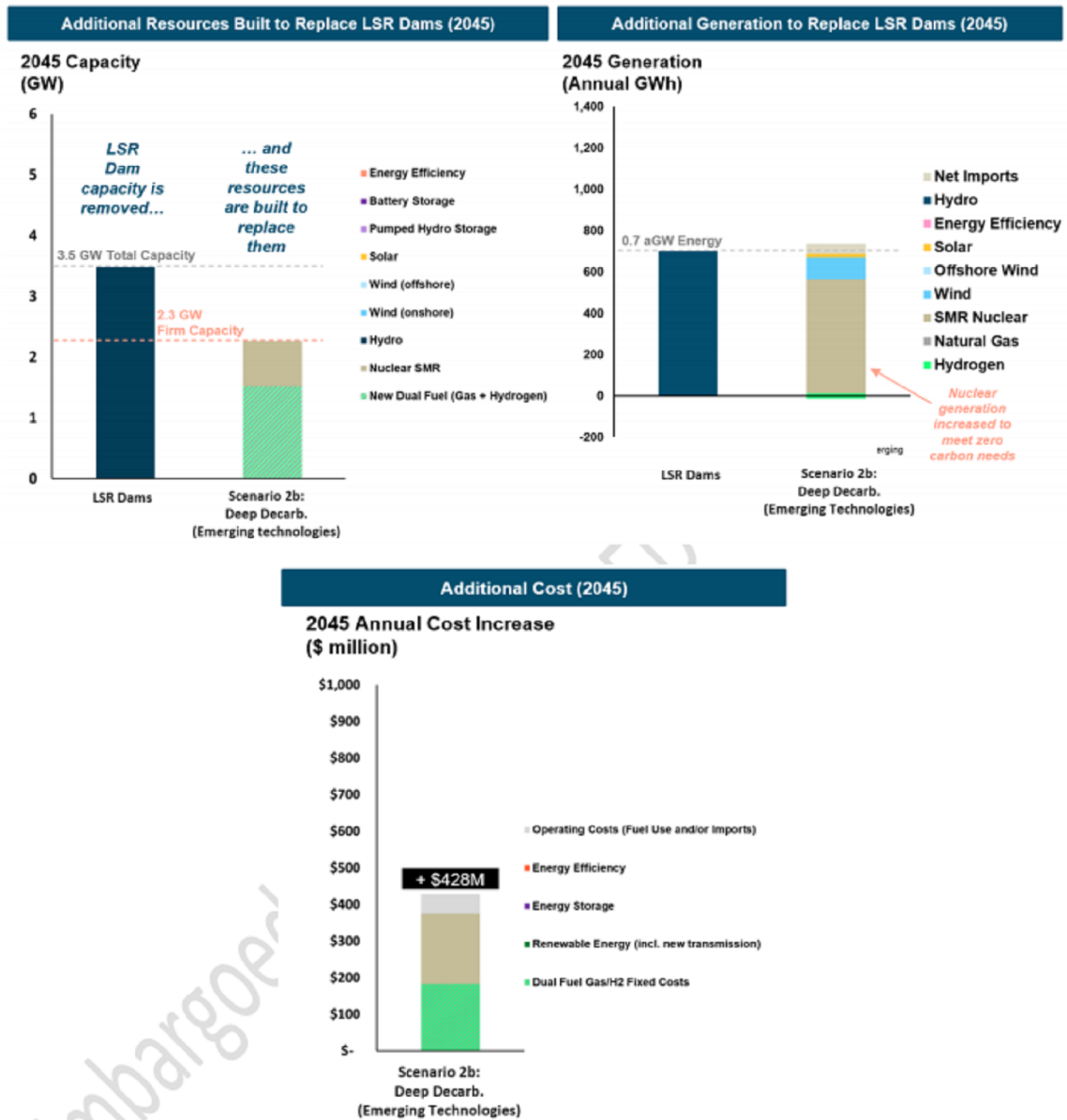
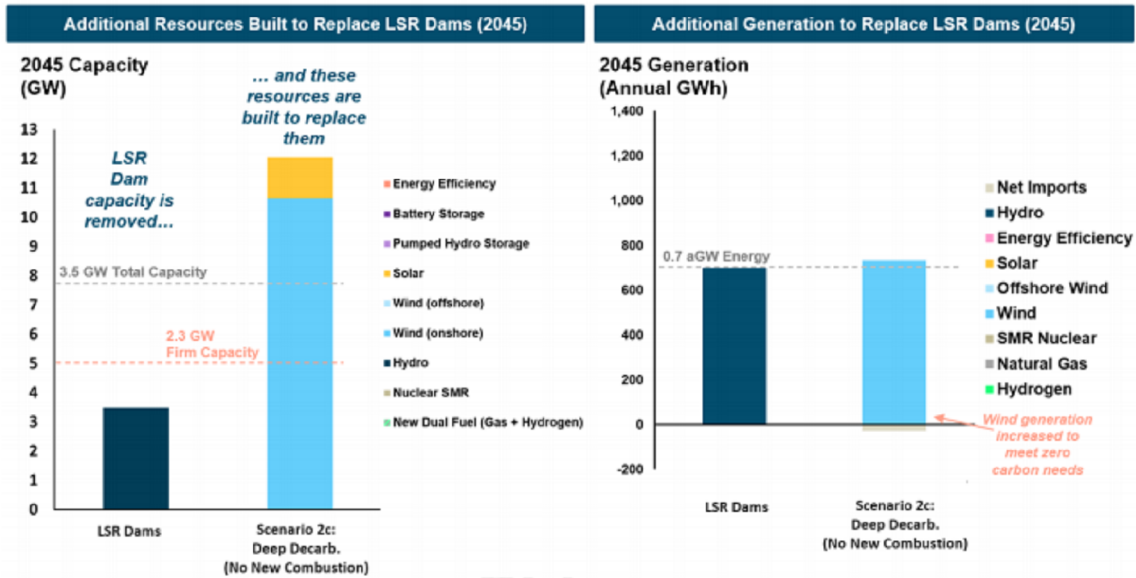
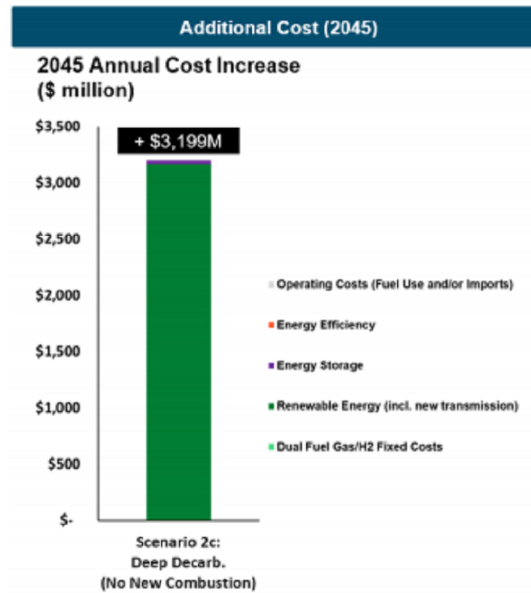


Figure 20. Scenario 2c Capacity Replacement, Energy Replacement, and Costs<sup>29</sup>



<sup>29</sup> NOTE: the energy replacement does not show the total potential energy output of the wind built to replace the dams, because much of the potential energy output is curtailed due to oversupply of wind built for resource adequacy needs.



### Replacement costs

The LSR dams provide a relatively low-cost source of GHG-free energy and firm capacity. Incremental costs for replacement resources are summarized in this section. All costs are shown in real 2022 dollars. Incremental costs to replace the power services of the LSR dams ranges from \$69-139/MWh across most scenarios. Scenario 2c, however, shows a much higher replacement power cost of \$517/MWh. These incremental costs are much higher than costs of maintaining the LSR dams (i.e., \$13-17 per MWh<sup>30</sup>); they are calculated by taking the incremental fixed and variable investment costs for the no LSR RESOLVE runs and dividing them by the LSR annual generation being replaced. See the details in Table 11.

**Table 11. Incremental costs to replace LSR generation in 2045**

Scenario	Incremental net costs in 2045 <sup>31</sup> , including avoided LSR dam costs (Real 2022 \$/MWh)	Incremental gross costs in 2045 <sup>32</sup> , excluding \$17/MWh avoided LSR dam costs (Real 2022 \$/MWh)
Scenario 1: 100% Clean Retail Sales	\$77/MWh	\$94/MWh
Scenario 1: 100% Clean Retail Sales	\$82/MWh	\$99/MWh

<sup>30</sup> BPA directly funds the annual operations and maintenance of the Lower Snake River Compensation Plan (LSRCP) facilities. The cost of generation at the lower Snake River dams is in the range of \$13/MWh without LSRCP and \$17/MWh with LSRCP. Congress authorized the LSRCP as part of the Water Resources Development Act of 1976 (90 Stat.2917) to offset fish and wildlife losses caused by construction and operation of the four lower Snake River projects.

<sup>31</sup> The generation replacement costs are calculated using the incremental RESOLVE's Core Northwest revenue requirement increase with LSR dams breached divided by the annual MWh of the LSR dams assuming 706 average MW generation.

<sup>32</sup> The generation replacement costs are calculated using the incremental RESOLVE's Core Northwest revenue requirement increase with LSR dams breached divided by the annual MWh of the LSR dams assuming 706 average MW generation.



<b>(2024 dam breaching)</b>		
<b>Scenario 2a: Deep Decarb. (Baseline Technologies)</b>	\$139/MWh	\$156/MWh
<b>Scenario 2b: Deep Decarb. (Emerging Technologies)</b>	\$69/MWh	\$86/MWh
<b>Scenario 2c: Deep Decarb. (No New Combustion)</b>	\$517/MWh	\$534/MWh

The LSR dams' total replacement costs (in net present value) and annual replacement costs for 2025, 2035, and 2045 are shown in Table 12. NPV replacement costs are calculated based on discounting at a 3% discount rate, representative of the approximate public power cost of capital, over a 50-year time horizon following the date of breaching. Scenario 1 (100% clean retail sales) replacement costs are approximately \$11.8 billion in net present value (NPV) in the year of breaching (in 2032); costs increase to \$12.8 billion NPV if breached in 2024. Total replacement costs are similar in the economy-wide deep decarbonization scenario when emerging technology is available (scenario 2b), showing \$10.7 billion NPV. Replacement costs are significantly higher in scenario 2c where no new combustion resources are allowed (\$75.2 billion NPV). The economy-wide deep decarbonization (baseline technology scenario), 2a, shows more costly replacement (\$19.0 billion NPV) than when nuclear SMRs are available, but lower costs than scenario 2c, due to the availability of hydrogen-enabled gas plants.

Annual costs increase by \$415-860 million after LSR dams' removal in scenarios 1, 2a, and 2b. In Scenario 2c, the cost increase is in the order of \$1.9-3.2 billion per year. Replacement costs generally increase over time due to increasingly stringent clean energy standards and electrification-driven load growth. The 2045 cost increases translate to 8-18% growth in BPA's public power customers costs in scenarios 1, 2a and 2b (assuming current retail rates are about 8.5 ¢/kWh based on OR and WA average retail rates). In these scenarios, public power households would see an increase in annual electricity costs of \$100-230/yr in 2045. In Scenario 2c, rate impacts could be as high as 65%, which is equivalent to annual residential electricity bills raising by up to \$850 per year.<sup>33</sup>

Note that these incremental cost increases include the ongoing LSR dams costs, such as operations and maintenance costs, avoided by breaching the dams, but do not include the costs of breaching. The rate impacts shown are only for the LSR dams' replacement, they do not include the additional rate increases driven by higher loads or clean energy needs (that are covered in the section *Electricity Generation*

<sup>33</sup> Annual residential customer cost impact assumes 1,000 kWh per month for average residential customers in Oregon and Washington in scenario 1 and 1,280 kWh per month for scenario 2, per the 28% retail sales increase due to electrification load growth.



Portfolios With the Lower Snake River Dams Intact above), which apply even without removing generation from the LSR dams.

**Table 12. Total LSR Dams replacement costs**

	NPV Total Costs (Real 2022 \$) <sup>34</sup>	Annual Costs Increase (Real 2022 \$)			Incremental Public Power Costs <sup>35</sup>
	In the year of breaching (2032 or 2024)	2025	2035	2045	2045
<b>Scenario 1: 100% Clean Retail Sales</b>	\$11.8 billion	n/a	\$434 million	\$478 million	0.8 ¢/kWh [+9%]
<b>Scenario 1: 100% Clean Retail Sales (2024 dam breaching)</b>	\$12.8 billion	\$495 million	\$466 million	\$509 million	0.8 ¢/kWh [+9%]
<b>Scenario 2a: Deep Decarb. (Baseline Technologies)</b>	\$19.0 billion	n/a	\$496 million	\$860 million	1.5 ¢/kWh [+18%]
<b>Scenario 2b: Deep Decarb. (Emerging Technologies)</b>	\$10.7 billion	n/a	\$415 million	\$428 million	0.7 ¢/kWh [+8%]
<b>Scenario 2c: Deep Decarb. (No New Combustion)</b>	\$75.2 billion	n/a	\$1,953 million	\$3,199 million	5.5 ¢/kWh [+65%]

#### Carbon emissions impacts

LSR dams provide emissions-free generation for Northwest and depending on what these dams are replaced with, may impact the emissions associated with the electricity systems. The removal of LSR dams may potentially cause an increase in emissions over the near- or mid-term horizon. In Scenario 1, the 2024 LSR dam breaching scenario results in substantial increases to carbon emissions through 2030, in the range of 1-2.8 MMT/yr or 15-25% of the annual Northwest emissions. This scenario does not have a binding GHG constraint, and the region meets its clean energy goals in the near term without the dams. RESOLVE therefore does not replace all the LSR dam energy with clean resources.

Under 2032 breaching scenarios, small carbon emissions increases are observed in the mid-term (0.7 MMT/yr. or 8-10% of the region's carbon emissions in 2035). The economy-wide deep decarbonization cases all reach zero carbon emissions by 2045, so breaching the dams does not increase emissions in that year; RESOLVE instead builds the resources needed to replace all of the GHG-free energy.

<sup>34</sup> NPV replacement costs are based on discounting at a 3% discount rate, representative of the approximate public power cost of capital, over a 50-year time horizon following the date of breaching.

<sup>35</sup> Incremental public power costs are calculated assuming that all the replacement costs are paid by BPA Tier I customer, using the assumed 2022 Tier I annual sales of 58,686 GWh.

### *Additional considerations*

Depending on how the future of the electric grid evolves, there might be significant land-use associated with renewables expansion, more so if LSR dams are removed in conditions similar to Scenario 2c where significant capacity additions from solar and wind resources would be necessary.

### **Key Uncertainties for the Value of the Lower Snake River Dams**

This study explicitly captures the following key drivers of the LSR dams power service replacement needs:

- + Replacing the **GHG-free energy, firm capacity, operating reserves, and operational flexibility** of the dams

Uncertainty of the LSR dam value is considered under scenarios of:

- + **Clean energy policy:** replacement of carbon-free power becomes increasingly critical to reach a zero-emissions electricity grid
- + **Load growth:** replacement energy and capacity needs may change with increased electrification and peak higher winter space heating needs
- + **Technology availability:** replacement is more expensive with fewer emerging technology resource options
- + **Timing:** replacement was focused on breaching in 2032, but a 2024 sensitivity was also considered

Additional uncertainties regarding the value of the dams are:

- + **LSR dams annual energy output:** E3's existing RESOLVE model data uses historical hydro years 2001, 2005, and 2011 as representative of the regional long-term average low/mid/high hydro year conditions. The data for the Columbia River System dams was adjusted to reflect the Preferred Alternative operations defined in the CRSO EIS. However, for the LSR dams, these selected historical hydro years resulted in a relatively low output of ~700 average MW, whereas the dams may generate ~900 average MW on average across the full historical range of hydro conditions. Therefore, E3's analysis likely underestimates the energy value of the dams and costs for replacing that extra GHG-free energy.
- + **LSR dams firm capacity counting:** as resource adequacy is found to be a key driver of future resource needs, the firm capacity contributions of the LSR dams is a key driver of their value. See below for further discussion of this uncertainty.
- + **Replacement resource capacity contributions:** if Northwest reliability challenges dramatically shift into the summer, this would also impact the capacity value of replacement resources. Directionally, this would likely increase the capacity value of energy storage, and change the relative value of solar and wind. It is expected that additional battery storage would be part of the regional capacity additions in lieu of dual fuel natural gas + hydrogen plants. See below for further discussion of this uncertainty.
- + **Replacement of transmission grid services:** this study does not focus on the transmission grid reliability services provided by the LSR dams. These services likely can be replaced by a

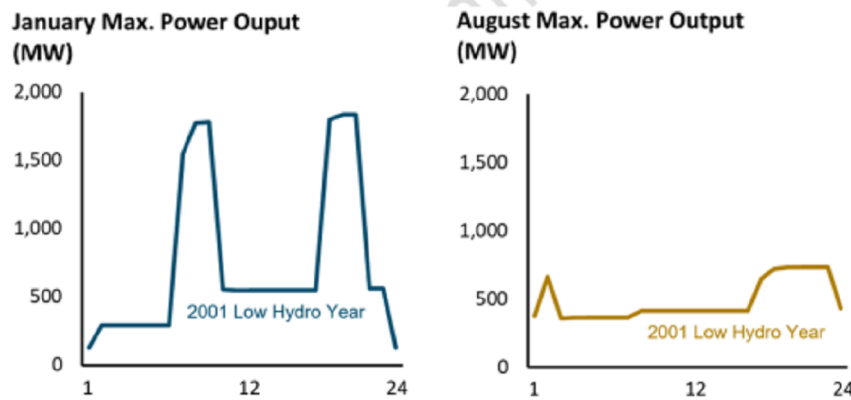
combination of the new resources selected by RESOLVE and additional local transmission system investments. A qualitative summary of the transmission grid reliability services of the dams is summarized in the appendix of this report.

