

	<h2>Job Hazard Analysis Form</h2>	Reference: OHSE-FM-0701
		Source Reference:
		Revision: 2

<b>Job Title:</b> Internal Visual Assessment, Internal shell cleaning and NDT by using Rope Access		<b>Job location</b> Moon Ltd Reactor				
		<b>Equipment tag number</b> 130-ZZ-10508				
<b>Overview Description of Work (Describe complete scope of work):-</b> Internal Visual assessment, internal shell cleaning and NDT inspection with aid of rope Access.						
<b>Responsible Department for the work:</b> NDT SAFEWORK4YOU.COM		<b>Disciplines performing the work:</b> ROPE ACCESS SAFEWORK4YOU.COM				
<b>Job Area / Location</b> Moon Reactor 130-ZZ-10508						
<b>Authorisation:</b>	<b>Name</b>	<b>Staff No.</b>	<b>Signature</b>	<b>Date</b>	<b>Declaration by Permit Receiver :</b> <i>I declare that the hazards associated with the work are adequately covered by this assessment</i>	
JHA compiled by:	<i>Vladislav Melnicov</i>	<b>AA-1111</b>		<b>02-03-2015</b>		
Responsible Dept:						
Moon Ltd Contractor Coordinator						
Facility Operator					Sign	
Safety Representative					Name	
Any Other Approving Authority					Empl. #	
					Date	
#	Sequence of activities	Associated Hazards	Recommended safe working Practices/procedures/hazard control methods/PPE			
1	Access / egress to working area	<ul style="list-style-type: none"> <li>Improper housekeeping.</li> <li>Toxic and moving particles in air.</li> <li>Injury due to accessing works by means other than safe access / egress routes provided and coming in to contact with site hazard.</li> </ul>	<ul style="list-style-type: none"> <li>Tool box talk on the importance of housekeeping to be given by job supervisor</li> </ul>			
			<ul style="list-style-type: none"> <li>Use Anti toxic mask, Dust mask/ Respirator where applicable</li> </ul>			
			<ul style="list-style-type: none"> <li>Job Hazard Analysis and Rope Access Procedure must be discussed with the Supervisor and Rope Access personal</li> <li>Check all the Permit to Work &amp; Confirm all the Tasks are carried out and deal accordingly to the procedures specified on the JHA'S, Method Statement</li> </ul>			

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		<ul style="list-style-type: none"> <li>• Work on the wrong equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that the safe work procedure for carrying out inspection activities will be informed to the all team members through Tool Box talk and physically show them the location of emergency equipments to ensure the awareness of everybody on site before commencing the job and clarify and misunderstandings/ misconception.</li> <li>• Access to the place of work shall be by designated pedestrian safe routes where in place.</li> <li>• Work area to be kept clear of non-essential tools &amp; equipment.</li> <li>• Undergo client safety induction / safety procedure / guidelines during the mobilization.</li> <li>• Follow client safety rules and regulation</li> <li>• Site visit to be made before having been handed over the equipment / confirm the correct equipment from drawing and area operator to give final confirmation of the exact equipment to work on.</li> </ul>
2	Mobilization of Tools & Equipments	<ul style="list-style-type: none"> <li>• Manual handling, hand or finger entrapment between loads/Amputation / fracture, Cut, Pinch points</li> <li>• Leads Injury to hands/ Injury to back bones</li> <li>• Unsecured sharp tools / equipments at access and egress in work area</li> </ul>	<ul style="list-style-type: none"> <li>• Proper Manual handling technique to be followed</li> <li>• Use Leather hand gloves</li> <li>• Personnel are required to be aware of potential pinch points and cut potential</li> <li>• Correct body positioning should be maintained while working</li> <li>• Provide adequate super vision</li> <li>• Appropriate certified and controlled equipments should only use..</li> <li>• No equipments / tools to be kept in access and egress point at all times</li> </ul>
3	Choice of anchorage / positioning points	<ul style="list-style-type: none"> <li>• Failure of the system</li> <li>• Leads to Major injury to personnel /</li> </ul>	<ul style="list-style-type: none"> <li>• Where possible natural anchorage in surrounding environment will be used, purpose anchor to be installed where this is not possible. Railing structure will use to make anchor points.</li> <li>• Inspect the work area / Railing structure for anchoring and make sure that it is safe to use prior to work commencing.</li> <li>• All personnel shall wear ther full PPE (Coverall, Helmet, Safety goggles, Respirator, gloves, safety shoe and ear plug) for their specific task.</li> </ul>

