

Sent: 27/05/2020 14:31:44
Subject: RE: For Review: EDF-BP MoU Strategic Plan - Final Draft

Existing MoU Focus Areas Hopper - Future Focus Areas DATE US regulatory adoption of new technologies
Advancing Technology Breakthroughs
Advancing Digital Technologies
Expanding Methane Management
Accenture Moonshot Event
Moving to Differentiation
Verification/Certification:

Differentiated Natural Gas 2019/2020 MoU: In 2019 BP granted up to \$500,000 to a multi-stakeholder research initiative led by Colorado State University (CSU) that will improve the pathways to regulatory acceptance for emerging methane detection and quantification technologies (onshore US) Path to Equivalency (PTE):

Status: Regular meetings held between BP and EDF Steering group (Loader, Stout, Rogers, Ratner)

PTE project co-funded by BP, Chevron and EDF (XOM withdrew after 1st payment). First deliverable due e/o May 2020 MoU: In 2019, EDF and BP will scope and announce a digitalization project for methane that will harness innovation that improves operations and reduces emissions. Results and key learnings will be publicized to maximize environmental and industry benefits

Status: NPL contracted to define an embryonic standard for High Frequency Monitoring (HFM) to provide adequate site level coverage to assure that no event of significant impact upon total reported methane can go unaccounted for and review technologies on the mkt to fulfil this brief MoU: In 2019, BP and EDF will convene a workshop to learn about practices for emission reductions at non-operated assets and to identify potential opportunities to expand the coverage of methane efforts and commitments.

Status: Virtual Workshop Scheduled 16,17,24 June Accenture Event:
Brainstorm Event held in London Q3 2019. Attendees included: BP, XOM, NPL, Shell, EDF

Key Areas discussed:
- Mesh Network of Sensors
- Networks of data for offshore assets
- Move to continuous monitoring

Status: Ideas from the workshop appear as part of BP projects such as HFM and have also materialised in another EDF project which was recently announced with Exxon Mobil on mesh networks (Project Astra).

Future Work Area Discussed:
A half day BP-EDF workshop was held brainstorming how Technology could be used to support the development of differentiated commodities and improve Emissions Data Management Systems.

Future Work Area discussed:
Developing a Certification Pathway to differentiated natural gas products.

2021
(Proposed) CSU:
-Additional project from existing funding is possible
-Leading contender is a Post Doc on Abandoned Wells.

BP-EDF:

Redacted - First Amendment

- Option to move to Testing Phase:
 - Develop an offshore test facility to determine efficacy of the techniques (controlled releases) Methane Guiding Principles:
 - Build off initial workshop in 2020
 - Develop MGP cohort that drives excellence in NOJV methane mgmt
 - A second workshop focused on NOC's?
 - Further outreach to IOCs/NOCs/NOJVs
 - Agree as part of MGP 2021 workplan No further action agreed No further action agreed
 - Working with others develop an outcomes based Performance Standard to move from accuracy of reporting to confident methane reductions
 - Build off HFM and Path to Equivalency (PTE) Modelling work results
 - Link to ongoing dialogue with RMI / M. J. Bradley & Associates / GaffneyCline
- End goal in mind we have successfully influenced EPA to move away from prescriptive approach to measurement technology use. We have influenced company culture and now most methane targets are extended to NOJV's,