### *LSR Dams Firm Capacity Counting*

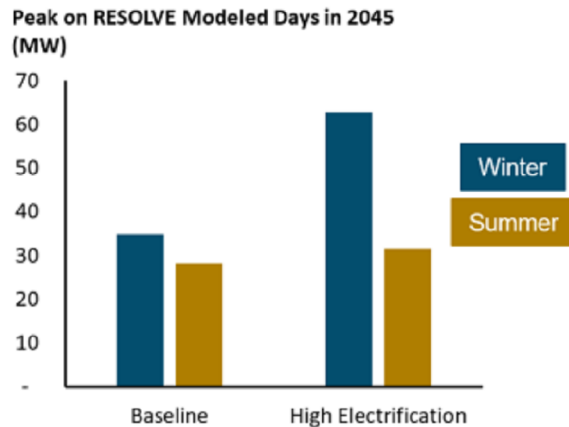
Since resource adequacy is found to be a key driver of future resource needs, the firm capacity contribution of the LSR dams is a key driver of their value. E3 uses a regional hydro capacity value estimate for the LSR dams in this study, based on the PNUCC regional hydro capacity value assumption. More detailed follow-on ELCC studies could be done to confirm the LSR dams' capacity value, though proper and coordinated dispatch of the Northwest hydro fleet would be necessary to develop an accurate and fair value of the LSR dams within the context of the overall hydro fleet.

This study validated the assumed 2.28 GW of firm capacity from the LSR dams by considering BPA modeled LSR dams dispatch under 2001 dry hydro year conditions using the CRSO EIS spill constraint adjusted hourly modeling provided by BPA. Maximum January output (plus 100-250 MW of operating reserves) was 1.9-2.1 GW (~56-60% of total capacity), slightly less but close to the 65% regional hydro value the study assumes.

**Figure 21. BPA-Modeled LSR Dam Output During the 2001 Low Hydro Year with CRSO EIS Preferred Alternative operations**



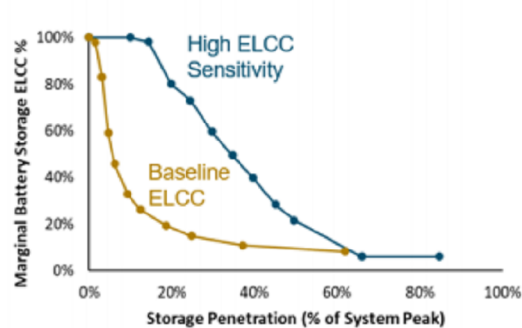
The other capacity value uncertainty is whether the Northwest will remain winter reliability challenged or whether reliability events will shift to the summer due to climate impacts on load patterns and hydro output. If reliability challenges did shift to the summer, the LSR dam firm capacity contribution would be significantly lower than assumed. However, E3 believes it is reasonable to assume under high electrification scenarios that the region will remain winter challenged due to peak space heating needs, as shown in figure below.

**Figure 22. Winter vs. Summer Peak Loads**

To address the capacity value uncertainty, a post-processing analysis was performed based on the replacement resources selected for firm capacity replacement. Based on this analysis performed on scenarios 1 and 2a, relative to the 2.28 GW assumption used in this study, it is estimated that a 1.5 GW firm capacity value (43%) for the dams would lower the NPV replacement costs by 9-20% and a 1.0 GW firm capacity value (29%) would lower the NPV replacement costs by 14-33%.

#### **Replacement Resources Firm Capacity Counting**

If Northwest reliability challenges dramatically shift into the summer, this would also impact the capacity value of replacement resources. One key input assumption this would change is the capacity value of battery storage additions, which were previously limited due to the Northwest wintertime energy-constrained reliability events causing charging sufficiency challenges for energy storage resources. To test whether higher energy storage ELCCs would impact the LSR dams replacement resources and replacement costs, a high storage ELCC sensitivity scenario was analyzed, per the ELCC inputs shown in Figure 23 below. This analysis was performed on scenarios 1 and 2a.

**Figure 23. Inputs for High Battery Storage ELCC Sensitivity**

In Scenario 1, with the LSR dams intact, higher battery ELCCs cause another 1.5 GW of batteries to be selected and 1.4 GW less dual fuel natural gas and hydrogen plants. In Scenario 2a, with the LSR dams intact, higher battery ELCCs cause another 2.4 GW of batteries and another 0.3 GW of wind to be selected, with 3.6 GW less dual fuel natural gas and hydrogen plants.

When the LSR dams are assumed to be breached, the differences in replacement resources are relatively small. In Scenario 1, an additional ~0.2 GW of battery storage, an additional 0.2 GW of wind, and 0.2 GW less dual fuel natural gas and hydrogen plants are selected to replace the dams. In Scenario 2a, an 0.3 GW less battery storage, 0.3 GW less wind, and an additional 0.1 GW of dual fuel natural gas and hydrogen plants are selected to replace the dams. This is because scenario 2a builds more wind and batteries in the base case already with the dams not breached, so the model prefers to select fewer of those resources for LSR dams replacement. Annual replacement costs in 2045 are 2% lower in scenario 1 and the same in scenario 2a. These results indicate that higher storage ELCCs would allow the region to build less dual fuel natural gas and hydrogen plants, but because energy storage ELCCs eventually saturate in either case, the replacement resources for the dam are not significantly changed and there is little impact on the replacement costs.



## Conclusions and Key Findings

This study uses E3's Northwest RESOLVE model to study optimal capacity expansion scenarios with and without the lower Snake River dams, to determine the replacement resources and cost impacts to replace the dams' power output. RESOLVE is an optimal capacity expansion and dispatch model that determines a least-cost set of investment and operational strategies to enable the "Core Northwest" region – consisting of Washington, Oregon, Northern Idaho, and Western Montana – to achieve its long-term clean energy policy goals at least-cost, while ensuring resource adequacy and operational reliability. RESOLVE has been used in several prior studies of electricity sector decarbonization in the Pacific Northwest<sup>36</sup>. Using RESOLVE allows for a dynamic optimization that considers replacement resource needs in the context of long-term system load and policy drivers, not just the near-term resource mix and needs of the system today. The dams are assumed to be breached in 2032, except for one sensitivity that considered 2024 breaching.

This study's scenario design focuses on three key variables – clean energy policy, load growth, and emerging technology availability – that impact the cost to replace the dams.

Even with the dams in place, the region's clean energy goals and potential electrification load growth drive a significant need for new resources. In all scenarios, significant energy efficiency and customer solar is embedded into the load forecast, based on the NWPCC's 8<sup>th</sup> Power Plan. Additionally, 6 gigawatts ("GW" or 6,000 MW) of coal capacity is retired by 2030, while increasing carbon prices incent further clean energy resource additions. In Scenario 1, the regional power system is required to meet a goal of generating enough clean energy to provide 100% of retail electricity sales, on an average basis over a calendar year. This requires an additional 5 GW of solar and 5 GW of wind by 2045 to achieve the clean energy goal; 0.6 GW of battery storage, 2 GW of demand response, and 9 GW of dual fuel natural gas + hydrogen combustion plants are also added to meet the region's resource adequacy needs.

Though all scenarios require more "firm" resources – resources that can generate when needed and operate for as long as needed – to meet peak loads, these resources are in higher demand in Scenario 2, in which all greenhouse gas emissions are eliminated from the regional power system by 2045. This scenario also assumes that electrification results in much higher electric loads, particularly in wintertime due to electrification of natural gas space heating in buildings. The baseline scenario (2a) selects additional wind, solar, and geothermal to meet clean energy needs as well as demand response, some battery storage, and 27 GW natural gas and hydrogen dual fuel combustion plants to meet reliability needs. An alternative "emerging technology" scenario selects 17 GW of advanced nuclear technology (small modular reactors or "SMRs") by 2045, in place of the firm capacity provided by natural gas generators while reducing the required quantities of wind, solar and batteries that are needed. The "no new combustion" scenario does not allow emerging clean firm technologies such as hydrogen combustion turbines, gas generation with carbon capture and sequestration (CCS) or SMRs. As a result, it requires

<sup>36</sup> Pacific Northwest Low Carbon Scenario Analysis, December 2017, <https://www.ethree.com/projects/study-policies-decarbonize-electric-sector-northwest-public-generating-pool-2017-present/>; Pacific Northwest Zero-Emitting Resources Study, January 2020, <https://www.ethree.com/e3-examines-role-of-nuclear-power-in-a-deeply-decarbonized-pacific-northwest/>

impractically high levels of additional onshore wind, offshore wind, and battery storage to meet firm capacity and carbon reduction needs, quadrupling the total installed MW of the Northwest grid by 2045.

When the power services provided by the dams are removed from the regional power system, RESOLVE selects an optimal, i.e., least-cost portfolio of replacement resources that meets the Northwest's clean energy and system reliability needs. These replacement resources require a large investment and come at a substantial cost that increase over time as the region's clean energy goals become more stringent. In the latter years, the replacement costs are highly dependent on scenario-specific assumptions about the availability of emerging technologies. RESOLVE primarily replaces the carbon-free energy from the dams with additional wind power and the firm capacity with dual fuel natural gas and hydrogen combustion plants. Small amounts of additional energy efficiency and battery storage are also selected in some scenarios. By 2045, the dual fuel plants added burn additional hydrogen on low wind days to replace the carbon-free energy provided by the dams. Scenario 2b selects additional nuclear SMRs in lieu of some of the wind and gas resources. Scenario 2c disallows the new combustion plants, even those that would burn green hydrogen, and other emerging technologies, requiring a very large buildout of wind and solar power to replace both the firm capacity and the carbon-free energy of the dams.

The long-term emissions impact of removing the generation of the lower Snake River dams will depend on the implementation of the Oregon and Washington electric clean energy policies. Both a 100% clean retail sales and a zero-carbon emissions target require replacement of most or all of the LSR dams' GHG-free energy. However, without additional earlier carbon-free resource investments beyond those modeled in this study to meet clean energy policy trajectories, carbon emissions may increase initially when the dams are breached, before declining by 2045 as the carbon policy becomes more stringent.

### KEY FINDINGS:

- + **Replacing the four lower Snake River dams while meeting clean energy goals and system reliability is possible but comes at a substantial cost**, even assuming emerging technologies are available:
  - Requires 2,300 – 2,700 MW of replacement resources
  - An annual cost of \$415 million – \$860 million by 2045
  - Total net present value cost of \$10.7-19 billion based on 3% discounting over a 50-year time horizon following the date of breaching
  - Increase in costs for public power customers of \$100 – 230 per household per year (an 8 – 18% increase) by 2045
- + The biggest cost drivers for replacement resources are the need to replace the lost **firm capacity for regional resource adequacy** and the need to replace the lost **zero-carbon energy**
- + Replacement becomes **more costly over time** due to increasingly stringent clean energy standards and electrification-driven load growth
- + **Emerging technologies** such as hydrogen, advanced nuclear, and carbon capture **can limit the cost of replacement resources** to meet a zero emissions electric system, but the pace of their commercialization is highly uncertain
  - In economy-wide deep decarbonization scenarios, **replacement without any emerging technologies requires very large renewable resource additions at a very high cost** (12 GW of wind and solar at \$75 billion NPV cost)



## Appendix

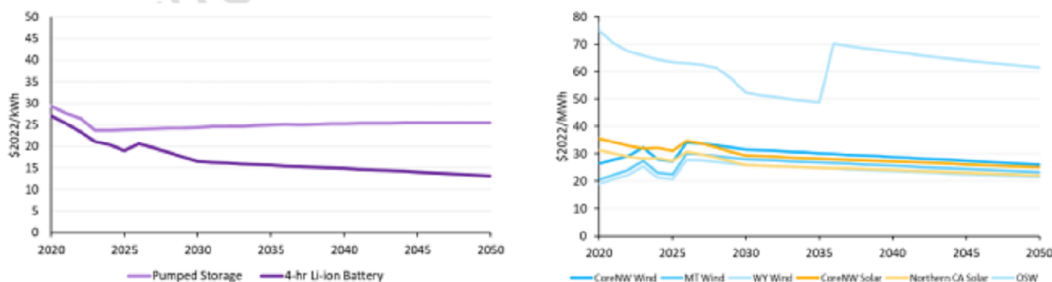
### Additional Inputs Assumptions and Data Sources

#### Candidate resource costs

The technology fixed costs trajectories for candidate resource options are shown in Figure 24 and use the following data sources:

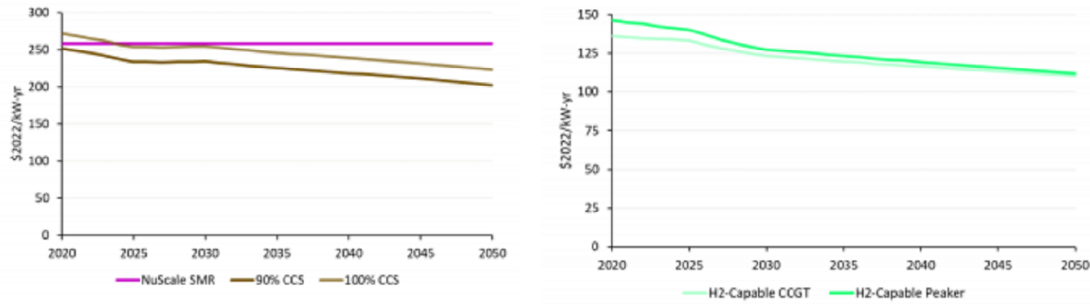
- + **Battery Storage:** Costs derived from Lazard LCOS 7.0 and E3 modeling
- + **Pumped Storage:** Costs derived from Lazard's last published PHS costs (LCOS 4.0)
- + **Renewables (solar, onshore, and offshore wind):** Costs derived from E3's inhouse Pro Forma which integrates the NREL 2021 Annual Technology Baseline
- + **Geothermal:** Costs derived from E3's inhouse Pro Forma which integrates the NREL 2021 Annual Technology Baseline
- + **Energy Efficiency and Demand Response:** Costs supply curve adjusted for cost effective energy efficiency and DR potential from the 2021 Northwest Power Plan
- + **Carbon Capture and Storage (CCS):** Costs derived from E3's inhouse "Emerging Tech" Pro Forma using the NREL 2021 Annual Technology Baseline and Feron et al., 2019.<sup>37</sup>
- + **Nuclear Small Modular Reactor (SMR):** Costs are derived from the vendor NuScale, for an "nth of a kind" installation of the technology they are developing
- + **Gas and Hydrogen-Capable Technologies:** CCGT and peaker costs are derived from E3's inhouse ProForma which integrates NREL 2021 Annual Technology Baseline. New Hydrogen or natural gas to hydrogen upgrades include a ~10% additional cost that converges with standard CCGT and peaker costs by 2050

Figure 24. All-in fixed costs for candidate resource options<sup>38</sup>



<sup>37</sup> Feron, P., Cousins, A., Jiang, K., Zhai, R., Thiruvengkatachari, R., & Burnard, K. (2019). Towards zero emissions from fossil fuel power stations. *International Journal of Greenhouse Gas Control*, 87, 188–202.

<sup>38</sup> Storage costs are shown in \$/kWh of energy storage. Renewable costs are shown in \$/MWh. Clean firm resources (nuclear, CCS, hydrogen CCGT or peakers) are shown in \$/kW-yr, since their \$/MWh costs are a function of their runtime that RESOLVE would determine endogenously.

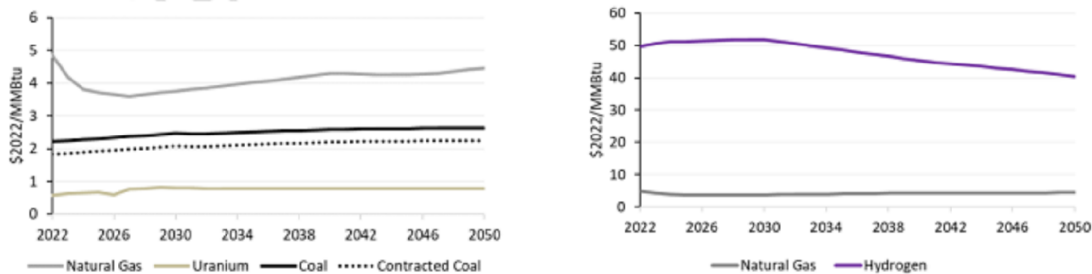


### Fuel prices

The fuel price forecasts used in this study are derived from a combination of market data and fundamentals-based modeling of natural gas supply and demand. Wholesale gas prices are pulled from forward contracts from NYMEX (Henry Hub) and Amerex and MI Forwards (all other hubs) for the next five years, after which the Henry Hub forecast trends towards EIA's AEO natural gas price by 2040. All other hubs forecast after the first five years are based on the average 5-year relationship between their near-term forward contracts and that of Henry Hub. Data sources used for fuel price forecasts used in modeling are as follows and the trajectories are presented in Figure 25:

- + **Natural gas prices:** In near term, SNL NG price forecasts (i.e., for 2022-2026); and in long term, the EIA's AEO 2040 forecasts are used. Recent fuel cost increases due to market disruptions are excluded from the price trajectory.
- + **Coal prices:** EIA's AEO forecast are used
- + **Uranium prices:** E3's in-house analysis
- + **Hydrogen prices:** Conservative prices are used assuming no large-scale hydrogen economy, and thus electrolyzer capital costs and efficiencies are assumed to improve over time only slightly. Other assumptions include above ground hydrogen storage tanks and delivery via trucks from about 225 miles distance. Electrolyzers use dedicated off-grid Core NW wind power to produce hydrogen.

