



Salisbury VAMC - Correct High Voltage Deficiencies
Project 659-13-102
Addendum - Consolidated Bid Questions and Engineering Response
April 14, 2015

1. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.1.D.6.B. – Is the following acceptable vs. NEMA 4X for the enclosure:
The enclosure material:
(1) Shall be 14-gauge hot-rolled, pickled, and oiled steel sheet.
(2) To guard against corrosion due to extremely harsh environmental conditions, the enclosure can be made of Type 304L stainless steel vs. the 14-gauge hot-rolled, pickled, and oiled sheet steel.
- i.e. is either one of these materials acceptable?

A: Section 26 13 41 paragraph 2.1.D.6.b has been removed.
Material requirement for the low voltage control enclosure is described in Section 26 13 41 paragraph 2.1.D.12.h. Material requirement for the switch tank is described in Section 26 13 41 paragraph 2.1.A
2. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.6.G – Where is switchgear “PG1?” located?

A: PG1 is located near the existing 5kV metal-clad switchgear. It is included on, but not limited to, the following drawings: E-002, ES-101, E-409
3. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
13.A.1 – Alt 1, what design is this referring to?

A: For alternates see drawing GI-002 “Bid Alternates” section, and drawing E-004
4. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
13.A.2 – Alt 6, what design is this referring to?

A: For alternates see drawing GI-002 “Bid Alternates” section, and drawing E-004.
5. **Q:** 26 09 13 Power Monitoring and Control:
2.1.D.1 What is expected time to locate and isolate on the distribution loop?

A: Fault detection and loop reconfiguration should occur in less than one minute. Section 26 09 13 paragraph 2.1.D.5 has been added and reads as follows:



“5. The complete process of fault detection, fault isolation and automatic loop restoration shall be achievable in less than 60 seconds.”

6. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
1.4.C Will ester based less flammable fluid insulation be allowed?

A: Yes.

Section 24 13 41 paragraph 1.4.C.1 has been revised to read as follows:

“1. Insulating material shall be tested for moisture content.”

Section 26 13 41 paragraph 1.4.C.3 has been revised to read as follows:

“3. Switchgear shall be factory filled with insulating medium and dc hi-pot tested 1 minute phase-to-phase and phase-to-ground and across the open contacts. Circuit contact resistance of each way shall be measured with a micro-ohm meter **and documented.**”

Section 26 13 41 paragraph 2.1.A has been revised to read as follows:

“A. The switchgear shall have a sealed single welded mild steel tank, 3-phase load interrupter switches, and resettable 3-phase vacuum fault interrupters with visible open gaps and integral visible grounds, a microprocessor based overcurrent control, and an integral control power transformer so that an external control power feed is not required. Construction shall be a dead front design. Load interrupter switch terminals shall be equipped with bushings rated 600 amperes continuous, and fault interrupter terminals shall be equipped with bushing wells rated 200 amperes continuous or bushings rated 600 amperes continuous as specified below to provide for elbow connection.”

Section 26 13 41 paragraph 2.1.D.11.b has been revised to read as follows:



“a. Bushings and bushing wells shall include a semi conductive coating and shall be mounted so the semiconductive coating is solidly grounded to the sealed tank.”

7. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.1.B.4.a What is meant by “600 amp Apparatus bushing with integral voltage sensing bushings.” ?

A: A voltage sensing device ahead the switch way is required that provides indication to the protection relay if the voltage is present or not.
8. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.1.7.b,c Are separate but interlocked manual handle and visible break/ground switches OK?

A: Separate but mechanically interlocked visible break ground switch is acceptable.
9. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.1.10.b Will bushing and wells located on both sides of the gear be allowed?

A: No
10. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.1.12.a Will integral compartment mounted of swing-out doors be allowed

A: No
11. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.2 Is loop operated open loop or closed loop?

A: An operator configurable open point will be required within the loop. Following drawing GI-002 “Statement of Work” Note 5.
12. **Q:** 26 13 41 Pad Mounted Distribution Switchgear:
2.2.D.1 Will fault current monitoring for loop sectionalizing be done by internal CT's or a signal from an external fault indicator?



