



Job: ROV operation
Reference: 001-17

Date: 2017-05-02

JSA team members: Arne Bui, Petter Sletsjøe, Morten Amundsen, Aksel Lenes, Vegard Skjefstad, Karl Ylvisaker

No.	Task	Hazard / Cause	Potential Consequence	Risk			Risk reducing measure	Responsible
				Freq.	Cons.	RPN		
1	Set up the ROV control position	Heavy objects / ROV	Toe damage, back strain	3	1	4	Always be two when lifting heavy objects. Use correct lifting technique.	Technician
		Caught in-between objects	Finger damage	3	1	4	Care used when stabling and opening boxes.	_____ Sign
2	Connect ROV	Exposed wires	Electrocution	1	4	5	Avoid contact with exposed wires. Stop operation if detected.	Technician
		Fingers in motors	Finger damage	1	3	4	Power off when handling the ROV. Avoid placing fingers in motors.	
		Fall to same level	General trauma	3	1	4	Shoes with good traction. Proper housekeeping.	_____ Sign
3	Dry test of ROV	Fingers in motors	Finger damage	1	3	4	Power off when handling the ROV. Avoid placing fingers in motors.	Technician Pilot
		Flying debris / disintegrating motors	Eye damage	1	4	5	Turn away when starting the ROV on land.	
		Hair in motors	Neck strain, scalping	2	4	6	Long hair should be braided or hairnet used when handling the ROV.	_____ Sign
4	Put the ROV into the water	Fall into water	Drowning, Hypothermia	2	3	5	Avoid standing close to the water unless necessary. Only good swimmers are allowed to operate close to the water.	Technician
		Fall to same level	General trauma	3	1	4	Shoes with good traction. Proper housekeeping.	
		Heavy objects / ROV	Toe damage, back strain	3	1	4	Always be two when lifting heavy objects. Use correct lifting technique.	
		Hair in motor	Neck strain, scalping	2	4	6	Long hair should be braided when handling the ROV.	_____ Sign



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5	ROV operation	Fall into water	Drowning, Hypothermia	2	3	5	Avoid standing close to the water unless necessary. Only good swimmers are allowed to stand close to the water.	Mission controller _____ Sign
		Entangled in tether	Fall into water, drowning, fall to same level	1	4	5	Proper tether management, avoid loops in tether around feet.	
6	ROV retrieval	Fall into water	Drowning, Hypothermia	2	3	5	Avoid standing close to the water unless necessary. Only good swimmers are allowed to operate close to the water.	Technician Pilot _____ Sign
		Entangled in tether	Fall into water, fall to same level.	1	4	5	Proper tether management, avoid loops in tether around feet.	
		Fingers in motors	Finger damage	1	3	4	Power off when handling the ROV. Avoid placing fingers in motors.	
		Heavy objects / ROV	Toe damage, back strain	3	1	4	Always be two when lifting heavy objects. Use correct lifting technique.	
		Fall to same level	General trauma	3	1	4	Shoes with good traction. Proper housekeeping.	
		Hair in motors	Neck strain, scalping	2	4	6	Long hair should be braided or hairnet used when handling the ROV.	
7	Packing and disconnection of ROV	Exposed wires	Electrocution	1	4	5	Avoid contact with exposed wires. Stop operation if detected.	Technician _____ Sign
		Caught in-between objects	Finger damage	3	1	4	Care used when stabling and opening boxes.	
		Heavy objects / ROV	Toe damage, back strain	3	1	4	Always be two when lifting heavy objects. Use correct lifting technique.	



Risk matrix

RPN		Consequence				
		1	2	3	4	5
Frequency	1	2	3	4	5	6
	2	3	4	5	6	7
	3	4	5	6	7	8
	4	5	6	7	8	9
	5	6	7	8	9	10

Where the different regions are defined as:

RPN	Region
2-5	No action needed
6-7	Some action needed / ALARP
8-10	Unacceptable