

COMPANY NAME: \_\_\_\_\_

COMPANY NUMBER: \_\_\_\_\_

**2019 MATE ROV COMPETITION**

*Innovations for Inshore: ROV Operations in Rivers, Lakes, and Dams*

**RANGER CLASS SAFETY CHECK LIST**

Companies must bring this check list, the ROV, tether, surface controls, and any other item used in the deployment and operation of the ROV; they will all be inspected as part of the safety check. In addition, the SID, company safety review, technical documentation, and any additional documentation needed to verify compliance must be made available to Safety Inspectors during the inspection process.

<b>1.0 Initial Inspection Results</b>	
	Fluid Power Used & Approved for Use? If yes to both, see item #4
	Laser Used & Approved for Use? If yes to both, see laser inspection
<b>2.0 ROV Physical</b>	
	All items attached to ROV are secure.
	Hazardous items are identified and protection provided.
	ALL Propellers are COMPLETELY shrouded to IP-20 standards. Mesh size less than 12.5 mm.
	No sharp edges or elements of ROV design that could cause injury to personnel or damage to pool surface.
<b>3.0 ROV Electrical</b>	
	Tether is properly secured at the ROV.
	No exposed motors. Brushless motors are considered exposed unless electrically sealed after purchase. Companies should provide proof of sealing procedure.
	No exposed copper or bare wire.
	All wiring securely fastened and properly sealed*.
	Any splices in tether are properly sealed*.
<b>3.1 Surface Controls Electrical &amp; Physical</b>	
	Single attachment point to power source.
	Anderson Power Plugs for electrical attachment
	Properly sized inline fuse within 30cm of power supply attachment point.
	Surface control station is built in a neat and workmanship like manner. No Loose components or unsecured wires. All electrical components covered inside an enclosure.
	Tether is properly secured at the surface control.
	No exposed copper or bare wire.
	120VAC wiring is separated from the DC wiring
	120VAC wiring must be clearly identified from the DC and control voltages with signage and/or wire color schemes. If color schemes, key provided for identification.
	All wires entering and leaving the surface control station must have adequate strain relief and wire abrasion protection as the wires pass through the enclosure. Tape, zip ties, string and similar methods are not acceptable
	All connectors utilized are properly type rated for their application. AC only rated connectors not be used for DC
*Properly sealed means that the wires cannot be exposed to water. Tape only sealing will allow the conduction of electricity through water.	

At minimum joints must be soldered, then sealed with silicone sealant and then finally taped. For in water taping, silicone self-vulcanizing tape is preferred over thermoplastic tape. Cables with exposed male connections on both ends are not allowed.

<b>4.0 Pneumatic / Hydraulic (if applicable)</b>	
	Passed pneumatics/hydraulics test.
	Pneumatic or hydraulic diagrams present?
	Pneumatic and/or hydraulic component documentation provided?
	Hydraulic fluid MSDS (if used) Fluid is compatible with the Biodegradable Food-Grade specification. Teams using water do not need to provide an MSDS.
	All pressure lines have minimum pressure rating 100psi (pneumatic) or 300psi (hydraulic) stamped on line or verified with specifications
	Valves meet the minimum pressure of 100 psi pneumatic or 300 psi hydraulic
	Attachment to pressure source is secure.
	Pressure is regulated to 40 psi max for pneumatics and 150 psi max for hydraulics.
	Pressure vessels have a stamped pressure rating or verification by specification.
	Pressure vessels have current inspection sticker.
	Pressure vessels can be secured on pool deck.
	Company fabricated pressure accumulator test results are provided (if used).
	No hydraulic fluids are leaking.
	Pneumatics utilize compressed air or inert gas

<b>INSPECTION #1</b>	<b>PASSED: 30 POINTS</b>
<b>FAILED: Items to correct: (see rear of this sheet)</b>	
<b>INSPECTION #2</b>	<b>PASSED: 20 POINTS</b>
<b>FAILED: Items to correct: (see rear of this sheet)</b>	
<b>INSPECTION #3</b>	<b>PASSED: 10 POINTS</b>
<b>FAILED: Reason (see rear for details)</b>	
<b>Total Safety Points</b>	
<b>On Site Inspection [0 to 30] _____.</b>	

**Inspection #1: Items to address**      **Judge:** \_\_\_\_\_


**Inspection #2: Items to address**      **Judge:** \_\_\_\_\_


**Inspection #3: Reason**      **Judge:** \_\_\_\_\_