A: Either CTs or Fault Indicators on source ways may be used as long as Fault Isolation and Loop Restoration scheme can be implemented.

13. **Q:** Can the new pad mounted transformers be filled with FR3 or mineral oil?

A: Section 26 12 19 paragraph 2.9.C has been revised to read as follows:

“C. Transformer insulating material shall be less flammable, and UL listed as complying with NFPA 70 requirements for fire point of not less than 300° C (600° F) when tested according to ASTM D 92. Liquid shall have low toxicity and be nonhazardous.”

14. **Q:** Is there an existing SCADA system that monitors or controls the electrical system? If so, who is the manufacturer of the system? What type of system is it and is there a revision or model name?

A: There is no existing SCADA system.

15. **Q:** Is there any integration to the existing system for the SCADA system or is completely new with no ties to the old system?

A: There is no existing SCADA system.

16. If there are integrations to old system, what buildings or parts of the old system does this apply to?

A: There is no existing SCADA system.

17. **Q:** On GI-002 it states that backup electrical power sources may be necessary to limit the outages and on GI-003 it provide limits on downtime. If we stay within the limits of the maximum continuous outage duration, do we need backup generation?

A: If outages remain within the limits expressed on GI-003 then additional temporary backup generation will not be required to be provided by the contractor.

18. **Q:** If backup generation is needed required, can the VA provide the load at each building so backup generation can be accurately sized and priced?



A: No additional loading data is available. Building transformer size should be used as an estimate for the building load.

19. **Q:** Do any of the existing transformers contain PCB's? Is testing of the oils in the removed transformers a requirement or has this been accomplished by the VA prior to this project?

A: Contractor is required to test transformer oil for PCB content prior to removal. If PCB contamination is found, the contractor shall notify the COR.

20. **Q:** Will any asbestos be encountered in this project?

A: Asbestos is not anticipated. If it is encountered, the contractor shall notify the COR.

21. **Q:** Are there any fees that the contractor is responsible for with regard to Duke Energy and their associated work? It would be helpful in our pricing to understand in more detail what Duke Power is specifically responsible for and their scope of work.

A: All Duke Energy fees are part of a separate contract directly between the VAMC and Duke Energy. Additional language has been added to Section 01 00 00 paragraph 1.4 to describe work performed under a separate contract.

GI-003 PHASING PLAN Task 1 has been revised to read:

"TASK 1: **VAMC TO CONTRACT WITH DUKE ENERGY FOR UPGRADE AND CONVERSION OF EXISTING SUBSTATION TO 6MW, 12,470V.**"

22. **Q:** On the drawings there are several notes to remove trees. While walking the site, there were several areas with very large trees that were not marked to be removed. For example between MH35 and MH34 there were some very large trees and between MH27 and MH28. Is it the intent to remove the trees or work around them and cut the roots.

A: Care is to be taken around trees that are not marked to be removed. Upon contract award and alignment staking, contractor and VA to determine additional trees to be removed that were not identified to be removed in construction documents. Trees and root mass to be protected unless required by alignment to be removed. If a differing site condition is encountered the contractor shall notify the COR.



23. **Q:** Clearly in some areas there will be significant damage to tree roots. If a tree dies at a later date or shows signs of distress, who is responsible for tree removal at that point or help from an arborist?

A: Contractor to protect trees that are not identified for removal in the construction documents by means of tree protection and clean cutting of root systems when coming in contact with root systems. The VA will be responsible for disposition of trees that die after the construction is completed.

24. **Q:** Is there a requirement to run or extend the fiber into any buildings or is the work restricted to inside the manholes and switches?

A: The fiber will extend into building 4 as shown on GI-006, E-402, E-412, and ES-104.

