

Message

From: Francis, Dick E SEPCO-GRA [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN= [REDACTED]]
Sent: 2/20/2020 5:29:05 PM
To: Johnson, Krista SHLOIL-GRA [REDACTED]@shell.com]
Subject: RE: Methane Deep Dive Preps - Feedback from Talk with Gretchen

Yes, technical response to the technical problem of methane emissions. However, I will explore to confirm – not just ask. We don't want the presentation to overstate the situation.

I will review the latest draft of the presentation as well.

Dick Francis

*Manager, Regulatory Policy & Advocacy
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From: Johnson, Krista SHLOIL-GRA <[REDACTED]@shell.com>
Sent: Monday, February 17, 2020 6:39 AM
To: Francis, Dick E SEPCO-GRA <[REDACTED]@shell.com>
Subject: RE: Methane Deep Dive Preps - Feedback from Talk with Gretchen

What is the goal of this meeting? To describe the technical response to the technical problem of methane emissions? If yes, this seems like a fine approach. If the goal is to define the risk "methane emissions in Permian as part of the beyond natural gas campaign" - - this approach neither defines the risk nor the response. I might suggest going back to Kevin and asking him to define what it is Gretchen has asked to accomplish. There is a hint in the item "we are linked with NGOs".....which isn't even accurate.....we are partnering with 1 NGO....which doesn't mean we are linked and doesn't define the risk –

If they leave Wael with the impression that the EDF work represents full mitigation of the NTR risk on methane, he will leave with a significant misimpression. No?

From: Francis, Dick E SEPCO-GRA <[REDACTED]@shell.com>
Sent: Sunday, February 16, 2020 7:38 PM
To: Johnson, Krista SHLOIL-GRA <[REDACTED]@shell.com>
Subject: FW: Methane Deep Dive Preps - Feedback from Talk with Gretchen

FYI.

Gretchen, Kevin, and Amir (possibly others) will be providing an update/deep dive to Wael in March regarding Permian emissions.

As you will see, materials are in development.

Let me know if you'd like to discuss.

Thanks.

Dick Francis

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From: McMahon, Kevin M SEPCO-UPU <[REDACTED]@shell.com>

Sent: Saturday, February 15, 2020 5:58 PM

To: Tiesman, Lisa L SEPCO-UPU/S/R <[REDACTED]@shell.com>; Morello, Brad SEPCO-GRA <[REDACTED]@Shell.com>; Hawkins, Maggie L SEPCO-ERUP/U <[REDACTED]@shell.com>; Gerges, Amir NAM SEPCO-UPU <[REDACTED]@shell.com>; Hetrick, Teresa G SEPCO-UPU/S <[REDACTED]@shell.com>; Powers, Marti D SHLOIL-ERUP <[REDACTED]@Shell.Com>; Francis, Dick E SEPCO-GRA <[REDACTED]@shell.com>

Subject: Methane Deep Dive Preps - Feedback from Talk with Gretchen

Team,

This note serves as initial feedback from my discussion with Gretchen. My take from the conversation is she appreciates the hard work, the challenge that this dynamic topic puts on the team and she is pleased with what we reviewed and progress. Still have work to do.

Before sharing feedback, attached are the two documents we reviewed. One is 5 P and the other is a modified version of the slides Lisa sent over after our call this week. (slides are pdf'd due to size)

Here's the unfiltered download.....some directly from Gretchen and some based on my reflections...

Feedback (realize some of what is mentioned below, we covered on Thursday):

1. Package includes most of what we need to share. Next steps – tune it up and shape the story.
2. Each slide needs a written headline – be very clear on the single message from each slide and how the story flows from one slide to the next.
3. Include Compliance requirements / limits...
4. Better use of data to ground the conversation on our performance.
 - a. When we have data, what is the single message or conclusion? Where makes sense, write it on the slide and make it jump out!
5. Slide 8 – good data, need message to pop out..."Design and Operational Choices Drive Methane Abatements"
6. Slide 9 – "LDAR – The Foundation of our Emissions Improvement Program"
7. Slide 10 – what's the message, what's the leak rate?
8. slide 11 – make more visually clear, especially the detection capabilities and accuracy.
9. Slide 12 – what are our conclusions from recent internal and industry partnered technology? Is data reconciliation easy, difficult, dependable, what's the story?
10. Show Permian stats against the statements BP made last week.....
 - a. https://www.bp.com/en/global/corporate/who-we-are/reimagining-energy.html?gclid=CjwKCAiAp5nyBRABEiwApTwjXhodTAdd8Gd8B7TK9SvQTzRTdfrB0unTCJ8ulTu8RBo2n2J86wfl8BoCd6EQAvD_BwE
 - b.



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Measurement at all our major oil and gas processing sites by 2023, transparent reporting and 50% reduction in our operated methane intensity

c.

11. What does Success look like? --- Wael / Gretchen can give an internal elevator pitch that covers the following:
- Shales is in Compliance with local Regulations.
 - Shales is improving – Total Methane emissions have increased recently because of Production increases. GHG and Methane Intensities are declining
 - 2019 Investments of about \$10 MM delivered 163 kt CO₂e abatements.
 - We are engaged with the public, NGOs (EDF) – know they are trying to highlight emissions by using technology.
 - We know our equipment bad actors. Additionally, as technology develops and is deployed in new ways, we are concerned with data quality and how it may be used.

Questions we need to be ready to answer:

- How much gas is flared across all of Permian on a daily basis?
- How much does Shell Permian flare on a daily basis?
- Does the SCAN wedge in the pie chart in slide 3 include FHs? If not, what is the impact on the first 2 pie charts if we remove FHs?
- What is our plan for tackling venting in Permian?
- What will it cost to fix our bad actors? How much improvement will that bring?
- What % of our production do the bad actors represent?
- In Permian, what portion of the overall GHG emissions is methane?
 - Of the Total Abatements in 2019 – 163 kt CO₂e – how much of that was methane?
- How confident are we in the detection and quantification technology, today?
- How do we detect emission sources? How do we resolve?

That's all for now. Let's regroup next week.

Thanks,

Kevin