

STANDARD OPERATING PROCEDURE

Placing Pipes on Barges for Safe Cutting

Document Number: 961C-SOP-006

Original Approval Date: Aug 24, 2021

Revision Number: 3

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Latest Revision Date: MAR 10, 2024

Next Revision Date: MAR 10, 2027

Document Approval Level: 4

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PLACING PIPE ON BARGES FOR SAFE CUTTING

Tammy Siver

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| 3 | APP | Mar 7, 2024 | Approved | J. Golka | G. Kuipers | T. Siver |
| 2 | APP | Sep 01, 2021 | Approved | T. Siver | R. Sharma | B Palmer |
| 1 | APP | Aug 24, 2021 | Approved | T. Siver | R. Sharma | B. Palmer |
| Rev | Status | Rev. Date | Status Description | Prepared by | Reviewed by | Approved by |

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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 placing and removing pipes on barges for safe cutting.

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

- Working on water – potential to fall into the water from the barge.
 - Handrails must always be installed on all edges of the barge that are adjacent to the water whenever there are any workers on the barge who are not attached to a fall protection system.
 - When handrails cannot be installed on all edges adjacent to water a proper fall protection system must be used as per 950C-C-018 Fall Protection Code.
 - Foam backed personal floatation devices must always be worn when working on water.
 - A rescue boat with at least two personnel must be on standby at all times.
- Line of fire – potential for pipe to contact personnel.
 - All personnel not involved in the task of the cutting of the pipe must clear of the line of fire of the pipe.
 - Before any work is done on the pipe, it must be secured with proper rigging of appropriate strength for the weight of the pipe and in such a way that the pipe cannot move in any direction. Refer to 950C-C-008 Cranes, Hoists and Rigging Code.
 - Never stand under a suspended load, use taglines to control the load as required.
- Hazardous energy – potential for discharge lines to be live/energized.
 - Discharge lines must be drained, blown clear and then locked out by all personnel before any work can commence. Refer to 950C-C-028 Hazardous Energy Isolation Code and client specific procedures.
- Slips, trips and falls caused by poor housekeeping, access / egress and workers attempting to cross the pipe.
 - Step ladders must be used to board the maintenance barge as well as to climb over pipe.

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- Work area must be clear of all tripping hazards.
- Pinch points – potential to pinch body parts in rigging and securing devices.
 - Keep hands and fingers away from between the load/pipe and the rigging or securing devices.
 - Use rigging and securing devices (i.e., come-a-longs) as designed.
- Unsecure lifting – pipe slipping out of clamp while being lifted and placed into position.
 - Clear decks and surrounding areas of any items pipe could become caught or snagged on.
 - Oil, bitumen and water can contribute to slippery surface on the pipe. Ensure clamp is secured around pipe and pipe is lifted straight not at an angle.
 - Reposition clamp as required to ensure the pipe is balanced prior to lifting. Clamp should be placed around the middle of the pipe.
 - A sling of appropriate size may be used instead of a pipe clamp.
 - All personnel must be clear of the lifting area and cannot stand under a suspended load.

4.0 CHECKLIST

- Attend all preparatory meetings (i.e.: 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.**

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

6.1 Placing Pipe on Barge (prior to cutting the pipe)

- 1) Prior to any work on discharge lines, all lines must be confirmed to be drained and blown clear.
- 2) All personnel must place their locks onto the discharge line lock box at the pumphouse to confirm isolation on discharge line.

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- 3) Ensure rescue vessel with a minimum crew of two is on stand-by.
- 4) Attach push boat to A-frame barge.
- 5) Perform prestart checks on all equipment before starting up the push boat.
- 6) Proceed with the push boat to the location of the pipe to be cut.
- 7) Attach to a fall arrest system. Remove handrails and pins along sides of barge. Place and secure handrails along existing handrails or on the deck of the boat.
- 8) Position push boat and A-Frame perpendicular to cutting location.
- 9) Ensure A Frame hook operators are adequately secured with fall arrest equipment.
- 10) Lower pipe clamp onto pipe, grab pipe and lift above water.
- 11) Position work barge under lifted pipe and secure to A-Frame barge.
- 12) Lower pipe onto dunnage and barge. DO NOT RELEASE HOOK.
- 13) Use step ladder to climb onto maintenance barge and use step ladder to climb over pipe to reinstall handrails on edges of barge. Workers must be attached to a fall arrest system when installing handrails.
- 14) Handrails on opposite side of pipe are not required if other means of preventing operators from falling off the edge of barge are in place.
- 15) Secure pipe to barge using come-alongs
- 16) Partially release hook keeping just enough tension to hold pipe in place.
- 17) Confirm the pipe is secure.
- 18) Once pipe is secure, all personnel not required for cutting of pipe must leave the barge.

6.2 Removing Pipe from Barge (after cutting the pipe)

- 1) Attach personnel to fall arrest system if handrails are not installed.
- 2) Remove opposite handrails and pins, if installed, so they are not damaged by pipe once it is released from restraining devices (come-a-longs). Secure removed handrails along existing rails.
- 3) Reposition A-Frame ten (10) feet from the left side of work barge.
- 4) Secure pipe with clamp and lift slightly with A-Frame to release tension on pipe. Ensure clamp is around the middle of the pipe so that it is balanced.
- 5) Release come-a-longs.
- 6) Clear personnel from lifting area.
- 7) Lift pipe off barge and place back into water. Repeat on the other side.
- 8) Inspect condition of handrails and report any damage immediately.

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

- Alberta Occupational Health and Safety Act, Regulation and Code – {Part 7, Section 115-118 Emergency Preparedness and Response}
- Alberta Occupational Health and Safety Act, Regulation and Code – {Part 18, Section 240-241 Life Jackets and Personal Flotation Devices}
- 961C-SOP-001 Marine Vessel Operations
- 961C-SOP-005 Working on Water Operations

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- 950C-C-016 Fall Protection Code
- 950C-C-028 Hazardous Energy Isolation Code
- 950C-C-008 Cranes, Hoist & Rigging Code

9.0 APPENDICES

- No appendices.