

STANDARD OPERATING PROCEDURE

Fueling Diesel or Gas Powered Equipment

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FUELING DIESEL OR GAS POWERED EQUIPMENT



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|------------|---------------|------------------|---------------------------|--------------------|--------------------|--------------------|
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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 fueling diesel or gas powered equipment.

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

- Explosion or flammable hazards while working with fuel.
 - Turn off all ignition sources. Note: some equipment may be left running during fueling. Refer to 960C-SOP-212 Field Servicing of Equipment and specific OEM procedures.
 - Eliminate all ignition sources such as cigarettes, welding, cutting, cell phones, and other non-intrinsically safe devices.
 - No smoking within a minimum of 15 meters of equipment and fuel storage areas. Observe and follow area specific rules if greater than 15 meters.
 - Use bonding cable / grounding strap or ensure the fuel hose has a device built in to prevent static charge.
- Equipment and service truck contact.
 - Service trucks will approach parked equipment and must park a minimum of 10 feet or 3 meters from equipment.
 - Use a spotter in congested areas or areas of low visibility.
 - Equipment may approach service areas if the area is set up as a temporary service area with a protective barrier (i.e., berm) beside the service truck or it is a permanent service area. The service personnel will spot/guide the equipment into service areas. When spotting equipment to the service truck all personnel must be out of the service truck.
 - Downed equipment or equipment parked during shift change must be parked in a safe setup (i.e., straight line, minimum 1-2 equipment lengths between them).
 - The service truck must be outside of an excavator's swing radius if the unit needs to be repositioned during servicing.

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- Heavy equipment contacting personnel or other ground hazards.
 - Equipment must be guided in and out of the area by the service person.
 - Ensure the area is free from hazards and there is a safe path for the truck to travel in.
- Fuel leaking or spilling causing environmental contamination.
 - Use drip trays at all connections.
 - Do not leave the nozzle unattended when connected.
 - Turn off the pump when it is not needed.
 - Store the hose & nozzle properly.
 - In the event of a fuel spill, shut off the nozzle and pump. Contain the spill using a spill kit and/or absorbing pads that are found in the service truck or at the fuel island. The spill must be reported to a supervisor immediately.
- Injury when moving fuel hose.
 - Walk forward when pulling a hose. Walking backward while pulling puts a great deal of stress on the knees and stepping on uneven ground may strain the knee while under load or cause an ankle injury.
 - Pull the hose off the reel onto the ground. Do not try pulling it off the reel while walking.
- Splashing fuel on the body.
 - Always wear proper PPE while fueling which includes FR coveralls in addition to standard PPE.
 - Never leave the nozzle with the 90° spout unattended while transferring fuel.
 - Ensure internal balls are properly seated in Wiggins fittings before disconnecting. After unlocking the nozzle, control it when coming off the fitting.
 - If the ball in the receiver fitting has not seated, the fuel will flow around the fitting. The nozzle can be pushed back on to stop the flow. Never leave the nozzle unattended while fueling.
- Tripping or slipping on uneven and slippery ground.
 - Ensure there is adequate light for the area.
 - Avoid stepping in ruts or on lumps.
 - Use traction aids in slippery conditions.
 - Do not pull hoses from reels while walking, unwind the hose first then carry it to the work area.
- Line of fire when installing/removing lockout on haul trucks.
 - Confirm the park brake is engaged and the operator is out of the cab before installing or removing the lockout.
- Service truck becoming stuck or being operated improperly.
 - Equipment will park in an area that is accessible to the service truck.

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- Service personnel shall notify supervision if the equipment cannot be accessed safely or if the service truck becomes stuck.
- Service personnel shall be competent to operate the service truck, which includes the appropriate training or licensing for the unit being operated.
- Uncontrolled movement of equipment while fueling.
 - Follow 960C-SOP-211 Field Servicing of Equipment.
 - Follow 962C-SOP-037 Securing Disabled or Parked Equipment in an Operating Environment and 962C-SOP-042 Approaching Equipment.
 - Follow 950C-C-028 Hazardous Energy Isolation Code for lockout/tag out. If unit cannot be shut down for fueling, follow 960C-SOP-111 Live Work.
 - Park equipment on flat, level ground. Ground all implements if equipped.
 - Engage park brake. On haul trucks, operators will confirm park brake has been set by checking that interior and exterior park brake indicator lights are illuminated (not flashing). Place "Operator out of Cab" placard in window. Operators are not permitted to engage/disengage the propel switch on haul trucks.
 - Wheel chocks must be placed on all rubber-tired equipment. This includes service trucks.
 - Operators are not permitted in the cab of equipment while it is being serviced. (Exception: Operators of hydraulic shovels with a lockout mechanism on the pilot lock are permitted to remain in the cab of the shovel but not in the operator seat.)
 - Operators are not permitted to re-enter the cab of equipment until the service person has signaled the operator that it is safe to do so, and they are out of the line of fire.

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.**

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

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6.0 PROCEDURE

- 1) Completed a hazard assessment (i.e. FLRA) for the task. Follow up with supervision if unsure of task or there are hazards outside of your control.
- 2) Remove all sources of ignition within 15 meters of fueling area.
- 3) Approach equipment or spot equipment into fueling area. Isolate hazardous energy (lockout tagout). Follow 962C-SOP-212 Field Servicing of Equipment.
- 4) Attach grounding strap to the equipment to be fueled if required.
 - (i) For gasoline, attach a bonding cable/grounding strap between the service truck and the equipment to be fueled.
 - (ii) For diesel, if required, attach a grounding strap between the service truck and the equipment to be fueled.
- 5) Place spill trays at all hose connections and potential spill points.
- 6) Unreel hose and move it to fueling location. Walk forward while moving the hose.
- 7) Connect the nozzle to the receiver on the equipment to be fueled.
 - **Connecting a Wiggins nozzle** – ensure that the Wiggins nozzle is positively mated to the receiver prior to opening the valve. Open the valve that is between the receiver and the tank.
- 8) When fueling is complete, close the valve behind the receiver, remove the nozzle from the receiver and replace the receiver cover. Allow the nozzle to drip into the spout rather than on the ground.
 - **Disconnecting a Wiggins nozzle** – close the ball valve behind the receiver, remove the nozzle from the receiver and replace the receiver's cover. Note: When disconnecting the nozzle from a Wiggins receiver, disconnect the nozzle slowly, to ensure the check valve is properly seated in the receiver on the fuel cell. If the ball inside the check valve does not seat properly, fuel will discharge when the nozzle is removed.
- 9) Respool hose on the service truck and place the nozzle back in the holder.
- 10) Remove the wheel chocks. Remove the lockout locks and allow the operator back to the cab.
- 11) Properly dispose of all absorbent pads and return spill trays to their proper storage.

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 19 Section 279}
- 950C-C-020 Flammables and Combustibles Storage and Handling Code
- 950C-C-028 Hazardous Energy Isolation Code
- 960C-SOP-111 Live Work: Working on Equipment while it is Running
- 960C-SOP-212 Field Servicing of Equipment

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- 962C-SOP-037 Securing Disabled or Parked Equipment in an Operating Environment
- 962C-SOP-042 Approaching Equipment
- 960C-SOP-019 Slip, Trip and Fall Hazard Prevention

9.0 APPENDICES

- Appendix A – Example of Wiggins Nozzle and Conventional Nozzle

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Appendix A Example of Wiggins Nozzle and Conventional Nozzle

Wiggins nozzle



Conventional nozzle

