

Scope of Work

Project Number: 437-21-190

Project Title: Replace 25 KV Switchgear

Description of Work: Construction work shall include, but shall not be limited to providing all labor, materials, tools, equipment, etc. necessary to complete Fargo VA Health Care System project 437-21-190, Replace 25 KV Switchgear in accordance with the most current editions of the Scope of Work (SOW), the contract documents, VA requirements and design guides (found on the VA Technical Information Library website: www.cfm.va.gov/til), National Fire Protection Association (NFPA), National Electrical Code (NEC), local building codes, and other applicable requirements. The goal is to have a remanufactured or repaired in place switchgear installed and operational as soon as possible in order to have a fully functional electrical distribution system in the shortest amount of time. Once the new switchgear arrives, the remanufactured or repaired in place switchgear will be removed and placed into storage at the Fargo VA and once the new switchgear arrives on site it shall be installed and the 25 KV electrical distribution system shall be fully functional.

The project shall include, but shall not be limited to: demolition, new construction, sitework, any necessary underground utility work, concrete demolition and replacement work (if contractor submits a new switchgear with a footprint that doesn't match what is currently in place, etc.) as needed to accomplish the required exterior switchgear replacement work. Contractor shall remove and replace the existing exterior switchgear per the phasing plan noted in the SOW. If wire /cabling needs to be pulled back or replaced, new conduit, new pad, new vault, etc. Due to the installation requirements for the remanufactured, repaired in place or new switchgear to be provided by the contractor, then that work and the associated costs shall be included in the contractor's bid since this is work required per the contractor's selected switchgear manufacturer.

New replacement electrical distribution switchgear, remanufactured switchgear or repair in place switchgear shall be subject to all of the requirements and certifications noted in the SOW and NEC.

The repair in place switchgear is expected to require the following components be replaced or reinstalled at a minimum:

- Remove and replace three existing Surge Arrestors (lightning arrestors) with new.
- Remove and replace three existing Arrestor Cables (lightning arrestor jumper cables) with new.
- Reinstall the existing Glastic Barrier. The barrier has blast marks, but has been determined to be structurally acceptable for reuse.

Existing switchgear (contractor shall verify) is manufactured by Shallbetter, Catalog Number: SSGL-5321-25-L20-GA-VAH. The switchgear is approximately 80 inches high x 156 inches wide x 70 inches deep. Contractor shall verify. The approximate

weight is 2,800 pounds. The switchgear is NEMA Type 3R, 11 guage galvaneal, solid welded construction where welds and seams are ground smooth and insulating no-drip compound is applied to interior to prevent condensation. The new and remanufactured switchgear shall have the following features (quantities as required for this installation) or an approved equal:

- Cross bent / kinked roof for strength and preventing standing moisture.
- Removable lifting plates with blind mounting holes.
- Door hold open devices, swing to 110 degrees minimum each hold open.
- 3-point positive latch mechanism, recessed penta-head bolt.
- Copper bus bar, silver flashed.
- Ground rod system and grounding configuration sized for switchgear and electrical codes.
- 3/16 inch thick, GPO-3, glass polyester barriers.
- Code required signs and labels,
- Manufactures data plate.
- Mini-rupter with top supported frame
- Fuse mountings, 25kV
- Fuses, 25 kV, 200E Amp
- Provisions for Potential Transformers (PT's) – construction contractor installed and wired (reuse of existing if allowed by Xcel Energy).
- Provisions for Current Transformers (CT's) – construction contractor installed and wired (reuse of existing if allowed by Xcel Energy).
- Kirk Key system compatible with system currently in use at the Fargo VA.

The switchgear is a 25 KV, 125 BIL, 600A system with the following system rating:

Nominal Operating Voltage	23.9 KV (actual, but called 25 KV)
Maximum Design voltage	27 KV
Basic Insulation Level	125 KV
Continuous Current	600 AMP
Fuse Type	SMU-20
Fuse Rating Maximum	200E AMP
Fuse Interrupting, Symmetrical	12,500 AMP
Load Interrupting Rating	800 AMP
Fault Closing, Symmetrical	14,000 AMP
Momentary	24,400 AMP

The existing exterior (SSGL Pad Mount Switchgear, Live Front) switchgear is located north of Building 50 on the Fargo VA Campus. See Figure 1 below.

