



Job Safety Analysis

Safety officer Signature :

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Date:...../...../.....

Task	Hazards	Controls
Pre-launch		
Dry system operation test	<ul style="list-style-type: none"> ✦ Electrical fire from damaged components 	<ul style="list-style-type: none"> ✦ Inspect all hardware before test, run the propulsion system at low speed, have accessible fire extinguisher. ✦ Inspect for damaged wires / connectors before retrieving X ✦ Evaluate the condition of the wires and replace cables when necessary.
Wet system operation test	<ul style="list-style-type: none"> ✦ Electrical shock or electrocution 	<ul style="list-style-type: none"> ✦ Check overall insulation and waterproofing elements.
Launching and removing X in/from water	<ul style="list-style-type: none"> ✦ Wrist injury from lifting heavy ✦ Slipping and falling on pool side 	<ul style="list-style-type: none"> ✦ Use proper lifting techniques and share loads if possible. ✦ Wear non-slippery shoes, stay low and keep body down.
Transportation of X	<ul style="list-style-type: none"> ✦ Slips / Trips / Falls ✦ Back strain ✦ Physical strain ✦ Foot injury 	<ul style="list-style-type: none"> ✦ Wear closed toed non-slip footwear ✦ Require two company members to lift X.

		<ul style="list-style-type: none"> ✦ Require an additional company member to direct path and watch for any obstacles. ✦ Communicate with each company member if there is any strain and stop transport immediately. ✦ Verify all company members operating near any body of water can swim or will wear lifejackets.
<p>Setting up X</p>	<ul style="list-style-type: none"> ✦ Electrical shock or electrocution 	<ul style="list-style-type: none"> ✦ Never handle with wet hands, keep electrical appliances dry, and keep electrical components insulated. ✦ Verify power switches and circuit breaker on Tether Control Unit. ✦ Visually inspect the cables and connectors to check if they have been tightened and sealed.

		<ul style="list-style-type: none"> ✦ Use the proper personal equipment in accordance with the supply voltage.
Launching		
Powering X on	<ul style="list-style-type: none"> ✦ Electric shock ✦ Overvoltage 	<ul style="list-style-type: none"> ✦ Follow company Safety Checklist Procedures when powering any equipment or machinery on. ✦ Equipped Power supply with fuses to prevent overvoltage. ✦ Always keep power supply safely away from anybody or water.
Operating thrusters	<ul style="list-style-type: none"> ✦ Damage to fingers ✦ Damage to limbs ✦ Scalp injury 	<ul style="list-style-type: none"> ✦ Keep propellers shrouded and use proper mech. Put warning labels on the motor housings.
Setting up and managing the tether	<ul style="list-style-type: none"> ✦ Loose tether ✦ Tangled tether ✦ Tether damage from pulling 	<ul style="list-style-type: none"> ✦ Connect the tether to the control box and X, have one person in charge of cable. ✦ Wrap the tether properly around the tether

		<p>transportation cart when going to or leaving the pool.</p> <p>✦ Applying a proper strain relief.</p>
Developing the ROV		
Accessing tools	<p>✦ Tripping on miscellaneous tools, cables and/or rubbish</p>	<p>✦ Have working space organized, have equipment stored in designated places.</p>
Applying sealant	<p>✦ Eye, skin and respiratory system irritation</p>	<p>✦ Wear correct PPE. Have sufficient ventilation. Keep compound away from skin.</p>
Using hand tools (hacksaws, files, screwdrivers, hammers, etc.)	<p>✦ Eye injury</p> <p>✦ Respiratory irritation Skin injury</p>	<p>✦ Wear safety goggles when</p> <p>✦ Using saws. Wear gloves when using hand tools.</p> <p>✦ Wear masks when needed.</p>
Using power saws and power tools (power drills, power saw, etc.)	<p>✦ Ear injury Eye injury Skin injury Scalp injury</p>	<p>✦ Wear safety goggles when operating any power tools. Wear gloves when operating any power tools.</p>

	<ul style="list-style-type: none"> ✦ ✦ ✦ 	<ul style="list-style-type: none"> ✦ ✦ Wear noise reducing earmuffs to reduce exposure to high sound levels. ✦ Keep all body parts away from moving blades, use clamps when needed. ✦ Maintain necessary saw maintenance and check for any worn blades and malfunctions prior to use.
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Required Personal Protective Equipment (PPE):	Required Training:
✦ Safety gloves - Tear resistant nonconductive gloves	✦ Safety Checklist Procedure training
✦ Protective clothing	✦ Power supply operations training
✦ Protective goggles	✦ Loading and unloading equipment
✦ Close-toed shoes	✦ Soldering operations training
✦ Noise-blocking earmuffs	✦ Proper operation of heavy machinery and power tools