25. **Q:** Between MH33 and MH34A the duct bank runs over the roof of a underground tunnel. During the walk through, there does not appear to be adequate clearance to accomplish a duct bank. Is there detail on how this will be accomplished? Will the wiring run down the outside wall in conduit. Can detail be provided on how it will be run down the wall and over the roof?

A: See CS-102 for expected cover and E-408 for installation notes.

26. **Q:** Near MH29, the duct bank run under a building. Is there detail or as-built drawings on the existing building that can be supplied on the foundation and footers? Additional information is needed to plan and bid the work. There does not appear to be a way to avoid going under the building.

A: See CS-103. This section of ductbank crosses under a pedestrian tunnel. These crossings are discussed in Section 26 05 36 Underground Electrical Construction paragraph 3.2.F.

27. **Q:** Between MH24 and MH25 the duct bank also runs under a building. Is there detail on how this will be accomplished? Is there detail or as-built drawings on the existing building that can be supplied on the foundation and footers? Additional information is needed to plan and bid the work.

A: See CS-104. This section of ductbank crosses under a pedestrian tunnel. These crossings are discussed in Specification 26 05 36 Underground Electrical Construction 3.2.F.



28. **Q:** Near MH34 there is a job trailer and associated items in the way from another project. Who is responsible for moving this prior to construction?

A: The contractor will not be responsible for moving job trailers, or equipment lay down for other projects. If a conflict is found the contractor shall notify the COR fifteen (15) days prior to work in conflicted area. The COR is responsible for coordinating removal of the items in question.

29. **Q:** E-501 illustrates two types of duct banks. One with rebar and one without. Where is the each type of duct bank used?

A: See Section 26 05 41 paragraphs 3.3.B.5 & 3.3.B.6

30. **Q:** Near MH29, there appears to be a construction laydown area? Who is responsible for moving this area prior to construction?

A: Refer to question 28

31. **Q:** Where on campus can we put our job trailers and laydown area?

A: Anticipated location is west of building 17. This may be altered after time of bid award. For general location of expected contractor laydown area see sketch AD-1 attached with this addendum.

32. **Q:** Is the VA reserving any of the demolished equipment that we are removing?

A: No

33. **Q:** Testing. Section 01 45 29, page 5 states a requirement for full time testing and observation. Can you elaborate on how much observation and testing is required on this project? I'd like to understand how often the backfill will need to be tested and at what frequency. The way this is currently worded adds a great deal of cost of the job.

A: Section 01 45 29 paragraph 3.1.A.2 has full time observation requirements applicable to pavement areas only. Testing frequency is stated in Section 01 45 29 paragraph 3.1.B.2.

34. **Q:** The specification calls for a complete site survey of the entire property by a Registered Land Surveyor. Is this a requirement or has a recent survey been performed that we can use or at least build off of?



A: A site survey was provided for design work. Contractor shall plan to provide existing conditions survey and other existing condition documentation to the COR as required by Section 01 00 00 paragraph 1.9 prior to construction. Section 02 21 00 has been removed from this project.

35. **Q:** In section 31 20 11 pages 2 and 3 discuss measurement and payment for excavation and rock excavation. Are we to assume a certain amount of rocks and boulders that will be removed as an allowance? How does this section work?

A: No allowance will be built into this contract. If differing site condition is encountered contract price may be adjusted on a case by case basis as stated in Section 31 20 11 paragraph 1.6.B

36. **Q:** In section 31 20 11 page 9, section 3.3 discusses proof rolling with a fully loaded dump truck. Is this required for trenching? It will be difficult in some areas to do this due to accessibility and could cause site damage.

A: Proof rolling is not required for narrow trench work. Approved hand or mechanical equipment will be required as outlined in Section 31 20 11 paragraph 3.3D.

Section 31 20 11 paragraph 3.3B has been removed.

Section 31 20 11 paragraph 3.3A has been revised and reads:

“A. General: Do not fill or backfill until all debris, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from the excavation. Use excavated materials or borrow for fill and backfill, as applicable. Do not use unsuitable excavated materials. Do not backfill until foundation walls have been completed above grade and adequately braced, waterproofing or dampproofing applied, and pipes coming in contact with backfill have been installed, and inspected and approved by COR.”

