

2015 Comprehensive Hazard Assessment

Work Activity	Related Activity	Hazards	Risk Ranking*				Controls
			Risk = Severity + Probability + Frequency				
			S	P	F**	RR	
Project Site Visit	Traveling to and from site	Reduced Visibility	2	5	1	8	Avoid driving when visibility is poor, if possible. If travel is necessary, reduce speed to be commensurate with weather/ daylight conditions.
		Inclement Weather	2	5	1	8	Avoid driving during inclement weather, if possible. Do not travel during extreme conditions.
		Fatigue	3	3	1	7	Do not drive when you are tired. If possible, have another person drive or wait until the next day to travel.
		Vehicle malfunction	1	2	1	4	Conduct pre-trip inspection of vehicle, checking the following: tire pressure, oil level, windshield wiper fluid, gas level, etc.

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Project Site Visit (Cont'd)	Boating	Strong currents (i.e. River)	4	1	1	6	Develop/ follow safe work procedure for boating in rivers. Ensure that required PPE is worn at all times (i.e. PFD, survival suit, etc.). Ensure that back-up/ rescue boat is provided with adequate space to accommodate passengers of primary vessel.
		Wave action (i.e. Reservoir)	3	1	1	5	Do not boat when wind speeds are high or when wave action creates unsafe boating conditions.
		Dam/ spillway structure	4	2	1	7	Do not approach dam or spillway structure unless operators have confirmed that gates are closed and plant is not operational. Liaise with dam operators/ utility when boating in close proximity to these structures to ensure that operations personnel area aware that you are in the area.
		General	3	2	1	6	Ensure that Hatch Safe Work Procedure for Boating is reviewed and followed.

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Project Site Visit (Cont'd)	Walking on Dams	Working at height	4	3	1	8	Do not approach edge of structure if adequate handrail is not present. If working at/near edge of structure is necessary, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work.
		Working over water	3	3	1	7	Ensure that PFD is worn at all times when working in close proximity to and/or over water. If working near open gate/ hydraulic structure, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work.
		Uneven surface	1	5	1	7	Ensure that appropriate footwear is worn at all times. Consider wearing footwear with added ankle protection. Watch footing at all times.
		Sloping surface	2	5	1	8	Ensure that appropriate footwear is worn at all times. Consider wearing footwear with added ankle protection. Watch footing at all times.

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Project Site Visit (Cont'd)	Working at Heights	Fall from height	4	1	1	6	If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work.
		Falling into operating machinery	4	1	1	6	De-energize and lock-out/ tag-out equipment prior to commencing work. If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work.
		Falling into water or another liquid	3	1	1	5	Avoid working over water/liquids if possible. Ensure that PFD is worn at all times when working near/over water or liquid. If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work.
		Falling into or onto a hazardous substance or object	4	1	1	6	Isolate/ move hazardous substance or object prior to commencement of work if possible. If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest training is administered prior to work. Wear respirator, if required.

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Project Site Visit (Cont'd)	Working at Heights (Cont'd)	Falling through and opening in a work surface	4	1	1	6	Ensure that all openings are covered/ secured prior to commencement of work. Make all personnel aware of openings/ danger areas. If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest trianing is administred prior to work.
		Working on unstable surface	4	1	1	6	Ensure that all work surfaces are secured and deemed safe for work prior to commencement of activities. If adequate handrail is not provided, ensure that fall arrest equipment is worn and that fall arrest trianing is administred prior to work.
		High winds	4	2	1	7	Avoid working in windy conditions if possible. If work must be conducted, ensure that fall arrest equipment is worn and that fall arrest trianing is administred prior to work.
		General	4	1	1	6	Avoid reaching and outside work area and potentially losing footing when working at heights. Always ensure three points of contact, when climbing. Ensure that Hatch Safe Work Procedure for Working at Heights is reviewed and followed.

