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**From:** Watkins, Gretchen H SERC-UP [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=40DF89A63613493BB9AEA81AFD1F8A38-USGWBD]  
**Sent:** 10/1/2020 7:57:08 AM  
**To:** Francis, Thomas SHLOIL-ERM/S [REDACTED]@shell.com]; Conrad, Katy E SEPCO-UPU [REDACTED]@shell.com  
**Subject:** RE: CFR

That's what I needed thanks

Best Regards,

Gretchen

Gretchen H. Watkins  
President Shell Oil Company  
Executive Vice President Global Unconventionals  
Shell Oil Company

150 North Dairy Ashford, | Houston, TX 77079 | United States of America  
Direct : [REDACTED]  
Email E : [REDACTED]@shell.com

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

From: Francis, Thomas SHLOIL-ERM/S [REDACTED]@shell.com>  
Sent: Thursday, October 1, 2020 7:54 AM  
To: Watkins, Gretchen H SERC-UP [REDACTED]@shell.com>; Conrad, Katy E  
SEPCO-UPU [REDACTED]@shell.com>  
Subject: RE: CFR

Apologies, I believe the "intensity" just refers to the proportion leaked versus delivered safely for end use. Our ambition is to keep that intensity extremely low -- so of all the oil and gas we produce, a percentage of that consists of methane. So 0.2% refers to methane. Of the total amount of methane that's present in our O&G products, we're aiming to leak no more than 0.2%.

That is my understanding.

The release contains the following language:

The intensity baseline and target are presented as percentage figures, which represent the estimated amount of methane emissions for Shell's operated gas and oil assets as a percentage of the amount of the total gas and oil marketed. The methane emissions include those from fugitives, venting and incomplete combustion, for example in flares and turbines.

Currently, methane emissions are calculated using a combination of standard emission factors (established emissions rates per throughput or per piece of equipment) and actual measurement. Increasingly, Shell sites are measuring emissions with infrared cameras and other detection equipment. By 2025, all Shell operated assets will have implemented robust quantification methodologies.

<https://www.shell.com/media/news-and-media-releases/2018/shell-announces-methane-emissions-intensity-target.html>

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

From: Watkins, Gretchen H SERC-UP [REDACTED]@shell.com>  
Sent: Thursday, October 1, 2020 7:35 AM  
To: Francis, Thomas SHLOIL-ERM/S [REDACTED]@shell.com>; Conrad, Katy E  
SEPCO-UPU [REDACTED]@shell.com>  
Subject: RE: CFR

Yes I know that, I meant what exactly does intensity mean? 0.2% of what?

Best Regards,

Gretchen

Gretchen H. Watkins  
President Shell Oil Company  
Executive Vice President Global Unconventionals Shell oil Company

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

From: Francis, Thomas SHLOIL-ERM/S [REDACTED]@shell.com>  
Sent: Thursday, October 1, 2020 7:32 AM  
To: Watkins, Gretchen H SERC-UP [REDACTED]@shell.com>; Conrad, Katy E  
SEPCO-UPU [REDACTED]@shell.com>  
Subject: RE: CFR

Gretchen, the 0.2% methane target refers to oil and gas we produce across all upstream and integrated gas. Does not include the volumes of gas that we bring to market -- such as gas from another operator that is moving through our transportation network.

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

From: Watkins, Gretchen H SERC-UP [REDACTED]@shell.com>  
Sent: Thursday, October 1, 2020 6:20 AM  
To: Conrad, Katy E SEPCO-UPU [REDACTED]@shell.com>; Francis, Thomas  
SHLOIL-ERM/S [REDACTED]@shell.com>  
Subject: RE: CFR

Also, please remind me of what the intensity target is? 0.2% of our overall production is leaked??

Best Regards,

Gretchen

Gretchen H. Watkins  
President Shell Oil Company  
Executive Vice President Global Unconventionals  
Shell oil Company

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

From: Conrad, Katy E SEPCO-UPU [REDACTED]@shell.com>  
Sent: Wednesday, September 30, 2020 10:11 PM  
To: Watkins, Gretchen H SERC-UP [REDACTED]@shell.com>; Francis, Thomas  
SHLOIL-ERM/S [REDACTED]@shell.com>  
Subject: RE: CFR

Hi Gretchen,

I was able to connect with Kevin McMahon and get in touch with someone in Canada on Quanta3 (they will send me the story on this later tonight and I'll send your way). I also captured the quick story you shared on Close monitoring of liquid unloadings as I think this is "punchy" and can fit with your points tomorrow.

I connected with Tom and he is going to add some points and highlight some key parts of the brief that may be useful.

In the Permian -

EDF PermianMap Program:

- We partnered with EDF and others (including Universities, e.g. Penn State

and University of Wyoming) on this, and agreed to be a part of the team (even though we suspected they were trying to collect data to prove that industry was under reporting Methane Emissions)

- The study used different deployment mechanisms:

- o Trucks (University of Wyoming)
- o Cell phone towers in the Permian (Penn State)
- o Over flights - air craft and satellites

- We weren't particularly excited about it; we get better data quality from other sources

Flaring Workshop: They wanted to do a flaring workshop to put together flaring best practices, but we were already doing this with an industry org (API? TXOGA? Kevin is confirming which one), and so declined.

We're not doing anything else in the Permian with EDF to Kevin's knowledge

Close monitoring of liquid unloadings -

Potentially a cool story here; once we've fractured a well, we can hook up our equipment so we have no flaring when we bring a well online - we've eliminated the flare.

Let us know any other points we can chase up.

Katy

Katy Conrad

Business Advisor to Gretchen Watkins

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

From: Watkins, Gretchen H SERC-UPU [REDACTED]@shell.com>

Sent: Wednesday, September 30, 2020 9:12 PM

To: Conrad, Katy E SEPCO-UPU [REDACTED]@shell.com>; Francis, Thomas

SHLOIL-ERM/S <[REDACTED]@shell.com>

Subject: CFR

Remember I'm the Technlogy person on this panel, not the policy expert. We can leave the policy details to EDF. I'd like some good tech stories. Thx.

Best Regards,

Gretchen