**Figure 25. Fuel price forecasts for natural gas, coal, uranium, and hydrogen**

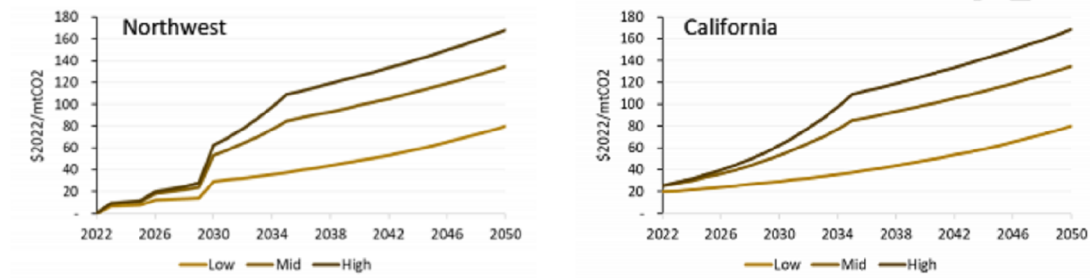


Annual average gas prices are further shaped according to a monthly profile to capture seasonal trends in the demand for natural gas and the consequent impact on pricing.

### Carbon prices

For carbon pricing, it is assumed that Washington's cap-and-trade program starts in 2023 at around 50% of California carbon prices. For Oregon, it is assumed that a carbon price policy will be effective by 2026 for the electric sector. Prior to 2026, the Northwest carbon price is a load weighted share of carbon prices in WA and OR. Additionally, it is assumed that both states will converge to California's floor price by 2030. California's carbon prices are adopted from the Final 2021 IEPR GHG Allowance Price Projections (December 2021). Mid carbon prices presented in Figure 26 are used in modeled cases.

**Figure 26. Carbon price forecasts for Northwest and California**



### Operating Reserves

It is assumed that all coal, gas, hydro, and storage resources within the Northwest zone can provide operating reserves. Additionally, RESOLVE allows renewable generation to contribute to meeting the needs for load following down; to allow for variable renewable generation curtailment to balance forecast error and sub-hourly variability. The following three types of operating reserve requirements are considered within the Core Northwest to ensure that in the event of a contingency, sufficient resources are available to respond and stabilize the electric grid:

- + **Spinning reserves:** Modeled as 3% of hourly load in agreement with WECC and NWPP operating standards
- + **Regulation up and down:** Modeled as 1% of hourly load
- + **Load following up and down:** Modeled as 3% of hourly load

### Modeling of Imports and Exports

The Northwest RESOLVE model includes a zonal representation of the WECC. In modeling hourly dispatch during representative days, it considers the least-cost dispatch solution across the WECC, based on resource economics, resource operational limits, fuel and carbon prices, operating reserve requirements, and zonal transmission transfer limits. Imports to the CoreNW zone can occur from other neighboring zones; when they do a carbon adder is included for unspecified imports, while specified imports do not receive a carbon adder. Exports from the CoreNW zone may occur as deemed economic by RESOLVE, subject to other model constraints.

Minimum and maximum capacity limits are applied to the zonal representation of transmission between connected zones. These zonal transfer limits are shown in Table 13. Transmission hurdle rates as well as carbon hurdle rates (with regional carbon price adders) are applied to imports and exports.

**Table 13. Transmission Capacity Limits between the CoreNW and other Zones**

Transmission Constraint	Transmission from	Transmission to	Min Flow (MW)	Max Flow (MW)
CoreNW to OtherNW	CoreNW	OtherNW	-6,036	2,550
CoreNW to CA	CoreNW	CA	-6,820	5,433
CoreNW to SW	CoreNW	SW	0	0
CoreNW to NV	CoreNW	NV	-300	300
CoreNW to RM	CoreNW	RM	0	0

Contracted imports (such as imported coal and/or wind power) are included in the resource adequacy accounting captured in the planning reserve margin constraint. New remote resources include transmission cost adders to deliver them into the CoreNW zone. Additional unspecified imports are not assumed in RESOLVE's resource adequacy accounting.

### Additional LSR Dam Power System Benefits (not modeled)

As described in this report, RESOLVE covers replacement of most power services provided by the LSR dams. However, RESOLVE does not model transmission grid operations (power flow, voltage and frequency, dynamic stability, etc.). Therefore, E3 notes that the LSR dams may provide the following additional essential reliability services to the transmission grid. In general, E3 expects that the replacement of these services can be achieved either through siting and operations of the incremental replacement capacity selected or by additional local transmission investments. The scale of these transmission investments requires more detailed study.

- **Reactive power and voltage control:** the LSR dams, like hydropower resources generally in the Northwest, provide significant reactive power capabilities that supports reliable power flow by optimally controlling voltage levels. Replacing this function likely requires siting additional resources with reactive power capabilities in a similar section of the transmission grid as the LSR dams.
- **Frequency response and inertia:** the LSR dams provide both primary and secondary frequency response capabilities. As synchronous generators they also provide system inertia that would be lost if the LSR dams are removed and as other synchronous generators retire. New efforts are underway to allow renewable generators or battery storage to provide "synthetic inertia" (or equivalent fast frequency response services), but this provision has not yet been proven to date at scale. The LSR dams are also highly tolerant of operating during high and low frequency events without sustaining blade damage.
- **Blackstart:** Large hydro resources have the capability to provide black start services when required, though not all hydro plants are chosen to provide this capability.

- **Participation in remedial action schemes:** Hydropower is a robust resource for participation in remedial action schemes because it can withstand being suddenly tripped off-line as part of a RAS action.
  - **Short circuit and grounding contribution:** Synchronous generators (like hydropower) provide a large short circuit current that is important for the proper operation of protective relaying schemes.
-



---

**From:** Hairston,John L (BPA) - A-7  
**Sent:** Monday, July 11, 2022 1:36 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH; Zelinsky,Benjamin D (BPA) - E-4; Godwin,Mary E (BPA) - LN-7; Leary,Jill C (BPA) - LN-7; Armentrout,Scott G (BPA) - E-4; Scruggs,Joel L (BPA) - DK-7; Habibi,Maryam A (BPA) - DKP-7; Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

yes

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 1:35 PM  
**To:** Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; James,Eve A L (BPA) - PG-5 <eajames@bpa.gov>  
**Subject:** Fwd: urgent RE: E3 Talking Points/Other Materials

Should we huddle quickly?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

----- Forwarded message -----

**From:** "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Date:** Jul 11, 2022 4:25 PM  
**Subject:** urgent RE: E3 Talking Points/Other Materials  
**To:** "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>,"Ardis, Melissa" <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>,"Daly, Gabriel" <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>,"Bhattacharyya, Arpita" <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>,"Godwin,Mary E (BPA) - LN-7" <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>,"Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>,"Dimitriou, Jasmine" <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>,"Troiano, Charisma L" <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>  
**Cc:**

Sonya and BPA team – can you please figure out ASAP whether it’s feasible, and who would release (E3?) the full study tonight, for 6am embargo? Or do we need to insist that the salmon paper and E3 study both be held for embargo/release **\*after\*** the NWPCC briefing? (I’m sensitive to stepping on your/E3 plans for releasing the full study.)

The draft WH press release says “Federal agencies release” so at least we all agree the studies are supposed to be being released at the same time...will forward you the draft release in a minute (am adding my own edits)

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 4:21 PM

**To:** Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Yep.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 4:16 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:

They are both embargoed, and I've seen the CEQ talking points that say very clearly it is **\*not\*** administration policy. But there's still a gap, which is that right now the salmon paper would go out, embargoed until 6am, but the E3 paper will only have been briefed without paper. I'm going to flag this for CEQ – the E3 study would need to be released for the 6am embargo I think....

---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 3:38 PM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

I pushed send before i was done. Sorry. I think that would be past all press deadlines for media prior to the Council briefing with the exception of news alerts of online reporting that could be done quickly. I will check with our media lead on any requests he is fielding today.

I think the concerning issue I'm hearing from the Hill and we share is that CEQ appears to be pushing the NOAA paper as an administration document and also saying they support it, in addition to it being prior to release of the E3 analysis. If both the NOAA paper and the E3 analysis are embargoed until the 6:00a, that at least may calm some concern.

Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 3:21 PM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:  
Here is the agenda item, Mountain Time.

3:30 – 5 p.m. Mountain Time

Energy and Environmental Economics (E3) study on Lower Snake River Dams Power Replacement: Arne Olsen, E3.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 3:01 PM, "Baumann, Jeremiah" <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)> wrote:



Sonya what time is the NWPCC briefing tomorrow? I think WH is saying the press embargo on tonight's briefing lifts at 6am tomorrow, which would allow for stories running before the NWPCC briefing...do we need to push back on that?

---

**From:** Baumann, Jeremiah

**Sent:** Monday, July 11, 2022 12:42 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Dimitriou, Jasmine <[jasmine.dimitriou@hq.doe.gov](mailto:jasmine.dimitriou@hq.doe.gov)>; Bhattacharyya, Arpita <[arpita.bhattacharyya@hq.doe.gov](mailto:arpita.bhattacharyya@hq.doe.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

Hi Sonya – adding Jasmine and Arpita from the S1/S2 office, as this is all moving very quickly – (b)(6)

(b)(6), so just putting pieces together myself....what seems to be happening is—

- to get comfortable with briefing the E3 results, they are aligning comms around the NOAA/FWS salmon science “summary” and the E3 study.
- This is actually something John and I were in conversations about last week and the week before, i.e. we were suggesting that rather than objecting to BPA/E3 releasing the study, they align the narrative that the science paper talks about what it would take to reach certain fish levels (with clarity those are not ESA/litigation relevant levels) and E3 says what it would cost
- They seem to be doing that, but doing it TODAY, bc of the NWPCC briefing happening tomorrow
- Plan is a 30-min Member briefing and 30-min press briefing with brief overviews of both documents
- We need to make sure they are NOT calling it a DOE study
- We also need to get clarity on embargo

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>

**Sent:** Monday, July 11, 2022 11:12 AM

**To:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>; Leary, Jill C <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>

**Subject:** RE: E3 Talking Points/Other Materials

The invitation. And I'm told that they also are going to over the "DOE" report.

From: Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>

Sent: Sunday, July 10, 2022 12:38 PM

To: Jones, Ashley A. EOP/WHO <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Black, Jonathan Y. EOP/WHO <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>

Subject: FW: Invitation to embargoed member briefing

Good afternoon,

I hope your weekend is going well. I wanted to ensure you saw my note from Friday evening inviting your boss to a member briefing. If your boss and staff are able to join, I hope you will register in advance.

Best,

Radha

From: Adhar, Radha EOP/CEQ <>  
Sent: Friday, July 8, 2022 8:14 PM  
To: Ashley A. EOP/WHO Jones ([Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)) <[Ashley.Jones@who.eop.gov](mailto:Ashley.Jones@who.eop.gov)>; Jonathan Y. EOP/WHO Black ([Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)) <[Jonathan.Y.Black@who.eop.gov](mailto:Jonathan.Y.Black@who.eop.gov)>; Buetow, Zephrairie N. EOP/WHO <[Zephrairie.N.Buetow@who.eop.gov](mailto:Zephrairie.N.Buetow@who.eop.gov)>  
Subject: Invitation to embargoed member briefing

The White House Logo

Good evening,

Your boss is invited to join an embargoed member briefing Monday, July 11th at 6:00pm ET. This briefing will feature senior officials from the White House, the National Oceanic and Atmospheric Administration, the Department of Energy and Fish and Wildlife Service and will provide an update on the Columbia River Basin. Please register your member and any staff attending here: <https://pitc.zoomgov.com/meeting/register/vJltcuigpzorEtWx1TOuXZkGtuys6hsUx48>

Please let me know if you have any questions, and hope you have a wonderful weekend.

Radha

Radha Adhar

202-881-8151

Director of Legislative Affairs

Council on Environmental Quality

Executive Office of the President

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 11:04 AM, "Baskerville,Sonya L (BPA) - AIN-WASH" <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)> wrote:  
Hey there. I understand that CEQ is meeting with Members/Senators this afternoon. I'm not sure we knew about it, and it's curious because they have asked us all to be coordinated on comms. Yet they are having this meeting without the comms plan being complete. Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 8, 2022 1:10 PM, "Leary,Jill C (BPA) - LN-7" <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)> wrote:  
[Great, thanks.](#)

---

**From:** Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Sent:** Friday, July 8, 2022 10:04 AM  
**To:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>; Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>  
**Cc:** Godwin, Mary E (BPA) - LN-7 <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** [EXTERNAL] RE: E3 Talking Points/Other Materials

I just heard from CEQ – they expect White House comms to reach out this afternoon with a comms package.

Gabe

---

**From:** Leary, Jill C (BPA) - LN-7 <[jcleary@bpa.gov](mailto:jcleary@bpa.gov)>  
**Sent:** Friday, July 8, 2022 10:42 AM  
**To:** Troiano, Charisma L <[charisma.troiano@hq.doe.gov](mailto:charisma.troiano@hq.doe.gov)>; Ardis, Melissa <[melissa.ardis@hq.doe.gov](mailto:melissa.ardis@hq.doe.gov)>; Daly, Gabriel <[gabriel.daly@hq.doe.gov](mailto:gabriel.daly@hq.doe.gov)>  
**Cc:** Godwin, Mary E <[megodwin@bpa.gov](mailto:megodwin@bpa.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)  
**Subject:** E3 Talking Points/Other Materials

Good morning,  
Do you have a sense of when the media package for E3 will be ready?

I know it is in process, but would love to know when to expect so I can help set internal expectations.

Thanks,  
Jill

---

**From:** Scruggs,Joel L (BPA) - DK-7  
**Sent:** Monday, July 11, 2022 5:16 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH; Hairston,John L (BPA) - A-7; Koehler,Birgit G (BPA) - PG-5; Armentrout,Scott G (BPA) - E-4; Zelinsky,Benjamin D (BPA) - E-4; Leary,Jill C (BPA) - LN-7; Godwin,Mary E (BPA) - LN-7; Habibi,Maryam A (BPA) - DKP-7  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials  
**Attachments:** Draft Press Release CRS studies\_Agency Edits \_DOE Edits-2.docx

I focused on the E3 section. E3 should be spelled out as "Energy and Environmental Economics" on first reference. I suggest at least that edit.

Joel Scruggs (He/Him)  
Director of Communications | Communications (DK)  
**BONNEVILLE POWER ADMINISTRATION**  
[bpa.gov](https://bpa.gov) | P 503-230-5511 | C (b)(6)



---

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 5:04 PM  
**To:** Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

With the attachment

Sonya Baskerville  
BPA National Relations  
(b)(6) m

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**From:** Baskerville,Sonya L (BPA) - AIN-WASH  
**Sent:** Monday, July 11, 2022 8:04 PM  
**To:** Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Koehler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>  
**Subject:** FW: urgent RE: E3 Talking Points/Other Materials

Hey there. FYI that we just missed the boat on the first round of edits, but he will try during the second round. And there will be a second round since DOE wrote a paragraph stating the NOAA document is not Administration policy.

Frankly, I wonder why CEQ is doing a press release any way . . .

Sonya Baskerville  
BPA National Relations  
(b)(6) m

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH  
**Sent:** Monday, July 11, 2022 7:58 PM  
**To:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Okay, thanks!

Also, CEQ has sent the documents to the Hill.

Sonya Baskerville  
BPA National Relations

(b)(6) m

---

**From:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 7:51 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Ok, CEQ wanted them to send over an hour so I told Charisma to send since we hadn't heard...but if we get them in a matter of seconds we can try to ask for a second round of changes

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 7:49 PM  
**To:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Hey there. We do have some comments. Sorry for the delay!

Sonya Baskerville  
BPA National Relations

(b)(6) m

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**From:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 7:46 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Sorry for the delay – sending now!

---

**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 7:44 PM  
**To:** [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov); Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>  
**Subject:** [EXTERNAL] RE: urgent RE: E3 Talking Points/Other Materials

Thank you. We will reiterate the embargo time. Do you all also have the edits to the press release? We need to get to reporter in within an hour or so.

---

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 6:10 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Okay, here are the two documents, the full report and the PowerPoint. Charisse or Radha, are you sending this to the staff now or do you want me to send now?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

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**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 6:02 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Yes, if you'd like to just denote the embargo in the title, that could work too. Here's the NOAA report.

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**From:** Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Sent:** Monday, July 11, 2022 5:59 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>; Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Both the NOAA report and the E3 report at 6:00a pacific?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

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**From:** Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Sent:** Monday, July 11, 2022 5:57 PM  
**To:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>; Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; Baskerville, Sonya L (BPA) - AIN-WASH <[slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov)>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Thanks for this. Would it be possible to adjust the embargo time? It will lift at 9:00am ET/6:00AM PDT.

