**Job Safety Analysis**

**Document ID: JSA-***(241108)***-V***(1.2)*

*(Enter only the hazards and controls that are required for each step. Refer to pages 7 and 8 and 9 for risk assessment and hazards references.)*

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| 1. **Date:** | | | Date. | | | | | | **PVID#:** | | |  | | | | | **JSA number:** | | | |  | | | | | | | | | | | **Version:** | | | | | |  |
| **Camp/Base** | | | | Choose an item. | | | | | | | | | **Location:** | | | |  | | | | | | **Site:** | | |  | | | | | | **Contractor ID:** | | | | | |  |
| **Additional Requirements** | | | | | | | | | **Permit to Work required? DEI Permit #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Task Description:** *(Enter a description of the task to be performed and its desired outcome)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | **Review Date:** | | | | | Date. | | | | | |
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| **Required PPE:** *(Select Mandatory PPE required for the task)* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **PPE** | Wash Hands | Safety Belts | | | | Life Vests | High Viz | | | Gloves | | | | Hard Hats | Ear plugs/muffs | Foot protection | | Lab coat | Protective clothing | | | Goggles | | Opaque Glasses | Face shield | | Welding mask | Face mask | | Respirator | Breathing apparatus | | | | Harness | | Other PPE  List: | |
| **Type** |  |  | | | |  |  | | |  | | | |  |  |  | |  |  | | |  | |  |  | |  |  | |  |  | | | |  | |  | |
| **b) Sequence of Steps** | | | | | **Potential Hazard** | | | **Top Event**  *(Loss of Control)* | | | **Threats and Consequences**  *(Describe the threats to and consequences of the top event.)* | | | | | | | | | **Risk of Loss of Control** | | | | **Controls**  *(Describe the control methods to be used to mitigate the risk and identify the level of the control)* | | | | | | | | | | | | **Residual Risk**  *(with controls in place)* | | |
|  | | | | | *Control description* | | | | | *Level* | | | | | | |
| ***Step 1.***  *Description:* | | | | |  | | |  | | |  | | | | | | | | | Risk Level | | | |  | | | | | | | | | | # | | Risk Level | | |
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| **c) Action Items:**  *(List any specific action items )* | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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*(Enter only the hazards and controls that are required for each step. Refer to pages 7 and 8 for risk assessment and hazards references.)*

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| **b) Sequence of Steps** | **Potential Hazard** | **Top Event**  *(Loss of Control)* | **Threats and Consequences**  *(Describe the threats to and consequences of the top event.)* | **Risk of Loss of Control** | **Controls**  *(Describe the control methods to be used to mitigate the risk and identify the level of the control)* | | | **Residual Risk**  *(with controls in place)* |
|  | *Control description* | *Level* | |
| ***Step 2.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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| ***Step 3.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  |  | | | | | | |
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*(Enter only the hazards and controls that are required for each step. Refer to pages 7 and 8 for risk assessment and hazards references.)*

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| **b) Sequence of Steps** | **Potential Hazard** | **Top Event**  *(Loss of Control)* | **Threats and Consequences**  *(Describe the threats to and consequences of the top event.)* | **Risk of Loss of Control** | **Controls**  *(Describe the control methods to be used to mitigate the risk and identify the level of the control)* | | | **Residual Risk**  *(with controls in place)* |
|  | *Control description* | *Level* | |
| ***Step 4.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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| ***Step 5.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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*(Enter only the hazards and controls that are required for each step. Refer to pages 7 and 8 for risk assessment and hazards references.)*

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| **b) Sequence of Steps** | **Potential Hazard** | **Top Event**  *(Loss of Control)* | **Threats and Consequences**  *(Describe the threats to and consequences of the top event.)* | **Risk of Loss of Control** | **Controls**  *(Describe the control methods to be used to mitigate the risk and identify the level of the control)* | | | **Residual Risk**  *(with controls in place)* |
|  | *Control description* | *Level* | |
| ***Step 6.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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| ***Step 7.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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*(Enter only the hazards and controls that are required for each step. Refer to pages 7 and 8 for risk assessment and hazards references.)*