37. **Q:** In section 31 20 11 page 12 talks about a requirement for sod. Where is sod required? I assume seed can be used everywhere?

A: General reseeding of lawn areas will be acceptable



38. **Q:** Is there a grass seed type the VA recommends?

A: Kentucky 31 Tall Fescue

39. **Q:** Dewatering is part of the specification. Are there known areas on site where dewatering will be needed?

A: No, there are no known areas on site. Dewatering may be weather dependent.

40. **Q:** Can nearby power at the buildings be used to run dewatering pumps?

A: No. The contractor shall expect to provide a generator to power dewatering pumps or utilize pumps that are not driven by an electric motor.

41. The water being removed during the dewatering process is ground water. Can this be disposed of in a storm drain?

A: Dewatering due to ground water is not expected. Nevertheless, water from weather or intrusion into the trenches from ground sources and removed from excavated areas cannot be discharged directly to a storm drain. Contractor shall discharge sediment laden runoff from trenches as covered under Section 31 23 19 and approved by the COR. The contractor shall also follow the stormwater and erosion & sediment control permit requirements for the project. Small volumes of water can be discharged at ground surface up stream of the silt fence provide for in the plans. If dewatering of polluted water from trenches is of such volume causing erosion from discharging on the ground then a silt filter bag or other COR approved filtering product or BMP shall be used to filter the discharged water.

42. **Q:** Is there a coordination study available prior to bid?

A: No

43. **Q:** Will the spoils have to be dumped off site or is there a location on campus for this?

A: See Section 01 74 19 Construction Waste Management. Temporary storage on site may be accommodated with approval from the COR, but ultimately all construction waste will need to be removed from the site prior to project completion.

44. **Q:** Is there any restrictions on closing of streets?



A: Section 01 00 00 Paragraph 1.8.L.1 has been revised to read:

“1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles. Wherever excavation for new utility lines cross existing roads, at least one lane must be open to traffic at all times. **The lane must contain enough clearance for emergency vehicles and the city bus to pass unimpeded.** If excavation prevents the ability to maintain one lane open to traffic, the Contractor shall be responsible for the development of a plan for temporary access while the roadway is blocked. This proposed plan shall be presented to the COR at least 30 days in advance of road closure and COR approval of the plan (in writing) shall be required.”

45. **Q:** If any contaminated soils are encountered, how will this be addressed?

A: Contaminated soils will be treated as a differing site condition. If encountered the contractor shall notify the COR.

46. **Q:** If rock is encountered in the installation of the ductbank/ manholes, what provisions will be made for payment of rock removal measures?

A: Refer to question 35

47. **Q:** Option 1 for Controls: Relay to control the two source switches on each padmount switch load way protection. FDIR logic to be programmed into relays for an open loop configuration.

Option 2 for Controls: Relay to control the two source switches on each padmount switch for load way protection. FDIR logic to be programmed into relays for a closed loop configuration.

Please confirm which option is preferred.

A: Refer to question 11



48. **Q:** E301, Duct bank detail shows a typical duct bank, 3" concrete above and below the duct, Sheet E501 Detail shows 6" of concrete above and below the duct, which one is intended?

A: 3" of concrete above and below the duct as shown on E-001 is required. E-501 ductbank details have been revised to show this.

49. **Q:** Will the contractor be given a laydown area large enough to stockpile the spoils or will they have to haul off as excavated?

A: Refer to question 43

50. **Q:** Spec. section 26.05.41-7 states rebar @ the top and bottom of the duct bank in asphalt, Detail on sheet E501 depicts a ladder type rebar structure on the top only. Which one is intended?

A: More stringent requirement on specification section 26.05.41 paragraph 3.3.B is required. The detail on sheet E-501 has been revised to show rebar structure on the bottom as well.

51. **Q:** What size of conductor is required between the temporary Duke Power Sub to the existing 5 kv gear?

