

**Minutes
Seventh Meeting of the Ocean Exploration Advisory Board
Austin, Texas
February 22-23, 2017**

Notification and Availability of Meeting Materials

The seventh meeting of the Ocean Exploration Advisory Board (OEAB) was announced to the public by Federal Register Notification on January 27, 2017, and on the OEAB website at www.oeab.noaa.gov. Background material and presentations prepared for this meeting are posted on the OEAB website.

Ocean Exploration Advisory Board Members in Attendance

Vice Admiral Paul G. Gaffney II, U. S. Navy (Ret.), Monmouth University, Chair
Dr. James Austin, University of Texas/Austin
Dr. Amanda Demopoulos, U.S. Geological Survey
Dr. Christopher German, Woods Hole Oceanographic Institution
Ambassador Cameron Hume, Consultant
Dr. Darlene Lim, NASA
Mr. John Kreider, Oceaneering, Inc.
Dr. Richard Rikoski, Hadal, Inc.
Dr. Dominique Rissolo, University of California at San Diego
Mr. Lance Towers, PE, The Boeing Company

NOAA Management and Staff in Attendance

Dr. Alan Leonardi, Director, OER
Mr. David McKinnie, Designated Federal Officer for the OEAB
CDR William Mowitt, NOAA Corps, Deputy Director
Ms. Tamara Lewis, OER
Ms. Amy Bowman, OER

Invited Briefers (Briefing material presented is available on the OEAB website)

RADM David Score, NOAA Corps, Director, NOAA Office of Marine and Aviation Operations
Mr. Robert Winokur, co-chair, NOAA Independent Review Team on Fleet Recapitalization
RADM Richard West, USN (Ret.), co-chair, NOAA Independent Review Team on Fleet Recapitalization
Eric King, Director of Marine Operations, Schmidt Ocean Institute
Kirt Chouest, Edison Chouest Offshore
Aaron Smith, President and CEO, Offshore Marine Service Association
Thomas Chance, CEO, ASV Global

Observers

Dr. Tony Knap, Texas A&M University
Dr. Monty Graham, University of Southern Mississippi
Mr. Eric King, Schmidt Ocean Institute

Meeting Summary

- 1. Meeting Opening.** The Designated Federal Officer (DFO) opened the meeting on February 22, 2017 at the University of Texas Institute for Geophysics. After a welcome from Dr. Terry Quinn, the Director of the Institute, the Chair previewed the agenda and identified the major issues for Ocean Exploration Advisory Board (OEAB) discussion. He

discussed the transition of leadership of the Board, noting the formal and public record of Board recommendations since the first OEAB meeting in December 2014. He welcomed the NOAA Administrator's decision to appoint Dr. John Kreider as the next Chair (to take effect at the conclusion of this meeting), and Ambassador Cameron Hume and Dr. James Austin as Vice Chairs. The Chair thanked the Board members for their skill, persistence and volunteerism. He thanked the NOAA Ocean Exploration and Research (OER) staff for its professional support. RADM David Score read a congratulatory letter from Acting NOAA Administrator Ben Friedman to VADM Gaffney thanking him for his contributions to NOAA and its ocean exploration mission (see OEAB website).

2. **National Ocean Exploration Forum 2015 and 2016 Reports.** The Chair reviewed the 2016 National Ocean Exploration Forum "Beyond the Ships," and distributed the report. The National Ocean Exploration Forum 2015 report was also distributed. Both reports are available at <http://oceanexplorer.noaa.gov/national-forum/welcome.html>.

3. **NOAA Fleet Plan.** The Board entered into a focused discussion of the NOAA Fleet Plan, which was approved by the NOAA Administrator in October 2016. The Board recapped its earlier discussions on NOAA fleet issues related to ocean exploration and commented on the Independent Review Team (IRT) Report on Fleet Recapitalization and the final NOAA Fleet Plan. The Board expressed its concern that the NOAA Fleet plan did not mention ocean exploration or discuss options for meeting NOAA's seagoing ocean exploration mission requirements. That said, the Board agreed to limit its discussion and comments to issues associated with ocean exploration platform needs. Following this initial discussion, the Board received four briefings on different aspects of ocean exploration platforms and options over the two days it met.
 - a. **RADM David Score, Director of the Office of Marine and Aviation Operations.** RADM Score reviewed the process for developing the NOAA Fleet Plan, the challenges inherent in documenting requirements and measures of effectiveness, and the Plan itself and responded to questions the Board posed.

During RADM Score's briefing, he mentioned that the *Okeanos Explorer* (EX) would be repaired in dry dock for a "transverse crack" that occurred during the 2016 expedition in the Marianas. The Board was first informed of this event when it occurred, but the damage was described as a "hull puncture." The Board continues to be concerned about the material condition of the EX, particularly since it is currently deployed in the Central Pacific far from repair facilities. The Board requests that NOAA provide a report on the condition of the ship and repairs affected after it is dry docked in June 2017.

The IRT report and the NOAA Fleet Plan are available on the OEAB website, along with RADM Score's presentation.
 - b. **IRT Co-Chairs Mr. Bob Winokur and RADM Dick West.** The IRT Co-chairs summarized the IRT findings and executive summary and responded to questions from the Board.
 - c. **Eric King, Schmidt Ocean Institute Director of Marine Operations.** Mr. King provided an overview of the Schmidt Ocean Institute, its model for managing the R/V *Falkor*, and future directions for the organization. He commented on the challenges and expense of operating a ship and supporting systems and the potential implications of the Institute's technology investments for seagoing platforms. His presentations are available on the OEAB website.