Figure 2 below shows the damaged surge protection equipment inside the exterior switchgear north of Building 50.

Figure 3 below shows the entire existing switchgear with all sections opened up.

Figure 4 below shows the existing Glastic Barrier.

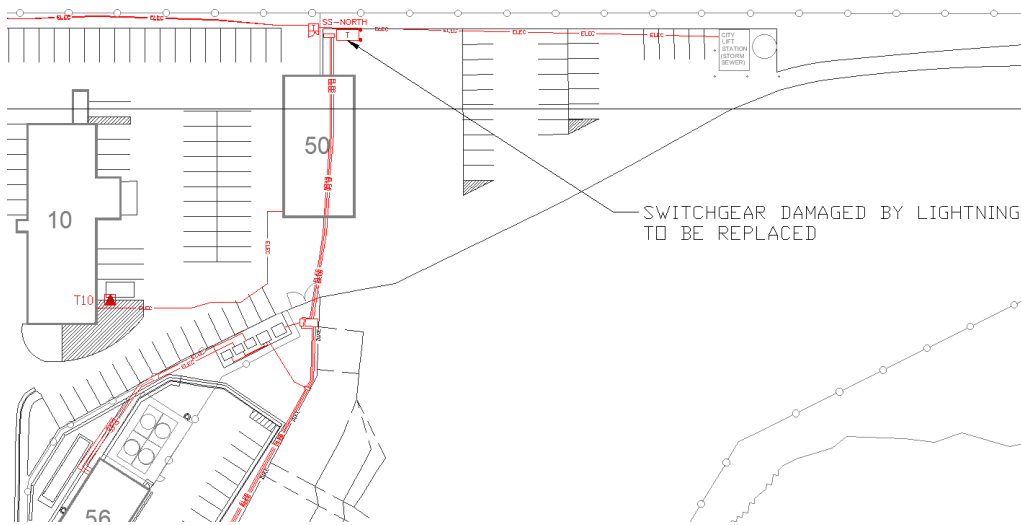


Figure 1 – Fargo VA Site Plan – Damaged Switchgear Location

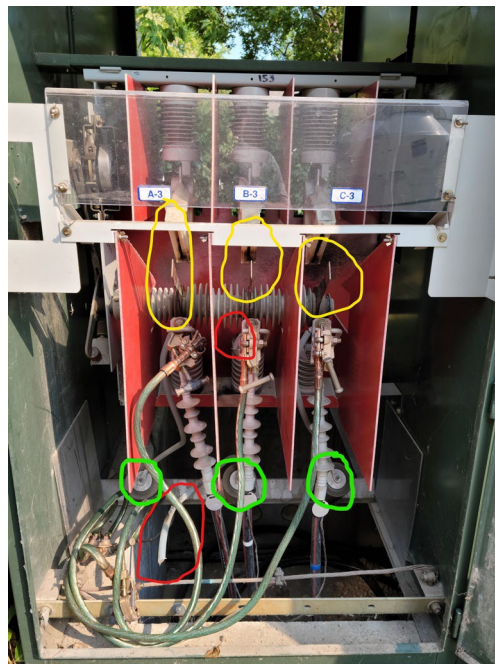


Figure 2. – Damaged Surge Arrestor Section In Exterior 25 KV Switchgear



Figure 3. – Existing Exterior 25 KV Switchgear



Figure 4. – Existing Exterior 25 KV Switchgear Barrier To Reinstall If Repair In Place Option Is Selected

It is expected the construction contractor shall provide the following at a minimum for the switchgear if required by the equipment supplier / manufacturer, installing subcontractor, etc. for both Phases of work and switchgear:

- Meeting requirements set forth by Xcel Energy.
- Rigging, off-loading, placement, anchoring, etc. of all switchgear noted under this project.
- Field testing, startup, sequence of operation, etc.
- Kirk Key information and system testing.
- Any required incoming and outgoing wire, cable, lugs and terminations.
- Any required utilities such as power to operate tools, etc.
- Arc-Flash study or other information as required such as a short circuit analysis, relay coordination or other studies, setting and / or testing protective relays. The Fargo VA does not have this information.
- Provide an independent testing company as required to set, test, inspect and certify / label all protective relays.
- Any relay setting, testing, coordination study, etc. necessary to complete the project and have a fully functioning switchgear.
- Removal of existing switchgear to include replacement of all six 25 KV cable terminations to switchgear.
- Fire taping of 25 KV conductors.

