

Company Name: _____

Company Number: _____

2023 MATE ROV COMPETITION

Observing Our Oceans: Understanding Our World And Creating Our Future

EXPLORER/PIONEER/RANGER CLASS Non-ROV Device Power Specifications and Independent Sensors

SAFETY CHECK LIST. Companies must bring this check list with them to their safety inspection.

In 2024, only the vertical profiling float qualifies as a non-ROV device.

<p>ELEC-NRD-001: Non-ROV devices cannot be powered from the surface. Power is limited to 12 VDC maximum and 6 amps maximum.</p>	<p style="text-align: center;">Independent Sensors</p> <p>ELEC-IS-001: Independent sensors must be powered from the surface; no onboard batteries are allowed.</p>
<p>ELEC-NRD-002: The device may not utilize cameras. Thrusters are allowed only for a RANGER/PIONEER float.</p>	<p>ELEC-IS-002: Companies may use USB to connect their sensor to a computer. Companies may also use surface battery packs (limited to 12 volts maximum) or the MATE supply to provide power for their independent sensor.</p>
<p>ELEC-NRD-004: Onboard power is allowed for non-ROV devices. If onboard batteries are being used, the following specifications must be met:</p>	<p>ELEC-IS-003: The independent sensor may only contain the intended sensor; thrusters, cameras, or other systems MAY NOT be attached.</p>
<ul style="list-style-type: none"> • Batteries must be primary (non-rechargeable). 	<p>ELEC-IS-004: Companies that use an independent sensor must provide a 3 amp (or less) fast blow fuse on the positive side of their connection.</p>
<ul style="list-style-type: none"> • AAA, AA, A, A23, C, D or 9V alkaline batteries are allowed. Alkaline batteries only. 	<p>ELEC-IS-005: An SID must be submitted for an independent sensor that uses electrical power.</p>
<ul style="list-style-type: none"> • Batteries are mounted in a manner that they are not loose inside the container. 	
<ul style="list-style-type: none"> • A fuse (7.5 amps max) must be installed within 5 cm of the battery positive terminal. 	
<ul style="list-style-type: none"> • The enclosure housing must be designed so that it will open if the pressure inside the housing is greater than the outside pressure 	
<ul style="list-style-type: none"> • Any pressure relief plug MUST be at least 2.5 cm in diameter. 	
<ul style="list-style-type: none"> • The enclosure housing must be designed so that it will release pressure if pressure inside the housing is greater than the outside pressure. Under no condition should the housing be built with fasteners to hold the device together if there is no pressure release valve. 	
<p>ELEC-NRD-005: An SID must be submitted for a Non-ROV device that uses electrical power.</p>	