FAYDA ENGINEERING & ENERGY SOLUTIONS, LLC

ADDENDUM NO. 4
BIDEN MICROGRID
DELAWARE ARMY NATIONAL GUARD
1 VAVALA WAY, NEW CASTLE, DE 19720
DE ARNG PROJECT: 2023-18
NGB PN 100110/94951

Date of Report: November 13, 2026
FE&ES Comm. No.: 23-1583

1.0 This addendum, Addendum No. 4, shall be made part of the Project Manual and Drawings dated September 2026 for the "Biden Microgrid".

2.0 Sealed bids for ARNG2318 – BIDEN MICROGRID will be received by the Delaware Army National Guard by mail at the Security Officers Desk in the Main Lobby of the Biden National Guard/Reserve Center, 1 Vavala Way, New Castle, Delaware 19720 **1:00 PM local time on Tuesday, December 1, 2026**, at which time they will be publicly read aloud in the Multi-Purpose Room.

Sealed bids shall be mailed and addressed to the Delaware Army National Guard, 1 Vavala Way, New Castle, Delaware 19720; ATTN: Nikia Wongus, Business Manager. The outer envelope should clearly indicate: "ARNG2318 – BIDEN MICROGRID; – BIDEN MICROGRID – SEALED BID – DO NOT OPEN."

All bidders are reminded of the following excerpt from Specification Section 00 73 13 SUPPLEMENTARY GENERAL CONDITIONS, Article 1.2.1.1: In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation."

3.0 Changes to Specifications

3.1 Specification Section 26 05 13.00 10 MEDIUM-VOLTAGE CABLES:
1. Article 2.01 REVISE Standard of Design to: #4/0 compact copper conductor, EPR insulation, concentric neutral, 133% insulation level, full neutral and PVC outer jacket to OKONITE Model 141-23-2099 or pre-approved equal.

3.2 Specification Section 26 13 01 PAD-MOUNTED DEAD-FRONT AIR INSULATED SWITCHGEAR:
1. Article 2.1 REVISE Standard of Design to PME-5 with SM-20 Fuses (fuse size per Power System Study) and 18" non compartmentalized base spacer.
2. ADD Article 2.6: Accessories, 2.6.1: Provide hot stick Accessory.

3.3 Specification Section 26 32 15.00 ENGINEERING-GENERATOR SET STATIONARY 15-2500 KW, WITH AUXILIARIES;

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1. REVISE Article 2.21.3.1: Accomplish simultaneous activation of the audible signal, activation of the visual signal, stopping the engine, and opening the generator main circuit breakers. Provide emergency pushbutton operator for each generator.
2. REVISE Article 2.30.1.b from Resistive & Inductive to 100% Resistive.

3.4 Specification Section 26 13 14 SWITCHGEAR HOUSE: Add the following Articles:

1. REVISE Article 2.13.1: Provide conductors, conduits, fittings, panelboards, circuit breakers, receptacles, GFI receptacles, toggle switches, dry-type transformers, automatic transfer switches, surge protective devices, lighting contactors, grounding and related switchgear house accessories in accordance with Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM. All electrical equipment and devices must be UL listed. All wiring must be installed in metallic conduit. Utilize EMT for interior locations and rigid galvanized steel for exterior locations and areas subject to physical damage. Access and working space must be maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment in accordance with NFPA 70, Article 110. CPT1 serving AC Panel shall be sized by the Switchgear House vendor to ensure transformer is sized properly to accommodate the HVAC, space heaters and ancillary loads for the building as well as an additional 5kVA for other loads supplied by the panel. Increase panel ampacity as required.
2. REVISE Article 2.13.7: Provide in accordance with Section 26 13 13 METAL-CLAD SWITCHGEAR. Provide space for breaker truck in Switchgear House. Provide increased width to accommodate additional bay of metal clad switchgear.
3. ADD Article 2.14 Accessories and 2.14.1 Emergency Eyewash Station. Provide Emergency Eyewash Station in Switchgear house. Provide space for eyewash station in Switchgear House. Eyewash Station shall be Fendall Pure Flow 1000 or equal.

3.5 Specification Section 26 33 53 STATIC UNINTERRUPTIBLE POWER SUPPLY. ADD this section in its entirety. This specification is for the UPS to be located in the switchgear house.

3.6 Specification Section 33 82 00 TELECOMMUNICATIONS OUTSIDE PLANT (OSP):

1. Article 2.7.1: Add the following paragraph A: 12 strand fiber shall be Belden, 12 strand, gel filled, single mode OS2, Model # FSDL0126F or approved equal.
2. Article 2.5: Add the following paragraph A. Provide innerduct in all active conduits and Muletape pullrope in all spare conduits. Innerduct shall be Maxcell Innerduct Type MXE64284 or approved equal.

