

EE0008895 – NETWORK DIRECTOR FOR THE TESTING EXPERTISE AND ACCESS FOR MARINE ENERGY RESEARCH (TEAMER) PROGRAM



TEAMER

*Testing & Expertise
for Marine Energy*

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Project Overview

Project Summary

- TEAMER is a multi-year, \$25.5M program, to provide developers and researchers access to marine energy testing facilities and technical expertise. TEAMER is a collaborative effort including universities as well as already established national laboratories and National Marine Renewable Energy Centers (NMRECs). The Network Director is responsible for setting up the TEAMER facility network, distributing funds to non-lab facilities to assist marine energy developers and researchers, and overseeing assistance activities.

Intended Outcomes

- The vision for the TEAMER program is to support a thriving US marine energy industry by making useable data more readily accessible and assisting companies and researchers with testing needs on a short turnaround, near term basis. This nimble, flexible process enables developers and researchers through the assistance necessary to continue critical foundational and applied R&D to mature technologies' components and systems.

Project Information

Principal Investigator(s)

- Matt Sanders
- Samantha Quinn

Project Partners/Subs

- TEAMER Technical Board (FAU, OSU, UAF, UofH, UW, NREL, PNNL, SNL)
- TEAMER Facility Network

Project Status

Ongoing

Project Duration

- December 1, 2019
- November 30, 2024

Total Costed (FY19–FY21)

\$1,057,027 (Non-Lab) + \$2,580,000 (National Lab)

Project Objectives: Relevance

Challenges

Prolonged Design and Testing Cycles

- Limited access to test infrastructure at various scales for rapid iterative design improvements.
- Expensive, time-consuming permitting processes with extensive requirements for environmental monitoring driven by high perceptions of risk.
- Limited transferability and utilization of accurate information about siting and deployment of marine energy technologies and complicated coordination with existing users of ocean spaces and waterways.

Approaches

Reducing Barriers to Testing

- Enable access to world class testing facilities to accelerate technology development.
- Work with agencies and other groups to ensure that existing data is well-utilized and identify potential improvements to regulatory processes and requirements.
- Support additional scientific research on mitigating environmental risks and reducing costs and complexity of environmental monitoring.
- Engage in relevant coastal planning processes to ensure that marine energy development interests are equitably considered.

Project Objectives: Approach

Approach:

- TEAMER Program Development
 - Throughout the project period, the Network Director, in collaboration with the WPTO and the TEAMER Technical Board, developed and makes updates to the rules, processes, and guidelines for how TEAMER will operate.
 - Updates are communicated to all participants and Facility Network members.
 - The Network Director, with support from the Technical Board, established the TEAMER Facility Network.
 - TEAMER Facilities provide support in four distinct categories (Numerical Modeling and Analysis, Laboratory and Bench Testing, Tank/Flume Testing, and Open Water Testing and Support).
 - The Network Director, in collaboration with the WPTO, established the Master Facility Agreement to ensure facilities remain in compliance with Program rules.
 - TEAMER funds are dispersed directly to TEAMER Facilities
- TEAMER offers Requests for Technical Support every 3 to 4 months.
 - Due to the time sensitivity of open water testing, Open Water Requests are accepted at any time.

Project Objectives: Approach



RFTS PROCESS HOW DOES TEAMER WORK?



1

PRE-CONSULT

Select your facility and discuss your Request for Technical Support (RFTS) with them.



2

APPLY

Applicant teams complete their RFTS application online



3

PLAN

Approved applicants work with the selected facility to prepare detailed test plans.



4

TEST

Technical support to be completed within a 9-month access period from project approval.



5

REPORT

Upon completion of testing or expertise activities, applicant to submit post access reporting to be made available to the public.

TEAMER-US.ORG

Project Objectives: Expected Outputs and Intended Outcomes

Outputs:

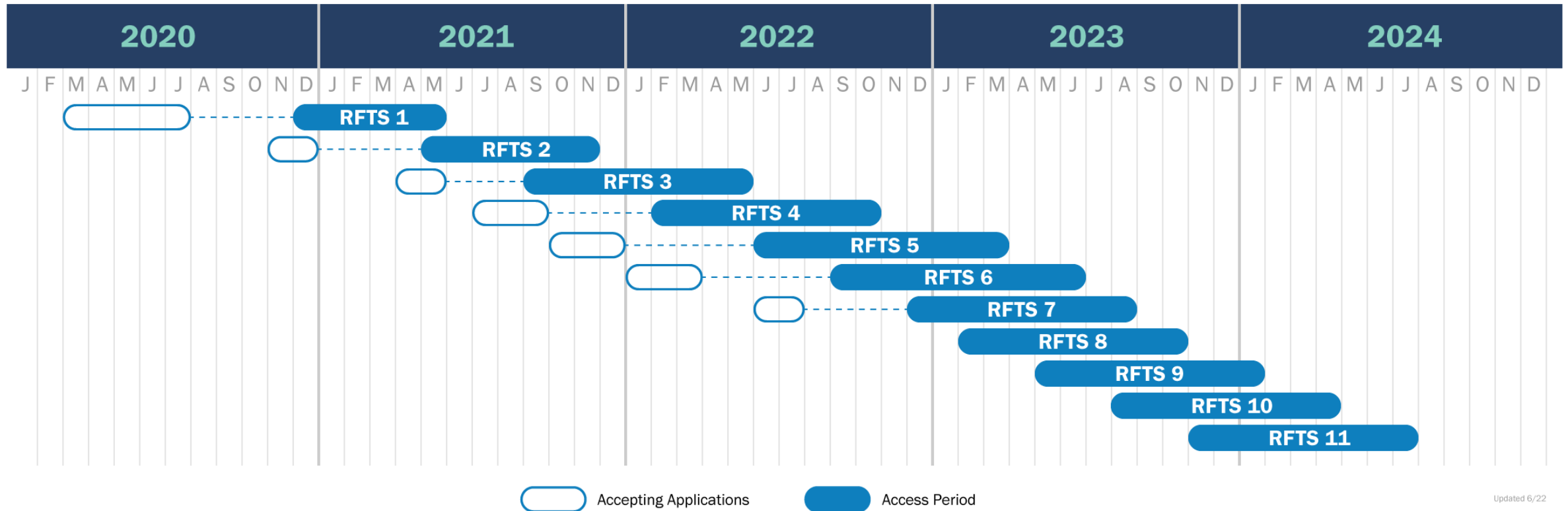
- The TEAMER Facility Network currently includes 34 organizations offering more than 100 different capabilities across four categories of support.
- The Program has offered 7 Requests for Technical Support through July 2022. RFTS's are currently offered every 3 to 4 months.
- Post Access Reports and supporting data are made available on PRIMRE and Marine and Hydrokinetic Data Repository

Outcomes:

- Reduced iteration cycles for developers using TEAMER
- Quick and efficient access to testing infrastructure and expertise for design and device evaluation
- Increased collaboration between technology developers and foundational research institutions

Project Timeline

RFTS Application and Access Periods



Project Budget

Total Project Budget – Award Information		
DOE	Cost-share	Total
\$16M	N/A	\$16M

FY19	FY20	FY21	Total Actual Costs FY19–FY21
Costed	Costed	Costed	Total Costed
\$0	\$332K	\$725K	\$1.06M

- Total WPTO funding to TEAMER – \$25.5M
 - Funding to Network Director – \$16M
 - Funding to National Labs – \$9.5M
- RFTS funding allocated for RFTS projects through FY21 (RFTS 4) - \$5.7M
 - Non-Lab Facilities - \$3.1M
 - Lab Facilities – \$2.6M

End-User Engagement and Dissemination

- Immediate beneficiaries of the TEAMER Program are technology developers and researchers looking to advance their technologies. Testing facilities will also benefit from increased experience in testing, modeling and providing expertise to a wide range of technologies and end users.
- Additional beneficiaries may include marine energy researchers who will have access to Post Access Reporting and testing data made available through the project.
- Program recipients, including both Technical Support Recipients and facilities, participate in regular surveys to identify and address potential opportunities to improve the process.
- Based upon feedback received, the program has updated its processes to better accommodate participant needs while continuing to address the goals of the program
- The program has begun to capture applicant demographics as a baseline to determine how to expand scope and be a more inclusive program.
- Project results are available in the form of Post Access Reporting and data archiving. The Network Director also presents TEAMER updates to a wide variety of interested organizations and audiences at conferences and events throughout the country

Performance: Accomplishments and Progress

- **78 projects currently supported** through 6 Requests for Technical Support
 - RFTS 1 16 (9 modeling and analysis, 4.5 tank/flume, 2.5 lab/bench)
 - RFTS 2 21 (10 modeling and analysis, 7 tank/flume 4 2.5 lab/bench)
 - RFTS 3 13 (5 modeling and analysis, 6 tank/flume, 2 lab/bench)
 - RFTS 4 9 (7 modeling and analysis, 2 tank/flume)
 - RFTS 5 9 (5 modeling and analysis, 2 tank/flume, 2 lab/bench)
 - RFTS 6 10 (6 modeling and analysis, 2/tank/flume, 2 lab/bench)
- **49 Technology Developers/Organizations Supported**
- **34 Organizations** in the TEAMER Facility Network
 - More than **100 Capabilities offered**
 - **Open Water Testing Including**
 - **3 Open Water Facilities**
 - **5 Open Water Capability Providers**
- **25 Organizations** supporting current RFTS's (74% Utilization Rate)

Future Work

- Continue to offer RFTS opportunities quarterly throughout the remainder of the project period.
- Increase the facility network utilization rate.
- Increase the number of Open Water Requests for Technical Support.
- Workshops and Training opportunities
 - Technical Assistance courses to be taught by subject matter experts
 - Administrative instructional courses coordinated by the Network Director
- Conduct a Gap Analysis of the Facility Network and work to fill in gaps where possible.
- Continue to promote TEAMER and increase the number of applicants to the program.

Q&A