

Methane Hydrate Advisory Committee (MHAC) Meeting

February 26, 2020

The Hotel Galvez & Spa

Galveston, TX

MEETING SUMMARY

Attached are the meeting agenda and the list of attendees.

Welcome and Introductions

The meeting was called to order on February 26, 2020 at 12:00 pm CST by Gabby Intihar, the Committee Manager. Mrs. Intihar welcomed and thanked the Committee members. She commenced the meeting with introductions from each Committee member, both reappointed and new members, along with DOE staff, presenters, and other attendees.

Committee Business, Gabby Intihar, Committee Manager

Gabby Intihar conducted committee business and made announcements. She reminded the group that all federal advisory committees are open to the public and deliberations must be done openly and transparently; and that minutes will be published in a few weeks on the Committee website. She further informed the committee that no public comments were received in advance of the meeting nor has anyone requested to address the committee at the meeting. She then confirmed that a quorum of committee members was present. She noted that there were changes to the agenda and Chair Dr. Carolyn Koh, would present after the two major project updates.

Mrs. Intihar welcomed new and reappointed committee members and explained that elections were required for the Chair and Vice-Chair positions. Mrs. Intihar asked for nominations. The committee members nominated the current Chair Dr. Carolyn Koh and Vice-Chair Dr. Miriam Kastner for reelection; both were willing to continue serving in those positions. The Committee also nominated Dr. Mark Myers for Second Vice-Chair, or similar role. The committee members proceeded to vote and Dr. Koh and Dr. Kastner were unanimously re-elected for MHAC Chair and Vice-Chair of the Committee, respectively. The Committee also provisionally voted for Dr. Myers for Co-Vice Chair.

Mrs. Intihar introduced Mr. Shawn Bennett, Deputy Assistant Secretary (DAS) for Oil and Natural Gas and Designated Federal Official (DFO) for the Methane Hydrate Advisory Committee (MHAC), then turned over the meeting to DFO Shawn Bennett for his welcoming remarks.

DFO Welcome, Shawn Bennett, DFO

Shawn Bennett is the Deputy Assistant Secretary (DAS) for Oil and Natural Gas within the U.S. Department of Energy (DOE) and Designated Federal Officer (DFO) for the Methane Hydrate Advisory Committee (MHAC). DFO Bennett thanked the Committee members for their continued commitment to the MHAC. He stated that the program goals remain unchanged and that DOE plans to continue with a research approach that is collaborative, interagency, and international.

DFO Bennett stated that the Department's primary objectives are to conduct field work to establish the resource potential of methane hydrates via a sustained, long-term reservoir response experiment on the Alaska North Slope and the coring expedition in the Gulf of Mexico. These projects will provide valuable information to DOE to determine the scale and feasibility of methane hydrate as a future energy resource. In addition to these two major field projects, the Program continues its participation in international partnerships in order to advance our understanding of methane hydrate in natural settings and techniques for its evaluation and production.

DFO Bennett highlighted the Alaska project's recent accomplishments of drilling the Stratigraphic Test Well. The stratigraphic test well confirmed that a significant gas hydrate resource is present in a high-quality sandstone reservoir. The test well will be converted to a monitoring well during the next phase of the project. The next phase will drill two production test wells and an additional monitoring well, and perform a long-term reservoir response experiment. The information from this long-term test will provide key data necessary to determine the potential to successfully produce the world's vast gas hydrates. DFO Bennett stated DOE was successful in maintaining a steady \$20 million/year in funding.

DFO Bennett introduced the agenda for the day and then turned over the meeting to Gabby Intihar to break for lunch. The meeting reconvened after the lunch break and Mrs. Intihar introduce the presenters.

Alaska North Slope Project Update – Ray Boswell, NETL

Dr. Ray Boswell presented a review of the gas hydrates R&D in the Alaska North Slope. Dr. Boswell began with the Alaska North Slope project status and provided a brief overview of the project structure.