4.0 Addendum #3 Clarifications/Additions:

4.1 Drawing E-9; ADD the following General Notes:

1. Provide one (1) insulated green ground conductor in all active medium voltage conduits to match size of phase conductor.
2. Provide Polyethylene (Muletape or equal) pull rope in all spare conduits.

4.2 Drawing E-40, Details 7 & 8 and associated notes:

1. Revise interior dimensions of manholes to 6'W x 6' L x 6' D.

2. Provide 6" #57 stone beneath manhole.
3. Manhole shall be set 18" Below Grade to top of manhole envelope, set manhole frame & cover on precast concrete collars totaling 12". Top of manhole shall match adjacent grade (grass/asphalt paving, etc.)
4. Provide reinforced fiberglass stanchions and racks in all manholes. Racks & stanchions shall equal Underground Structures, Inc. Model RA-12 cable rack and Model CR48B Stanchion.
5. Manhole Cover shall be cast with either ELECTRIC or COMMUNICATIONS. Standard of Design and Construction is Neena Foundry 36" clear diameter.
6. Provide de-watering of excavation if required.

4.3 Drawing E-40, Detail #9:

1. Omit #4/0 bare ground conductor run exterior to ductbanks. Provide insulated ground conductor in all medium voltage conduits to match size of phase conductor.

5.0 Changes to Drawings

5.1 Drawing CS-3; REPLACE current drawing with new drawing CS-3 attached herewith.
5.2 Drawing E-5; REPLACE current drawing with new drawing E-5 attached herewith.
5.3 Drawing E-7; REPLACE current drawing with new drawing E-7 attached herewith.
5.4 Drawing E-8; REPLACE current drawing with new drawing E-8 attached herewith.
5.5 Drawing E-9; REPLACE current drawing with new drawing E-9 attached herewith.
5.6 Drawing E-12; REPLACE current drawing with new drawing E-12 attached herewith.
5.7 Drawing E-34; REPLACE current drawing with new drawing E-34 attached herewith.
5.8 Drawing E-35; REPLACE current drawing with new drawing E-35 attached herewith.
5.9 Drawing E-36; REPLACE current drawing with new drawing E-36 attached herewith.
5.10 Drawing E-37; REPLACE current drawing with new drawing E-37 attached herewith.
5.11 Drawing E-40; REPLACE current drawing with new drawing E-40 attached herewith.
5.12 Drawing E-41; REPLACE current drawing with new drawing E-41 attached herewith.
5.13 Drawing C-2; REPLACE current drawing with new drawing C-2 attached herewith.
5.14 Drawing C-4; REPLACE current drawing with new drawing C-4 attached herewith.
5.15 Drawing PV-13, PV-14, PV-15; ADD New Drawings to reflect PV at Cold Storage Building attached herewith.
5.16 Sketch SK-S1: Add new sketch that identifies new box pad for Delmarva Primary Metering Stations attached herewith.

5.17 Drawing E-8, E-35 Microgrid Switchgear Yard; ADD the following General Notes:

1. Provide 2" x 6" pressure treated border inside perimeter fence to contain stone.
2. At each of two (2) entrances to the Switchgear House, provide 4" x 48" x 48" walkoff pad and stair to meet elevation of switchgear house.

5.18 Drawing S-2, Detail 1

1. Revise pad for Utility Company Metering to fiberglass box pad. Pad shall be furnished by Utility Company and installed by contractor. Refer to Sketch SK-S1 for pad details.

5.19 Drawing S-2, Details 2 & 3; MODIFY Pad Detail as follows:

1. All concrete pads shall be set 6" above adjacent grade. Top of slab thickness shall equal that shown on drawings.
2. All concrete pads shall have a 36" frost wall beneath adjacent grade.
3. All concrete pads shall have #4 rebar on 12" centers, each way including portions of turn-down slab.
4. All pads shall extend beyond equipment footprint by 6".
5. On grades with slopes, set pads such that in sloping conditions; higher side is no less than 6" above grade.
6. All equipment anchors shall be set internally to equipment wherever possible.

6.0 Questions/Clarifications

6.1 E-9 calls for 3-1/C 1100MCM (15KV) on both utility incoming feeds, in two segments each: the 12 kV 600 A pad mounted switch (Utility Feed #184 preferred, #183 alternate) to the utility metering unit, and the metering unit to the 15 kV metal-clad switchgear mains MA1 and MB1. Spec 26 05 13.00 10 requires copper, Class B stranded, 133 percent insulation, tape shield. All major wire and cable suppliers we contacted have declined to quote 3-1/C 1100 kcmil 15 kV, 133 percent, copper tape-shield cable. The reason given is that 1100 kcmil is not an available product in this construction.

Reply: See Addendum #3 for updated cable size. 1100 MCM cable to new switch is by Delmarva.

