

Summary of MARCO Tug and Barge Sector-Specific Meeting

This document summarizes the major outcomes of the discussion of a group of representatives from the tug and barge industry at a sector-specific meeting convened by the Mid-Atlantic Council on the Ocean (MARCO) in Portsmouth, VA on September 22, 2014.

Review of Ocean Planning

Kris Ohleth of MARCO and Laura McKay of the Virginia Coastal Zone Program offered brief comments about the history of ocean planning in the Mid-Atlantic region and the activities of MARCO and the Mid-Atlantic Regional Planning Body (MidA RPB). The primary points of discussion and clarifications offered include the following:

- MARCO is a regional ocean partnership consisting of five Mid-Atlantic States: New York, New Jersey, Delaware, Maryland, and Virginia which share four regional priorities: climate change adaptation, protection of important marine habitats, offshore renewable energy development, and water quality improvement. MARCO recognizes ocean planning as a mechanism for convening diverse interests, fostering productive dialogue, and collecting important ocean use information. MARCO works closely with the MidA RPB to advance regional ocean planning through stakeholder engagement and has significant overlapping membership.
- The MidA RPB consists of federal, state, tribal, and Fishery Management Council representatives that will analyze how a suite of ocean uses intersect and improve coordination among those entities responsible for managing different uses.
- The MidA RPB has no authority for decision-making beyond the individual authorities of member entities. Each individual member entity retains all current permitting and regulatory authorities (e.g., BOEM retains offshore wind leasing authority).
- The MidA RPB is currently developing a suite of products to inform a decision in January 2015 about the structure and content of a regional ocean action plan. This action plan will adapt over time and will provide non-binding guidance to the MidA RPB's federal agency members. Drafts of these products will be published for public comment in late October 2014.
- One of the primary purposes of forming MARCO's Stakeholder Liaison Committee and impetus for scheduling a series of sector-specific meetings like this one is to gather input about the interest and needs of different industries and share that information with the MidA RPB to inform its planning processes.

A list of Frequently Asked Questions about the MidA RPB may help provide additional context about the relationship between MARCO, the Mid-Atlantic Regional Planning Body, and each

individual state and federal member entity. This list is available on the MidA RPB's website at <http://www.boem.gov/MidA---RPB---FAQ/>.

Overview of the Mid-Atlantic region tug and barge industry

John Harms of the American Waterways Operators (AWO) catalyzed a discussion among meeting participants to establish some basic facts about the tug and barge community and identify specific concerns related to ocean planning that may be helpful for the MidA RPB to consider. The group discussed the following baseline information:

- There are three primary types of tug and barge categories:
 - Barge on wire, in which tugboats tow barges using cables that can be up to 2600 feet long and can have a catenary (slack wire underwater) of up to 80 feet deep, depending on weather and the distance between tug and barge. Additionally, the tow can be blown by wind up to several hundred feet to either side of the tug's trajectory. A barge is rarely following directly behind the lead tugboat and may be up to sixty degrees off the stern of the vessel to either side.
 - Barges in the notch, in which tugs slip into a notch in the back of a barge and pushes from behind the barge. These vessels are able to operate in calm seas but must detach and place the barge on a wire during adverse weather conditions.
 - Articulated tug barge unit (ATB), in which there is a much larger notch and the tug is rigidly connected to the barge via metal pins. ATBs have a deeper draft, can travel at faster speeds, and can go farther offshore in worse weather than traditional tug and barge combinations.
- Tug routes are well established and have been used for decades. Route planning is crucial to safe tug operations. Routes selected will vary depending on what a tug is towing, the weather, and other vessels in the vicinity.
- Tug and barge vessel speed can vary between one and twelve knots, which is significantly slower than many cargo ships. Therefore, tug operators attempt to avoid waterways used by faster deep---draft vessels. While the typical operating speed is 8---10 knots, adverse weather can decrease speed to one or even zero knots. In these cases, operators are essentially holding position to wait---out a storm. Only certain ATBs are capable of travelling upwards of 12 knots.
- Adverse weather can significantly affect the planned route of a tug. Tug captains must retain the ability to significantly modify planned tug routes to avoid extreme weather by moving closer to shore, where the lee of shoreline can prevent damage to vessels and cargo. Clear and unfettered access to ports of refuge in the event of adverse weather is critical.
- Tugboat operators often take advantage of the gulfstream along the 100 fathom curve to speed travel, but water temperature changes there can cause weather systems and

abrupt changes to sea conditions. This, too, makes clear and unfettered access to ports of refuge critical to safe operations. Note that existing AIS data does not reflect this offshore navigation route because vessels are beyond the reach of shore----based AIS receivers.

