

**GENERATOR INSTALLATION  
U.S. ARMY CORPS OF ENGINEERS  
North Springfield Lake  
Performance Work Statement  
May 2018**

**A. General**

1. Scope of work

Furnish all materials, equipment and labor to furnish and install a 20 kW/20kVa LPG (liquid propane gas) stand by generator with automatic transfer switch and concrete pad.

2. Location

The North Springfield Lake Project Office is located at 98 Reservoir Rd, Springfield, VT 05156.

3. Site Visit

Contact the Technical Point of Contact to arrange a site visit. The Technical Point of Contact for the project is the Project Manager, Jason Farnsworth 802-886-2775 or [jason.farnsworth@usace.army.mil](mailto:jason.farnsworth@usace.army.mil)

4. Schedule.

The work shall be completed no later than 90 days from the contract award date. Work shall be performed Monday through Friday 7:00 AM to 3:00 PM unless otherwise approved by the Technical Point of Contact. No work shall be done on weekends or Government holidays.

5. Safety

Accident Prevention Plan:

All work shall be conducted in accordance with the U.S. Army Corps of Engineers Safety and Health requirements Manual (EM 385-1-1, most recent edition), and all applicable federal, state, and local safety and health requirements. A copy of EM 385-1-1 can be accessed electronically at Headquarters USACE website under publications using the following link:

[http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM\\_385-1-1.pdf](http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf)

2. Modified Activity Hazard Analysis:

A Modified AHA shall be submitted and must cover all the major phases of work. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform the work. The analysis shall define all activities to be performed, identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on a phase of work until the AHAs have been accepted by the GDA. A preparatory meeting shall be conducted by the prime contractor to discuss the Modified AHA's contents with all effected onsite employees. The

Modified AHA shall be continuously reviewed and revised to address changing site conditions as appropriate. The AHA's shall interface with the Contractor's overall safety and health program.

Emergency Responses Procedures shall be documented in the Modified AHA and will include a map with directions to the nearest hospital, emergency contact numbers, and onsite First Aid/CPR responders.

### 3. Required Personnel:

The Contractor shall designate one employee as the site's Competent Person (CP) who is responsible for ensuring a safe environment for all employees. The CP shall be present at the project site and report to the contractor's upper management. The CP is required to have related construction and/or service experience.

In addition, when emergency medical services are not accessible within 5 minutes of the work location and there are 2 or more workers onsite, at least 2 employees shall be trained in First Aid and CPR. Minimum qualifications are listed in EM 385-1-1, Section 03.A.02.c.

### 4. Accident Reporting:

All accidents and near misses shall be investigated by the Contractor. All work-related recordable injuries, illnesses and property damage accidents (excluding on-the-road vehicle accidents), in which the property damage exceeds \$5,000.00, shall be verbally reported to the GDA within 4 hours of the incident. Serious accidents as described in EM 385-1-1 Section 01.D shall be immediately reported to the GDA. ENG Form 3394 shall be completed and submitted to the GDA within five working days of the incident.

The Contractor shall complete the attached "USACE Contractor Monthly Summary Record of Injuries/Illness and Work Hour Exposure" (for prime and its subcontractors) and forward the completed form to the GDA no later than close of business on the 5<sup>th</sup> calendar day of the following month. The method of transmission by the prime contractor to the GDA shall be electronically.

### 6. Pre-Work Conference

Prior to the start of any work, the Technical Point of Contact will schedule and conduct a "Pre-work Conference". The Contractor's Project Manager and Quality Control Personnel will attend this meeting. This conference will be held at the time and location agreeable to the government and contractor. No work may be performed under this contract prior to this conference. The purpose of the conference is to enable the Technical Point of Contact to outline the procedures that will be followed by the Government in its administration of the contract, and to discuss the performance that will be expected from the Contractor. This conference will allow the Contractor an opportunity to ask questions about the Government's administration and inspection of contract work or obtain other pertinent information that might be required. At the Pre-work conference the contractor shall provide the Technical Point of Contact the name of the project superintendent with a telephone number for project coordination.