The existing 25 KV electrical distribution system utilizes a kirk key system to control which switchgear north end, south end, both with break in the middle exterior switch housing. This system shall continue to operate with both the temporary (remanufactured or repaired in place) switchgear and the new 25 KV switchgear replacement unit that will be installed under this project.

Contractor shall engage Xcel Energy, the electrical power supplier at the Fargo VA location, to obtain approvals and to determine the extent of work for which Xcel Energy will require involvement. Xcel Energy has metering devices CT's, PT's, etc. that shall be included in the discussion the contractor has with Xcel Energy. Any required removal, reinstallation, etc. required by Xcel Energy shall be accounted for by the construction contractor for both Phases of construction. Any other equipment that Xcel Energy indicates shall be accounted for by the construction contractor and shall be included in the costs and as work under the construction project to replace the switchgear (applies to new, remanufactured or repaired in place switchgear). Any Xcel Energy requirements (whether noted here or not in the SOW or contract documents) and charges for Xcel Energy work (whether noted or not in the SOW or contract documents) under this construction contract shall be included in the construction contractor's pricing.

The contractor shall provide spare fuses (one of each type used in the remanufactured, and new switchgear) to the Fargo VA Electricians.

The project shall be performed in two phases, but they shall run concurrently in terms of submittals, ordering material / equipment, etc. Phase definitions are provided below and the submittal process and acquisition of the exterior switchgear and other equipment or materials by the contractor shall take place at the same time. The time

difference between the phases is the expected additional time to obtain the equipment (remanufactured or repaired in place equipment versus new equipment):

Phase 1 – This phase shall remove the existing exterior switchgear that has been damaged by lightning and replace it with a remanufactured switchgear of the same size, identical to the existing damaged unit so that concrete pad and vault do not require replacement. If a remanufactured switchgear cannot be located that fits onto the existing pad and vault, the contractor may refurbish the switch on site (but all equipment and work shall still be required to pass all contract document required testing and certification requirements, provide reports and certifications to the COR), or the contractor may remove the wire / cabling, pad, vault, etc. and install a different size (dimensionally) switchgear with new vault, pad, wire / cabling, etc. All electrical disconnections and connections shall be the responsibility of the contractor, to include any work Xcel Energy. The duration for the Phase 1 work is expected to be less than the Phase 2 work.

Phase 2 – This phase shall remove the remanufactured or repaired in place exterior switchgear and replace it with a new switchgear. The construction contractor shall be responsible for any site prep or other work required to install the new switchgear. This may include, but not limited to, any changes required for the installation the of the new switchgear such as the vault, pads, concrete work, conduit, wire / cabling, etc. In all cases, the construction contractor shall be responsible for site preparations and modifications required to install the new switchgear and components. This work shall also include the necessary removal of existing equipment and site prep items (vault, pad, wire / cable, etc.) that do not meet the site prep requirements of the new switchgear being provided. All electrical disconnections and connections shall be the responsibility of the contractor, to include any work Xcel Energy may insist they have to perform.

The switchgear (new and remanufactured) shall match the paint color of the switchgear being replaced, which also matches the existing transformers at the Fargo VA. The paint for the original switchgear is noted as finish coat Munsell No. 7GY 3.29/1.5 Green (contractor shall verify) and is supposed to meet or exceed ANSI C57.12.28-1988 paint specifications for pad mounted equipment enclosure integrity.

The contractor shall label the switchgear to match the switchgear being replaced (similar to all other electrical distribution equipment at the Fargo VA) with a yellow background and black lettering as shown in Figure 3 below. Contractor shall provide all other code required signs and information that are required to be posted on the equipment in accordance with current VA and NEC requirements.

