

2017 GRAY'S REEF SOUTHEAST REGIONAL MATE ROV COMPETITION INFORMATION

Gray's Reef National Marine Sanctuary is honored to host the 2017 Southeast Regional ROV Competition in collaboration with the Marine Advanced Technology Education (MATE) Center. Our goal is to actively engage students in learning ocean sciences, technologies, engineering and mathematics (STEM) in support of the sanctuary's mission to inspire ocean literacy and conservation through education. The competition provides students an opportunity to utilize STEM concepts to solve real-world challenges, preparing students for secondary education and careers, and offers educators training and expertise in applied technologies.

Gray's Reef National Marine Sanctuary is Georgia's national underwater park and is teeming with marine life. Boaters, fishermen and divers enjoy the wonders of the natural live-bottom reef, which is important habitat for a number of threatened and endangered ocean animals. ROVs are commonly used for exploration and research throughout our global ocean, and specifically in Gray's Reef National Marine Sanctuary, to observe the natural resources found within the sanctuary and surrounding marine ecosystem.

Competition for all classes will take place on:

Saturday, April 22, 2017
Chatham County Aquatic Center
7240 Sallie Mood Drive
Savannah, GA 31406
8:00 AM – 4:00 PM

ALL CLASSES: REGISTRATION CLOSES ON APRIL 15.
ALL TEAM MEMBERS AND COACHES MUST BE REGISTERED.

All Teams:

- Snacks and drinks are available for purchase on the day of the event
- Gray's Reef will provide lunch to all registered participants and coaches
- We will have competition badges available for purchase at the event
- All classes will perform all mission tasks
- Size and weight restrictions will apply for all ROV competition classes



ALL Classes

Early Bird Check-in and Safety inspection:

Safety inspection judges, and early-bird check-in, will be available at the Aquatic Center on Friday, April 21st, between 5:00 PM and 8:00 PM. Companies may have their vehicle inspected during that time and will receive placement in the competition schedule.

Teams will be given a yellow Safety Pass once they have passed inspection and need to keep this certificate with their ROV at all times.

No team is allowed to Splash Down their vehicles until given a Safety Pass and at the allotted time and place.

The Gray's Reef regional will not be offering points for a job site safety analysis (JSA) or extra safety component points but teams are welcome to submit them.

EXPLORER Class

EXPLORER class companies planning to attend the Gray's Reef MATE regional to conduct their demonstration should contact Gray's Reef Regional Coordinator Jody Patterson (jody.patterson@noaa.gov) for confirmation. EXPLORER companies must provide their own 48-volt power supply.

RANGER Class

Engineering & Communication requirements:

- **Technical documentation (REQUIRED)**

Technical documentation, along with a company spec sheet and vehicle systems integration design (SID), are due **Friday, April 7th**. All documents **MUST** be submitted to Gray's Reef Regional Coordinator Jody Patterson (jody.patterson@noaa.gov).

NOTE: By submitting your technical documentation and company spec sheet, you are giving Gray's Reef NMS and the MATE Center permission to publish these documents their web sites. ®

- **Marketing and Product Presentations (REQUIRED)**

Product presentations (engineering interviews) will be given in a classroom. Marketing posters will need to be displayed in the foyer of the Aquatic Center. You will need to bring a tripod to set up your poster. Gray's Reef will NOT have tripods available.

NEW: Teams should make specific reference to Gray's Reef National Marine Sanctuary in all communications and reports. Bonus points will be awarded for including this information on the marketing poster.

Other important dates:

The last day to pass the fluid power quiz is March 4th.
The last day to submit laser specification is March 4th.

Competition set-up:

On competition day, RANGER companies will get two attempts at the product demonstration. Each product demonstration time will consist of:

- 5 minute set-up period
- 15 minute product demonstration period
- 5 minute demobilization period

The higher of the two scores will be added to your ENGINEERING & COMMUNICATION and SAFETY score to determine the total, overall score for the competition.

If companies have any time constraints that they wish Gray's Reef to consider, please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st.

Operational:

- New Anderson Powerpole connections are required for **ALL** classes. These will be provided to the team during safety inspection
- Pool: The pool has a sloping side and is 10-12 feet deep.
- Product Demonstration Station: A table and two chairs will be provided at each product demonstration station.

- Gray's Reef will NOT provide video monitors for RANGER class companies. Companies must provide their own video displays. See Vehicle Design & Building Specifications (3.8.2) in the RANGER competition manual for number of video displays allowed.
- Diver Support: Diver support will be available during the product demonstration runs, but any diver assistance will constitute a penalty.
- PFDs: Companies are not required to wear PFDs at the pool edge. Gray's Reef will NOT have PFDs available for use.
- Power: RANGER class companies will use a dedicated power supply that will provide the nominal 12 volts.
- Pressurized cylinders: All pressurized cylinders must be approved by the US DOT.
- Shared equipment: If you are planning on sharing equipment (monitors, pressurized cylinders), please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st.