- Tug and barge operators are specifically concerned about the effect of wind farm development in BOEM's established lease blocks up and down the Atlantic Coast on traditional vessel routes.
- The U.S. has significantly more tug and barge traffic than European countries that have installed offshore wind farms. Domestic marine spatial planning projects must take tug and barge operations into account and cannot rely purely on European planning models.
- The distance of proposed wind farms from shore will require tugs to choose between travelling closer to shore in already----congested waters or travelling farther offshore where rougher seas and faster, larger vessels can threaten the safety of vessel operations.
- The widening of the Panama Canal will increase vessel traffic along the Atlantic coast, including tug and barge traffic, and may lead to increased congestion in the near future.
- The industry is opposed to creating a designated fairway for tug and barge traffic. Such a designation would greatly restrict captains' flexibility in choosing the safest route and would increase unsafe congestion by funneling vessels into a confined waterway.

Industry representatives enumerated concerns about potential impacts of ocean planning activities on tug and barge operators into two major categories: safety concerns and economic concerns. Safety concerns included the following:

- If wind farms are developed in BOEM's identified lease areas, it could funnel tug and barge traffic either very close to the coast, which would further congest already busy waterways (e.g., mouths of the Chesapeake and Delaware bays), or further offshore, which could expose tugs and barges to faster moving deep vessel traffic. Existing visibility and radar issues could be exacerbated by this crowding.
- If wind farms were developed in BOEM's identified lease areas, it could also force tugs and barges to transit further offshore. In certain weather conditions, just one mile further offshore can change sea conditions drastically, putting towing vessels at greater risk and jeopardizing safe transit.
- Static energy generated from wind turbines might present a safety concern and interfere with electronic systems on tugboats.
- If routes shift, there may be a significant increase in risk profile and liability for tug operators.
- There are three primary principles important to ensuring tug and barge vessel safety in the waterways in which they travel:

- Water needs to be of adequate depth to protect the towing wire catenary from dragging on the bottom of the ocean floor (preferably 90 feet or more).
- There must be at least a half----mile (preferably one mile) buffer between vessels and fixed objects.
- There must be a minimum distance of one mile between vessels to accommodate all vessels in all weather conditions.

Economic concerns listed included the following:

- Significant alteration of historical routes will require tug operators to increase distance traveled, which will increase fuel use and air emissions. Fuel costs account for approximately 50----60% of transit costs, and tugboats burn between 100 gallons and 300 gallons of fuel an hour, depending on the size of the tow.
- Different routes may increase the risk of groundings and collisions, which could increase both repair costs and insurance premiums.
- Altered routes may also delay delivery of goods within anticipated timeframes, which could result in penalties for operators and ultimately additional costs for consumers.
- There may be a need for some tugboats to hire additional crew if vessels are forced to navigate in shallower waters, where tow lines need to be adjusted often.

Mid-Atlantic Ocean Data Portal

Jay Odell of the Nature Conservancy and the Mid----Atlantic Ocean Data Portal Team provided an overview of the MARCO Mid----Atlantic Ocean Data Portal (Portal) data and applications. He specifically reviewed the shipping data available on the Portal and demonstrated how the Portal could be used for industry representatives to demarcate important locations and submit that information to MARCO to illustrate specific concerns or potential conflicts. John Walters of the U.S. Coast Guard provided an example of how the Portal team has helped the Coast Guard develop maps to show where marine traffic intersects with the New Jersey wind area in response to BOEM's proposed sale of that area.

One particular piece of feedback from the tug and barge industry representatives was that the Automatic Identification System (AIS) data captured in the Portal does not reflect the fact that often barges are not on the exact same path as the tug. A more appropriate way to convey these paths might be to build out wider swaths based on tugboat AIS data to account for lateral tow movement.

Next Steps

- Participants were encouraged to provide comments on the MidA RPB's public materials that will be released in late October 2014. They are also encouraged to attend the Virginia public listening session planned for November 6, 2014 in Virginia Beach. These listening sessions are an opportunity for industry representatives to convey the importance of the tug and barge industry and ask questions about the RPB's process in a productive forum. Information about the public listening sessions is available on the MidA RPB's website at <http://www.boem.gov/MidA----RPB----Meetings/>.
- Members of the Portal team will work with John Harms and others at AWO to connect to one or more members of the tug and barge community to feature on the Portal in order to help other stakeholders better understand the industry.