Dr. Boswell provided a review of Phase 1, which was the drilling and testing of the Stratigraphic Test Well. He noted Phase 1's completion and that the test well fit the criteria that determined it to be a success. Phase 2 of the Alaska North Slope project is to drill, core, and instrument a geoscience data/monitoring well, and two production test wells, which are expected to spud (start initial drilling) as early as January 2021. The team continues to work with the Prudhoe Bay Unit Working Interest Owners and the State of Alaska to define project structure for Phase 2.

The objective of the long-term reservoir response experiment is to characterize the system and then to observe it during controlled depressurization. The findings from Phase 2 will create a better understanding of the full characteristics of gas hydrate systems as well as the response of the reservoirs to potential gas production activities.

Dr. Boswell's presentation can be found on the Committee website at <https://www.energy.gov/sites/prod/files/2020/03/f72/Alaska%20Update.pdf>.

Gulf of Mexico Project Update – Peter Flemings, University of Texas at Austin

Point of Order, before the presentation began Mr. Daniel McConnell stepped out to avoid any perception that Frugo would obtain an unfair advantage on the GOM2-2 project.

Dr. Peter Flemings presented an overview of the Gulf of Mexico (GOM) exploration and characterization project (UT-GOM2) and results to date. He thanked the six universities involved with the project, as well as the DOE, the U.S. Geological Survey, and the DOI's Bureau of Ocean Energy Management.

Dr. Flemings discussed the progress from the UT-GOM2 coring evaluation from the FY2017 expedition. He presented on the project's next phase of the GOM2-2 expedition. It was noted that the project will help to develop a systems understanding of the hydrate reservoir, as well as obtain their key goal to characterize gas hydrates. He discussed the steps needed to prepare for the drilling expedition, which is tentatively planned for the first quarter of 2021. Because of increased costs, the initially proposed science program has been significantly reduced. However, Dr. Fleming's believes that the modified proposed expedition will obtain sufficient data to still meet DOE's science objectives.

The Committee's questions focused on the GOM2-2 expedition objectives and activities that had been eliminated due to the cost increases and what additional activities could be added back into the expedition if the DOE funding towards the project was increased. Dr. Flemings highlighting that the budget for the expedition remained the same from the original proposal. The initial proposal assumed the use an IODP drillship, but the drillship has not been modified to meet the safety requirements for drilling into hydrocarbon zones. The alternative was to find another operator and drillship, which escalated the project cost. The Committee ended by stating that the research of the GOM2-2 project is of strategic national interest and stressed the importance of the research being done in the Gulf of Mexico.

Dr. Flemings' presentations can be found on the Committee website at <https://www.energy.gov/sites/prod/files/2020/03/f72/GOM%20Project.pdf>.

Report of Committee Representatives November 15, 2019 Meeting with DOE Assistant Secretary for Fossil Energy Steve Winberg – Carolyn Koh, Methane Hydrates Advisory Committee

Dr. Carolyn Koh went through the presentation that was presented to ASFE Winberg. She discussed the gas hydrates R&D roadmap, which covers the timeline of research priority recommendations from 2020 to 2035. The research recommendations emphasize the Alaska North Slope (ANS). Previous ANS hydrate field tests are largely responsible for the U.S. being seen as a global leader in hydrate research. The long-term production test is critical to the U.S. maintaining that leadership role.

The Committee asked the DOE staff for insight on how the roadmap presentation and follow-up discussion were received by ASFE Winberg. DOE staff stated that the meeting went well, the message was well received, and stressed that there are simply too many competing priorities within DOE for a finite amount of research funds.

Using the R&D roadmap as a baseline, the Committee discussed recommendations for future research. It was decided that research should focus on "must haves". A group (planning team) was formed to discuss how to proceed and plan the next MHAC Meeting. The group consists of Dr. Koh, Dr. Kastner, Dr. Myers, Dr. Moridis, Dr. Thurmond, and Dr. Johnson.

Dr. Koh's presentation can be found on the Committee website at <https://www.energy.gov/sites/prod/files/2020/03/f72/ASFE%20Meeting.pdf>.

Next Steps

Focusing on the next ten years, the Committee plans to investigate, evaluate and document what scientific questions (our “must haves”) need to be addressed by the methane hydrate research community. A planning team was organized in order to develop the framework for this deliverable of the Committee and to determine when and where the next planning meeting will be scheduled.

