Job Safety Analysis (JSA)

Task	Hazards	Controls
Soldering circuit board and other electronic components	Fire hazard	-Turn off soldering iron when not in use. -Remove combustible materials from work area. -Know the location of fire extinguishers and first aid kits in case of an emergency.
	Chemical inhalation	-Perform work in a well-ventilated area.
Setting up power supply	Overvoltage	-Check the voltage reading that it shows nominal 12V. -Use control status indicator LED.
Maintenance	Electric shock	-Verify all power in control box is off and wait 5 sec. -Operator must wear non-electrically conducting gloves.
Managing the tether	Tether damage	-Supply enough tether to the ROV to prevent excessive tension on the tether. -Use strain relief at both ends of the tether.
Product Demonstration	Any equipment malfunctions	-Ensure that someone is on standby to push the emergency kill switch. -Check for major damages.
Dry running the ROV	Damaging the frame or manipulators	-Put ROV on the stand to prevent any physical damage.
	Finger damage	-Put warning labels on thrusters and sharp edges. -Use shrouded thrusters with a thruster guard.
Fixing buoyancy foam	Injuries	-Wearing safety gloves while using cutting tool.
	Irritation	-Wearing safety gloves while using Epoxy.
Transporting the ROV	Foot injuries	-Wearing safety boots.
	Slipping	-Clearing the working area floor of any liquid.
Using heavy machinery and power tools	Hearing damage	-Wear ear muffs to prevent any kind of noises.
	Eye injury	-Wear Safety goggles to prevent flying derbies from causing eye injuries.
	Flesh wound	-Ensure that the tool is in good condition to work perfectly. -keep a safe distance between the machinery. -Turn off the machinery when it's not used.
	Burns	-Wear a safety gloves when using torches or touching any hot metal.
Setting up air pump	Over pressurized air	-Setting pressure regulator to 275 KPa. -Depressurize the tank after using it.