A: Drawing E-409 has been revised to indicate required cable. Also see addition to Section 01 00 00 paragraph 1.4.C.2.a. which reads:

"a. Two sets of three single conductor 350kcmil cable shall be installed between the temporary Duke Energy 4,160V delivery point and the existing 4,160V metal-clad switchgear."

For reference a picture of the existing 5kV switchgear's main incoming section is shown below. The temporary cable is required to be routed through the CT located in this section to maintain the zone of protection



52. **Q:** What is the Make of the Existing Generator and controls?
- A:** Generator controls are discussed in Section 26 09 13 Paragraph 2.1.I. Existing generator control components are discussed on E-003 Note #4.
53. **Q:** What protocol is available to communicate with Square D Ion Metering?
- A:** SCADA system is required to allow for future Modbus communication connections.
54. **Q:** What type of I/O is referenced on GI-006 note 9. Are these digital alarms or discrete hard wired alarms?
- A:** Discrete hard wired alarms.
55. **Q:** 26 09 13 2.5 Can SCADA logic be centrally located with the SCADA system in Bldg 4?
- A:** No, the SCADA controller must be located near the ring network.



56. **Q:** 26 11 16 2.9.5.a, will Ester based less flammable fluids like FR3 be allowed in lieu of silicone?

A: Section 26 11 16 paragraph 2.9.5.a has been revised to read as follows:

“a. Transformer insulating material shall be less flammable, and UL listed as complying with NFPA 70 requirements for fire point of not less than 300° C (600° F) when tested according to ASTM D 92. Liquid shall have low toxicity and be nonhazardous.”

57. 26 12 19 2.9.C will Ester based less flammable fluids like FR3 be allowed in lieu of silicone?

A: Refer to questions 6 and 0.

58. **Q:** 26 13 41 2.1.D.2 Will viewing windows located on the same side as bushings and wells be allowed?

A: No

59. **Q:** 26 13 41 2.1.D.13.f Movement of a link is required to manually operate 26 09 13 Power Monitoring and Control:

A: Section 26 13 41 2.1.D.13.f has been removed from the specification. Decoupling the motor operator for manual operation is acceptable.

60. **Q:** 2.1.D.1 What is expected time to locate and isolate on the distribution loop?

A: Refer to question 5

61. **Q:** 1.4.C Will ester based less flammable fluid insulation be allowed?

A: Refer to question 6

62. **Q:** 2.1.B.4.a What is meant by “600 amp Apparatus bushing with integral voltage sensing bushings.”?



A: Refer to question 7

63. **Q:** 2.1.7.b,c Are separate but interlocked manual handle and visible break/ground switches OK?

A: Refer to question 8

64. **Q:** 2.1.10.b Will bushing and wells located on both sides of the gear be allowed?

A: Refer to question 9

65. **Q:** 2.1.12.a Will integral compartment mounted of swing-out doors be allowed?

A: Refer to question 10

66. **Q:** 2.2 Is loop operated open loop or closed loop?

A: Refer to question 11

67. **Q:** 2.2.D.1 Will fault current monitoring for loop sectionalizing be done by internal CT's or a signal from an external fault indicator?

A: Refer to question 12

68. **Q:** Specification calls for indoor gear, one-line says NEMA 3R walk-in.

A: No walk-in type switchgear is required for this project. See Drawings E-003 & E-004. See Section 26 13 41 Part 2. The walk-in type switchgear shown on GI-005 is existing.

69. **Q:** There is nothing noting the number and ratio of CT's required.

A: See Drawings E-003 & E-004. See Section 26 13 41 Paragraph 2.1.D.8

70. **Q:** There are no VT's shown on the one-line. What is required, two bus connected VT's on each main?

A: See Drawings E-003 & E-004. See Section 26 13 41 Part 2.



