

STANDARD OPERATING PROCEDURE

Operating Water Monitors and Cannons

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OPERATING WATER MONITORS AND CANNONS

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The following is a step-by-step procedure on how to complete a specific task or meet a facility specific requirement. Standard Operating Procedures (SOPs) are written for all identified critical tasks. By virtue of the hazard or complexity associated with critical tasks it is paramount that the SOP be followed as written. SOPs contain a listing of high-level hazards associated with the task, for detailed hazard analysis reference the applicable Task Hazard Assessments. SOPs do not replace the requirements contained in the company Standards, Codes, and Processes nor does it replace the need to comply with required legislation. Section 8.0 references documentation that the worker shall understand before work commences.

1.0 PURPOSE

- To establish a company standard to safely and effectively carry out work as it applies to operating water monitors and cannons.

2.0 SCOPE AND APPLICATION

- This document applies to all company Heavy Construction Mining operations. Ensure all site specific requirements are being met or exceeded before performing the task.

3.0 HAZARDS AND CONTROLS

- Striking people with a forceful water stream, or an uncontrolled “whipping” hose.
 - Inspect all equipment before operation.
 - Keep firm control of the hose and never point the nozzle at yourself or other people.
 - Never attempt to clean boots or rain gear with hose while you are wearing them.
 - Do not charge an open hose or disconnect a charged hose.
 - Do not approach a “whipping” hose. Turn off the water at the shut off valve, close the nozzle and re-charge the hose.
 - Do not use wash monitors when people are working on the floor level. Do not use more than one monitor at a time. If side-by-side monitors will be used together, complete a JSA for the task.
 - Control access to area to prevent unauthorized personnel from entering during washing activities.
- Being struck by flying debris and mud.
 - Aim the stream at an angle from you so there is no direct blow-back.
 - Wear a face shield in addition to safety glasses.
 - Ensure other people are out of the line of fire of the blown off material.
 - Maintain enough distance between equipment and the hose to minimize spray back of mud and debris.
- Tripping, falling or being hit by material because of poor visibility.
 - Clean face shield and safety glasses often to ensure clear visibility.
 - Ensure adequate lighting in area.

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- Slipping, tripping falling because of slippery/icy conditions and pressure from water.
 - Keep the hose close to your body; avoid unnecessary bends in the last two meters (6 ft.) of the hose; pack up the hose and wand assembly when finished.
 - Use a wide stance with one foot ahead of the other; clean and/or re-clean walking, standing/stepping surfaces of equipment during washing.
 - Never point the hose at the equipment when initially turning the water pump on because back pressure may knock you over or off balance.
 - Avoid unnecessary bends in the last two metres (6 ft.) of the hose, as the hose may push back and make it more difficult to control.
 - Always keep a firm two-handed grip on the hose and keep the hose close to your body. Do not release the hose while water is flowing.
 - Wear traction aids in winter conditions. Ensure ground is sanded and graded.
- Being struck by falling lumps/material or moving parts.
 - Remove heavy material with monitors whenever possible.
 - Do not stand underneath frozen/hanging material; look for cracks in dried material on frames and components. This indicates potential breaks or fractures on frames and/or components.
- Being struck by a damaged or burst hose or the water stream.
 - Ensure there are no loops or potential kinks in the hose before charging the hose. Do not drag hose over sharp edges or run over the hose with equipment. Do not use damaged or leaking hoses.
 - System relief is set at 70 PSI, do not set it any higher (max pressure for hose).
- Damaging equipment from water spray.
 - Do not direct the spray into the grid boxes of electric trucks.
 - Do not spray on electrical connectors or fire suppression wires.
 - Use the nozzle to regulate pressure and spray pattern. Only use the amount of pressure necessary to effectively clean the equipment.
 - Never direct water streams at bay doors or electrical boxes.

4.0 CHECKLIST

- ☐ Attend all preparatory meetings (IE: daily PSI; job scope; review of JSA's and SOP's for the job)
- ☐ Complete FLRA cards before starting the work.
- ☐ Ensure all personnel involved in the task are aware of the hazards and the controls to be used, as identified in the SOP's; JSA's; and FLRA's.
- ☐ Conduct a pre-job inspection of all equipment to be worked on and tools to be used.
- ☐ **Standard of Training required for working on this job: On-the job training.**

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5.0 DEFINITIONS

5.1 Company

Means North American Construction Group Ltd. (NACG) and all directly or indirectly owned subsidiary companies, including joint ventures.

5.2 Company Personnel

Includes the Company's employees, officers, directors, agents, associates, consultants/contractors, temporary employees and third party processors.

5.3 HSE

Refers to the Health, Safety & Environment department.

6.0 PROCEDURE

- 1) Complete a hazard assessment (i.e. FLRA) for the task. Follow up with supervisor if unsure of task or if there are hazards outside of the worker's control.
- 2) Perform a pre-use inspection of the washing system to ensure all equipment is in good working order. Remove from service and report to supervision any damaged or defective equipment.
- 3) Isolate hazardous energy on equipment to be washed. Ensure equipment is chocked and any raised components are blocked or adequately secured against movement.
- 4) Lay out the hose and ensure the nozzle is shut off before charging the hose.
- 5) Start the water pump and slowly charge the hose using the shut off valve. Stay alert for sudden movements of the hose as it fills and be ready to close the valve.
- 6) If washing activities will be conducted from an elevated work platform, ensure that the hose is adequately secured to the work platform before the hose is filled.
- 7) When using water monitor / cannon:
 - a. Do not use the monitor / cannon if someone is on the floor/ground around the machine.
 - b. Make sure monitors / cannons are shut off and secure before starting the pump.
 - c. Regulate the water flow with the shut off valve and loosen the adjusting knobs to swivel the monitor. Tighten the adjusting knobs before leaving a monitor unattended.
 - d. Use only one monitor at a time, and never when people are working on floor level. Two side-by-side monitors may be used, but a documented hazard assessment must be completed first.
- 8) Remove as much heavy or hanging material with the monitors as possible.
- 9) When washing is completed turn off the nozzle, close the shut-off valve, then use the nozzle to drain the hose. When the hose is empty, disconnect and put it away. Lastly, turn off the water pump.

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7.0 NOTES

If this task is to be done by a method different than described in this SOP, the work must **STOP**, and the alternate method must be **DOCUMENTED** with an adequate hazard assessment tool such as a JSA. The document must be **APPROVED** by a supervisor before such procedures are implemented.

8.0 REFERENCES

- 950C-C-016 Fall Protection Code
- 950C-C-028 Hazardous Energy Isolation Code
- 960C-SOP-001 Elevated Work Platforms
- 960C-SOP-600 Operating Mobile and Stationary Pressure Steam Washers

9.0 APPENDICES

No appendices.