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Project Site Visit (Cont'd)	Working in Confined Spaces	Too little oxygen	4	1	1	6	Confirm that oxygen level is sufficient before entering. This can be done with an oxygen monitor. Continue to use oxygen monitor for duration of work.
		Toxic atmosphere	4	1	1	6	Conduct air testing to confirm that toxic gases are not present before entering and monitor air for duration of work. Ensure that adequate ventilation is provided for duration of work. Wear respirator, if required.
		Explosive atmosphere	4	1	1	6	Use non-sparking tools and ensure all equipment is bonded or grounded properly to reduce the risk of ignition.
		Loose and unstable materials	3	1	1	5	Ensure that all loose/unstable materials are cleared before entering.
		Slip, trip and fall hazards	3	2	1	6	Eliminate hazard when possible. If not possible, ensure that suitable footwear is worn and use fall arrest harness if deemed necessary.
		Falling objects	3	1	1	5	Ensure that workers are never working below equipment or other workers.
		Moving parts of equipment or machinery	4	1	1	6	Ensure that all equipment is locked out/tagged out and de-energized prior to entering.

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Project Site Visit (Cont'd)	Working in Confined Spaces (Cont'd)	Electrical Shock	4	1	1	6	Install ground fault circuit interrupters (GFCIs) or use assured grounding where there may be danger of electrical shock. Ensure all electrical sources inside the confined space are locked out prior to entering.
		Substances entering through piping	4	1	1	6	Prevent substances from entering the confined space by isolating any potential entry way from the space. This often involves disconnecting piping or putting solid plates to block off piping from the confined space. If valves are used, a spacial double-block system should be used so that nothing can leak into the confined space.
		Poor Visibility	1	2	1	4	Ensure adequate light source is available. Provide flashlights or battery-operated area units, where necessary. Ensure that proper ventilation is provided to reduce harmful substances in the air.
		Temperature Extremes	2	1	1	4	Allow enough time for a confined space to warm or cool to room temperature before entering.
		Noise	1	2	1	4	Wear proper hearing protection.
		Risk of drowning	4	1	1	6	Ensure that all liquids are drained from confined space prior to entering.
		General	3	1	1	5	Ensure that Hatch Safe Work Procedure for Confined Space Entry is reviewed and followed.

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Project Site Visit (Cont'd)	Working on Ice	Thin ice	4	2	1	7	Review prior weather conditions and determine probable ice conditions prior to work. Check ice conditions (at multiple locations) prior to commencement of work. Ensure that adequate ice thickness is present prior to beginning work activities and/ or bringing tools onto ice. Always wear survival/ floater suit when working on river ice and carry ice survival picks when working on ice.
		River current under ice	4	2	1	7	Be aware that ice thickness on rivers varies due to undercurrent. Always wear survival/ floater suit when working on river ice and carry ice survival picks when working on ice.
		General	4	2	1	7	Always be aware of ice conditions and avoid staying in one area for too long if traveling on an all terrain vehicle. Be aware of total weight of yourself and equipment and ensure that ice is of adequate thickness to support load. Ensure that Hatch Safe Work Procedure for Work on Ice is reviewed and followed.
	Working on/ near stored energy equipment	Energized equipment	4	3	1	8	Ensure that all equipment is locked out/ tagged out and de-energized prior to commencement of work. Ensure that Hatch Safe Work Procedure for Work Near Energized Equipment is reviewed and followed.

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Project Site Visit (Cont'd)	Working in hot environment	Heat stroke	2	3	1	6	Ensure that frequent breaks are taken and that prolonged exposure to hot environment is avoided.
		Dehydration	2	2	1	5	Ensure that adequate amounts of drinking water is provided and consumed while working in hot areas.
		Sunburn	1	4	1	6	Cover skin as much as possible during sunny conditions and frequently apply sunscreen to exposed skin.
	Working in cold environment	Hypothermia	3	2	1	6	Ensure that survival kit is present at all times when working in cold environment. Ensure that adequate clothing is worn. Consider using a survival suit if exposure to cold environment is going to be prolonged.
		Frost Bite	3	2	1	6	Ensure that survival kit is present at all times when working in cold environment. Ensure that adequate clothing is worn. Consider using a survival suit if exposure to cold environment is going to be prolonged.
		General	3	2	1	6	Ensure that Hatch Safe Work Procedure for Working in Cold Environments is reviewed and followed.