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| **b) Sequence of Steps** | **Potential Hazard** | **Top Event**  *(Loss of Control)* | **Threats and Consequences**  *(Describe the threats to and consequences of the top event.)* | **Risk of Loss of Control** | **Controls**  *(Describe the control methods to be used to mitigate the risk and identify the level of the control)* | | | **Residual Risk**  *(with controls in place)* |
|  | *Control description* | *Level* | |
| ***Step 8.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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| ***Step 9.***  *Description:* |  |  |  | Risk Level |  | | # | Risk Level |
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| **c) Action Items:**  *(List any specific action items )* |  | | | | | | | |
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| **d) Team Members:** *(Enter the name of each team member involved performing the task. Each team member must sign the JSA before the task is commenced)* | | | | | |
| **I, the undersigned, confirm this JSA has been completed in consultation with other workers and relevant persons. I have read the above JSA and understand its contents. I confirm that I have the skills, experience, knowledge, training and relevant certifications to perform my role in this task. I agree to comply with the safety requirements within this JSA, including safe work instructions and the use of Personal Protective Equipment.** | | | | | |
| **Name** | **Signature** | **Date** | **Name** | **Signature** | **Date** |
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| **e) JSA Originator:** *(Name and signature of the person originating the Job Safety Analysis)* | | | **Task Supervisor:** *(Name and signature of the person Supervising the task)* | | |
| **Name** | **Signature** | **Date** | **Name** | **Signature** | **Date** |
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| **f) >=Medium Residual Risk Authority:** | | **Site Supervisor** | | **=High Residual Risk Authority:** | | **Site Manager** | |
| **I, the undersigned, confirm this JSA has been completed in consultation with other workers and relevant persons. I have read the above JSA and understand its contents. I confirm that all reasonable controls have been specified in the JSA and I am aware of the residual risk of these tasks.** | | | | | | | | |
| **Name** | **Signature** | | **Date** | **Name** | **Signature** | | **Date** |
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|  |  | **DEI Construction Hazard Risk Matrix** | | | | |
|  | **IMPACT** | | | | |
| **Environment** | Temporary damage contained within NZDF estate; short-term, local detrimental effect. | Localised damage with some impact on external environment; serious detrimental effect that requires remedial action. | Extensive or serious damage to the environment; long term detrimental effect requires immediate remedial action. | Extensive, irreversible damage to the environment; extensive long term detrimental impact. |
| **Health & Safety** | First aid injury. Minimal lost time. Temporary partial disability. No long term effects. | Medical attention required. Short term lost time. Permanent partial disability. Medium to long term effects. | Serious injury/illness/mental harm. Long term lost time.  Permanent total disability. Long term effects. | Fatality. Multiple instances of serious physical or mental incapacity or ill health. Multiple cases of long term lost time.  Multiple permanent total disability. Long term effects. |
|  | **Probability** |  | **Minor** | **Moderate** | **Major** | **Extreme** |
| **Likelihood** | Could be expected to occur in most circumstances. | **Almost Certain** | **MEDIUM (1,5)** | **HIGH (2,5)** | **VERY HIGH (3,5)** | **VERY HIGH (4,5)** | **5** |
| Could probably occur in most circumstances. | **Likely** | **LOW (1,4)** | **HIGH (2,4)** | **VERY HIGH (3,4)** | **VERY HIGH (4,4)** | **4** |
| Could occur at some time. | **Possible** | **LOW (1,3)** | **MEDIUM (2,3)** | **HIGH (3,3)** | **VERY HIGH (4,3)** | **3** |
| Could occur at some time, but is improbable. | **Unlikely** | **LOW (1,2)** | **MEDIUM (2,2)** | **MEDIUM (3,2)** | **HIGH (4,2)** | **2** |
| Could occur in exceptional circumstances. | **Rare** | **LOW (1,1)** | **LOW (2,1)** | **MEDIUM (3,1)** | **HIGH (4,1)** | **1** |
| *(e.g. Risk rating VERY HIGH (3,5), where “3,5” indicates impact level 3 (Major) and likelihood level 5 (Almost Certain)).* | | | **1** | **2** | **3** | **4** |

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| **VERY HIGH**  **Intolerable**. Further treatment required as matter of priority.  ***Action required:***  Develop treatment strategies or introduce appropriate controls, with the objective of reducing the risk to a lower level.  Activities with a residual risk level of *VERY HIGH* **m**ust not proceed.  Review at least monthly or if a significant change occurs. | **HIGH**  **Generally Intolerable.** Further treatment required to be identified as matter of priority.  **Action required:**  Develop treatment strategies or introduce appropriate controls, with the objective of reducing the risk to a lower level.  Activities with a residual risk level of High require consultation and collaboration with relevant parties on the camp or base through a forum such as SIMOPS and approval of the designated Site Manager. | **MEDIUM**  **Generally Tolerable.** Further treatment may be required where practicable.  **Action required:**  Develop treatment strategies or introduce appropriate controls, with the objective of reducing the risk to a lower level.  Activities with a residual risk level of Medium or higher require approval from the Site Health and Safety Adviser before work can commence on the task. | **LOW**  **Tolerable.** Unlikely to require further treatment.  **Action Required:**  The risk may be able to be managed by routine procedures. Minimal resource allocation or management effort required.  In most cases these risks need no special precautions or actions, other than periodic monitoring of controls to ensure that the level of the risk has not changed. |

