Wind Farm Siting and Maritime Traffic – Challenges and Opportunities

Dana Goward, U.S. Coast Guard
July 11, 2012
Housekeeping

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- You are encouraged to type in questions regarding today’s presentations at any time during the webinar by entering your question in the Question Box on the webinar console. Questions will be answered as time allows following all of today’s presentations.

- This webinar is being recorded and will be made available after the call at www.cleanenergystates.org under Events. Previous webinar recordings are also posted.
Today’s Agenda

• Introduction by Mark Sinclair, CESA Executive Director
• Presentation by Dana Goward, U.S. Coast Guard
• Time for questions
Please Submit Questions

Questions submitted from webinar participants will be addressed following the presentation. Please type your questions in the webinar console’s Question box at any time during the broadcast.
Clean Energy States Alliance

CESA is a non-profit organization working with states, federal agencies, and municipalities to advance the renewable energy sector through:

- Information Exchange & Analysis
- Partnership Development
- Networking and Collaboration

www.cleanenergystates.org
Offshore Wind Accelerator Project

OWAP Objective: Address key challenges facing offshore wind in five focus areas

1. Ensure cooperation and communication among stakeholders and government leaders on priority problem-solving.
2. Improve regulatory approaches to support smart siting while reducing review costs & timelines.
3. Advance investment through power procurement collaborative networks and use of new financing mechanisms.
4. Advance opportunities, strategies, and collaboration to build a domestic OSW industry (USOWC leads the supply chain effort).
5. Implement a communication effort to ensure public education and stakeholder access to objective information.
Stay connected to OWAP!

- Offshore Wind WORKS campaign website: http://www.offshorewindworks.org
- Like us on Facebook: http://www.facebook.com/offshorewindworks
- Follow us on Twitter: http://www.twitter.com/OSWindWorks

• Marine hydrokinetic, offshore wind and other ocean renewable installations have the potential to affect marine navigation and safety.

• Possible impacts from facility’s:
  – location
  – spacing
  – visibility

• The good news: impacts are manageable
Purpose of Today’s Webinar

To understand:

• Role of US Coast Guard in review of leasing/permit applications to build/operate offshore wind energy installation in U.S. navigable waters
• Provisions of MOU between Coast Guard and DOI
• Coast Guard guidance on conducting navigational safety risk assessment
• How to ensure early consideration of navigation issues in planning of project
• How to mitigate potential impacts
• Tools being developed to inform assessment of navigational issues related to offshore wind
As Director of Marine Transportation Systems, Mr. Dana Goward oversees a wide variety of navigation safety and security functions, including aids to navigation, waterways management, and coastal and marine spatial planning. He formerly served as the Coast Guard’s Director of Assessment, Integration and Risk Management, among other positions.

Mr. Goward served as an active duty Coast Guard officer for 29 years, during which time he received the Air Medal and Helicopter Association International’s Igor Sikorsky Award for Humanitarian Service for the rescue of two fishermen during a hurricane. He has also been recognized for his creation of the Coast Guard’s Helicopter Rescue Swimmer program. Mr. Goward is a 1974 graduate of the U.S. Coast Guard Academy in New London, CT. He holds a Master’s Degree from the Naval Post Graduate School.

http://www.uscg.mil/lantarea/acpars/
Maritime = Low Carbon

Saving Energy

Barges can move one ton of cargo 576 miles per gallon of fuel. A rail car would move the same ton of cargo 413 miles, and a truck only 155 miles.

Ton-miles Traveled per Gallon of Fuel

Ensuring Cleaner Air

Emissions (Grams/Ton-mile)

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PM = Particulate matter  HC = Hydrocarbons  CO = Carbon monoxide  NOx = Nitrogen oxides
CMSP In Action
USCG Role

• Cooperating Agency
• 1972 Ports & Waterways Safety Act
  • Navigation, vsl safety, marine environment are issues of national importance
  • Sec DHS (USCG) designate fairways and TSS
  • Right of navigation is paramount in these areas
  • Must do PARS when contemplating changed or new routing measures
Atlantic Coast
Port Access Route Study

• Phase 1- Data Gathering
• Phase 2- Historic Traffic Patterns
  “Rough Draft” Advice
• Phase 3- Modeling and Analysis
• Phase 4- Implementation of Study Recommendations
Workshops & Outreach

- Assess available data
- Public comment
- Continued refinement
Historical Routes
Major Routes

How do we determine?

− Number
− Type (TSS, Fairway)
− Width, Length
− Orientation
− Δ Density
− Δ Risk
Major Routes
5, 10, 20 NM wide
Results So Far

• Any new structure in water will impact traffic

• Potential Routing System
  ➢ Complex
  ➢ Need better tools to refine
  ➢ Conservative quickly eats up all the “real estate”

• Gaps
  ➢ DoD Operational Areas
  ➢ AIS = all traffic?
  ➢ Impact of traffic diversion
Traffic Diversion Qs

Safety

• $\Delta$ Vessel Density
Traffic Diversion Qs

Safety

- $\Delta$ Vessel Density
- $\Delta$ Mixing Vessel Types

25 - 28 kts
10 – 15 kts
7 – 10 kts
Traffic Diversion Qs

Safety

- $\Delta$ Vessel Density
- $\Delta$ Mixing Vessel Types
- $\Delta$ Allisions
Traffic Diversion Qs

Safety

- $\Delta$ Vessel Density
- $\Delta$ Mixing Vessel Types
- $\Delta$ Allisions
- $\Delta$ Weather & Enviros
Traffic Diversion Qs

Economic
• Time, Distance = Greater Expense

Environmental
• Greater Fuel Burn
  – Carbon Footprint
• Greater Risk of Spills
Hampton Roads
Way Forward

• Renewed outreach
• Preliminary Report

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• Phase 3- Modeling and Analysis
• Recommendations
• Implement Routing Measures
Recommendations

• Consider traffic early in process & often

• Understand:
  – Cumulative Voyage Impacts
    • (time, fuel, costs, emissions)
  – Changes in Risk
    • Collision
    • Allision
    • New Routes (wx, shoals, pirates, etc)
A Success Story
Stellwagen Bank/ Boston

Risk Reduction
Right Whales: 51%
All Whales: 81%
Questions?
Thank you!

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