The meeting adjourned on February 26, 2020 at 5:45 pm CST.

January 9, 2020

Methane Hydrate Advisory Committee Meeting

February 26, 2020 12:00pm – 6:00pm (CST)


Public Access

The Hotel Galvez & Spa
West Parlor Room
2024 Seawall Blvd.
Galveston, TX 77550

AGENDA

February 26, 2020 12:00pm – 6:00pm (CST)

Time	Discussion Item	Speaker
11:30 am – 12:00 pm	Registration	All
12:00 pm – 12:20 pm	DFO Welcome and Introductions	Shawn Bennett, DAS for Oil and Natural Gas, and Designated Federal Officer (DFO)
12:20 pm – 12:30 pm	Committee Business – election of Committee Chair and Vice-Chair	Gabby Intihar, Program Manager Gas Hydrate R&D Program
12:30 pm – 1:30 pm	Lunch	All
1:30 pm – 2:00 pm	Report of Committee Representatives November 15, 2019 Meeting with DOE Assistant Secretary for Fossil Energy Steve Winberg	Carolyn Koh, Chair, Methane Hydrates Advisory Committee
2:00 pm – 3:00 pm	Alaska North Slope Project Update	Ray Boswell, Technology Manager, National Energy Technology Laboratory (NETL)
3:00 pm – 4:00 pm	Gulf of Mexico Gas Hydrate Resource Characterization Project Update	Peter Flemings, University of Texas at Austin
4:00 pm – 4:15 pm	Break	All
4:15 pm – 4:45 pm	Interagency Technical Coordinating Team Report – Tentative	Tim Reinhardt, Supply & Delivery Director
4:45 pm – 5:45 pm	Committee Discussion	Methane Hydrate Advisory Committee
5:45 pm – 6:00 pm	Public comments, if any	Shawn Bennett, DAS for Oil and Natural Gas, and Designated Federal Officer (DFO)
6:00 pm	Adjourn	


APPROVED: Shawn Bennett
Designated Federal Official


Date

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Galveston, TX

Table 1: List of Attendees

Attendee	Role	April 26
Dr. Mun-Hong (Robin) Hui Chevron	Committee Member	X
Dr. Dilhan Ilk DeGolyer and MacNaughton	Committee Member	X
Dr. Joel E. Johnson University of New Hampshire Department of Earth Sciences	Committee Member	X
Dr. Miriam Kastner Scripps Institute of Oceanography University of California, San Diego	Committee Member	X
Dr. Carolyn Koh Colorado School of Mines Chemical Engineering Department	Committee Member	X
Dr. David LePain Alaska Division of Geological & Geophysical Surveys	Committee Member	X
Mr. Daniel R. McConnell Fugro	Committee Member	X
Dr. George J. Mordis Lawrence Berkeley National Lab University of California	Committee Member	X
Dr. Mark D. Myers Consultant	Committee Member	X
Dr. Craig Shipp Consultant	Committee Member	X

Attendee	Role	April 26
Dr. Evan A. Solomon University of Washington	Committee Member	X
Dr. John Thurmond Equinor	Committee Member	X
Shawn Bennett Deputy Assistant Secretary for Oil and Gas U.S. Department of Energy	DFO	X
Tim Reinhardt Supply and Delivery Director, Office of Oil and Natural Gas U.S. Department of Energy	DOE Staff	X
Gabby Intihar Committee Manager U.S. Department of Energy	DOE Staff	X
Bianca Tedesco ADS	DOE Support	X
Joseph Stoffa National Energy Technology Laboratory Pittsburgh, PA	DOE Staff	X
Ray Boswell National Energy Technology Laboratory Pittsburgh, PA	DOE Staff	X
Yongkoo Seol National Energy Technology Laboratory Morgantown, WV	DOE Staff	X
Peter Flemings University of Texas - Austin	Presenter	X
Carla Thomas University of Texas - Austin	Observer	X
Tim Collett, Research Geologist, U.S. Geological Survey	Observer	X