



NYSERDA

Department
of State

Maritime Technical Working Group

Summer Meeting

July 28, 2026 | Zoom Webinar



Purpose of today's meeting

1. Learn about the Maritime Administration's (MARAD) priorities on workforce development related to the U.S. Maritime Action Plan
2. Hear findings from the Remote Operating Centers side study
3. Share State and member updates
4. Discuss the 2-year M-TWG Meeting Plan



Overview of the U.S. Maritime Action Plan

Dr. Sashi Kumar

Mariner Shortage: Recruitment and Retention

- Merchant Marine Act of 1936
- Centers of Excellence (COEs) FY2018 NDAA
- Maritime Workforce Working Group '17 Report
- 2022 Summer
- Mariner Supply and Demand Trends in the U.S.
- Strengthen the ecosystem that is keeping the US-flag healthy
- Mariner Workforce Challenges based on Stakeholder Feedback
- RECRUIT-TRAIN-RETAIN-INCENTIVIZE
- MWWG'24—Recruitment Vs. Retention and Incentives
- Kelly-Waltz Initiative—SHIPS Act/2024/2025
- USTR Investigation
- President's EO: Restoring America's Maritime Dominance
- 2026 Maritime Action Plan

Remote Operating Centers Study - Status Update & Overview of Findings

Autonomous Vessel Study – Remote Operating Center Technical Memo



Source: Fugro GAO-24-107059

Project Opportunity:

- Autonomous Vessel Study Complete
- Opportunity to evaluate landside connections and development of Remote Operating Centers

Project Overview:

Examine the role of Remote Operating Centers in supporting autonomous vessels for offshore wind infrastructure

Evaluate how Remote Operating Centers function as the central hub where most vessel oversight, manning, and operational decision-making occur

Provide a resource for M-TWG members to learn about potential applications and constraints of these technologies in New York region

What Is a Remote Operating Center?

ROCs are land-based command hubs that monitor, supervise, and pilot autonomous and semi-autonomous maritime assets — relocating human expertise from vessel to shore.

IMO MASS Autonomy Scale

0 Degree	Conventional Vessel Crew onboard; all decisions human-made	
1 Degree	Decision Support Onboard crew assisted by automated systems	
2 Degree	Remote Control with Crew Seafarers onboard; ROC assumes supervisory role	ROC Active
3 Degree	Remote Control, No Crew ROC is sole human interface; no crew onboard	ROC Sole
4 Degree	Fully Autonomous Vessel operates independently; ROC intervention only	ROC Sole

● No ROC authority ● ROC supervisory ● ROC sole interface

Core Capabilities and Typical Characteristics

Effective ROCs share a common set of baseline technical and operational characteristics regardless of facility model.



Fleet Monitoring & Sensor Fusion
Navigational oversight via integrated radar, lidar, AIS, and HD video feeds across all supervised assets.



Continuous Data Streaming & Analytics
Real-time data quality control workflows and near real-time operational analytics.



Redundant Communications
Layered fiber, satellite, and cellular backup — a non-negotiable baseline for continuous command availability.



Cybersecurity Architecture
Network segmentation, encrypted supervisory control, and IACS E26/E27 compliance standards.



Resilient Power & Emergency Protocols
Backup generation capability paired with emergency takeover procedures and fault mode protocols.



Hybrid Staffing Model
Remote vessel commanders, navigation supervisors, systems engineers, payload specialists, data analysts, and cybersecurity personnel.

Facility Siting Models

Three ROC siting models each carry distinct operational trade-offs; the strongest deployment model combines elements of all three.

Port-Integrated

- Strengths:**
- Mission alignment
 - Direct vessel access
 - VTS integration
 - Emergency coordination

- Limitations:**
- Aging U.S. port infrastructure
 - Limited space and power redundancy

Inland / Distributed Facilities

- Strengths:**
- Power resilience
 - Cybersecurity infrastructure
 - Scalability
 - Access to technical labor

- Limitations:**
- Requires formal port agreements and dedicated comms links
 - Removed from maritime workforce

Academic / Research-Affiliated

- Strengths:**
- Workforce development
 - R&D capacity
 - Technology demonstration

- Limitations:**
- Constrained for primary commercial operations

Key Findings

Four findings from this memo define the critical path for ROC readiness in New York.

