

2020 APPALACHIAN HIGHLANDS REGIONAL CONTEST INFORMATION

Registration for the Appalachian Highlands regional ROV contest will open on January 2, 2020.

Check out the <https://www.materovcompetition.org/appalachianhighlandsregistration>. Additional information will be posted in the [News & Events](#) tab.

Competition day for all classes: Saturday, May 9th, 2020

Location: Kingsport Aquatic Center, Kingsport, TN

For all classes: If you have questions about the product demonstration tasks or product demonstration props, please ask those questions on the [competition forums](#). For questions regarding the Appalachian Highlands regional competition operations, contact regional coordinator, Dennis Courtney at dcourtney@streamworkseducation.org.

EXPLORER Class:

EXPLORER class companies are NOT required to attend the Appalachian Highlands regional to demonstrate their vehicle. If EXPLORER class companies wish to attend and practice with an in-water product demonstration run, contact the Appalachian Highlands regional coordinator, Dennis Courtney, by March 31st, 2020. EXPLORER class companies that wish to volunteer at the Appalachian Highlands regional should contact STREAMWORKS Program Coordinator McKenzie Templeton mckenzie@streamworkseducation.org by March 31st, 2020.

RANGER Class:

Company limit: The Appalachian Highlands regional contest is limited to 18 RANGER class companies. Registration is limited to one RANGER class company per school. Schools wishing to register a second RANGER class company should contact the regional coordinator, Dennis Courtney, to be put on a waiting list. Standby teams will be notified by April 2nd if space is available.

RANGER class registration for the Appalachian Highlands regional contest will close on April 1st, 2020.

Engineering & Communication requirements:

- **Technical documentation**
 - **Technical documentation**
 - **Company spec sheet**
 - **SIDs (separate from the SIDs in the technical documentation)**

- Non-ROV device design document
- Company Safety Review
- Engineering presentation

Note: The Appalachian Highlands regional contest will NOT require a marketing display.

All technical documentation components are due by 11:59 PM on **Friday, April 3rd**. All five documents must be submitted via the electronic form –

<https://www.emailmeform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG6lb>

See the [RANGER Competition Manual](#) [section 2.2 Safety pre-inspection, section 2.2.1 Safety documentation requirements, Part 5: Engineering & Communication] for more info on the required documentation.

The Appalachian Highlands regional will use these documents to conduct **an initial safety review** worth 20 points using the [initial safety inspection sheet](#).

NOTE: By submitting your technical and other documentation, you are giving the MATE ROV Competition permission to publish these documents on its web site.

Engineering presentations will be delivered in the Meadowview Conference Center. Tables will be provided for the engineering presentations.

Other important dates:

- The last day to pass the fluid power quiz is March 15th.
- The last day to submit laser specifications is April 1st.

Competition set-up:

RANGER companies will complete all three tasks in one product demonstration run. On competition day, RANGER companies will receive 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 product demonstration scores will be added to your ENGINEERING & COMMUNICATION and SAFETY score to determine the total, overall score for the competition.

An event schedule will be released 2 weeks before the contest. If companies have any time constraints that they wish the MATE ROV Competition to consider, please contact the regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Operational:

Size and Weight: The Appalachian Highlands regional contest will conduct size or weight measurements. Companies advancing to the world championship must meet size and weight requirements.

Pool: The pool has a flat bottom. The depth for the RANGER class product demonstrations is approximately 4 meters (13 feet).

Product Demonstration Station: A table and two chairs will be provided at each product demonstration station.

The MATE ROV Competition 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.

Personal Flotation Devices: Companies are not required to wear PFDs at the pool edge. The MATE ROV Competition 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 regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Companies are responsible for bringing their own device to retrieve the sediment sample from inside the drain pipe and their own quadrat to count mussels. The Appalachian Highlands regional will not provide this equipment for you.

Each RANGER station at the Appalachian Highlands regional will have a powered Seabin. However, companies will not receive additional points for illuminating the LEDs on the powered

Seabin. RANGER companies will receive the same amount of points for inserting a powered or unpowered connector into the power port on the Seabin.

Safety inspection:

RANGER class companies will visit a safety inspection station in the company workstation area. During registration, RANGER class companies will receive their safety inspection score sheet. After the companies ROV system has been set up and are ready for inspection, the team should move to the safety inspection station with the assigned score sheet. A safety inspector will conduct the safety inspection.