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**From:** Baumann, Jeremiah <[jeremiah.baumann@hq.doe.gov](mailto:jeremiah.baumann@hq.doe.gov)>  
**Sent:** Monday, July 11, 2022 5:54 PM  
**To:** Adhar, Radha EOP/CEQ <[Radha.Adhar@ceq.eop.gov](mailto:Radha.Adhar@ceq.eop.gov)>; [slbaskerville@bpa.gov](mailto:slbaskerville@bpa.gov); Ridgeway, Charissee R. EOP/CEQ <[Charissee.R.Ridgeway@ceq.eop.gov](mailto:Charissee.R.Ridgeway@ceq.eop.gov)>  
**Subject:** FW: urgent RE: E3 Talking Points/Other Materials

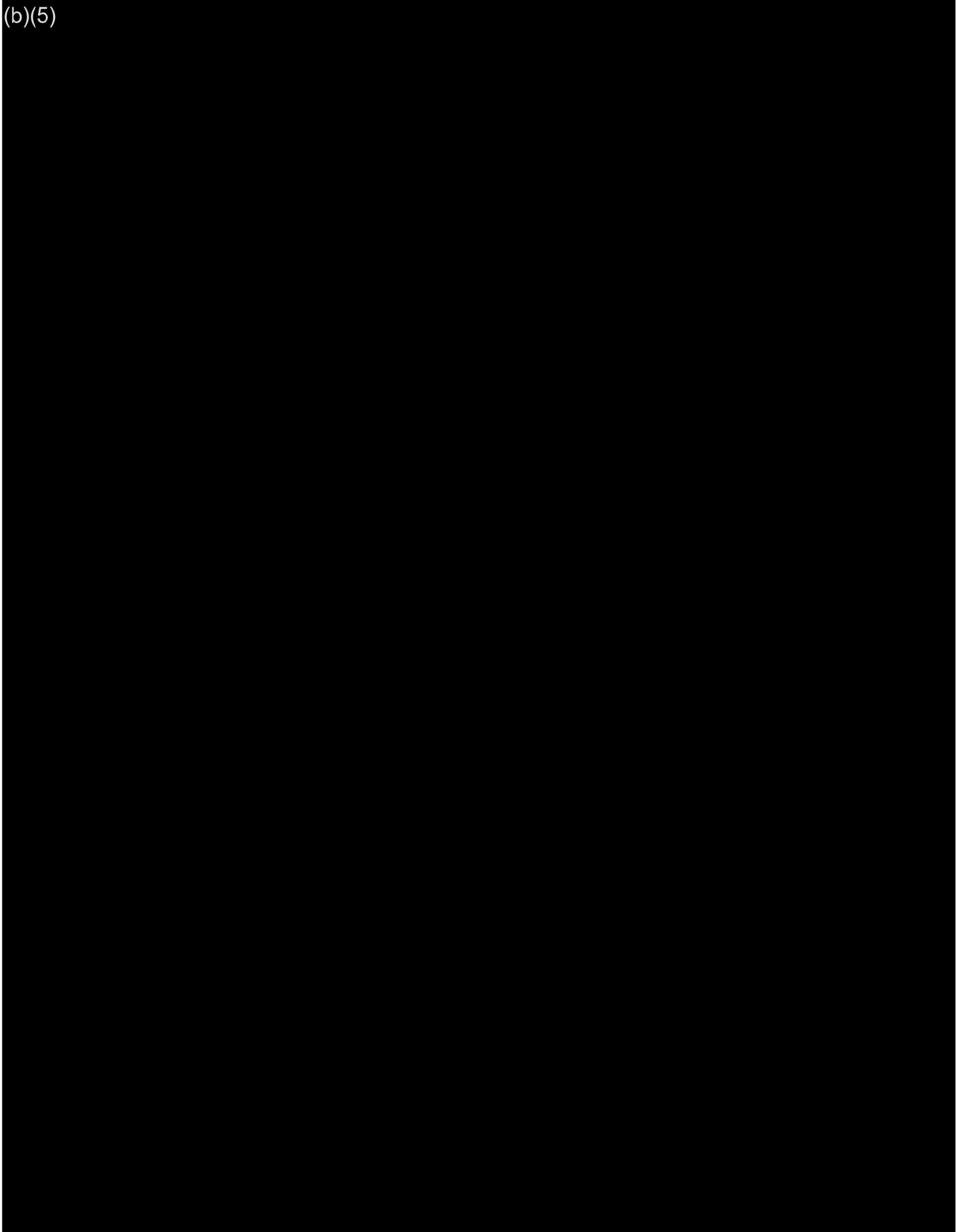
Radha and Charissee – attached is the E3 report, and I'm cc'ing Sonya from BPA leg affairs, to coordinate distribution.

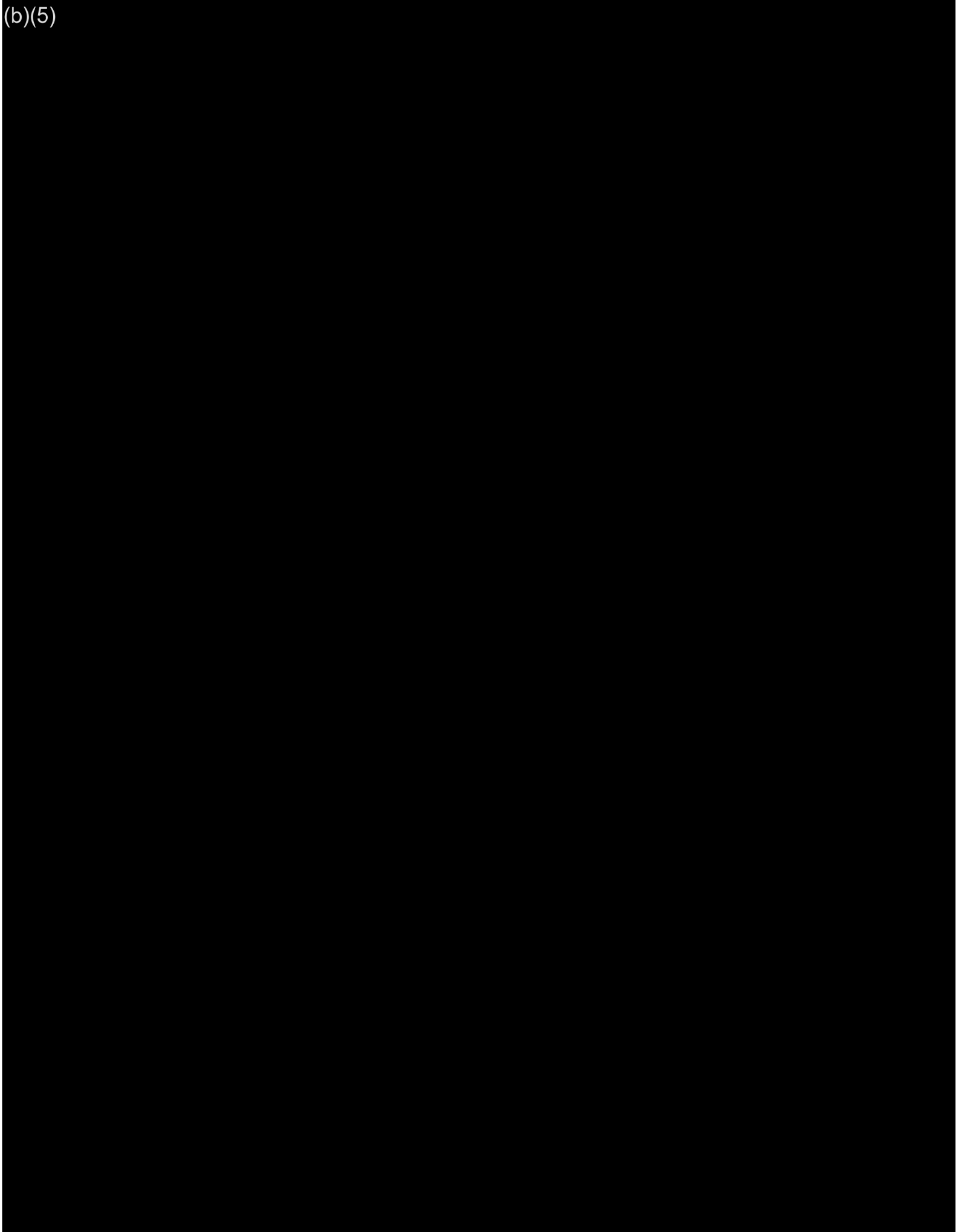
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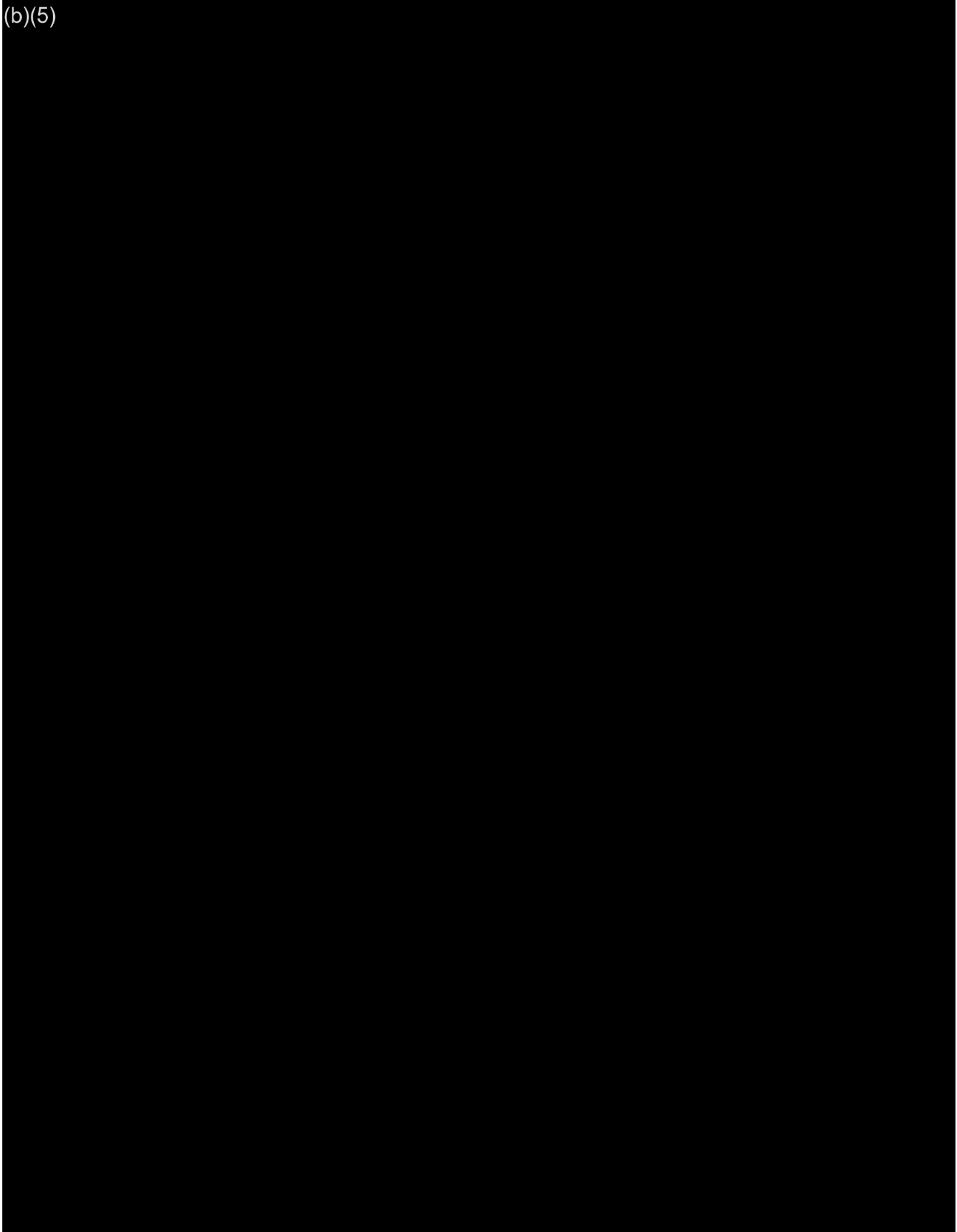
This message does not originate from a known Department of Energy email system.  
Use caution if this message contains attachments, links or requests for information.

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**From:** Koehler,Birgit G (BPA) - PG-5  
**Sent:** Monday, July 11, 2022 1:59 PM  
**To:** Godwin,Mary E (BPA) - LN-7  
**Subject:** unresolved in E3 study

(b)(5)

(b)(5)

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**From:** Aaron Burdick <aaron.burdick@ethree.com>  
**Sent:** Tuesday, May 24, 2022 10:31 PM  
**To:** Koehler,Birgit G (BPA) - PG-5; James,Eve A L (BPA) - PG-5  
**Cc:** Arne Olson  
**Subject:** [EXTERNAL] RE: Peer review  
**Attachments:** 22.5.18\_DOE-Lab Review Comments on E3 Analysis\_E3 response.docx

**DELIBERATIVE FOIA EXEMPT**

Birgit and Eve,

See attached for E3's proposed responses to the peer review team. When you share, please express our appreciation for their detailed review and feedback, even though project timelines mean we can't necessarily implement all their recommendations.

Let me know if you have any questions.

All the best,  
Aaron

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**From:** Koehler,Birgit G (BPA) - PG-5 <bgtkoebler@bpa.gov>  
**Sent:** Thursday, May 19, 2022 12:21 PM  
**To:** Aaron Burdick <aaron.burdick@ethree.com>; James,Eve A L (BPA) - PG-5 <ejames@bpa.gov>  
**Cc:** Arne Olson <arne@ethree.com>  
**Subject:** RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Thanks Arne and Aaron,

Among other things, we were wondering if these would impede rolling out the results to the DC policy makers. Maybe we can release the findings to date with a follow-up release, or maybe we wait for a more complete package. The deadlines are not always clear, but there certainly is pressure to get something out soon (both to DC and the public, but they don't have to be at the same time). We have a meeting tomorrow morning to discuss the question of public review and comment on the draft or not.

As for the ELCC of the lower Snake projects, it is a little frustrating to hear them ask if the max capacity isn't just 1,000 MW like NWEA says. We have data to show that the peak capacity in the winter can be over 2,000 MW. (The average generation is 1,000 MW, so the peak will be higher anyhow.) Maybe a close review on your part would find a little tweak here or there in your methodology, but I doubt you'll find that you are way off for winter capacity.

Birgit

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**From:** Aaron Burdick <aaron.burdick@ethree.com>  
**Sent:** Thursday, May 19, 2022 12:14 PM  
**To:** James,Eve A L (BPA) - PG-5 <ejames@bpa.gov>

**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Building off of Arne's response, at a high level, I agree they don't point to any clear flaws, but they do point to key assumptions that drive the results but have a lot of uncertainty. For instance, they point out that the "no new combustion" scenario could solve easier if we made H2 fuel cells available (we'd probably see a similar-ish answer to the Baseline Tech case in that scenario). We'd agree that case is not a realistic future scenario, hence we've tried to categorize as an "outlier". The 65% ELCC assumption we make is a clear driver of results, driven by the capacity need replacement. We're digging into some past work and the 2001 LSR output data provided by BPA to do some gut checks on that value. At the least, I could see us running a lower firm capacity % sensitivity as we discussed awhile back. We'll have a better opinion on a recommended approach once we've dug into that data a bit more.

Running a couple extra cases would tackle a lot of their comments and may produce a larger range of replacement costs that might align with certain stakeholders view of what might be possible in optimistic scenarios. The capacity value and lower H2 cost comments seem appropriate to consider if we want to run additional cases.

Aaron

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**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Thursday, May 19, 2022 11:58 AM  
**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Hi Aaron-

Just to level set for the Monday meeting- do you think the DOE comments point out flaws with the study that need to be fixed or are just focused on different interests and would fall in a "nice to have" category? For example, they mentioned an interim date for LSR replacement - we would not want to have additional analysis of a different year since it wouldn't be consistent with the CRSO EIS analysis. However, regarding the comments about ELCC assumptions I can't tell if those are important to address or just note the source or logic behind the assumption and would be interesting to study variations?

Thanks,  
Eve

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**From:** James,Eve A L (BPA) - PG-5  
**Sent:** Thursday, May 19, 2022 11:14 AM  
**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Yes- I will be available for an hour during that time window. (b)(6)

(b)(6)

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**From:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Sent:** Thursday, May 19, 2022 11:02 AM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Thanks for sharing Eve. Lots of smart and useful feedback here, as we expected. We should have a discussion about how to proceed, given that addressing some of these would require significant new analysis beyond remaining budget/scope/timeline. One option is to release the current work as a draft and consider refinement for a final report, though we can discuss other options as well.

I plan to send out draft public deck by tomorrow morning after incorporating forthcoming feedback from Arne.

Are you available Mon for an hour between 2-5pm to discuss the draft public deck and how to incorporate the peer review?

All the best,  
Aaron

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**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Sent:** Thursday, May 19, 2022 9:30 AM  
**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Good Morning-

Attached is the peer review comments from DOE/National Labs staff. I had added some comments in as starting language where I had guesses to answers but please edit/revise/or delete as needed since most of the answers should be coming from your shop. This review was based off the E3\_BPA\_LowerSnakeRiverDams\_draft\_050622.pdf for the comments that reference to specific slide numbers. Let me know if you have any preference for next steps- I could set up meetings with technical staff if needed or we could address in the document and email responses.