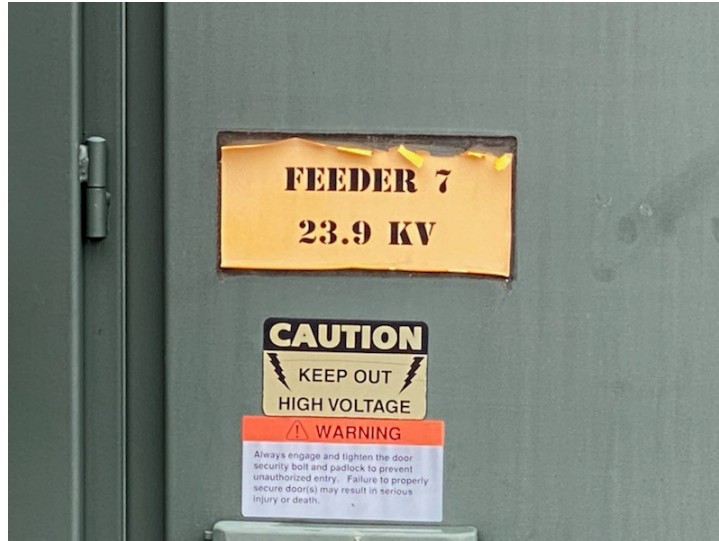


Figure 3 – Label Switchgear To Match

The remanufactured and new switchgear shall be provided with provisions for padlocks to be used to lock all switchgear sections so no one may open the switchgear without Xcel Energy and VA Electricians having been contacted and coordinated with for electrical work associated with the switchgear.

Electrical work shall comply with VHA Directive 1028, Facility Electrical Power Systems (current version) located at the VHA Technical Information Library.

Duration: Phase 1 - 8 weeks from NTP for the first phase of the project (replace switchgear damaged by lightning with a remanufactured or repaired in place switchgear).

Phase 2 - 40 weeks from NTP for the second phase of the project (replace remanufactured switchgear or repaired in place switchgear with new switchgear and place the remanufactured or repaired in place switchgear in storage where directed at the Fargo VA).

VHA Supplemental Contract Requirements for Ensuring Adequate COVID-19 Safety Protocols for Federal Contractors

1. Contractor employees who work in or travel to VHA locations must comply with the following:

a. Documentation requirements:

1) If fully vaccinated, shall show proof of vaccination.

i. **NOTE:** *Acceptable proof of vaccination includes a signed record of immunization from a health care provider or pharmacy, a copy of the*

COVID-19 Vaccination Record Card (CDC Form MLS-319813_r, published on September 3, 2020), or a copy of medical records documenting the vaccination.

- 2) If unvaccinated and granted a medical or religious exception, shall show negative COVID-19 test results dated within three calendar days prior to desired entry date. Test must be approved by the Food and Drug Administration (FDA) for emergency use or full approval. This includes tests available by a doctor's order or an FDA approved over-the-counter test.
 - 3) Documentation cited in this section shall be digitally or physically maintained on each contractor employee while in a VA facility and is subject to inspection prior to entry to VA facilities and after entry for spot inspections by Contracting Officer Representatives (CORs) or other hospital personnel.
 - 4) Documentation will not be collected by the VA; contractors shall, at all times, adhere to and ensure compliance with federal laws designed to protect contractor employee health information and personally identifiable information.
- 2. Contractor employees are subject to daily screening for COVID-19 and may be denied entry to VA facilities if they fail to pass screening protocols. As part of the screening process contractors may be asked screening questions found on the [COVID-19 Screening Tool](#). Check regularly for updates.**
- a. Contractor employees who work away from VA locations, but who will have direct contact with VA patients shall self-screen utilizing the [COVID-19 Screening Tool](#), in advance, each day that they will have direct patient contact and in accordance with their person or persons who coordinate COVID-19 workplace safety efforts at covered contractor workplaces. Contractors shall, at all times, adhere to and ensure compliance with federal laws designed to protect contractor employee health information and personally identifiable information.
- 3. Contractor must immediately notify their COR or Contracting Officer if contract performance is jeopardized due to contractor employees being denied entry into VA Facilities.**

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