The following is a general list of items for discussion during this Pre-work Conference:

- i. Authority of the Technical Point of Contact
- ii. Contractor's Safety Program (including sub-contractors)
- iii. Accident Prevention Plan (Submitted & accepted prior to start of work on site)
- iv. Weekly Safety Meetings (Documented on NED Form 251)
- v. Accident Reporting (ENG Form 3394)
- vi. Safety Data Sheet (SDS) requirements
- vii. Communications, Communication and Administrative Procedures
- viii. Invoice and payment
- ix. CPR & First Aid (hands on requirement, online not acceptable)

7. Permits

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses, permits, and letters of certification. The Contractor shall comply with any applicable Federal, State, County, and Municipal laws, codes, and regulations in connection with the performance of the work specified under this contract.

8. Security

The contractor will comply with all established security policies at Union Village Dam. Due to periods of heightened security that may affect the access to the areas covered under this contract, areas may be subject to periodic closures, which in turn may reduce or inhibit the Contractor's ability to access certain areas. During periods of heightened security, the Government reserves the right, at any time, to close any property or portion of property and reschedule and/or cancel any subsequent service in an area. The Contractor shall be given at least 24 hour notice of any such closure.

9. Contractor Conduct

The Contractor and Employees shall not use or be under the influence of drugs or alcohol at any time while performing the obligations under this contract or giving the public the appearance of the same. Alcohol and firearms are prohibited on project grounds. Contractor and employees must comply with CFR 36 Rules and Regulations.

10. Payment

Payment shall be made on a per job basis. After final inspection and acceptance by the Government, the Contractor must submit an invoice to the Technical Point of Contact. The invoice shall include the invoice date, contract number, dates of service, description of work, quantities, process, and total amount due per line item. For jobs greater than 30 days the contractor may request progress payment.

All invoices may be mailed to:  
U.S. Army Corps of Engineers  
98 Reservoir Rd.  
Springfield, VT 05156

Or Emailed to [jason.farnsworth@usace.army.mil](mailto:jason.farnsworth@usace.army.mil)

## **B. Technical Requirements:**

### **Part 1 General:**

#### **1. Existing Conditions**

The Project Office currently has a mobile generator, with plug in service at the power entrance to the building. An existing 1000 gallon propane tank is located on the western side of the Project Office. The Project Office also has a 6KW photo voltaic, grid tied solar system. The existing electrical panel is 200 amps.

#### **2. Requests for Information**

Requests concerning the work for this project should be directed to the Technical Point of Contact at 802-886-2775 or [jason.farnsworth@usace.army.mil](mailto:jason.farnsworth@usace.army.mil).

#### **3. Submittals**

Although the Government technically reviews submissions required by this scope of work, it is emphasized that the Contractor's work must be prosecuted using proper internal controls and review procedures. The documents identified below must be prepared in accordance with the applicable standards, submitted to the Technical Point of Contact for review and accepted by the government prior to the commencement of any field activities.

- Generator Specification Sheets
- Manufacturer Warranties and Operating and Maintenance Manuals
- Vermont State Electrical License
- Modified Activity Hazard Analysis (AHA)- Prior to start of work
- First-Aid, CPR Certifications
- Safety Data Sheets
- Security Verification

#### **4. Clean Up and Waste Disposal** – The Contractor shall practice good housekeeping to maintain a safe job site. The contractor shall keep the work area free from accumulation of waste materials. Upon completing work in an area the contractor shall remove any tools, equipment, and materials that are not the property of the government Any and all disturbed areas resulting from contractor activities shall be restored by the contractor to the satisfaction of the Technical Point of Contact.

#### **5. Environmental Protection** – Containers for excess and/ or waste materials, rubbish, etc. shall be provided by the contractor at the site, and the site will be inspected/ cleaned on a daily basis. No burning is permissible. Water, air and land resources shall not be adversely impacted during the course of the work. Contractor will take necessary steps to ensure all federal, state, and local environmental regulatory requirements are met.

#### **6. Government Resources** – The contractor may use the existing restroom facilities at North Springfield Lake. The government will supply any electricity necessary for the project work from points of existing outlets. The contractor shall carefully conserve the

use of electricity provided. The contractor shall supply his own means of communication (telephone).