Thanks,  
Eve

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**From:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>  
**Sent:** Friday, May 6, 2022 4:02 PM  
**To:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>  
**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>  
**Subject:** [EXTERNAL] RE: Peer review

**DELIBERATIVE FOIA EXEMPT**

Thanks Eve. We flew through things but it was a sharp group that followed along very well. Was a nice touch that Ryan unknowingly set up the exact cost metrics we developed.

Here is a slightly updated version of the deck sent earlier this week. This should generally be comprehensive enough for the DOE/Labs peer review. We've included many of the inputs and methodologies (in the deck as well as the appendix). Sharing model files is possible, but would require significant time for them and us to orient them to the data and model structure. This deck includes resource cost graphs and LSR/hydro capacity counting metrics. I suggest we start with this document and we're happy to follow up with any other materials needed.



Note I adjusted the qualitative impacts summary slide (46) per our discussion the other day.

I wish you a great weekend as well!

All the best,  
Aaron

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**From:** James,Eve A L (BPA) - PG-5 <[eajames@bpa.gov](mailto:eajames@bpa.gov)>

**Sent:** Friday, May 6, 2022 2:51 PM

**To:** Aaron Burdick <[aaron.burdick@ethree.com](mailto:aaron.burdick@ethree.com)>

**Cc:** Arne Olson <[arne@ethree.com](mailto:arne@ethree.com)>; Koehler,Birgit G (BPA) - PG-5 <[bgkoehler@bpa.gov](mailto:bgkoehler@bpa.gov)>

**Subject:** Peer review

**DELIBERATIVE FOIA EXEMPT**

Hi Aaron-

Thanks for the great presentation with the DOE staff today- I thought it went really well. As follow-up on the peer review topic, if you could send materials to me then I will coordinate with Jill to get them to Emily at DOE to distribute to staff who are planning to review. Of course the technical PPT is the minimum, but Ryan already shared it would be helpful to have access to some of the underlying data and model descriptions for RESOLVE. He specifically mentioned the assumed cost of replacement resources (solar, gas, etcc) and the assumed ELCC of the LSR dams and that sort of information. Let me know if there are any issues with getting that type of information put together. We can touch base on that next week. I forwarded the budget estimate you sent for the additional lay person/policy level materials to contracting so hopefully the modification will get completed next week as well.

Have a great weekend!  
Eve

## DOE-National Lab Comments on Draft E3 Study:

### “BPA Lower Snake River Dams Project Draft Final Results”

DOE commends BPA for engaging E3 in this study and appreciates the accelerated schedule within which it was conducted. A technical review of the study was conducted by DOE and National Lab staff.

Following are consolidated comments.

Note that some of this feedback, if addressed, would require substantive new work, and time. This is especially true for our comments on the scenarios, and on ELCC treatment and assumptions. We encourage discussions in the near term to determine whether and how to address those comments.

## LARGER COMMENTS

### Scenarios

- Several of the Modeled Scenarios Appear Implausible: We question the inclusion of the two “Limited Technology” scenarios, as well as the “2024 LSR Replacement” scenario. On the latter, even with an extremely accelerated process that leads to dam removal, would a 2024 removal-and-replacement scenario be feasible? If not, we recommend revising this scenario to include a more realistic yet still accelerated assumption—2027 replacement, or whatever makes sense. On the former, the two “Limited Technology” cases not only eliminate or severely restrict combustion technologies, but they also offer the model no other realistic ‘long duration’ storage options. Yet several options exist, most obviously producing electricity still with hydrogen but using fuel cells as the conversion mechanism. Alternatively, a wide variety of emerging longer-duration storage technologies could prove viable. The result are two scenarios that are implausible in design, and equally implausible in future likelihood. The scenarios should be eliminated or revised. If BPA-E3 feel that these scenarios, as designed, offer some value as ‘bogeys’, at a minimum we recommend that they be presented solely as “what if” scenarios in the “with LSR” section of the presentation. These scenarios should not be used to estimate replacement costs of LSR removal (slides 39 on).
  - The study examines LSRD breaching in 10 years (2032) and in 2 years (2024), consistent with the approach used in the CRSO EIS
  - Forecasting the availability of when emerging technology will be mature enough to replace firm, existing resources is not an exact science. With the current political landscape and climate policies, replacing with natural gas also may not be feasible. Multiple scenarios were run to demonstrate how changing assumptions in the technology available gives a range of replacement costs. It is expected that a scenario with unlimited hydrogen fuel cells would be broadly similar to the base case with gas + hydrogen combustion turbines available, but the LSR dams replacement may be more expensive depending on the long-term fuel cell capital cost assumed. Other emerging long-duration storage technologies were deemed to not have sufficiently robust cost forecasts for inclusion in this study, but would provide a similar benefit to the system as the hydrogen resources modeled.
- A Tax Credit Extension Scenario Should Be Considered: Based on the appendix slides, the analysis appears to assume that existing tax credits phase out—as per current statute. Alternatively, it is also plausible that existing tax credits will be extended, and that new ones may be created. We recommend at least one scenario that assumes extended and possibly expanded tax credit

availability. Even if BPA is unable to directly access such credits through ownership, their availability for private entities should reduce the effective cost of LSR replacement. Running a scenario or side analysis to investigate these possible cost-reducing effects of longer-term clean energy tax credits would usefully supplement the current analysis.

- From a societal standpoint someone has to pay the cost for replacement. Extending the tax credit could reduce the costs of replacement resources in the form of subsidies but the cost transfers from rate payers to tax payers. A tax credit extension could have some impact on the total replacement costs, but that impact is expected to be relatively modest as most of the replacement costs are due to fixed costs to replace the dams' RA capacity and fuel costs to replace their output; renewable energy build overall is a minority portion of the replacement costs.

### Input Assumptions

- ELCC Values and Influence on Overall Results Deserve Attention: The capacity credit assumptions and results are likely extremely important in estimating the costs of having to replace the LSR dams' grid benefits. One of the footnotes states "...a significant portion of the costs is capacity costs to replace the dams' RA capacity contributions". We have a few comments and concerns:
  - Cost Reporting: Can the fraction of the 'cost of LSR replacement' that comes from capacity needs be calculated? Based on the low raw LCOE costs of wind and solar, it seems logical that the capacity credit costs might make up half or even more of the total cost. If true, then all capacity-credit related assumptions and results are extremely important.
    - E3 has pulled cost components for Scenario 1 and Scenario 2 in its public summary deck. Replacing the firm capacity costs ~1/3 to 1/2 of the replacement costs in those scenarios. We agree that it is an important driver of replacements needs and costs.
  - Capacity Credit of LSR Dams Should be Investigated, and Possibly Revised: The analysis assumes that the LSR dams have, in effect, a 65% ELCC and so a resource adequacy value of 2.2 GW. Since the estimated replacement costs is driven in large measure by resource adequacy, confidence is needed on the capacity credit assigned to the LSR dams. As well, given the importance of resource adequacy to the analysis, it is important that ELCC estimates employed for the LSR dams use similar methods to those used for other resources. Some advocates in the Northwest have presented data and analysis suggesting that a much lower capacity credit is warranted, maybe half that assumed in the E3 study, see: [Addressing-the-LSR-Peaking-Capacity.pdf \(nwenergy.org\)](#). DOE has not independently assessed the linked paper, or the capacity credit of the Lower Snake River dams. But given the critical nature of this single input parameter, we recommend that E3 evaluate the linked paper and LSR output data during periods of system stress to either validate or revise the assumed 65% capacity credit. If a proper ELCC-type study for these facilities has not been conducted, then a review of historical output during periods of peak historical winter and summer (net) load could be used as an approximation. Under the decarbonization scenarios, a focus on the winter period or maybe the early fall (lower PV, so potentially high net load) may be relevant. Overall, more work is needed to validate these assumptions.
    - The 65% value was derived from the NW region-wide value for hydro in the PNUCC 2021 assessment. This is the same value used for all NW hydro capacity accreditation in the E3 RESOLVE model.

- BPA has provided news releases of the crucial energy and reserves provided by the LSR dams during cold snaps and heat events: <https://www.bpa.gov/-/media/Aep/about/publications/news-releases/20210616-pr-08-21-lower-snake-river-dams-provided-crucial-energy-and-reserves-in-winter-2021.pdf>. This data contrasts with the specific days that NWECC chose to select for their analysis and indicates a higher output level, plus a reserves provision on top of power output that can also support maintaining resource adequacy.
  - E3 has reviewed the hourly LSR Dams output provided by BPA for the low water year used in the RESOLVE inputs (2001). In this data, the maximum output of the LSR Dams in January was 1.8 GW. If the reserve provision was 200 MW on top of that amount, the resource adequacy contributions are estimated to be ~57% (  $[1.8 + 0.2] / 3.483$ ). The contributions were lower during August of the 2001 hydro year, but E3 believes that most of the loss of load risk will transition back to the winter under the high electrification scenario considered in this study.
  - For a previous (non-public) project, E3 completed ELCC calculations for specific storage hydro dams in the Northwest, showing an average of 66% annual ELCC. The LSR Dams were not specifically analyzed, but Brownlee, another dam on the Snake River, was analyzed and found to have a 75% annual ELCC. ELCC calculations for storage hydro are quite complex and depend on interactions within the hydro fleet, between the hydro fleet and other resources (like solar and wind), and the proportion of summer vs. winter load during high load years that may change with electrification load growth. E3 therefore believes the 65% value assumed in this study is a reasonable approximation of the LSR Dams capacity contributions but recognizes there is some uncertainty around the exact value (impacting in the ballpark range of up to 10-15% of the replacement costs). (Note: these ELCCs were generally lower than the 10-year lookback initially proposed for hydro capacity counting in the WRAP.)
- Storage ELCC: The capacity credit of storage seems to be substantially lower than what has been calculated in other regions, particularly for the 12-hr storage duration, after the first few GW of storage is deployed. We did not review the referenced study, but details on how these assumptions were created would be important within this slide deck. Information that would be helpful would include: (1) What does the winter peak look like? (time of day, duration, etc.); (2) What do resource profiles look like on that day, such that a combination of wind, solar, and 12-hour storage cannot contribute significantly? (3) Are interactions between wind, solar, and storage considered at all? (4) Are the scenarios in the referenced study similar enough to the scenarios in the LSR study to apply the same parameterization? Finally, are such low ELCC values for storage, even 12-hour storage, consistent with the 65% ELCC assumption made for the LSR dams?
  - The low energy storage ELCCs assumed in this study are derived from E3's 2019 Northwest RECAP analysis.
    - See here: [https://www.ethree.com/wp-content/uploads/2019/03/E3\\_Resource\\_Adequacy\\_in\\_the\\_Pacific-Northwest\\_March\\_2019.pdf](https://www.ethree.com/wp-content/uploads/2019/03/E3_Resource_Adequacy_in_the_Pacific-Northwest_March_2019.pdf).

- The low ELCC for storage is driven by the fact that the NW hydro system has huge amounts of energy storage built into it. Loss of load events are often driven during lower hydro conditions, when the NW is energy-constrained, meaning that there is insufficient energy for charging storage and extended duration energy shortfalls.
      - Puget Sound Energy's ELCC analysis indicates ~30% ELCC for 4-hr storage additions in their territory. Avista's IRP similarly concludes a low ELCC for storage (4-hr gets 15%, 8-hr 30%, and 12-hr 58%).
      - Solar and wind resources are modeled on a 2D "surface", meaning their interactive effects are explicitly modeled. DR and storage were modeled on their own independent penetration curves.
    - ELCC Implementation--Exogenous or Endogenous: It appears that ELCC values are exogenous to the scenarios, but that fails to capture the impact of load—both load shape and load level—in determining ELCC. Can E3 provide more information on how these values are implemented? As well, the ELCC values on slide 22 depict ELCC by capacity deployed. When operationalized in the Resolve model, are these ELCC values linked to capacity amounts, or percent of energy? The deep decarbonization cases represent larger power systems, with higher amounts of load. One would anticipate, in such a case, that the ELCCs would drop more slowly relative to deployed GW--does Resolve appropriately capture that?
      - Implementation of the above mentioned solar and wind ELCC surface in RESOLVE is tied to both the capacity penetration of each technology AND the peak load of the system. It increases as peak load grows. Storage and DR ELCCs are not dynamic due to limitations of the older vintage of RESOLVE used in the Northwest model.
  - Technologies Considered: (1) Why are dedicated H2 plants excluded in most of the scenarios while dual fuel is available—what is the rationale based on technology maturity or resource availability?
    - The rationale is based on technology maturity/resource availability. Currently there are efforts underway to blend H2 with natural gas in large combustion turbines and eventually move towards 100 percent H2, such as LADWP's Intermountain Power Plant replacement. In general, since these hydrogen resources are selected for capacity needs, not energy (until 2045), the solution would generally be similar under these scenarios:
      - A) if H2 only plants, these would be selected across the horizon for capacity, but not run until zero-GHG energy needed in 2045, with existing gas operating with increased output for energy needs;
      - B) if dual fuel gas+H2 modeled, these are selected across the horizon, operate on natural gas in the near-term, then switch to H2 by 2045 as needed.
    - One scenario allows the model to select dedicated H2 plants, which it does following the general trend noted in scenario A above.
- (2) How can the CCS and dual fuel techs be used under the 0 MMT by 2045 scenarios without CDR offset?
- Dual fuel can burn 100% hydrogen in 2045 and hence produce zero-carbon generation. CCS is assumed to be allam cycle with a net capture rate of 100% (waste stream of ~420 ppm of CO2).
- (3) The table shows 90-100% capture rate for CCS, but can 100% truly be achieved?



- E3 assumes that CCS would be allam cycle and achieve a 100% net carbon capture rate.

(4) Why is offshore wind considered alongside CCS and Nuclear-SMR? Floating offshore wind is less mature than fixed-bottom, to be sure, but should at least be considered as a possible baseline technology.

- Floating offshore wind could go in either bucket. Other than some generation timing diversity, it was generally not seen as particularly beneficial since the NW has access to equal capacity factor onshore wind in MT and WY at a lower cost than floating offshore wind. Hence offshore wind was selected in the limited tech scenarios that show extremely large wind buildouts, which stretched the limits of onshore wind resource potential.
- Hydrogen Cost Appears Overly Conservative: The assumed cost of delivered hydrogen declines to ~\$40/mmBTU by 2045. This is a conservative assumption. Current biodiesel is \$20-30/MMBtu. Even with conservative H2, the lack of availability of other renewable/biomass fuels results in high replacement costs in these scenarios. The cost of hydrogen-CCGTs in the model may be largely driven by CapEx, so perhaps this conservatism does not greatly impact modeled results. Nonetheless, given the importance of hydrogen in the analysis, we recommend a review of this assumption and possible development of a less conservative input assumption.
  - The hydrogen fuel assumption does drive some of the replacement cost for the deep decarbonization scenario, but only in the year 2045. E3 calculated this H2 cost assuming off-grid production via CoreNW wind, with storage in above ground tanks and truck-based deliveries (due to limited depleted gas fields and salt deposits in the NW). A more optimistic scenario would have to assume a larger regional hydrogen pipeline network with access to cheaper underground storage. A sensitivity on hydrogen prices was not in scope for this project, but we suspect the impact on resource needs and NPV replacement costs would be relatively small.
- Additional Resolve Inputs: Why are 90% and 100% capture rate CCS so similar in \$/kW-yr costs on slide 65? Why are H2 peakers and combined-cycle units almost identical in cost?
  - Cost differences for 90% vs. 100% CCS are based on E3 internal analysis of emerging technology costs. H2-enabled peakers and CC's use an approximately 10% cost adder in the near-term that declines to assume parity with single fuel natural gas plants by 2050.
- Transmission Representation: Are the system-wide benefits of transmission (assumed to be needed for out of region wind and solar) considered? Is there any assumed resource adequacy contribution from this transmission, which could be provided from external "clean firm" resources? Also unclear more broadly how opportunity for imports and exports of all electricity services (energy, capacity, ancillary services) are being treated.
  - RESOLVE contains a zonal dispatch model with relevant transmission links from the CoreNW zone to the other zones represented across the WECC. RESOLVE also captures new transmission costs for building wind and solar plants beyond the capabilities of the existing grid. Resources on new transmission outside of the CoreNW (e.g. WY wind) provide RA value from the resource they deliver, but do not provide any additional value from external "clean firm" resources, which would come at an additional investment costs for those clean firm resources. We model

external coal plants as providing both energy and RA, but did not model additional unspecified imports providing capacity. This would generally be consistent with a highly electrified California, whereby California loss of load risk moves from summer to winter. Increasing RA imports would lower total build but not change the marginal replacement needs for the LSR dams. CoreNW A/S needs are modeled as met by resources in the CoreNW zone.

## Presentation

- The Cost Reporting on Slides 39-42 Should be Expanded: Cost results can usefully be presented in numerous ways, depending on context. Given varying contexts, we recommend presenting these costs in numerous ways. The NPV results may be relevant if Congressional appropriations were to be used to cover replacement costs. The percentage increase in BPA Tier 1 rates is relevant if BPA's Tier 1 customers were to fully pick up the tab. We recommend presenting the results in at least one additional way: as a percentage increase in retail electricity rates among all customers in the NW. As well, then presenting the annual results on slide 40, we presume these are presented in real terms, and are not discounted: please clarify in slide as appropriate.
  - Footnote added specifying real 2022 \$. However, we disagree with the framing that the replacement costs for the LSR Dams would be spread across all NW customers. The power from these dams goes to BPA's public power customers, so they would be the customers in need of the replacement resources to replace the LSR dams.