*\*Refer to "CHESS Vol1 – Policy and Specifications" for more information.*

#### Hazard Category Reference Table

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| Potential Top Event Examples | | | | | | |
| Exposure to (resulting in Inhalation / Ingestion / Skin Contact) | Over stresses / Over-exertion / Poor Technique | Contact With / Loss of containment / Exposure to | Loss of Containment / Loss of control | Contact With | Loss of grip / Structural Failure / Loss of Balance | Contact With / Loss of Integrity / Structural Failure |
| Biological | Biomechanical | Chemical | Ecological | Electrical | Gravity | Mechanical |
| * Airborne fibres/ particulates e.g. Asbestos * Bacteria * Blood Bourne Pathogens * Contaminated Soil * Contaminated Water * Fungi/ mould * Hygiene concerns * Insect/ Animal bites or stings * Vapours/ Dust/ Fumes/ Exhausts * Viruses * Water immersion | * Body position, uncomfortable position * Eye strain * Muscular overexertion/ manual handling * Repetitive operations * Working Posture | * Chemical transfer activities * Contamination dust, chemicals, sediment, effluent non segregated waste * Corrosives * Depleted oxygen * Explosives * Flammable vapours/ materials * Gasses (Oxygen, Carbon Monoxide/ Dioxide/ Hydrogen Sulphide/ Ammonia) * Piping/ tanks containing chemicals * Potential for trapped gases (Pockets of gas) * Pyrophoric materials (ignites in Oxygen) * Toxic gases/ carcinogens * Unapproved chemical | * Equipment dropped to water * Soil contamination * Spill/ Chemical to water * Windblown litter | * Compressors and transformer * Exposed energized systems * Lighting and batteries * Overhead power lines * Portable electrical equipment * Static Electricity * Underground/ buried electrical cables * Unguarded or exposed electrical equipment | * Anchor point/ lifting equipment (chains/ slings/ harness) * Cave–In * Converging/ sloping/ slippery surfaces * Fall from height /climbing * Inadequate/ constrained entry & exit * Moving/ dropped/ falling objects * Roof/ walkway/ platform/ handrails * Scaffolding /Elevated Work Platform/ Roof Collapse * Shifting Loads/ Materials * Structural collapse (incl adjacent) * Suspended in harness * Uneven ground/ same level fall | * Equipment Failure (Brakes, lights, pumps, valves and tools) * Equipment under tension e.g., springs * Exposed drive belts/ conveyors * Exposed Rotating Machinery/ Rollers/Screw conveyors |
| Potential Top Event Examples | | | | | | |
| Contact With / Caught by / Exposure to | Exposure To | Loss of containment / Loss of Pressure / Release of Stored Energy | Exposure to / Loss of Concentration | Exposure To / Contact With | Exposure To / Contact with | Exposure To |
| Motion | Noise | Pressure | Psychosocial | Radiation | Temperature | Vibration |
| * Aircraft transportation * Anchoring / deck lines / ropes * Congested Work Area * Ejected debris/tool parts * Equipment/ Crane Overloading * Excavation Equipment * Foreign body in eye * Line of fire & Pinch points -Hands/ fingers/ feet/ legs * Line of fire  -Body position  -Shifting and swinging loads * Marine vessel transportation * Moving Vehicles/ Plant * Road conditions * Vehicle/Plant turnover * Water ingress | * Equipment noise e.g. grinding, chipping, engines * High-pressure release * Impact noise * Sirens and alarms | * Cylinders/ Tanks/ Vessels * Exposed piping * Hoses * Pneumatic/ Hydraulic * Underground piping | * Aggression, violence * Bullying, harassment * Heavy workload * Human factors (Fatigue, lapses in focus) * Lone worker * Low resource/ inadequate skills * Monotonous tasks * Poor communications * Stress * Unpleasant tasks | * Ionising - X-Ray (Sources) * Ionising- Lasers * Ionising- Radon * Non-ionising - Radio frequency and microwaves * Non-ionising- Crack detection equipment * Non-ionising- Lasers * Non-ionising- Power Lines * Non-ionising- Radiant heat * Non-ionising- UV e.g. Sun, lighting, water treatment * Non-ionising -Welding arc | * Cooking and heating appliances * Exposure to extreme weather conditions (wind, rain, fog) * Flammable/ Combustible material (incl vegetation) * Friction (Ignition Source) * Hot/ Cold Surfaces * Ignition Sources (Process/ Tools/ Vehicles) * Steam * Thermal discomfort | * Whole body vibration * Hand/arm vibration |