

OPERATION OF THE PORTABLE GENERATOR

Purpose This Meteorology and Air Quality Group (MAQ) procedure describes the safe operation of the trailer-mounted diesel-powered generator.

Scope This procedure applies to any group member assigned to move, connect, or operate the trailer-mounted generator. This procedure does not cover re-fueling.

In this procedure This procedure addresses the following major topics:

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Signatures

Prepared by: _____ Jake Martinez, MAQ	Date: 11/08/05
Approved by: _____ Craig Eberhart, Environmental Air Monitoring Team Leader	Date: 11/09/05
Approved by: _____ Terry Morgan, QA Officer	Date: 11/09/05
Work authorized by: _____ Dianne Wilburn, Acting MAQ Group Leader	Date: 11/09/05

11/17/05

CONTROLLED DOCUMENT

This copy is uncontrolled if no signatures are present or if the copy number stamp is black. Users are responsible for ensuring they work to the latest approved revision.

General information about this procedure

Attachments This procedure has the following attachments:

Number	Attachment Title	No. of pages
1	Hazard Review	2

History of revision

This table lists the revision history and effective dates of this procedure.

Revision	Date	Description Of Changes
0	11/27/00	New document.
1	11/14/05	Quick-change revision to change attachment HCP to HR.

Who requires training to this procedure?

The following personnel require training before implementing this procedure:

- Any group member assigned to operate generator

Training method

The training method for this procedure is “**self-study**” (reading) and is documented in accordance with the procedure for training (MAQ-024).

Prerequisites

In addition to training to this procedure, the following training is also required prior to performing this procedure:

- First Aid
- Cardiopulmonary Resuscitation (CPR)

General information, continued

Definitions specific to this procedure

None.

References

The following documents are referenced in this procedure:

- MAQ-024, "Personnel Training"
 - Operating Manual for generator
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Note

Actions specified within this procedure, unless preceded with "should" or "may," are to be considered mandatory guidance (i.e., "shall").

Towing the generator

Towing vehicle

Ensure the vehicle you plan to use to tow the trailer is rated to tow the weight of the generator (2700 pounds). Ensure it has a proper trailer hitch and the correct trailer ball (2 5/16"). Always use the safety chains; cross them to attach to hitch.

Hooking and unhooking trailer

Chock **BOTH** trailer wheels before raising the trailer tongue to hook or unhook the trailer from the vehicle. Keep hands and fingers clear and watch for sudden movement. Always use crank tongue lift to raise and lower tongue; remember to swing it to horizontal before towing.

WARNING: As the hitch comes off the ball, the trailer may move. Stand away a foot or more and be ready to move.

Towing

Use extra caution when towing: assume longer stopping distances, use mirrors when changing lanes, be aware of the extra width and length of the vehicle.

Connecting and operating the generator

Read operating manual This procedure is not a substitute or replacement for the instructions and information contained in the generator operating manual. **Read the manual** for all operating instructions.

Starting the generator Read the manual and the labels on the generator.

Check the engine vital fluids: engine oil, coolant, and fuel.

Ensure cords are unplugged before starting generator.

Follow the manufacturer's starting sequence. Allow the cold engine to idle for a few minutes before setting the throttle lever to "Run."

Connecting power from generator Do not attempt to connect power cables to the terminals on the generator. Contact a qualified electrician to connect to these terminals. Normally, only the provided outlets on the generator will be used.

Use GFCI cord at generator end if generator is not so equipped. Turn off the breaker to the outlets before connecting cords. Turn on the breaker to energize the power cord.

Periodically test the GFCI breaker on the generator (can only be tested when the generator is running and the breaker is on).

Adjusting output voltage A dial on the control panel adjusts the voltage output of the generator. The meter reads the voltage of the 220V circuit. **Adjust the dial so the voltage reads 240V**; this will provide 120V to the 120V outlets.

Shutting down the generator Turn off the breaker to the outlets and set the throttle lever to "Idle." **Allow the engine to idle for about 5 minutes before turning the engine off** with the key.

Caution: Never just turn off the ignition key unless there is an emergency.

Connecting and operating the generator, continued

Fueling

Contact JCNNM to refuel the generator. Establish an appropriate refueling schedule with them (usually 72 hours).

NOTE: the trailer unit contains two fuel tanks; ensure JCNNM knows to fill both.

If a fuel spill is noted, shut down the generator if it is safe to do so. If the generator is not running, do not start it. Contact the LANL EOC and the Los Alamos Fire Department. Contact JCNNM for cleanup and repairs.

Maintenance of the generator

Oil changes Record the engine hours from the tachometer when oil changes are performed. Keep a note attached to the control panel to record oil change hours.