## External Review

- External Review Process: Does BPA anticipate issuing the final report without an opportunity for external stakeholder review of a draft? It may be productive to discuss the possible value, advantages, and disadvantages of offering regional stakeholders an opportunity to review and comment on the draft—recognizing that conducting such a review would entail time and budget.
  - BPA to respond

## ADDITIONAL (SMALLER) COMMENTS

- Focus on the Core NW Region: The study is focused on a region of the Northwest that includes Washington, Oregon, and portions of Idaho and Montana. Yet the policy review early in the PPT includes California and lacks any discussion of the policy context in Montana and Idaho. At a minimum, this seemingly incongruous treatment deserves explanation.
  - This only really impacts the Avista load that is in Idaho and Avista has already made a pledge to reach 100% clean electricity by 2045. The MT load covered is all BPA, which is already non-emitting. Added footnote to the "about this study" slide to clarify.
- Slide 6: "Decarbonization is creating a current and deepening need for capacity." This isn't strictly true. There's always a need for firm capacity. But if that capacity is emitting and there exists a requirement to get to zero or very low carbon, then just like energy services, capacity services need to be replaced. Statement should be clarified for accuracy.
  - Removed "current" per this comment's recommendation.



- Slides 9-10: For clarity, might wish to note that the company specific data here come from an E3 review of the latest vintage of each company's IRP. This is implied, but at least one reviewer was confused as to the source of those data.
  - Tweaked language to clarify this
- Slide 11: May want to add a little bit of additional information on *why* the power cuts were made, based on CAISO's report on these outages. <http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf>.
  - Added a bullet on the root causes identified in the CAISO report
- Slide 20-21: "RESOLVE resource adequacy constraint requires capacity to meet peak demand + a 16% planning reserve margin". Why 16%, and why is that different from 15% shown on slide 20?
  - Corrected this slide. A 15% PRM was assumed, this was a typo.
- Slide 25: (1) "Reaching a zero emissions electric system with high electrification and reasonable levels of renewable additions requires new technologies such as hydrogen combustion turbines or nuclear SMRs." This is then followed by sub-bullets focused on SMR and H2. Those sub-bullets make it sound like one strictly requires EITHER SMR or H2, but there may be other longer-duration storage options or flexibility options such as fossil-CCS that could fill those needs as well. Recommend being less technology prescriptive, especially since only a subset of options are modeled, and focusing more on the services needed, with examples of SMR and H2 technologies. As well, are new technologies really "required" or just "cost-effective" if they exist. (2) It is not decarbonization that drives peak needs, it's electrification when paired with the CO2 constraint. (3) "Additional renewables backed by dispatchable hydrogen plants are needed". Renewable energy technologies are not "backed up" by hydrogen, any more than nuclear plants are backed up by peakers, or peakers backed up by baseload. They provide different services.
  - These points are appreciated. Updated bullets to read:
    - Hydrogen combustion turbines and nuclear SMRs were selected when made available
    - Other emerging technologies (natural gas with carbon capture and storage, advanced geothermal, ultra long duration batteries, etc.) may also provide the same "clean firm" service needed to meet reliability needs in a zero-carbon grid
- Slide 36: This slide or others ideally would show load and how storage is being charged/discharged to help meet load. In addition, as per an earlier comment, we suggest adding slides showing why storage (and VRE) resources have such low ELCCs.
  - We will consider refining the dispatch charts as time and budget allow. Slides 21 and 22 are intended to explain why the hydro interactive effects limit storage ELCC value.
- Slide 49: "Inverter based generation cannot inherently provide inertia, but may still be able to provide fast frequency response via grid forming inverters." Two comments: (1) Inverters do not need to be "grid-forming" to provide FFR, so should alter text accordingly. (2) A lot of research is happening in this space. What is missed is the inertia requirements of the grid in various forecasted years and how any deficit would be mitigated via technology.
  - Removed "grid forming" per comment. Since these benefits were addressed qualitatively, we did not analyzed inertia requirements and whether the NW faced a deficit in future years.

- Slide 50: “Large hydro is historically a major provider of black start services when required.” This would be better stated as declared hydro. Many facilities have the capability but don’t offer it since it puts them within specific requirements of black start units.
  - [Adjust per recommendations.](#)

**From:** "Leary, Jill C (BPA) - LN-7" <jcleary@bpa.gov>  
**Sent:** Thu, 7 Jul 2022 19:51:16 +0000  
**To:** "Koehler, Birgit G (BPA) - PG-5" <bgkoehler@bpa.gov>; "Johnson, G Douglas (BPA) - DK-7" <gdjohnson@bpa.gov>  
**Cc:** "Godwin, Mary E (BPA) - LN-7" <megodwin@bpa.gov>; "James, Eve A L (BPA) - PG-5" <ejames@bpa.gov>; "Baskerville, Sonya L (BPA) - AIN-WASH" <slbaskerville@bpa.gov>  
**Subject:** FW: Question from OMB on E3  
**Attachments:** E3 Q&A for OMB.docx  
[On FMCS call, so have not read – please review and edit, thanks.](#)

**From:** Ardis, Melissa <melissa.ardis@hq.doe.gov>  
**Sent:** Thursday, July 7, 2022 12:50 PM  
**To:** Leary, Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Subject:** [EXTERNAL] Question from OMB on E3

Good afternoon Jill – we have a question from OMB:  
"Would you guys mind putting together a few Q&As on the energy price impacts that are summarized in the report? Specifically, timing considerations about how the impacts are estimates that would not be actualized in the near-term / the Admin is not endorsing a policy that will increase energy prices for households."  
I am attaching a start – what changes/additions do you recommend?  
Thank you,

Melissa Ardis  
Senior Advisor, Power Marketing Administrations  
Office of the Undersecretary for Infrastructure  
U.S. Department of Energy  
Energy.gov/bil

(b)(6)

**Question: need a few Q&As on the energy price impacts that are summarized in the report? Specifically, timing considerations about how the impacts are estimates that would not be actualized in the near-term / the Admin is not endorsing a policy that will increase energy prices for households.**

**1. What is the projected rate impact and timing impact to BPA customers?**

By 2045, scenarios 1, 2a and 2b, the rate impact would be between 8% and 18% or ~\$100 to \$230 per ratepayer/per year. By 2045, in a deep economy-wide decarbonization scenario (2c) with no emerging technologies, the cost would be approximately a 65% increase or \$850 per year per ratepayer/per year.

E3 estimates that adding additional renewable energy and firm capacity additions would take approximately five to seven years after Congressional approval to breach the dams and possibly up to 10 to 20 years assuming additional new large-scale transmission was required. There would be no immediate impact to BPA's ratepayers.

**2. Could these cost increases be offset?**

Yes, new federal tax credits for hydrogen plants/fuels or Investor Tax Credit/Production Tax Credit extension for renewables would provide a cost reduction to public power customers from taxpayers.

**3. How much would it cost to replace the power benefits of the four LSR dams?**

The total net present value of replacement would be \$7.5B. In a deep carbonization scenario with higher loads and zero emissions by 2045, the net present value ranges from \$7 –\$11.5B.

**4. What net present rate was used to calculate financial impacts?**

These net present value costs were calculated using a 3% discount rate, consistent with the discount rate used in the Inslee/Murray draft report which is a reasonable rate for public financing of large utility projects.)

**5. What scenarios did the E3 Study analyze?**

E3's scenarios analyzed emerging technologies, such as small modular nuclear reactors (SMRs) and gas plants with carbon capture or hydrogen-burning capability, which are not yet commercially available. In all scenarios, E3's model includes use of traditional renewable resources, such as wind, solar, storage and demand response.

In scenarios in which one or more new technology becomes commercially viable, new resources to replace the existing lower Snake River dams' energy and capacity would cost between \$10.7 to \$19.0 Billion.

**From:** "James,Eve A L (BPA) - PG-5" <ejames@bpa.gov>  
**Sent:** Wed, 25 May 2022 18:11:37 +0000  
**To:** "Wiser, Ryan (CONTR)" <ryan.wiser@hq.doe.gov>, "Capanna, Steve" <steve.capanna@hq.doe.gov>  
**Cc:** "Koehler,Birgit G (BPA) - PG-5" <bgkoehler@bpa.gov>  
**Subject:** Fast action request for information  
**Priority:** high  
**Attachments:** InfoNeededforSlides.pptx  
**Deliberative; FOIA exempt**

Attached are some very rough draft slides that we are preparing for CEQ and other briefings. Most of the information will come from E3 but there may be some transmission grid pieces that you will be able to provide. The green boxes are where we were thinking DOE might have expertise in this area.

Thanks,  
Eve James

## What it would take to replace the output of breaching the four lower Snake River dams

- What are we losing?
  - 3,483 MW of nameplate capacity
  - Peaking capability of **more than 2,000 MW** to avoid power shortages during cold weather events
- How much would it cost to replace benefits of the four lower Snake River dams?
  - Upfront costs: up to \$XXX **E3 would need to fill in these numbers, first number is construction, second is O&M and fuel? Use \$1**
  - Total cost per year after that: \$XX
  - These costs could quadruple with aggressive carbon reduction policies absent commercially available technology breakthroughs
- Rate impacts to Public Power Customers
  - Could increase public power costs by up to 65%
  - Could raise residential electricity costs by up to \$850 per year
- How long would it take to replace the services from breaching the four lower dams?
  - XXX years **E3 would need to fill in these numbers, including transmission**  
**DOE- could you estimate transmission timeline?**

	Nameplate Capacity (MW)*
Lower Granite	930
Little Goose	930
Lower Monumental	930
Ice Harbor	693
Total = 3,483	

## What it would take to replace the output of breaching the four lower Snake River dams

- What are the services we need to replace, and what is the cost of each?

- Energy:
  - Instantaneous and sustained capacity :
  - Reserve carrying capacity:
  - Fast ramping:
- These costs are included in model results XX MW XX\$ from previous slide

- Transmission grid reliability services:
  - Voltage and reactive power: XXX MW for \$XXX
  - Frequency and Inertial response: XXX MW for \$XXX
  - Blackstart capability: XXX MW for \$XXX
  - Short-Circuit and Grounding Contribution: XXX MW for \$XXX
  - Voltage and Frequency Excursion Ride-Through : XXX MW for \$XXX
  - Participation in Remedial Action Schemes: XXX MW for \$XXX

Can DOE provide cost estimate for this? This is example text so feel free to take out MW or \$ and give order of magnitude if the costs won't move the needle

Plant	Nameplate Capacity (MW)*
Lower Granite	930
Little Goose	930
Lower Monumental	930
Ice Harbor	693
Total = 3,483	



**From:** "Scruggs,Joel L (BPA) - DK-7" <jlscruggs@bpa.gov>  
**Sent:** Tue, 12 Jul 2022 00:15:48 +0000  
**To:** "Baskerville,Sonya L (BPA) - AIN-WASH" <slbaskerville@bpa.gov>, "Hairston,John L (BPA) - A-7" <jlhairston@bpa.gov>, "Koehler,Birgit G (BPA) - PG-5" <bgkoehler@bpa.gov>, "Armentrout,Scott G (BPA) - E-4" <sgarmentrout@bpa.gov>, "Zelinsky,Benjamin D (BPA) - E-4" <bdzelinsky@bpa.gov>, "Leary,Jill C (BPA) - LN-7" <jcleary@bpa.gov>, "Godwin,Mary E (BPA) - LN-7" <megodwin@bpa.gov>, "Habibi,Maryam A (BPA) - DKP-7" <maasgharian@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials  
**Attachments:** Draft Press Release CRS studies\_Agency Edits\_DOE Edits-2.docx; image001.jpg; image002.jpg; image003.jpg; image004.jpg; image005.jpg; image006.jpg  
I focused on the E3 section. E3 should be spelled out as "Energy and Environmental Economics" on first reference. I suggest at least that edit.

**Joel Scruggs** (He/Him)  
Director of Communications | Communications (DK)  
**Bonneville Power Administration**  
bpa.gov | P 503-230-5511 | C (b)(6)



**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 5:04 PM  
**To:** Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Kochler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

With the attachment

Sonya Baskerville  
BPA National Relations  
(b)(6) m

**From:** Baskerville,Sonya L (BPA) - AIN-WASH  
**Sent:** Monday, July 11, 2022 8:04 PM  
**To:** Hairston,John L (BPA) - A-7 <jlhairston@bpa.gov>; Kochler,Birgit G (BPA) - PG-5 <bgkoehler@bpa.gov>; Armentrout,Scott G (BPA) - E-4 <sgarmentrout@bpa.gov>; Zelinsky,Benjamin D (BPA) - E-4 <bdzelinsky@bpa.gov>; Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Scruggs,Joel L (BPA) - DK-7 <jlscruggs@bpa.gov>; Habibi,Maryam A (BPA) - DKP-7 <maasgharian@bpa.gov>  
**Subject:** FW: urgent RE: E3 Talking Points/Other Materials

Hey there. FYI that we just missed the boat on the first round of edits, but he will try during the second round. And there will be a second round since DOE wrote a paragraph stating the NOAA document is

not Administration policy.

Frankly, I wonder why CEQ is doing a press release any way . . .

Sonya Baskerville  
BPA National Relations

(b)(6) m

**From:** Baskerville,Sonya L (BPA) - AIN-WASH  
**Sent:** Monday, July 11, 2022 7:58 PM  
**To:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Okay, thanks!

Also, CEQ has sent the documents to the Hill.

Sonya Baskerville  
BPA National Relations

(b)(6) m

**From:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Sent:** Monday, July 11, 2022 7:51 PM  
**To:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Ok, CEQ wanted them to send over an hour so I told Charisma to send since we hadn't heard...but if we get them in a matter of seconds we can try to ask for a second round of changes

**From:** Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 7:49 PM  
**To:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Hey there. We do have some comments. Sorry for the delay!

Sonya Baskerville  
BPA National Relations

(b)(6) m

**From:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Sent:** Monday, July 11, 2022 7:46 PM

**To:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>; Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Sorry for the delay – sending now!

**From:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>  
**Sent:** Monday, July 11, 2022 7:44 PM  
**To:** slbaskerville@bpa.gov; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>  
**Subject:** [EXTERNAL] RE: urgent RE: E3 Talking Points/Other Materials

Thank you. We will reiterate the embargo time. Do you all also have the edits to the press release? We need to get to reporter in within an hour or so.

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 6:10 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Okay, here are the two documents, the full report and the PowerPoint. Charisse or Radha, are you sending this to the staff now or do you want me to send now?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

**From:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>  
**Sent:** Monday, July 11, 2022 6:02 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Yes, if you'd like to just denote the embargo in the title, that could work too. Here's the NOAA report.

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 5:59 PM  
**To:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Both the NOAA report and the E3 report at 6:00a pacific?

Sonya Baskerville  
BPA National Relations  
(b)(6) m

**From:** Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>  
**Sent:** Monday, July 11, 2022 5:57 PM  
**To:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>; Baskerville, Sonya L (BPA) - AIN-WASH <sbaskerville@bpa.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials

Thanks for this. Would it be possible to adjust the embargo time? It will lift at 9:00am ET/6:00AM PDT.

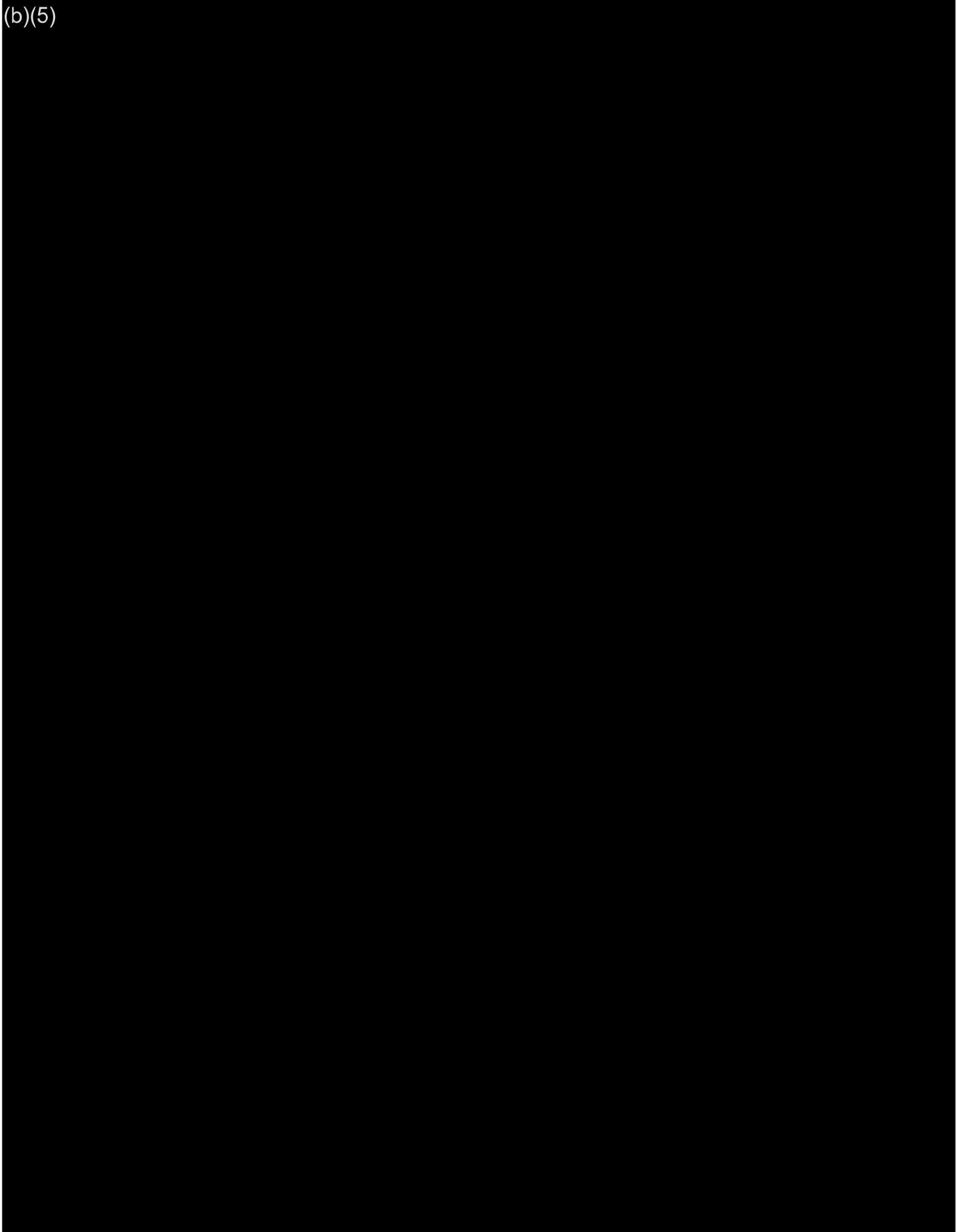
**From:** Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Sent:** Monday, July 11, 2022 5:54 PM  
**To:** Adhar, Radha EOP/CEQ <Radha.Adhar@ceq.eop.gov>; sbaskerville@bpa.gov; Ridgeway, Charissee R. EOP/CEQ <Charissee.R.Ridgeway@ceq.eop.gov>  
**Subject:** FW: urgent RE: E3 Talking Points/Other Materials

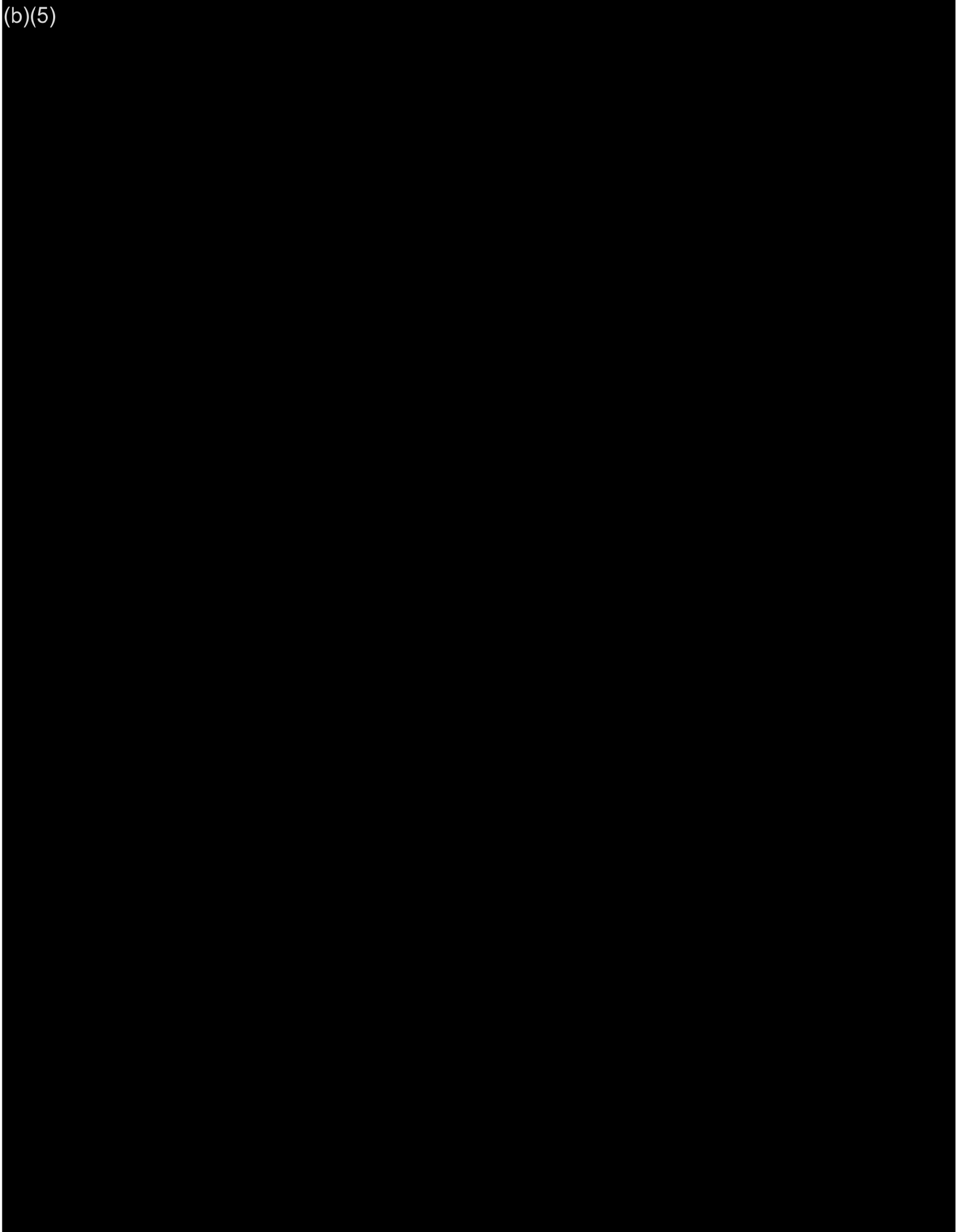
Radha and Charissee – attached is the E3 report, and I’m cc’ing Sonya from BPA leg affairs, to coordinate distribution.

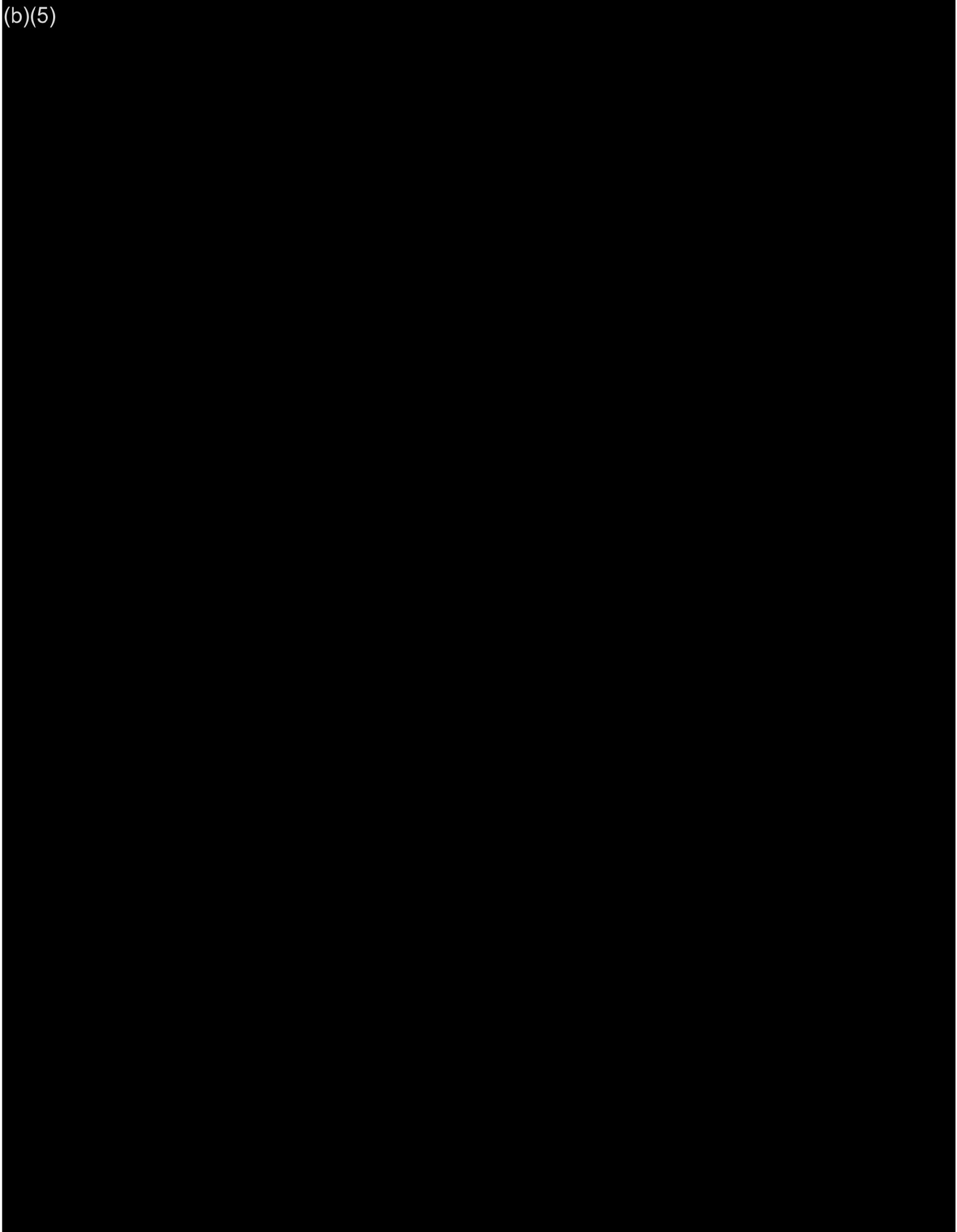
\*\*\*\*\*

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Use caution if this message contains attachments, links or requests for information.

\*\*\*\*\*









**From:** "Baumann, Jeremiah" <jeremiah.baumann@hq.doe.gov>  
**Sent:** Mon, 11 Jul 2022 20:57:06 +0000  
**To:** "slbaskerville@bpa.gov" <slbaskerville@bpa.gov>, "Ardis, Melissa" <melissa.ardis@hq.doe.gov>, "Daly, Gabriel" <gabriel.daly@hq.doe.gov>, "Bhattacharyya, Arpita" <arpita.bhattacharyya@hq.doe.gov>, "Godwin, Mary E" <megodwin@bpa.gov>, "Leary, Jill C" <jcleary@bpa.gov>, "Dimitriou, Jasmine" <jasmine.dimitriou@hq.doe.gov>, "Troiano, Charisma L" <charisma.troiano@hq.doe.gov>  
**Subject:** RE: urgent RE: E3 Talking Points/Other Materials  
**Attachments:** Draft Press Release CRS studies\_Agency Edits \_DOE Edits.docx  
Sonya and BPA team – attached is the WH press release for tonight, with my edits – can you review ASAP, like in a matter of minutes?

**From:** Baumann, Jeremiah  
**Sent:** Monday, July 11, 2022 4:25 PM  
**To:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>; Daly, Gabriel <gabriel.daly@hq.doe.gov>; Bhattacharyya, Arpita <arpita.bhattacharyya@hq.doe.gov>; Godwin, Mary E <megodwin@bpa.gov>; Leary, Jill C <jcleary@bpa.gov>; Dimitriou, Jasmine <jasmine.dimitriou@hq.doe.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>  
**Subject:** urgent RE: E3 Talking Points/Other Materials

Sonya and BPA team – can you please figure out ASAP whether it's feasible, and who would release (E3?) the full study tonight, for 6am embargo? Or do we need to insist that the salmon paper and E3 study both be held for embargo/release **\*after\*** the NWPCC briefing? (I'm sensitive to stepping on your/E3 plans for releasing the full study.)

The draft WH press release says "Federal agencies release" so at least we all agree the studies are supposed to be being released at the same time...will forward you the draft release in a minute (am adding my own edits)

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 4:21 PM  
**To:** Ardis, Melissa <melissa.ardis@hq.doe.gov>; Daly, Gabriel <gabriel.daly@hq.doe.gov>; Bhattacharyya, Arpita <arpita.bhattacharyya@hq.doe.gov>; Godwin, Mary E <megodwin@bpa.gov>; Leary, Jill C <jcleary@bpa.gov>; Dimitriou, Jasmine <jasmine.dimitriou@hq.doe.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Subject:** RE: E3 Talking Points/Other Materials

Yep.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 4:16 PM, "Baumann, Jeremiah" <jeremiah.baumann@hq.doe.gov> wrote:  
They are both embargoed, and I've seen the CEQ talking points that say very clearly it is **\*not\*** administration policy. But there's still a gap, which is that right now the salmon paper would go out, embargoed until 6am, but the E3 paper will only have been briefed without paper. I'm going to flag this for CEQ – the E3 study would need to be released for the 6am embargo I think....

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Sent:** Monday, July 11, 2022 3:38 PM  
**To:** Daly, Gabriel <gabriel.daly@hq.doe.gov>; Bhattacharyya, Arpita <arpita.bhattacharyya@hq.doe.gov>; Godwin, Mary E <megodwin@bpa.gov>; Leary, Jill C <jcleary@bpa.gov>; Dimitriou, Jasmine <jasmine.dimitriou@hq.doe.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>  
**Subject:** RE: E3 Talking Points/Other Materials

I pushed send before i was done. Sorry. I think that would be past all press deadlines for media prior to the Council briefing with the exception of news alerts of online reporting that could be done quickly. I will check with our media lead on any requests he is fielding today.

I think the concerning issue I'm hearing from the Hill and we share is that CEQ appears to be pushing the NOAA paper as an administration document and also saying they support it, in addition to it being prior to release of the E3 analysis. If both the NOAA paper and the E3 analysis are embargoed until the 6:00a, that at least may calm some concern.

Thanks.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 3:21 PM, "Baskerville, Sonya L (BPA) - AIN-WASH" <slbaskerville@bpa.gov> wrote:  
Here is the agenda item, Mountain Time.

3:30 – 5 p.m. Mountain Time  
Energy and Environmental Economics (E3) study on Lower Snake River Dams Power Replacement:  
Arne Olsen, E3.

Sonya Baskerville  
BPA National Relations  
(b)(6) m

On Jul 11, 2022 3:01 PM, "Baumann, Jeremiah" <jeremiah.baumann@hq.doe.gov> wrote:  
Sonya what time is the NWPCC briefing tomorrow? I think WH is saying the press embargo on tonight's briefing lifts at 6am tomorrow, which would allow for stories running before the NWPCC briefing...do we need to push back on that?

**From:** Baumann, Jeremiah

**Sent:** Monday, July 11, 2022 12:42 PM

**To:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>; Daly, Gabriel <gabriel.daly@hq.doe.gov>; Leary, Jill C <jcleary@bpa.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Godwin, Mary E <megodwin@bpa.gov>; Dimitriou, Jasmine <jasmine.dimitriou@hq.doe.gov>; Bhattacharyya, Arpita <arpita.bhattacharyya@hq.doe.gov>

**Subject:** RE: E3 Talking Points/Other Materials

Hi Sonya – adding Jasmine and Arpita from the S1/S2 office, as this is all moving very quickly – (b)(6)

(b)(6) so just putting pieces together myself...what seems to be happening is—

- to get comfortable with briefing the E3 results, they are aligning comms around the NOAA/FWS salmon science “summary” and the E3 study.
- This is actually something John and I were in conversations about last week and the week before, i.e. we were suggesting that rather than objecting to BPA/E3 releasing the study, they align the narrative that the science paper talks about what it would take to reach certain fish levels (with clarity those are not ESA/litigation relevant levels) and E3 says what it would cost
- They seem to be doing that, but doing it TODAY, bc of the NWPCC briefing happening tomorrow
- Plan is a 30-min Member briefing and 30-min press briefing with brief overviews of both documents
- We need to make sure they are NOT calling it a DOE study
- We also need to get clarity on embargo

**From:** Baskerville, Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>

**Sent:** Monday, July 11, 2022 11:12 AM

**To:** Daly, Gabriel <gabriel.daly@hq.doe.gov>; Leary, Jill C <jcleary@bpa.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Baumann, Jeremiah <jeremiah.baumann@hq.doe.gov>; Godwin, Mary E <megodwin@bpa.gov>

**Subject:** RE: E3 Talking Points/Other Materials

The invitation. And I'm told that they also are going to over the "DOE" report.

From: Adhar, Radha EOP/CEQ <Radha.Adhar@ccq.cop.gov>

Sent: Sunday, July 10, 2022 12:38 PM

To: Jones, Ashley A. EOP/WHO <Ashley.Jones@who.eop.gov>; Black, Jonathan Y. EOP/WHO <Jonathan.Y.Black@who.eop.gov>

Subject: FW: Invitation to embargoed member briefing

Good afternoon,

I hope your weekend is going well. I wanted to ensure you saw my note from Friday evening inviting your boss to a member briefing. If your boss and staff are able to join, I hope you will register in advance.