71. **Q:** There are not CPT's shown on the one-line, is the AC control power being supplied by others.
- A:** See Drawings E-003 & E-004. See Section 26 13 41 Paragraph 2.1.A
72. **Q:** There are no relay functions specified?
- A:** See Drawings E-003 & E-004. See Section 26 13 41 Part 2.
73. **Q:** Is directional overcurrent sensing required on all ways of PG1?
- A:** For protective relay function requirements at 'PG1' reference Drawing E-003 and reference Section 26 13 41 Part 2.
74. **Q:** Will (3) PTs on the common bus of each pad-mounted switch suffice for voltage sensing?
- A:** No. Positive indication of available voltage ahead of a source way switch is required.
75. **Q:** The specification calls for indoor gear, but the one-line calls for NEMA 3R walk-in. We would like official clarification of which one is required.
- A:** Refer to question 68
76. **Q:** How many CTs are required per phase? What are the required ratios and accuracy class?
- A:** Refer to question 69
77. **Q:** There are no VT's shown on the one-line. What is required two bus connected VT's on each main?
- A:** Refer to question 70
78. **Q:** There are not CPT's shown on the one-line, is the AC control power being supplied by others?



A: Refer to question 71

79. **Q:** What are the requirements for the relays in the main switchgear?

A: Refer to question 72

80. **Q:** On the MFR-M, MFR-F, Is 2nd Harmonic blocking required to protect from inrush? We do not provide 2nd harmonic block requirements to address inrush currents. We achieve inrush restraint via our Cold Load Pick Up feature. The CLPU increases the pickup of all OC inverse curve and instantaneous / definite time OC elements. It becomes active after the breaker is open for a settable time delay, and remains active for a settable time delay after the breaker closes. The CLPU desensitizes the OC elements to avoid nuisance trips for hot-load and cold-load inrush. This is desirable for situations where the outage causes a loss of load diversity.

A: Harmonic Blocking is required to avoid tripping on transformer inrush conditions.

81. **Q:** Cannot find which type of duct is intended to be used for the duct bank. The specs mention Nema TC6 & 8 & TC9 and Sch. 40, but does not state which to use?

Please confirm the type wanted.

A: All duct types listed in section 26 05 41 paragraph 2.2.B are acceptable for use in the concrete encased ductbank.

82. **Q:** On sheet E-402, Note 3 states to remove the secondary conductors back to the existing Switchboard located in the Main Electrical room. There is no reference to how far this is from this location shown in the drawing. Please Clarify.

A: Building 3's main electrical room is located beyond exterior wall that the conduits shown on E-402 partial plan 'C' penetrate. Additional routing from what is shown on the drawing within the electrical room is approximately 50 feet.

83. **Q:** There is no reference to what size of Manhole ring and cover is required on the new manholes. Please Clarify.



A: Manhole detail on E-501 has been revised. Section 26 05 41 paragraph 2.1.F has been added and reads:

“F. A minimum 32 inch clear opening is required for accessing the manhole.”

84. **Q:** At the new pad mounted transformer locations where they are to be reconnected to the existing secondary conductors are too short, will spade extensions be required or can the conductors be spliced?

A: Preference is to reuse existing conductors without splicing, but splicing of existing secondary conductors in such situations is not prohibited.

85. **Q:** on Drawing E-403 Detail E shows a 4 way ductbank for the secondary conductors from the Transformer to the building, but it does not state a conduit size for the duct. Please Clarify.

A: All concrete encased ductbank shall utilize 5” ducts as shown on E-001 “SECTIONS-DUCTBANK (FOR USE ON SITE PLANS)” unless noted otherwise.

86. **Q:** The SCADA system shall monitor and display the analog value of all bus voltages and feeder current values available through protection relays in all distribution system equipment. The accuracy of these values will be dependent on the instrument transformer installed within the distribution system equipment. At a minimum the HMI shall display:

- a. Line-to-line voltage
- b. Three phase average current
- c. Three phase apparent power (calculated)
- d. Phase angle between voltage and current.

Question: What is the percent accuracy requirements for each of the above measured parameters?

A: The power, current and voltage display information are for operator indication only, they will not be used for metering purposes.