1

Facility Siting

Siting reflects operational priorities: port-integrated for mission alignment; distributed for resilience and scalability; academic for training and R&D.

2

Infrastructure Baseline

Communications, power, cybersecurity, and redundancy are baseline requirements. Layered comms (fiber + satellite + cellular) is needed.

3

Workforce Development

Brings together maritime and technical competencies. No unified U.S. ROC certification framework currently exists; UK's operator certification is a case study.

4

Governance & Funding

Requires cross-agency coordination: USCG, MARAD, BOEM, ports, utilities, and workforce institutions. International examples bundle funds from a variety of public and private sources, helping achieve the objectives of multiple stakeholders.

Next Steps

1. **July:** WSP to address State comments
2. **August:** Share draft memo with M-TWG members for review and comment
3. **Fall M-TWG meeting:** Share and review M-TWG input
4. **End of year:** Finalize and publish memo



Figure: Fleet Operation Center, Tokyo Bay, Japan

Member Updates

State Updates

Small Group Discussion on 2-year M-TWG Meeting Plan

Group Discussion on 2-Year Meeting Plan

Working Waterfronts



1. Guest speaker on federal Maritime Action Plan or other federal policies
2. Case studies on multi-use ports and vessels
3. Discussions on funding opportunities, key findings from NYS Ports Study

Maritime Workforce



1. Inventory of maritime training programs & apprenticeships (with EJ-TWG, JSC-TWG, Harbor Ops)
2. Evaluate shipyard workforce development needs (research project)

Offshore Wind Ready



1. Fact sheet(s) on industry benefits
2. Discuss NYS efforts to advance offshore wind pre-development
3. Learn more about NYS transmission (Article VIII) process & guidance

Spring M-TWG feedback

- [Maritime Action Plan](#) or other federal policies – identified as time sensitive need
- Fact sheets on local maritime use – document ports & vessels used in OSW projects
- Funding opportunities & key findings from NYS Ports Study – infrastructure, dredging
- Evaluating shipyard workforce development needs (research project)

Maritime Academic Institutions

Northeast Maritime Institute (**MA**)

Massachusetts Maritime Academy (**MA**)

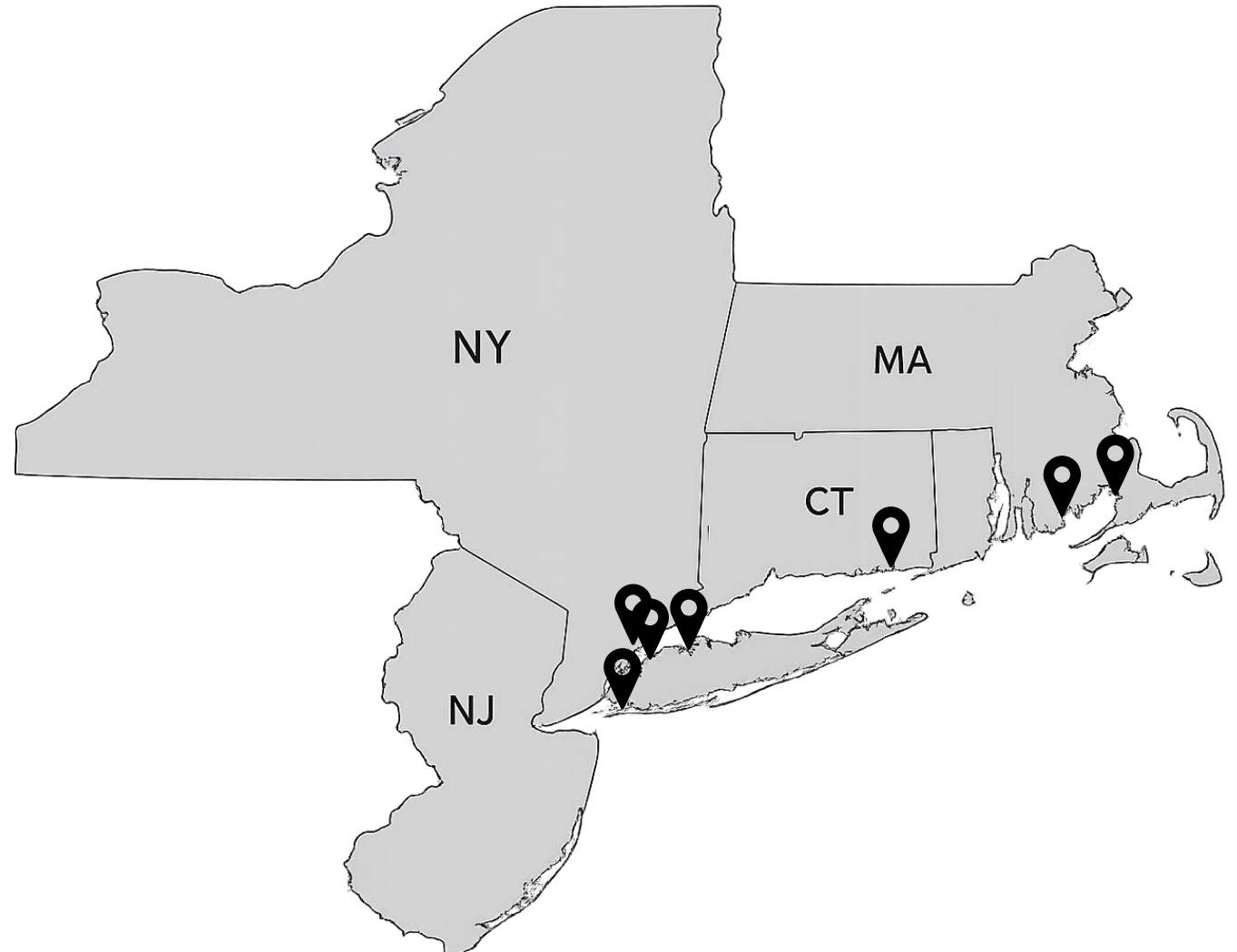
United States Coast Guard Academy (**CT**)