Best,

Radha

From: Adhar, Radha EOP/CEQ <>  
Sent: Friday, July 8, 2022 8:14 PM  
To: Ashley A. EOP/WHO Jones ( Ashley.Jones@who.eop.gov) < Ashley.Jones@who.eop.gov>;  
Jonathan Y. EOP/WHO Black ( Jonathan.Y.Black@who.eop.gov) < Jonathan.Y.Black@who.eop.gov  
>; Buetow, Zephra N. EOP/WHO < Zephra N.Buetow@who.eop.gov>  
Subject: Invitation to embargoed member briefing

The White House Logo

Good evening,

Your boss is invited to join an embargoed member briefing Monday, July 11th at 6:00pm ET. This briefing will feature senior officials from the White House, the National Oceanic and Atmospheric Administration, the Department of Energy and Fish and Wildlife Service and will provide an update on the Columbia River Basin. Please register your member and any staff attending here:

(b)(6)

Please let me know if you have any questions, and hope you have a wonderful weekend.

Radha

Radha Adhar

202-881-8151

Director of Legislative Affairs

Council on Environmental Quality

Executive Office of the President

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 11, 2022 11:04 AM, "Baskerville,Sonya L (BPA) - AIN-WASH" <slbaskerville@bpa.gov> wrote:

Hey there. I understand that CEQ is meeting with Members/Senators this afternoon. I'm not sure we knew about it, and it's curious because they have asked us all to be coordinated on comms. Yet they are having this meeting without the comms plan being complete. Thanks.

Sonya Baskerville  
BPA National Relations

(b)(6) m

On Jul 8, 2022 1:10 PM, "Leary,Jill C (BPA) - LN-7" <jcleary@bpa.gov> wrote:  
[Great, thanks.](#)

**From:** Daly, Gabriel <gabriel.daly@hq.doe.gov>  
**Sent:** Friday, July 8, 2022 10:04 AM  
**To:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>; Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>  
**Cc:** Godwin,Mary E (BPA) - LN-7 <megodwin@bpa.gov>; Baskerville,Sonya L (BPA) - AIN-WASH <slbaskerville@bpa.gov>  
**Subject:** [EXTERNAL] RE: E3 Talking Points/Other Materials

I just heard from CEQ – they expect White House comms to reach out this afternoon with a comms package.

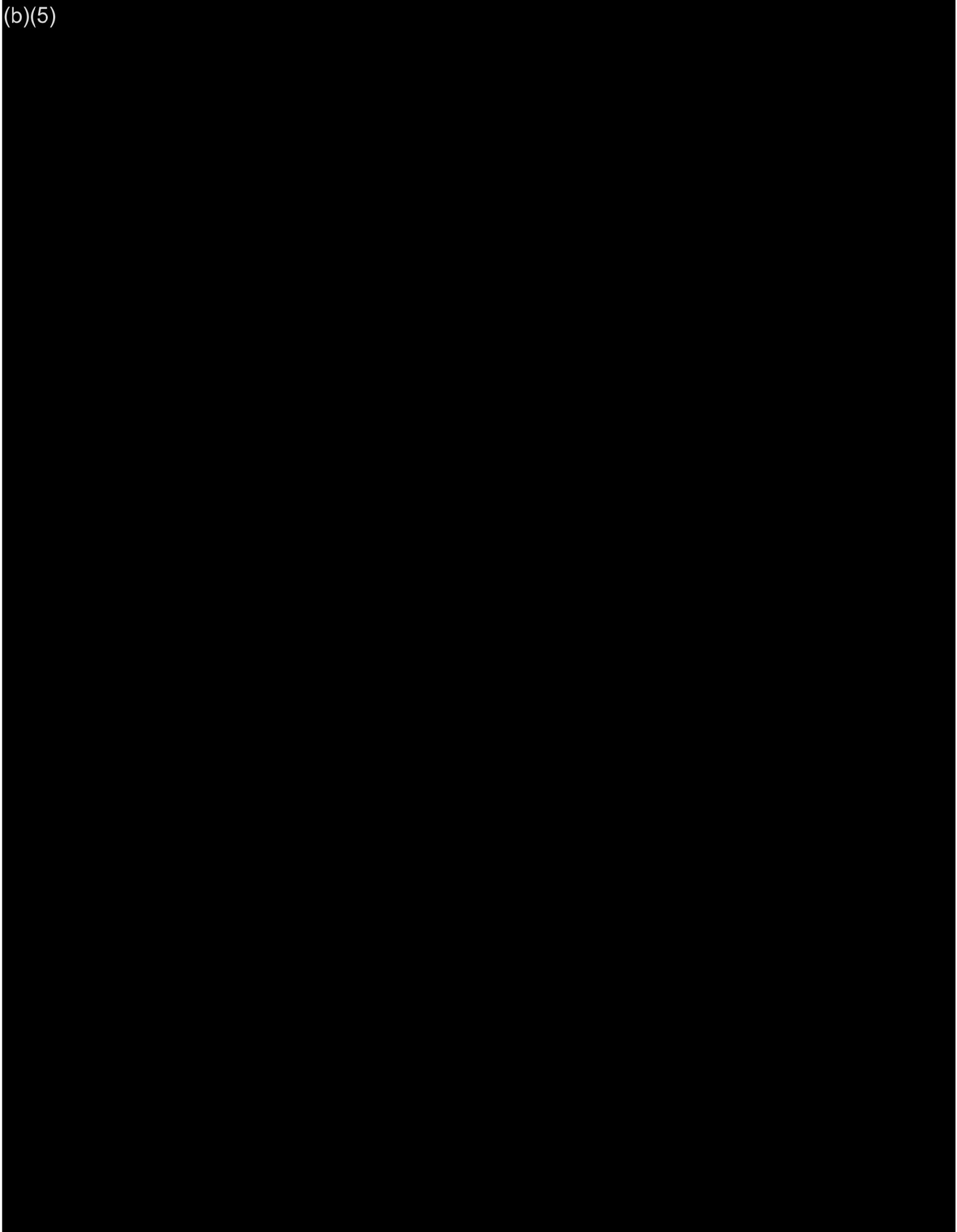
Gabe

**From:** Leary,Jill C (BPA) - LN-7 <jcleary@bpa.gov>  
**Sent:** Friday, July 8, 2022 10:42 AM  
**To:** Troiano, Charisma L <charisma.troiano@hq.doe.gov>; Ardis, Melissa <melissa.ardis@hq.doe.gov>; Daly, Gabriel <gabriel.daly@hq.doe.gov>  
**Cc:** Godwin, Mary E <megodwin@bpa.gov>; slbaskerville@bpa.gov  
**Subject:** E3 Talking Points/Other Materials

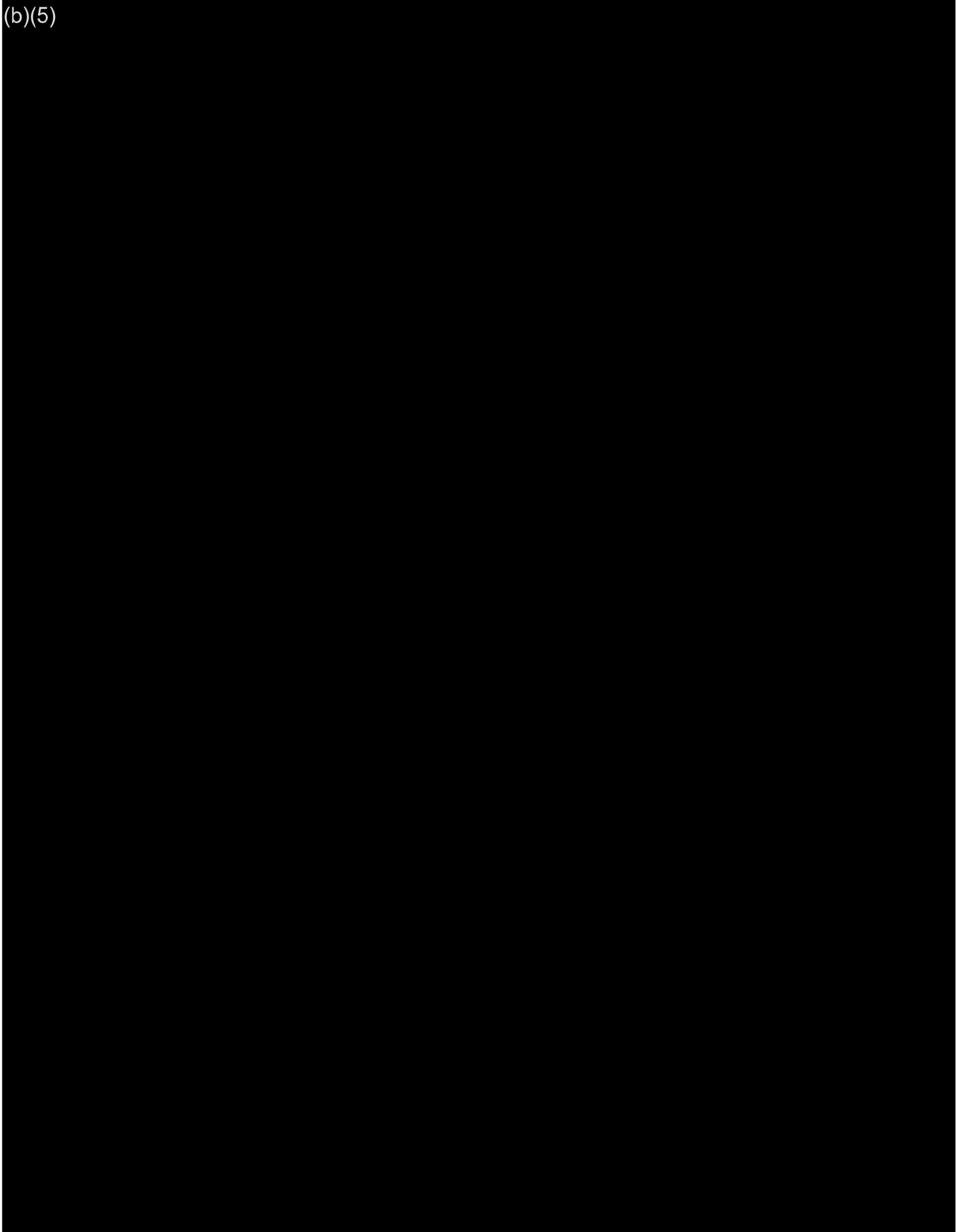
Good morning,  
Do you have a sense of when the media package for E3 will be ready?

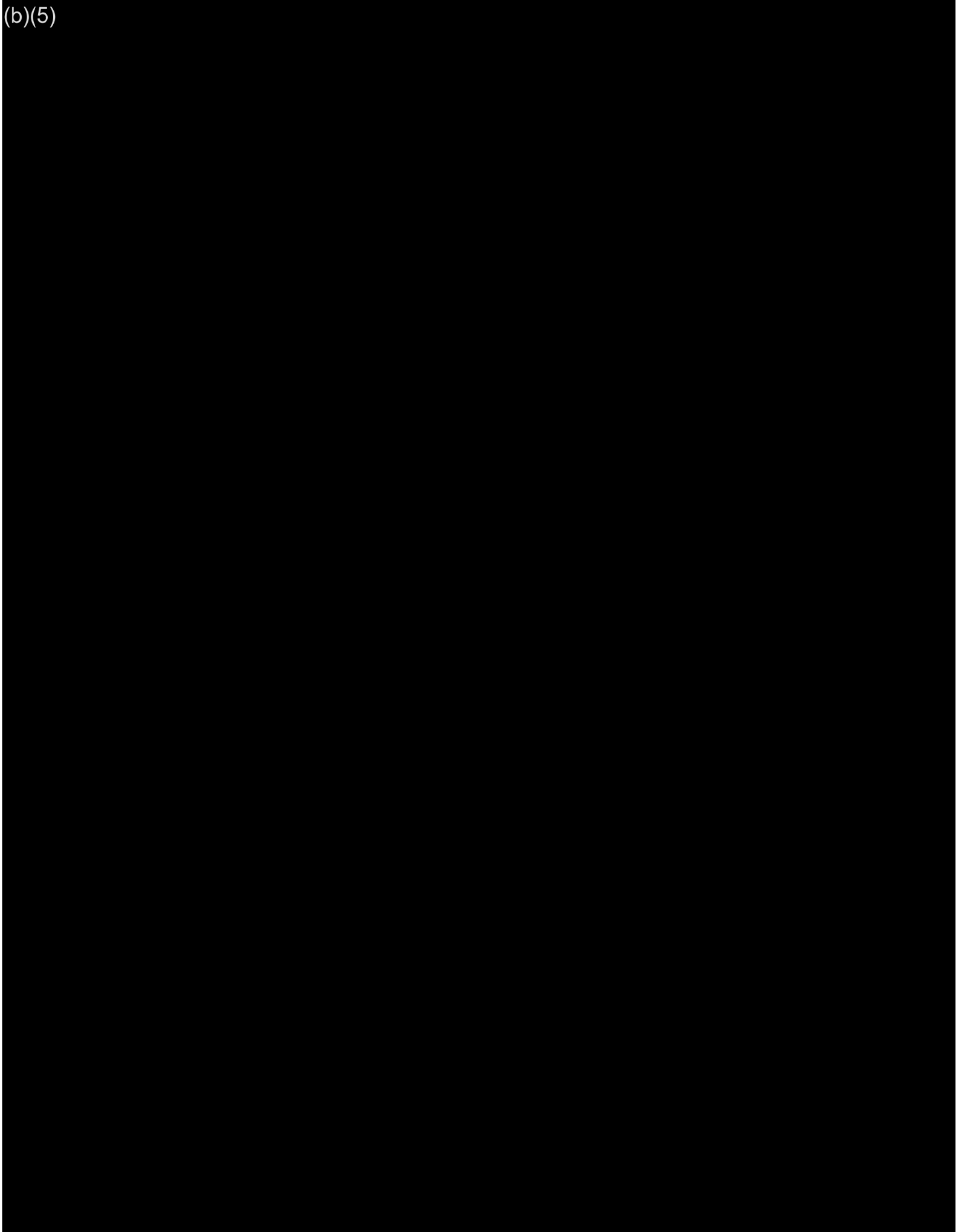
I know it is in process, but would love to know when to expect so I can help set internal expectations.

Thanks,  
Jill









**From:** "Ardis, Melissa" <melissa.ardis@hq.doe.gov>  
**Sent:** Thu, 30 Jun 2022 18:49:27 +0000  
**To:** "Baumann, Jeremiah" <jeremiah.baumann@hq.doe.gov>, "Daly, Gabriel" <gabriel.daly@hq.doe.gov>, "Leary, Jill C" <jcleary@bpa.gov>, "Godwin, Mary E" <megodwin@bpa.gov>, "slbaskerville@bpa.gov" <slbaskerville@bpa.gov>  
**Subject:** [EXTERNAL] E3 Study roll out plan\_6.30 - GJD\_v2  
**Attachments:** E3 Study roll out plan\_6.30 - GJD\_v2.docx  
Good afternoon – I am attaching the draft E3 roll out plan for review. We wanted to use the same format as the salmon paper roll out plan circulated by CEQ. Please provide me with any comments or edits by COB today if at all possible.

Thank you,

Melissa Ardis  
Senior Advisor, Power Marketing Administrations  
Office of the Undersecretary for Infrastructure  
U.S. Department of Energy  
Energy.gov/bil  
(b)(6)

**Proposed rollout for the *E3 LSRD Replacement Study***  
***BPA Staff Recommendation 06/30/2022***

**Background**

- BPA contracted with electric industry research firm Energy and Environmental Economics (“E3”), to conduct an independent analysis of the electricity system value of the four lower Snake River (LSR) dams (E3 Study). This new analysis builds on the analysis performed in the Columbia River System Operations Environmental Impact Statement (CRSO EIS) regarding replacement resources and costs associated with a scenario where the four lower Snake River dams may be breached.
- With multiple reviews of the future of the lower Snake River dams being conducted by the Council on Environmental Quality, the Columbia Basin Collaborative and Senator Patty Murray (D-WA) and Washington Governor Jay Inslee, BPA felt it necessary to update the potential costs of replacing the energy services from these dams.
- The CRSO EIS analysis examined a series of resource replacement portfolios using the Northwest Power and Conservation Council’s latest forecasts and updated Energy Commodities resource cost estimates to reflect reasonable replacement resource alternatives and associated costs. E3 used a *resource portfolio optimizer model* with their data sets and their criteria and objectives to create least-cost replacement portfolios.
- BPA anticipates the E3 Study to contribute to regional dialogue about the future of these dams and help elevate regional understanding of the complexities and expenses involved in exploring replacement resources for the LSR dams.
- The E3 Study includes several scenarios for replacement resources, including some with emerging technologies such as small modular nuclear reactors, and gas plants with carbon capture or hydrogen burning capability (currently unavailable). It also includes use of traditional renewable resources, such as wind, solar, storage and demand response.
- Information about the E3 Study has been publicized and there is region-wide interest in its findings. Regional stakeholders, including Northwest delegation members and staff, rate-payers and customer utilities have requested the report.

**Recommendations**

- In order to control the message, process, and distribution of the study DOE and BPA recommend the following rollout:
  - July 1 – Final Study delivered to BPA; study shared with CEQ for distribution to Deputies
  - July 5 –Talking points for NWPCC and congressional briefings circulated for review
  - July 6 – Media advisory for press
  - July 7 – Post slides to BPA webpage and conduct social media outreach
  - July 7 – Northwest Power and Conservation Council briefing
    - Press availability by phone
  - July 7 – afternoon – Congressional briefing with Northwestern congressional staff

- July 7 – afternoon – Congressional briefing with Senator Murray’s staff
- July (August?) \_\_\_\_ – Post final Report on BPA’s website