- d. **Aaron Smith, Offshore Marine Service Association (OMSA), and Kirt Chouest, Edison Chouest Offshore.** Mr. Smith and Mr. Chouest introduced the Board to the nature and status of their fleet, built to support the offshore oil and gas industry in the Gulf of Mexico and elsewhere, as well as vessel conversion, charter and procurement options available today in the commercial offshore services fleet. Key in their briefings were examples of successes that several offshore services companies have had in supporting complex federal ocean missions. They discussed general costs and the availability of American offshore service vessels in the current market. The Board found it noteworthy that NOAA had not received briefings from OMSA or offshore service companies prior to developing the Fleet Plan and recommended that OMSA provide OMAO with a briefing similar to that given the OEAB. The OMSA-Chouest briefing is available on the OEAB website.
- e. **Thomas Chance, ASV Global.** Mr. Chance reviewed the current state of development of Autonomous Surface Vehicles (ASVs), including current capabilities. He identified development trends, opportunities and challenges for the relatively new ASV industry, and projected capabilities these vehicles will likely have in the next few years, including the ability to deploy and recover small Autonomous Underwater Vehicles and observation class ROVs. He also gave an overview of ASV Global's vessels and their capabilities.

In separate remarks, Mr. Chance noted that the downturn in offshore oil and gas activity in the Gulf of Mexico has created a unique opportunity for NOAA and its ocean exploration mission. The offshore service vessels idled as a result of this downturn are well suited to ocean exploration, are mostly relatively new, and are available for a fraction of their original cost. He urged NOAA to investigate this potential opportunity to fulfill its need for newer, more capable ships.

His presentation is available on the OEAB website.

- 4. **NOAA Fleet Plan Discussion and OEAB Action.** Having heard the five briefings and engaged in several hours of intense discussion in open session, the Board decided to provide recommendations on ocean exploration requirements for seagoing platforms to the Acting NOAA Administrator. It drafted and approved a letter in open session, which is attached to these minutes and posted on the OEAB website.
- 5. **Office of Ocean Exploration and Research (OER).** Dr. Alan Leonard, OER Director, provided an update on OER. In addition to reviewing the current budget status and OER's 2017 expedition plans, he outlined partner activities—including OET expedition plans and Federal Funding Opportunity-funded expeditions scheduled to take place in 2017. He also noted increasing coordination and collaboration with Schmidt Ocean Institute. Dr. Leonard explained OER's 2018 plans and potential activities in 2019 as the *Okeanos Explorer* returns to U.S. waters and begins planned work in support of the Atlantic Seafloor Partnership for Integrated Research and Exploration (ASPIRE) campaign.

The Board noted that while it understands demand for ocean exploration expeditions now far exceeds OER's ability to meet the need, it remains interested in OER's plans for the Gulf of Mexico, especially as the EX's engagement in the Pacific CAPSTONE campaign draws to a close at the end of 2017. The Board requests that OER provide a briefing on its plans to address stated ocean exploration requirements in the Gulf of Mexico at the next OEAB meeting.

Dr. Leonardi's presentation is available on the OEAB website.

- 6. Federal Funding Opportunity Review.** During its September 2016 meeting, the Board had requested additional information about the Federal Funding Opportunity (FFO) process, including summary information about funding applicants and whether they were from academic, government, or other sectors. Dr. Leonardi provided a briefing that reviewed data from the three years of the current FFO process (2014-2016) and initial data on the 2017 process.

The Board requested additional information on the distribution of grant funds to academic and federal agency and NOAA applicants and recipients, and stated its concern that the FFO process, while run fairly and efficiently, is perceived that way by the public. Principally, the Board wants to be assured that an FFO selection process, wherein federal applicants compete against academic and other non-government applicants, is perceived to be a level playing field. Further, as OER gains further experience managing the FFO, the Board would like to see additional information, such as trends in publishing success, to augment and expand the bibliographic citation analyses NOAA already conducts. Finally, the Board requested that OER consider steps to synchronize FFO applications with information about available ship time and provide information about options at the next OEAB meeting. The Board noted that this alignment might require multi-year FFO awards.

- 7. Public Comment.** A public session was conducted from approximately 9:45 to 10:00 on the first day. The OEAB received no comments. Three non-members sat through the proceedings and, given their areas of expertise, the Board asked for their comments on several occasions.
- 8. OER Five-Year Program Review.** The OEAB discussed OER Director Leonardi's request that the Board conduct a five-year program review of OER. This review is required of all Office of Oceanic and Atmospheric Research laboratories and programs. Incoming OEAB vice chairs Ambassador Hume and Dr. Austin agreed provisionally to coordinate the review, pending further discussion following this meeting and at the next meeting of the Board.
- 9. Meeting with the Acting NOAA Administrator.** The Board discussed the desirability of the OEAB leadership meeting with Acting NOAA Administrator Friedman to discuss the relationship between the OEAB and senior NOAA leadership, as well as how the OEAB recommendations can have greatest impact moving forward. The Board asked the DFO to make arrangements for such a meeting.
- 10. Transition to the New Chair.** At the end of the second day, VADM Gaffney turned chairmanship responsibilities over to Dr. John Kreider.
- 11. Next Meeting.** The Board discussed a next meeting in June 2017 in the Washington, D.C. area. Dates and other details to be confirmed.
- 12. Meeting Close.** The DFO closed the meeting at approximately 5:00.

Attachment

- OEAB letter to Acting NOAA Administrator Ben Friedman with recommendations on ships and platforms to meeting ocean exploration mission requirements.