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		<b>Fatality</b>	<ul style="list-style-type: none"> <li>Follow safe work practice.</li> <li>Follow permit to work system.</li> <li>All personnel shall wear their full PPE (Coverall, Helmet, Safety goggles, Respirator, gloves, safety shoe and ear plug) for their specific task.</li> </ul>
4	Weather condition Hot / Wind	<ul style="list-style-type: none"> <li>Uncontrolled position during suspending on the ropes</li> <li>Leads to dehydration</li> </ul>	<ul style="list-style-type: none"> <li>Personnel shall stop work when the wind speed is above 37.04 kilometer/h (20knots). Check forecast prior to operations commencing. Only for external ropes rigging setup.</li> <li>Weather watch to be implemented during the work / Check regularly for any change in weather during work..</li> <li>All personnel to be aware of the risk/ potential for heat exhaustion and heat stroke.</li> <li>Drinking water station to be provided at each work location.</li> <li>Work personnel must rehydrate themselves at regular intervals</li> </ul>
5	Rope Access / Aid climbing	<ul style="list-style-type: none"> <li>Falling from height(Men &amp; material)</li> <li>Collision/ Entrapment.</li> <li>leads to personal injury</li> </ul>	<ul style="list-style-type: none"> <li>Method Statement should be filled in by the supervisor and detailed to the team, through tool box talk &amp; should be recorded.</li> <li>All equipment used must be checked by a competent rope access technician at the start and finish of every shift.</li> <li>Double protection system to be used as per standard IRATA procedure.</li> <li>Work task will carry out follow: <ul style="list-style-type: none"> <li>- IRATA International Code of Practice for Industrial Rope Access</li> <li>- Safework4you.com AAA BB 100a Job Specific Risk Assessment</li> <li>- Safework4you.com AAA BB 101a Safety Plan, Method Statement and Rescue Plan</li> <li>- Safework4you.com AAA BB 102a Rope Access Operations Procedures</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>Damage to property.</li> </ul>	<ul style="list-style-type: none"> <li>Rescue/evacuation plans will be prepared and explained to technicians.</li> <li>Ensure that anchor point is sound enough and able to hold at least 15kN.</li> <li>Safe Work Practices and proper communication should be there between rope access technicians and stand by personnel at platform.</li> </ul>
			<ul style="list-style-type: none"> <li>Rig for rescue system where appropriate.</li> <li>Appropriate PPE should be provided and to be used at all times.</li> <li>Permit restrictions should strictly follow.</li> </ul>
			<ul style="list-style-type: none"> <li>Area under working to be soft barricaded.</li> <li>Sufficient sign boards to be placed</li> </ul>
6	Sharp edges, Abrasion points, I.e. Parapet walls, rough steel.	<ul style="list-style-type: none"> <li>Failure of the system</li> <li>damage to ropes</li> </ul>	<ul style="list-style-type: none"> <li>IRATA Level III Supervisor shall inspect the ropes for abrasion. Rope protector, use of edge protection, deviation, re-belay to be used where there is abrasion risk using Hierarchy for the protection of anchor lines against hazardous surfaces described at IRATA International Code of Practice</li> </ul>