Companies that pass the safety inspection will be given a blue PASSED card. The safety inspector will keep the safety inspection score sheet. Companies must present the blue PASSED card to the product demonstration station judge in order to compete in the pool. Companies that fail the safety inspection must address the issue and return to the safety inspection station for another inspection.

The Appalachian Highlands regional will NOT offer points for a job site safety analysis (JSA).

Note for 2020!!!

The Appalachian Highlands regional will offer up to 20 points for Ranger Corporate Responsibility. See the [RANGER Competition Manual](#) [Section 5.5 Corporate Responsibility] for more information. The inclusion of the “Professors Award” will serve as the narrative demonstration and documentation of a team’s Corporate Responsibility efforts.

Corporate responsibility documents are due by 11:59 PM on **April 3rd, 2020**. All supporting documents must be submitted via the form located via the electronic form – All documents must be submitted via the electronic form –

<https://www.emailmeform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG61b>

See the [RANGER Competition Manual](#) [Section 6.1.1 Corporate Responsibility Documentation] for additional information, **but submit corporate responsibility documents to the above form.**

NAVIGATOR Class:

Company limit: The Appalachian Highlands regional contest is limited to 18 NAVIGATOR class companies. Registration is limited to one NAVIGATOR class company per school. Schools wishing to register a second NAVIGATOR class company should contact the regional coordinator, Dennis Courtney, to be put on a waiting list. These schools will be notified by April 2nd whether or not space is available. **PLEASE DO NOT REGISTER A SECOND NAVIGATOR CLASS COMPANY UNTIL THE REGIONAL COORDINATOR OPENS UP REGISTRATION TO WAIT LIST COMPANIES!**

NAVIGATOR class registration for the Appalachian Highlands regional contest will close on April 1st, 2020.

Engineering & Communication requirements:

- **Company Spec Sheet**
- **Engineering presentation**

Engineering presentations will be delivered in the Meadowview Conference Center. Tables will be provided for the engineering presentations.

Note: The Appalachian Highlands regional contest will NOT require a marketing display.

All technical documentation components are due by 11:59 PM on **Friday, April 3rd**. All documents must be submitted via the electronic form –

<https://www.emailform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG6lb>

The Company Spec Sheet should be:

- One page in length
- A PDF file
- Named: School or organization name company name Spec Sheet 2020
- Does not exceed 2MG in size

Additional information can be found in the [NAVIGATOR competition manual](#).

If you want to know exactly what to put in the Company Spec Sheet, you can find the [scoring rubric](#) here: <http://www.materovcompetition.org/scoring>

Competition set-up:

NAVIGATOR companies will complete up to three tasks in one product demonstration run. 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 the ENGINEERING & COMMUNICATION and SAFETY score to determine the total, overall score for the competition.

An event schedule will be released 2 weeks before the contest. If companies have any time constraints that they wish the MATE ROV Competition to consider, please contact the regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Operational:

Size and Weight: The Appalachian Highlands regional contest will conduct size or weight measurements.

Anderson Powerpole connections are required for NAVIGATOR class. NAVIGATOR companies will not be able to connect to the MATE power supply without Anderson Powerpole connectors.

See the [NAVIGATOR Competition Manual](#) for more information.

Pool: The pool has a flat, slightly sloping bottom. The depth for the NAVIGATOR class product demonstrations is approximately 2.1 meters (7 feet).

Product Demonstration Station: A table and two chairs will be provided at each product demonstration station.

The MATE ROV Competition will NOT provide video monitors for NAVIGATOR class companies. Companies must provide own video displays. See Vehicle Design & Building Specifications (3.8) 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. The MATE ROV Competition will NOT have PFDs available for use.

Power: 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 regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Companies are responsible for bringing their own quadrat to count mussels. The Appalachian Highlands regional will not provide this equipment for you.

Companies planning to use a compressor MUST pass the Fluid Power Quiz (see the [NAVIGATOR competition manual](#) for more information).

Safety inspection:

NAVIGATOR class companies will visit a safety inspection station in the company workstation area. During registration, NAVIGATOR class companies will receive a safety inspection score sheet. After system set up and ready for inspection, teams should move to the safety inspection station with their score sheet. A safety inspector will conduct the safety inspection.

Companies that pass the safety inspection will be given a blue PASSED card; the safety inspector will keep the safety inspection score sheet. Companies must present the blue PASSED card to the product demonstration station judge in order to compete in the pool. Companies that fail the safety inspection must address the issue and return to the safety inspection station for another inspection.