Webb Institute (**NY**)

United States Merchant Marine Academy (**NY**)

SUNY Maritime College (**NY**)

Kingsborough Community College (**NY**)



New York Workforce Statistics

Total Ocean Economy (2024)

- Total employees: **403,653**
 - **33,313** employed in marine transportation and **678** employed in shipbuilding
- Total wages **\$19.4B** with average wages per employee **\$48,076**
 - Total wages for marine transportation workers **\$2.2B** with average wages per employee **\$66,020**
- Total Gross Domestic Product (GDP) **\$43.7B**. GDP per employee **\$108,298**
 - Total GDP of marine transportation **\$3.2B**. GDP per employee **\$95,158**

What are other States doing?

Michigan Maritime Strategy

- Ten-year plan that focuses on six integrated goal areas
 - Modernize ports and invest in intermodal infrastructure
 - Grow Michigan's maritime manufacturing economy
 - Accelerate adoption of advanced vessel technologies and fuels
 - Lead the nation in recruitment, training, and retention of the maritime workforce
 - Cultivate a thriving maritime innovation ecosystem
 - Increase sustainability, resilience, and revitalization of recreational harbors, marinas, and boating sites

What are other States doing?

Michigan Maritime Programs

- **Michigan Statewide Infrastructure Workforce Plan** - Train 5000 workers by 2030
- **Michigan Maritime Manufacturing (M3) Initiative** - \$50M Workforce partnership with US Navy
- **Port Facility Grant Program** – Max \$2.5M available for port infrastructure projects
- **Fresh Coast Maritime Challenge** – Grant program for decarbonization /electrification of marinas and recreational vessels
- **Michigan Industry-Driven Skills Training Program** - \$8M DOL awarded funds for workforce development focused on shipbuilding
- **Manufacturing and Engineering Education Reimagined for All** – K-12 manufacturing education program

M-TWG Activity in Small Groups

In breakout groups, discuss:

1. What are your top 3 deliverables that you want to prioritize?
2. What Maritime Workforce action should the M-TWG take?
3. Are there any priorities you think are missing?

Each group will have a facilitator and notetaker.

M-TWG Member Poll

Menti poll:

1. Rank the top 3 following deliverables / actions
2. Is there another action / deliverable that we missed that you want to prioritize instead?

<https://www.menti.com/al68hhv6j7uu>



Next Steps



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Thank you!