87. **Q:** Relay Class Accuracy of C100 is specified.

Question: Please confirm that a relay class accuracy of C100 is similar to an IEC rated CT of 25VA – 10P20 (i.e., A CT which is capable of a 25VA output while maintaining an error of 10% or less at 20 times the CT primary current level). Since the burden associated with a micro-processor type relay and its associated wiring



in switchgear is typically much less than the 1 ohm burden associated with a 25VA output of the CT, please explain the reason for requiring a relay class accuracy of C100 for all current transformers.

A: The project shall be bid as shown on the bid documents.

88. **Q:** Provided that the Burden on the CT could be limited to less than 0.5 ohms or 0.2 ohms, would a relay class accuracy of C50 (.5 ohm burden) or C20 (.2 ohm burden) be acceptable?

A: No. The project shall be bid as shown on the bid documents.

89. **Q:** Please confirm that the VTs are to be connected phase-to-phase to yield a 120 secondary side output. Is it a requirement that the VTs be used or could a more cost effective solution be utilized (i.e., voltage sensing circuit to measure the incoming phase-to-ground loop voltages and feeder voltages)?

A: VTs are to be wired phase to phase for a 120V secondary. VTs shall be used as shown on the bid documents.

90. **Q:** For Alternate 6, will the sectionalizing switches still need to be connected to the fiber network for remote supervisory features, or will they be individually hardwired simply for remote tripping and monitoring of position contacts?

A: Under alternate 6, the fiber optic network for remote supervision and remote and automatic vacuum interrupter trips remains a requirement.

91. **Q:** The following transformer have a note on (Drawing GI-004) below the transformer schematic stating "Furnished and Installed by others".
T2-3, T-1NH, TPD

Please confirm if these transformers should or should not be included in our bid?

A: As noted, these transformers will be furnished and installed by others. Neither the cost for procurement nor installation should be included in the bid for this project. The contractor is responsible for providing the primary side wiring and terminations to these transformers.



92. **Q:** Should Relays and CTs be provided for the Ways that are labeled as “SPARE” on the one-line diagrams?

A: Yes

93. **Q:** On drawing S-001 there are multiple references to aluminum construction of the stair assembly. However, note 6 references steel stairs. Can you clarify what materials shall be used to construct the stairs?

A: As noted on S-001 details 3 and 4 all structural members shown are Aluminum including grating.

Section 05 50 00 METAL FABRICATIONS has been added to this project.

Section 05 51 00 METAL STAIRS has been added to this project.

94. **Q:** On drawing ES-102, building 31 chiller plant shows S10 and S11. Can you confirm that these are switches SW10 and SW11?

A: S10 and SW10 are the same switch. S11 and SW11 are the same switch.

95. **Q:** On drawing E-402, comments 5 refers to extending wiring in existing conduit to the main switchboard in the main electric room. No detail has been provided on the main electric room or how far away it is. Can additional detail be provided.

A: Refer to question 82

96. **Q:** On drawing E-402, comment 10 refers to demolition of conduits and cable. What are the extents of the demolition?

A: All above ground conduits shall be removed. Further information can be found on ED-108

97. **Q:** RFI about rock in soil

A: Refer to question 35

98. **Q:** On drawing E-405. Please confirm switches 10 and 11 are government provided.



A: Switch 10 and switch 11 will be furnished by the government and installed by the contractor.

99. **Q:** On drawings E-406, note 7. What is to be done with the vault after the removal of switch ESW42?

A: The vault beneath ESW42 shall be removed as indicated on ED-106 Note 4.

100. **Q:** On drawing E-410, Partial Plan – Building 42. We did not see this room during the walkthrough. Will the old transformer fit thru the door or will structural modifications to the wall need to be made to get it out?

A: Means and method of removal is the contractor's responsibility. All areas were available for walkthrough upon request immediately following the pre-bid conference.

The door opening is approximately 90" wide and 82" tall.

The 4,160V cable tap box is approximately 27.5"x38.5" and 85" tall.