Companies MUST bring a copy of the SID to the safety inspection. Companies using fluid power must also provide a fluid power SID. See the [NAVIGATOR Competition Manual](#), section 2.1.1, for more information on the SID, and Part 6, DOC-004 for more information on the fluid power SID.

Note for 2020!!!

The Appalachian Highlands regional will offer up to 10 points for Navigator Corporate Responsibility. See the Section 5.5 Corporate Responsibility] for more information. The inclusion of the “Professors Award” will serve as the narrative demonstration and documentation of a team’s Corporate Responsibility efforts.

Corporate responsibility documents are due by 11:59 PM on **April 3rd, 2020**. All supporting documents must be submitted via the form located via the electronic form – All documents must be submitted via the electronic form –

<https://www.emailmeform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG6Ib>

See the Navigator Class Competition Manual [Section 6.1.1 Corporate Responsibility Documentation] for additional information, **but submit corporate responsibility documents to the above form.**

SCOUT Class:

Company limit: The Appalachian Highlands regional contest is limited to 28 SCOUT class companies. Registration is limited to two SCOUT class companies per school.

If your school plans to have multiple teams compete in an in-school runoff for the two registered positions, register two teams as *school name 1* and *school name 2*. Contact the regional coordinator, Dennis Courtney, by April 15th with the company names of the winning teams. Those company names will be inserted into the official schedule of events.

SCOUT class registration for the Appalachian Highlands regional contest will close on April 1st, 2020.

Engineering & Communication requirements:

- **Marketing display (Optional)**
- **Engineering presentation**

Engineering presentations will be delivered in the Meadowview Conference Center. Tables will be provided for the engineering presentations.

Companies should set up their marketing displays in the Kingsport Aquatic Center the morning of the competition. The location to set up company posters will be marked. MATE will not provide poster boards; companies should provide their own [36" x 48" poster board](#).

All technical documentation components are due by 11:59 PM on **Friday, April 3rd**. All documents must be submitted via the electronic form –

<https://www.emailmeform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG6Ib>

Competition setup:

SCOUT companies will complete up to three tasks in one product demonstration run. 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.

An event schedule will be released 2 weeks before the contest. If companies have any time constraints that they wish the MATE ROV Competition to consider, please contact the regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Operational:

Size and Weight: The Appalachian Highlands regional contest will conduct size or weight measurements.

SCOUT class companies MUST use Anderson Powerpole connectors to connect to the MATE power supply. See the [SCOUT Competition Manual](#) for more information.

Pool: The pool has a flat bottom. The depth for the SCOUT class product demonstrations is approximately 1.5 meters (5 feet).

Product Demonstration Station: Product demonstration stations will be identified by a laminated card. Product demonstration control stations will not have a table, chairs, video monitors, or access to AC power.

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. The MATE ROV Competition will NOT have PFDs available for use.

Power: SCOUT class companies will use either a dedicated power supply that will provide the nominal 12 volts or a 12 volt deep cycle marine battery.

Shared equipment: If you are planning on sharing equipment with other companies, please contact the regional coordinator, Dennis Courtney, by Friday, April 10th (4 weeks prior to the competition).

Note for 2020!!!

The Appalachian Highlands regional will offer up to 10 points for SCOUT Corporate Responsibility. See the Section 5.5 Corporate Responsibility] for more information. The inclusion of the “Professors Award” will serve as the narrative demonstration and documentation of a team’s Corporate Responsibility efforts.

Corporate responsibility documents are due by 11:59 PM on **April 3rd, 2020**. All supporting documents must be submitted via the form located via the electronic form – <https://www.emailmeform.com/builder/form/Sotgi2WDhY631bUkfJ0ZG61b>

See the Scout Class Competition Manual [Section 5.5 Corporate Responsibility Documentation] for additional information, ***but submit corporate responsibility documents to the above form.***

Safety inspection:

A SCOUT safety inspection table will be located near the registration/check-in area. After registering the morning of the competition, SCOUT class companies are required to take the vehicle to this table for inspection. SCOUT class companies are required to provide an electrical **SID** (and a fluid power SID if applicable) to the safety inspection judge upon arrival at the safety inspection table. See the Vehicle Design & Building Specifications [Section 2.0 Safety] in the [SCOUT Competition Manual](#) for more information.

Companies that pass the safety inspection will be given a blue PASSED card; the safety inspector will keep the safety inspection score sheet. Companies must present the blue PASSED card to the product demonstration station judge in order to compete in the pool. Companies that fail the safety inspection must correct the issue and return to the safety inspection table to have the vehicle re-inspected.