



2024

JOB SITE SAFETY ANALYSIS



Tecnológico
de Monterrey



| Category/Task | Name of Supervising Department |
|---|--------------------------------|
| Water Safety, Deck Crew and Dive Operations | Safety Office and Deck Crew |
| Revised by | Last Revision |
| Oscar Omar Zepeda Vázquez | 2024-05-22 |

| Required Training | Required PPE |
|---|--|
| <ul style="list-style-type: none"> • Tether Protocol • Satisfactory Deck Ops Training Approval • Familiarity with TecXotic's Safety Checklist • Back Safety and Proper Lifting • Safety Awareness Orientation • Power Up Protocol • Hazardous Materials Handling Training • Personal Protective Equipment (PPE) Training • Safe Handling of Power Tools Training | <ul style="list-style-type: none"> • Non-slip covered shoes • Safety goggles • Safety helmets • Safety high grip cotton gloves • Ear protectors • Work vest type 2 (only ROV handling operators) • Sun protection • Respirators or masks |



| TASK | HAZARD | CONTROLS |
|------------|--------------------------------|--|
| Pre-Launch | Fall/Slip/Trips | <ol style="list-style-type: none"> 1. Ensure all operators wear proper non-slip and covered footwear. 2. Ensure the working area is clear of obstacles. 3. Clear the surfaces of tripping hazards. 4. One operator has to ensure tether control all times before launch. |
| | Back strain from heavy lifting | <ol style="list-style-type: none"> 1. Ensure a proper posture when carrying heavy machinery. 2. Make sure that the ROV is carried by two operators simultaneously. 3. Verify proper tether control and handling. |
| | Eye damage | <ol style="list-style-type: none"> 1. Ensure all operators always wear proper safety goggles. |
| | Finger damage | <ol style="list-style-type: none"> 1. Ensure all operators always wear proper safety gloves. |



| TASK | HAZARD | CONTROLS |
|--------------|-----------------|--|
| System Setup | Electric shock | <ol style="list-style-type: none"> 1. Ensure all power is cut off. 2. Verify that the circuit breaker and the power switches on the Main Control Enclosure (MCE) are off. 3. Verify that both Thruster Control Enclosure (TCE) and Main Control Enclosure (MCE) are properly sealed. 4. Ensure all ROV tools are appropriately guarded and electrical appliances are protected. 5. Verify there is no loose wiring around ROV's construction. |
| | Finger damage | <ol style="list-style-type: none"> 1. Verify there is no loose wiring around ROV while carrying. 2. Ensure there are not sharp edges around ROV's construction. 3. Have a proper hand grip while carrying ROV. 4. Avoid power tools on deck. |
| | Fall/Slip/Trips | <ol style="list-style-type: none"> 1. Visualize trajectory and look for obstacles before moving with a load. 2. Correct tether handling. |



| TASK | HAZARD | CONTROLS |
|-----------------|----------------|---|
| System Power Up | Electric shock | <ol style="list-style-type: none"> 1. Ensure handling with dry hands. 2. Verify a clear perimeter around the ROV when turned on. 3. Ensure the emergency stop button is visible and accessible for an immediate shutdown during the power up sequence. |
| | Burns/Fire | <ol style="list-style-type: none"> 1. Verify no smoke or sparks are visible. |
| | Finger damage | <ol style="list-style-type: none"> 1. No operator is in contact with the ROV during the power up sequence. |



| TASK | HAZARD | CONTROLS |
|--------|---------------------------|---|
| Launch | Drowning/Fall/Slip/Trips | <ol style="list-style-type: none"> 1. Ensure the working area is clear of obstacles. 2. Avoid working near the pool border when possible. 3. Verify proper tether handling. |
| | Sunburn/Freezing | <ol style="list-style-type: none"> 1. Ensure all operators wear proper sun protection. 2. Use adequate clothing. |
| | Electric shock | <ol style="list-style-type: none"> 1. Ensure the emergency stop button is visible and accessible for an immediate shutdown in case a leak or a system malfunction is detected. |
| | Finger damage/Back damage | <ol style="list-style-type: none"> 1. Make sure that the ROV is carried by two operators simultaneously. 2. Adequate holding grip (use palms, not fingers). 3. Ensure a proper posture when carrying the ROV. 4. Avoid power tools on deck. |



| TASK | HAZARD | CONTROLS |
|-----------|---------------------------|---|
| Retrieval | Drowning/Fall/Slip/Trips | 1. Ensure the working area is clear of obstacles.2. Avoid working near the pool border when possible.3. Verify proper tether handling. |
| | Sunburn/Freezing | 1. Ensure all operators wear proper sun protection..2. Use adequate clothing. |
| | Electric shock | 1. Ensure the emergency stop button is visible and accessible for an immediate shutdown in case a leak or a system malfunction is detected. |
| | Finger damage/Back damage | 1. Make sure that the ROV is carried by two operators simultaneously.2. Adequate holding grip (use palms, not fingers).3. Ensure a proper posture when carrying the ROV.4. Avoid power tools on deck. |