The transformer (including cooling fins) is approx. 56.75"x 96.5" and 79.5" tall.

Additionally a 5" tall tap changer handle is located on top of the transformer.

Pictures of the transformer and the door are shown below:





101. **Q:** On drawing E-409, Note 10 is about a temporary feed to the temporary substation. Can additional detail be provided as to what type of cable and sizing?

A: Refer to question 51

102. **Q:** Per SECTION 26 23 13, GENERATOR PARALLELING CONTROLS, 1.2 RELATED WORK, we are to follow the low voltage switchgear specifications.

The government doesn't have section 26 23 00 even listed as section in the table of contents.

Let me know if we can use SECTION 26 24 11 DISTRIBUTION SWITCHBOARDS to quote the paralleling gear.

A: Section 26 23 13 is not used on this project.

The existing standby generator will connect to a unit substation as specified in Section 26 11 16. Generator control requirements are included in section 26 09 13.

103. **Q:** 2.1.B.2 Do you want motor operator control of the loadbreak switch or the fault interrupter on the load ways? The drawings show control of the loadbreak switch.



A: Control through either method is acceptable

104. **Q:** 2.1.C.6 Can we use IEC61850 to monitor the heartbeat of the relays?

A: Yes, as long as the signal is specific to individual relay health.

105. **Q:** 2.1.E.2 Do you want motor operator control of the loadbreak switch or the fault interrupter on the load ways? The drawings show control of the loadbreak switch.

A: Refer to question 103

106. **Q:** Section 26 05 73 Electrical System Studies
These are typically completed by someone else. Will this be the case here or would you like us to contract someone to do them?

A: Electrical system studies are required per Section 26 05 73.

107. **Q:** 2.1.D.6.a Are you requiring the overcurrent control to be self- powered or can we use a relay feed from a control power transformer?

A: A local control power transformer is acceptable. See drawings E-003 and E-004.

108. **Q:** 2.1.D.12.c This is a large compartment. Should it be a separate enclosure or can this be included with the relays, etc?

A: Reserve space is to be included within the low voltage compartment.

109. **Q:** 2.1.D.13.a.1 What should the provisions include? Is this just mounting provisions with no future wiring provided or complete wiring and control just without the motor?

A: Provisions will be vendor specific, but shall include complete wiring and control just without the motor.

110. **Q:** 2.1.D.14.a Is sensing required on all ways or just the load ways?

A: All ways. Refer to drawings E-003 and E-004

111. **Q:** 2.1.D.14. b Is sensing required on all ways or just the source ways?



A: Refer to drawings E-003 and E-004.

112. **Q:** 2.1.D.14. b Is sensing required on all ways or just the source ways?
Per SECTION 26 23 13, GENERATOR PARALLELING CONTROLS, 1.2
RELATED WORK, we are to follow the low voltage switchgear specifications.

The government doesn't have section 26 23 00 even listed as section in the table of contents.

Let me know if we can use SECTION 26 24 11 DISTRIBUTION SWITCHBOARDS to quote the paralleling gear.

A: Refer to question 102

113. **Q:** How many PT's are required in switch PG1?

A: Refer to drawing E-003.

114. **Q:** Regarding Alt #1 (Deduct #1), do we provide a price to delete ALL motor operators, or only the source motor operators. Drawings say source feeder ways which is ambiguous.

A: Refer to Section 26 13 41 paragraph 2.1.D.13.a.1 and drawing E-004. Drawing E-004 contains the bold text designation "**ALT #1**" next to each switch way that will be affected by bid Alternate #1.

115. **Q:** Should the manufacturer include PROVISIONS for motor operators, if the motor operators are deleted? Our manufacturer has the ability to manufacture switchgear for which motor operators CAN be added at a later date, and they manufacture for which motor operators CANNOT be added later. Is it the intention of the VAMC to add motor operators at a later date?

A: Refer to Section 26 13 41 paragraph 2.1.D.13.a.1 and question 109.

