

STANDARD OPERATING PROCEDURE

Portable Heaters - Inspection and Use

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PORTABLE HEATERS – INSPECTION AND USE

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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 inspection and use of portable heaters.

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

- Misunderstood information and/or directions.
 - Portable heaters come in various models and styles. Operating instructions must be understood prior to use for the model being used. Read the operating manual to understand all safety features, emergency devices, manufacturer's recommended operating guidelines and maintenance requirements.
 - Follow up with supervisor if unsure of task or equipment.
- Damaged and/or faulty equipment.
 - Inspect the heating unit before each use. Report any observed damaged or faulty equipment to supervision immediately. Place isolation tag on defective heaters to prevent inadvertent use.
- Damage and personal injury from transporting and moving portable heaters.
 - Never attempt to manually move portable heaters, use mechanical means.
 - Use certified lifting devices when vertically suspending heaters for transportation. Never stand under a suspended load. Stay out of the line of fire. Use a tag line on heater to balance the load.
 - When using forks to transport units with eyelets, only transport one heater at a time as loads can shift. Use a sling to secure around fork housing when transporting on roadways.
 - Larger portable heaters are bumper pull, always ensure the ball and receiver are proper size. Inspect all hook ups before moving. Use a spotter when required to back a portable heater into place with a light duty vehicle. Review and reference 960C-SOP-011 Hook Up Towing and Disconnect of Trailers for proper information on safely towing bumper pull style heaters.
 - Wear gloves. Keep fingers out of pinch points of the end rings and their spring-loaded retention balls and sockets when assembling the duct.

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- Fuel spills causing environmental contamination and fire hazard.
 - Shut off heater before refueling, allow the heater to cool down; ensure a working 20 lb. dry chemical fire extinguisher is in the immediate work area.
 - Always stay at the nozzle when fueling, do not wedge objects in fuel lever to lock in place. Ensure proper fuel is being used, if unsure, ask supervision. Never overfill units.
 - Have proper bonding cable in place to ensure adequate grounding.
 - Use a spill tray or absorbent pads below fuel nozzle to prevent accidental overflow contacting ground surface. Wipe out any spillage and dispose of the rags in proper manner for flammable/combustible material.
- Fire, electrical, injury and asphyxiation hazards from operation.
 - Do not alter or tamper with burners, only use in accordance with manufacturer specifications.
 - Ensure heating unit is on flat level ground with adequate ventilation.
 - Do not store combustible and flammable products within proximity of the heater. Do not place items to warm up or dry on exhaust system.
 - Duct vents can be placed in closed environments, but not the heating unit itself as this will drastically change air quality. Ensure duct vents are in good working order and not stained with chemical residue.
 - Inspect all extension cords before use, tag out any damaged or frayed cords. Use a GFCI cord and do not place on ground surface where possible. Do not place extension cords in walkways to create tripping hazards. Extension cords not to exceed 30 meters in length and must be a minimum size of 10/3 AWG 6 Wires.
 - Ensure sufficient clearances from combustible/flammable structures, substances, or equipment.
 - Ensure the heater is working efficiently and not over-heating.
 - Ensure the ducting is specified for the heater.
 - Secure heater into place to prevent accident rolling/moving.
 - Ensure the heater has an adequate supply of combustion air and that the burner is well tuned and burning properly to avoid improper burning of fuel.

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.

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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.

5.4 Portable Heater

A portable indirect fired unit used to convert energy from fuel to thermal energy (BTU's) that can be described as heat transfer.

5.5 BTU

BTU is short for British Thermal Unit, a unit of measurement that represents an amount of energy used to raise the temperature of one pound of water one degree Fahrenheit.

6.0 PROCEDURE

Portable heaters come in various models and sizes, always refer to the manufacturer's operations manual for specifications on proper and safe use of the style of heater being used.

6.1 Start Up

- 1) Complete a hazard assessment (i.e. FLRA) prior to conducting any task with a portable heater. Follow up with supervision if unsure of task or equipment.
- 2) Ensure the heater unit is level and secured against movement (i.e. wheel chocks, blocking). Protect the heater from being struck or material falling on it.
- 3) Inspect the heater for damages, fuel leaks, damaged electrical fittings and wires and damaged control box.
- 4) Inspect the flex ducting for tears, rips, and the metal "rib" frame wire is not sticking out.
- 5) Join the duct sections – push in the spring-loaded balls, push the section hoops together until the spring balls seat in the holes.
- 6) Check the amperage of the heater and plug the unit into an electrical source having the proper voltage and amperage.
- 7) Set the heater to the "Auto" position and wait until the heater starts up. If it does not start up, reset the burner control, and try again.
 - a. Alternatively, with the switch in the "Manual" position, press and hold the reset button for at least 30 seconds, until the light flashes.
- 8) For thermostat operation, run out the thermostat probe to the heated location and turn the switch to the "thermostat" position.

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6.2 Shut Down

- 1) To stop the heater, turn the switch to "off". The burner will stop but the fan will continue to run until the unit cools down, then the fan will stop.
- 2) Unplug the heater from the electrical source once the fan has shut down. Do not disconnect the main power until supply fan has stopped running.
- 3) Take apart the duct sections by depressing the retaining balls and pull the hoops apart.
- 4) Store all the components in their designated spots.

6.3 Fuelling

- 1) Turn off the heater.
- 2) Ground or bond the heater and the fuel supply.
- 3) Ensure there is a minimum 20 lb dry chemical fire extinguisher readily available.
- 4) Place drip tray or absorbent pads under the fill spot.
- 5) Insert nozzle in fill point. Stay with the nozzle for the entire filling time, do not overfill.
- 6) Wipe up any spillage and dispose of the rags as flammable/combustible material.

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 10, Section 168 Industrial furnaces and fired heaters}
- Manufacturer specific operating instructions (i.e. Herman Nelson, Frost Fighter)
- 960C-SOP-011 Hookup, Towing and Disconnect of Trailers

9.0 APPENDICES

- Appendix A – Examples of Commonly Used Portable Heaters

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Appendix A Examples of Commonly Used Portable Heaters

Frost Fighter:



Herman Nelson:

