

COMPANY NAME: _____

COMPANY NUMBER: _____

2018 MATE ROV COMPETITION

Jet City: Aircraft, Earthquakes and Energy

EXPLORER CLASS *Non-ROV Device Power Specifications and Independent Sensors* 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 the Safety Inspectors during the inspection process.

Non-ROV Device Powered Item	
	ELEC-NRD-001: Non-ROV devices can be powered from the surface or from batteries onboard the device. Power is limited to 12 VDC maximum and 3 amps maximum.
	ELEC-NRD-002: Any non-ROV device may not contain thrusters or cameras, and can only include systems relevant to the task it is completing.
	ELEC-NRD-003: If powered from the surface, the device must have a 3 amp fuse within 30 cm of the power source and must use Anderson Powerpole connectors. The cable and Anderson Powerpole connections must be completely independent of the ROV control console. I.e. wires/cables from the non-ROV device must not touch the ROV control box or any wires/cables coming from the ROV control box.
	ELEC-NRD-004: Onboard power is allowed for non-ROV devices. If onboard batteries are being used, the following specifications must be met: <ul style="list-style-type: none"> • Batteries must be primary (non-rechargeable). • AAA, AA, A, A23, C, D or 9V alkaline batteries are allowed. Alkaline Only. • Batteries are mounted in a manner that they are not loose inside the container. • A fuse (3 amps max) must be installed within 5 cm of the battery positive terminal. • The enclosure housing must be designed so that it will open if the pressure inside the housing is greater than the outside pressure. • 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.

	At least one opening must serve as a pressure release. This can be achieved by: <ul style="list-style-type: none"> ○ The battery holder must be mounted in a manner that will allow the end cap to freely open if pressure develops inside the housing. ○ Battery containers utilize a pressure release valve AND a Schrader valve. The pressure release valve must be rated no more than 3 psi.
	ELEC-NRD-004 Companies using a pressure release valve for their onboard battery container provided specifications and factory cut sheets of the valve used to the Competition Technical Manager no later than March 16 th , 2018.
	ELEC-NRD-005: An SID must be submitted for any non-ROV device that uses electrical power.
Independent Sensors	
	ELEC-IS-001: Independent sensors must be powered from the surface; no onboard batteries are allowed.
	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.
	ELEC-IS-003: The independent sensor may only contain the intended sensor; thrusters, cameras, or other systems MAY NOT be attached.
	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.
	ELEC-IS-005: An SID must be submitted for an independent sensor that uses electrical power.