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Project Site Visit (Cont'd)	Working in proximity to wildlife/ insects	Wildlife attack	3	3	1	7	Avoid approaching wildlife if encounter is imminent. Slowly back away, do not make any sudden movements. Ensure that staff are adequately trained in how to handle wildlife encounter. Ensure that PPE is commensurate with expected wildlife (i.e. Bear bangers, bear bells, etc.)
		Insect bites	1	5	1	7	Reduce amount of exposed skin, where practicable. Tuck loose clothing in, as required (i.e. Shirt into pants, pantlegs into socks, etc.). Wear insect repellant, if required.
	Working near traffic	Moving vehicles	4	4	1	9	Avoid working near moving vehicles, if possible. Ensure that proper signage is placed if working in close proximity to traffic for extended period of time. Wear reflective vest for increased visibility.

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Project Site Visit (Cont'd)	Working in remote areas	Stranding	3	5	1	9	Ensure that adequate communication means are provided (i.e. cell/ satellite phone) and that up-to-date personnel and emergency contact list is provided. Ensure that personnel are provided with a GPS (and extra batteries) at all times. Always advise manager/ colleague when traveling to remote area and advise of the approximate location of site visit. Establish a check-in time so that emergency measures can be undertaken if contact is not initiated within a certain time frame.
		Loss of communication	1	3	1	5	Ensure that redundant means of communication are provided.
		General	2	3	1	6	Ensure that Hatch Safe Work Procedure for Working in Remote Areas is reviewed and followed.
	Working in loud environments	Loud noise	2	5	1	8	Ensure that hearing protection is worn at all times.
		Inability to provide verbal warning of imminent hazards	3	4	1	8	Instruct personnel to be increasingly aware of surroundings while on site.
		Difficulty communicating	2	3	1	6	Establish a means of communication for very loud environments (i.e. Hand signals, etc.)

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Project Site Visit (Cont'd)	Traveling in helicopter	General	4	5	1	10	Ensure that Hatch Safe Work Procedure for Helicopter Travel is reviewed and followed.

High Risk (Score = 11 to 15)
Medium Risk (Score = 6 to 10)
Low Risk (Score = 3 to 5)

Notes:

*Severity, Probability and Frequency Tables are attached.

**All Frequency values are assigned a value of 1 because staff travel to site infrequently and site visits/ work activities rarely involve more than 1 or 2 people and rarely last longer than a day or two.

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Score	TABLE OF SEVERITY		
	People	Plant	Environment
5 – Very High/ Catastrophic	Multiple Fatalities	Greater than \$10Million Loss	Catastrophe, destruction of sensitive environment, worldwide attention. Likely EPA prosecution. More than 30 days delay.
4 – High/ Major	Fatality or Permanent Disabilities	\$1Million to \$10Million Loss	Disaster, high levels of media attention, high cost of clean up. Offsite environmental harm, more than 10 days delay.
3 – Moderate	Major Injuries – Incapacitations or requiring time off work	\$100Thousand to \$1Million Loss	Major spills, onsite release, substantial environmental nuisance, more than 1day delay. (Leads to an additional resources call out i.e. SES)
2 – Low/ Minor	Significant Injuries – Medical Treatments, non-permanent injury	\$10Thousand to \$100Thousand Loss	Significant spills (Leads to a call out of Site Emergency Response Group)
1 – Very Low/ Insignificant	Minor Injuries – First Aid Treatments (cuts/bruises)	Less than \$10Thousand Loss	Low environmental impact. Minor Spills less than 80 Litres.

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Score	<i>PROBABILITY</i>
5 – Almost certain	The event is expected to occur in most circumstances. Likely to occur frequently - More than 1 per year
4 – Likely/ probable	The event will probably occur in most circumstances. Likely to occur several times. 1 per year
3 – Moderate/ occasional	The event should occur at some time. Likely to occur some time. 1 per 5 years
2 – Remote/ unlikely	The event could occur at some time. Unlikely but possible. 1 per 10 years
1 – Rare/ very unlikely	The event may occur only in exceptional circumstances. Assumed it may not be experienced. 1 per 100 years

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<i>Number of Persons Exposed</i>	<i>Number of times persons may be exposed to or have contact with the hazard.</i>		
	<i>Less than daily</i>	<i>Few times a day</i>	<i>Many times a day</i>
Few	1	2	3
Moderate	2	3	4
Many	3	4	5