7. **Damage to Government and Private Property** – The Contractor shall be responsible for restoring and Government facilities or structures damaged as a result of the firm’s operation. The Contractor shall also be responsible for any damage to private property or injury to any person as a result of the firm’s operation. The Contractor shall notify the Technical Point of Contact immediately of damage to Government and private property and injury to any person resulting from the firm’s operation.
8. **Omissions** – This contract may not cover all specified activities, steps, and procedures required to supply the contract product. In case of omission, the normal industry, state, or federal standards, practices, specifications, and/or guides shall prevail. In no instance shall an omission be reason to produce less than an acceptable product.
9. **Quality Assurance** – The contractor is responsible for the quality control of the contract work. The government has the right to inspect and test all items called for by the contract, to the extent practicable at all times and at all places during the term of the contract.
10. **Other Contracts**- The Government may undertake or award other contracts for additional work not related to this contract, and the Contractor shall fully cooperate with other Contractors and Government employees. The contractor shall not commit or permit any act, which will interfere with the performance of work by another contractor or by Government employees.
11. **Receiving and Storing Materials** –The contractor is responsible for protecting any stored material until it is placed in service. The contractor is responsible for receiving and unloading of delivered goods. Government employees will not receive equipment, materials or supplies for the contractor and will not be responsible for damage to the contractor’s equipment or materials.

## **Part 2 Products:**

The generator shall meet the following minimum requirements:

1. **Generator:**
  - a) Propane
  - b) 20 kW
  - c) 120/240 volts
  - d) 60 Hz
  - e) 30 HP
  - f) Single phase
  - g) Minimum of 10 second response time
  - h) Manufactured for permanent outdoor storage and operation with a corrosion proof sound attenuated enclosure.

Note: Kohler 20RESAL propane generator meets these requirements.

## **2. Automatic Transfer Switch**

- i) 200 amp single phase automatic transfer switch.

- j) Compatible with generator and PV solar system
- k) Indoor enclosure
- l) User interface indicating LED's
- m) 5 year limited warranty
  
- n) The generator set covered by these specifications shall be designed, tested, rated, assembled and installed in strict accordance with all applicable standards below:
  - CSA C22.2 No14
  - CSA 282
  - CSA 100
  - EN61000-6
  - EN55011
  - FCC Part 15 Subpart B
  - Designed to allow for installed compliance to NFPA 70, NFPA99 and NFPA 110
  - ISO8528
  - IEC61000
  - UL508
  - UL2200
  - UL142

Generator shall have the following features:

- One digital controller that manages the generator set
- Electronic speed control responds quickly to varying household demand
- Two-line, backlit LCD display with adjustable contrast
- OFF, AUTO, and RUN pushbuttons
- Select and arrow buttons for access to system configuration and adjustment menus
- LED indicators for OFF, AUTO, and RUN modes
- LED indicators for utility power and generator set source
- LCD display
- Backlit display with adjustable contrast
- Scrolling system status display
- Smart engine cool down senses engine temperature
- Digital isochronous governor
- Digital voltage regulation:  $\pm 1.0\%$  RMS no-load to full-load
- Automatic start with programmed cranking cycle
- Programmable exerciser
- Built-in battery charger
- Battery
- Battery heater
- Diagnostic messages
- Braided stainless steel flexible fuel line
- Oil tube breather and heater kit
- Carburetor heater (Starting Aid)

Generator set shall have the following status indicators:

- Voltage and frequency
- Engine temperature
- Oil pressure
- Battery voltage
- Engine runtime hours
- Date and time displays

### **Generator Pad**

Provide precast concrete pad meeting the generator manufacturer's recommendations. The

concrete will have minimum compression strength of 3,000 psi. and a minimum thickness of four inches.