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7	Install / rig ropes for power brushing and inspection (NDT)	<ul style="list-style-type: none"> <li>• Incorrect material handling / manual lifting</li> <li>• Failure of the system</li> <li>• damage to ropes</li> <li>• Personnel injury</li> <li>• <b>Confined space</b></li> </ul>	<ul style="list-style-type: none"> <li>• IRATA Level III Supervisor shall inspect the structure to make anchore points.</li> <li>• IRATA Level III will supervise whole activity from rigging the ropes to attaching the anchore points.</li> <li>• Ensure that work area is free of any obstruction and maintain it at all times</li> <li>• Permit to work / confined space entry certificate from approved authority of Moon Ltd.</li> <li>• Ensure before entering in confined space, gas test is carried out by Moon Ltd authorised gas tester (AGT) and it is satisfactory.</li> <li>• Continue gas testing should be carried out by Moon Ltd safety watcher.</li> <li>• <b>SCABA / continous life line shall be used while working in confined space.</b></li> <li>• Safety watch for continuous monitoring of workers.</li> <li>• Proper arrangement of fresh air &amp; proper lighting.</li> <li>• Entry of trained workers for confined space working.</li> <li>• Pay careful attention when moving in confined space area</li> </ul>
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8	Use of hand tools / Power Brushing to clean weld nozzles areas for NDT, Electric connections	<ul style="list-style-type: none"> <li>• Electric system failure.</li> <li>• damage to ropes</li> <li>• Personnel injury</li> <li>• Confined space</li> </ul>	<ul style="list-style-type: none"> <li>• Before use of any electric equipment ensure they are inspected from Moon Ltd electric department.</li> <li>• Use of proper connection for electric supply before connecting any device (Grinder)</li> <li>• Use protection guard on grinder to protect from any possible injury.</li> <li>• Permit to work / confined space entry certificate from approved authority of Moon Ltd .</li> <li>• Ensure before entering in confined space, gas test is carried out by Moon Ltd authorised gas tester (AGT) and it is satisfactory.</li> <li>• Continue gas testing should be carried out by Moon Ltd safety watcher.</li> <li>• Safety watch for continuous monitoring of workers.</li> <li>• Proper arrangement of fresh air / oxygen, air conditioning &amp; proper lighting.</li> <li>• Entry of trained workers for confined space working.</li> <li>• Pay careful attention when moving in confined space area</li> </ul>
9	Performing NDT shell	<ul style="list-style-type: none"> <li>• Electric system failure.</li> <li>• Falling objects</li> <li>• Personnel injury</li> </ul>	<ul style="list-style-type: none"> <li>• Before use of any electric equipment ensure they are inspected from Moon Ltd electric department.</li> <li>• Make sure no other work party is working below rope access team while they are on the ropes.</li> <li>• Tools must be kept in proper place to avoid unwanted fall of objects</li> <li>• Cordon off the area (If possible)</li> <li>• Use proper PPEs.</li> </ul>

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10	Communication during rope access activities	<ul style="list-style-type: none"> <li>• Interruption in communication causing injuries, asset damages, time delays.</li> <li>• Failure / lack of information may mislead the activity</li> </ul>	<ul style="list-style-type: none"> <li>• Periodic radio checks, all radio equipment to be checked at the start of each break.</li> <li>• All communication medium; mobile phones/ two way radios (must be ex-rated) / hand signals to be decided.</li> <li>• Standby man shall have radio / mobile communication facility.</li> <li>• All languages to be used to be English; all personnel must be understand english.</li> <li>• All communication medium; two way radio / hand signals to be decided and should be uniformed between the operators.</li> <li>• Fully charged battery should keep standby</li> </ul>
11	Rescue of rope access personnel in case of Emergency	<ul style="list-style-type: none"> <li>• Falling of men/ material from height / Personnel injury / Fatality</li> <li>• Suspension trauma</li> </ul>	<ul style="list-style-type: none"> <li>• Inform client site HSE personnel immediately in case of emergency at site.</li> <li>• Ensure sufficient equipment , personnel and level of supervision are in place as per evacuation plan.</li> <li>• Limit time working from harness</li> <li>• Take regular breaks</li> <li>• Rescue kit at work position</li> </ul>
12	House keeping	<ul style="list-style-type: none"> <li>• Protruding object – Low</li> </ul>	<ul style="list-style-type: none"> <li>• Good house keeping and regular inspection of the work spot to be done.</li> <li>• Be careful of slippery /uneven surfaces</li> <li>• Tools box talk on the importance of housekeeping to be given by job supervisor</li> <li>• Proper waste disposal policy from Moon Ltd SHE to be followed. PTW only will be closed subjected to work completed and house keeping been done properly</li> </ul>