The engine requires an oil change after every 200-250 hours of operation (this is every 8 to 10 days of continuous operation). Contact JCNNM to establish regular oil changes when the generator is being used continuously.

Other maintenance Consult the engine-operating manual to determine maintenance intervals. Record when maintenance operations are performed. Plan ahead for required maintenance and contact JCNNM for all maintenance work.

Records resulting from this procedure

Records

No formal records are generated as a result of this procedure. Data on engine oil changes and the performance of regular maintenance tasks are noted on appropriate logs:

- date and engine hours when oil changes and other maintenance are performed

[Click here to record “self-study” training to this procedure.](#)

HAZARD REVIEW FOR OPERATION OF THE PORTABLE GENERATOR

Work tasks/Steps	Hazards, Concerns, and Potential accidents; Likelihood/ Severity	Controls, Preventive Measures (e.g., safety equipment, administrative controls, etc.)	Hazard Level from IMP 300-00-00 Hazard Grading Matrix
Hook and unhook trailer according to steps in this procedure. --	Pinched fingers, smashed feet, or hit by shifting trailer. occasional / critical = medium	The trailer hitch and the truck receiver must be properly matched and engaged. The trailer safety chain must be attached to the vehicle. Use the trailer tongue jack for raising and lowering the trailer tongue. Keep hands and fingers clear and watch for sudden movement. Chock BOTH trailer wheels for any hooking and unhooking operations.	Low
Tow generator with vehicle.	Driving hazards associated with pulling a trailer: backing up, turning, trailer coming loose while driving. occasional / moderate = low	Attach trailer safety chains to the vehicle. Use extra caution while towing the trailer; watch the mirrors when turning; be aware of the extra width and length of the vehicle. Stopping distances are significantly increased.	Low
Plugging in power cords.	Electrical shocks improbable / moderate = minimal	Use GFCI cord at generator end if generator is not so equipped. Ensure cords are unplugged before starting generator. Ensure the breaker at the generator is OFF before plugging in any electrical cords; then turn on breaker to energize the cord.	Low
Check for fuel spills.	Fuel spills cause environmental damage and can be a fire hazard. (NOTE: MAQ personnel will not fuel the generator.)	If the generator is not running, do not start it. If the generator is running, move a safe distance away. In both situations, contact the LANL EOC and the Los Alamos Fire Department.	Low

Wastes or residual materials resulting from process

None.

Emergency actions to take in event of control failure

For all injuries, provide first aid and see that injured person is taken to Occupational Medicine (only if immediate medical attention is not required) or the nearest hospital. Notify supervisor and group office as soon as possible.

Meteorology and Air Quality Group
PROCEDURE TRAVELER

This form is from MAQ-022

Part 1 (completed by any group employee)

Procedure number: MAQ-241 Revision: 0-1

Procedure title: Operation of the Portable Generator

Action Requested: New procedure Major revision of existing procedure Deletion of existing procedure

Description of and reason for action: Quick-change revision of existing procedure (parts 3 and 5 N/A)

Convert HCP to HR

Terry Morgan
Signature

T. Morgan
Name (print)

10/20/05
Date

Part 2 (completed by appropriate manager)

I agree with the action requested: Yes No If No, enter reasons below.

If Yes, assigned preparer: Jake Marting. Affected teams, programs, groups, or individuals required to review this procedure and others who should review it (see procedure page 5):

Required reviewers:

Optional reviewers:

Craig Eberhart
Signature

Craig Eberhart
Name (print)

11/9/2005
Date

Part 3 (completed by preparer or other qualified safety reviewer)

I have evaluated, according to MAQ-035 and LIR300-00-01, the risks inherent in performing this procedure and have documented them on the Hazard Control Plan form, or referred to a plan that covers this type of work.

Jake Marting
Preparer

Jake
Name (print)

11/8/05
Date

Draft prepared and sent for formal review on: 11/8/05. Comments resolved on: 11/10/05. After comments have been resolved with each reviewer, obtain signatures of the reviewers in part 5.

Part 4 (signed by safety officer or group leader)

I agree that the appropriate safety-related activities and appropriate risk level were identified during the hazard evaluation:

D. Wilbern
Safety officer or group leader

Dianne Wilbern
Name (print)

11/9/05
Date

Part 5 (signed by required reviewers: NA for quick-change revisions)

I attest that all my comments and concerns have been satisfactorily discussed, resolved, and/or incorporated into the final version of the procedure.

Alice Baumann
Signature

Alice Baumann
Name (print)

11/8/05
Date

G
Signature

Name (print)

Date

Signature

Name (print)

Date

Signature

Name (print)

Date

Preparer: After all reviewers have signed above section, submit this form with copy of draft and final procedure to records coordinator.