### **Part 3 Execution**

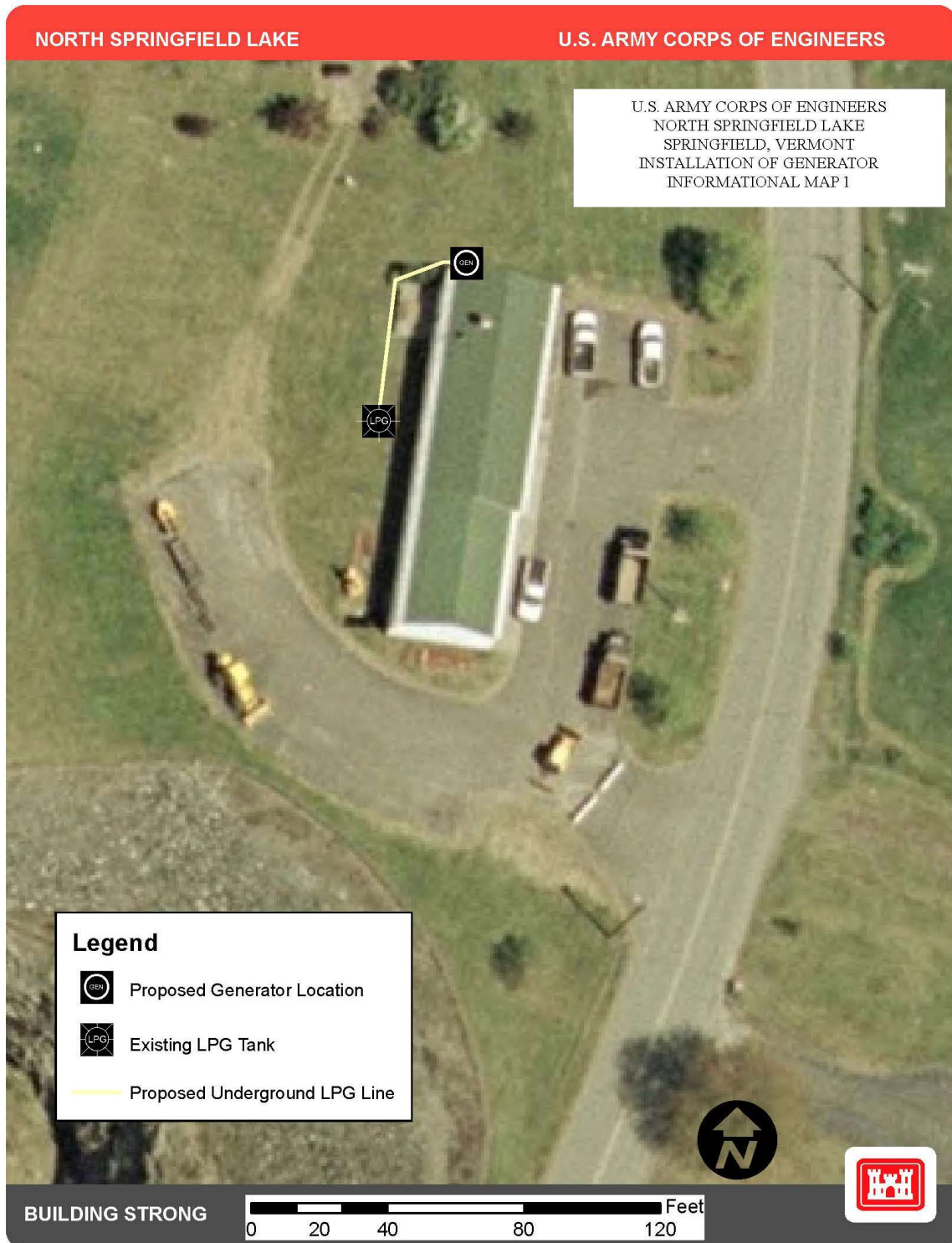
#### **Installation**

The Contractor shall install the generator and components in accordance with the applicable Vermont Building Code and the Manufacturer's Recommendations. Contractor shall use a private utilities locating company prior to trenching for electrical and LPG lines.

1. Install new propane generator in approximate location on outside North wall as shown in Informational Photo 1. Generator must be five feet from the building and any door/window.
2. Install new automatic transfer switch and electric panel. It is approximately 30' from where commercial enters the building to the location of the new generator.
3. Install new braided stainless steel flexible fuel line.
4. Install new wiring by licensed electrician.
5. Install new automatic transfer switch.
6. Install generator on concrete pad.
7. At the completion of the installation the Contractor will conduct a performance test for a minimum of thirty minutes. The Technical Point of Contact will confirm that the system is working properly.

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**Informational Photo 1-**





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**Informational Photo 2- Commercial power feed/200 amp panel and proposed automatic transfer switch location**



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**Informational Photo 3- Commercial power feed entrance**



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Springfield, Vermont  
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Bid Schedule

ITEM	UNIT	QTY	UNIT PRICE	TOTAL
1. Furnish and Install generator at North Springfield Lake, Springfield, VT.	JA	1		
			TOTAL	_____