Safety inspection:

Safety inspection judges will visit teams at their assigned work stations to perform a safety inspection, if not passed at Early Bird Check-in. RANGER companies should have a copy of their SID available for safety checks.

Teams will be given a yellow Safety Pass once they have been checked off and need to keep this with their ROV at all times.

No team is allowed to Splash Down their vehicles until given a Safety Pass and at the allotted time and place.

NAVIGATOR Class

Engineering & Communication requirements:

- **Marketing and Product Presentations (REQUIRED)**
- Product presentations (engineering interviews) will be given in a classroom.
- Marketing posters will need to be displayed in the foyer of the Aquatic Center. You will need to bring a tripod to set up your poster. Gray's Reef will NOT have tripods available.

NEW: Teams should make specific reference to Gray's Reef National Marine Sanctuary in all communications and reports. Bonus points will be awarded for including this information on the marketing poster. ®

Competition set-up:

On competition day, NAVIGATOR companies will get two attempts at the product demonstration. Each product demonstration time will consist of:

- 5 minute set-up period
- 15 minute product demonstration period
- 5 minute demobilization period

The higher of the two scores will be added to your ENGINEERING & COMMUNICATION and SAFETY score to determine the total, overall score for the competition.

If companies have any time constraints that they wish Gray's Reef to consider, please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st.

Operational:

- New Anderson Powerpole connections are required for the **ALL** classes. These will be provided to the team during safety inspection
- Pool: The pool has a sloping side and is 10-12 feet deep.
- Product Demonstration Station: A table and two chairs will be provided at each product demonstration station.
- Gray's Reef will NOT provide video monitors for NAVIGATOR class companies. Companies must provide their own video displays. See Vehicle Design & Building Specifications (3.7) in the NAVIGATOR Competition Manual for number of video displays allowed.
- Diver Support: Diver support will be available during the product demonstration runs, but any diver assistance will constitute a penalty.
- PFDs: Companies are not required to wear PFDs at the pool edge. Gray's Reef will NOT have PFDs available for use.
- NAVIGATOR class companies will use a dedicated power supply that will provide the nominal 12 volts.

- Shared equipment: If you are planning on sharing equipment (monitors, joysticks), please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st .



Safety inspection:

Safety inspection judges will visit teams at their assigned work stations to perform a safety inspection, if not passed at Early Bird Check-in. NAVIGATOR companies should have a copy of their SID available for safety checks.

Teams will be given a yellow Safety Pass once they have been checked off and need to keep this with their ROV at all times.

No team is allowed to Splash Down their vehicles until given a Safety Pass and at the allotted time and place.

SCOUT Class

Engineering & Communication requirements:

- **Marketing and Product Presentations (REQUIRED)**
- Product presentations (engineering interviews) will be given in a classroom.
- Marketing posters will need to be displayed in the foyer of the Aquatic Center. You will need to bring a tripod to set up your poster. Gray's Reef will NOT have tripods available.

NEW: Teams should make specific reference to Gray's Reef National Marine Sanctuary in all communications and reports. Bonus points will be awarded for including this information on the marketing poster.

Competition setup:

On competition day, SCOUT companies will get two attempts at the product demonstration. The product demonstration time will consist of:

- 3 minute set-up period
- 10 minute product demonstration period
- 2 minute demobilization period

The higher of the two product demonstration scores will be combined with the Engineering & Communication and Safety score to get the company's total score.

If companies have any time constraints that they wish the MATE Center to consider, please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st. ®

Operational:

- New Anderson Powerpole connections are required for the **ALL** classes. These will be provided to the team during safety inspection, if needed.
- Pool: The pool has a sloping side and is 10-12 feet deep.
- Gray's Reef will NOT provide video monitors for SCOUT class companies. Companies must provide their own video displays, if needed.
- Diver Support: Diver support will be available during the product demonstration runs, but any diver assistance will constitute a penalty.
- PFDs: Companies are not required to wear PFDs at the pool edge. Gray's Reef will NOT have PFDs available for use.
- SCOUT class companies will use a dedicated power supply that will provide the nominal 12 volts.
- Shared equipment: If you are planning on sharing equipment with other companies, please contact the competition coordinator Jody Patterson (jody.patterson@noaa.gov) by April 1st.

The competition will wrap up around 4pm with an awards ceremony. Scores will be tabulated and awarded based on points received from required components, but final scores may not be released until after review by regional officials.

Questions, comments or concerns can be directed to Gray's Reef Events & MATE Southeast Region Coordinator – Jody Patterson (912-598-2431).

graysreef.noaa.gov
graysreef.marinetech2.org