6.2 Background: C-2 shows the site duct banks as (2) 4" PVC. Three 1/C 1100 kcmil 15 kV cables (about 3.0 sq in each, roughly 9 sq in total) do not fit one 4" Schedule 40 PVC (about 5.0 sq in at 40 percent fill per NEC Chapter 9). E-35 shows "(3) 4" CONDUIT / (2) 4" CONDUIT" at the metering units, which suggests one phase per conduit plus spares.

1. Please confirm, for the utility incoming feeders from each 12 kV switch to the metering unit and from the metering units into the switchgear house:
    a. a. Number and size of conduits per feeder (for example (3) 4" PVC, one phase per conduit, or (1) 6" PVC), and the number of spare conduits.
    b. b. Duct bank configuration and envelope for these segments, including the MH-10 to MH-9 segment in the 12" casing (C-2), which will not hold more than (2) 4" conduits.

Reply: See Addendum #3 for updated cable size for the cables between the 12kV switches and metering units and switchgear. With the updated size, a single 4" is acceptable for the main feeders, therefore, there would be one 4" for the feeder and one spare 4" in each ductbank to the utility interfaces.

6.3 Background: CS-2 General Note 30B requires that in exterior locations all exposed conduits, boxes, fittings, support channels, mounting hardware and accessories be primed with a 2-part epoxy primer and finished with two coats of aliphatic acrylic urethane to match the surface on which they are mounted or the adjacent finish; stainless steel need not be painted. Note 30A requires two finish coats on interior exposed work. Spec 26 20 00 3.4 says only to "paint electrical equipment as required to match finish of adjacent surfaces or to meet the indicated or specified safety criteria."

1. Does General Note 30B require field painting of ALL exterior exposed conduit and support structures (galvanized RMC, boxes, fittings, strut, racks and hardware), including in the fenced microgrid yard, at equipment pads and on the PV roofs? Or does it apply only where conduit is exposed on building facades and must match the adjacent finish?

Reply: Painting only applies only where conduit is exposed on building facades and must match the adjacent finish.

6.4 Do conduit stub-ups inside equipment (inside the switchgear house cable compartments, padmounted transformer and switch compartments, generator, BESS and PCS enclosures, panels and pull boxes) require painting?

Reply: Painting of conduit inside equipment is not required.

6.5 Is PVC-coated rigid conduit, exempt in the same way as stainless steel?

Reply: PVC coated rigid steel conduit is not required to be painted.

6.6 Per drawing C-2, MH-4 is to be located at an elevation approximately 13’ above MH-3. Installing the proposed piping to cover the 13’ vertical rise would require drilling at an angle over 20° creating challenges such as drill string failure, hole instability and increased torque and drag. Issues which can lead to operation delays, equipment failures, and difficulties in maintaining the desired drill path. It is for this reason that most practical work is kept below 10° - 15°. To safely drill under the existing retaining wall, gradually rising to the higher elevation far enough away from the wall, we will need a minimum150’ run. We would like to eliminate MH-3, and drill from MH-2 to MH-4. MH-4 would be moved closer to MH-9, as shown in the attached, provided extra time to get under the retaining wall and back to a workable depth without adversely impacting the wall structure. We would apply the same approach to the telecom manholes. To reiterate, the short runs (MH-3 to MH-4, T-MH-3 to T-MH-4) cannot work as shown. There is not enough room to get the equipment in place and drill under the retaining wall. The wall would have to be removed to allow such installations.

Reply: The proposed recommendation to eliminate manhole MH-3 and T-MH-3 would be acceptable.

6.7 The MH-10 to MH-9 run presents similar challenges. The 100’ run as shown would require a steep angle to get under the stairs, walk and up to the final elevation. We would like to modify the run by shifting MH-10 50’ west, increasing the run to the 150’ minimum.

Reply: The proposed recommendation to move T-MH-10 and MH-10 would be acceptable.

6.8 We request an extension of the bid due date to allow time to process and disseminate pending RFI responses and amendments to our subcontractors, equipment and material vendors.

Reply: See Addendum #3.

6.9 What is the existing concrete paving depth and reinforcing for the driveway behind the Biden HQ we need to remove and replace.

Reply: Assume sidewalk is a 4” concrete pad over 4” stone.

6.10 Confirming the new 5" conduit (480V) is to be run in the driveway from the disconnect switch to new MH-2.

Reply: Provide new (2)-5" conduits parallel to 12kv ductbank for 480V services from Microgrid Switchgear to 400A Disconnect Switch at Biden Headquarters. Provide 36" x 36" Quazite boxes on intervals equal to 12kv manholes. One conduit shall be active, one conduit shall be spare.

6.11 Confirming the new fiber optic line is new crossing the driveway to T-MH-1 behind Biden HQ.

Reply: The new fiber optic line is new crossing the driveway to new manhole T-MH-1 behind Biden HQ.

6.12 Confirming the new ductbanks run outside the fence between MH-5, MH-6, MH-7 & MH-8.

Reply: The new ductbanks will run inside the fence between MH-5, MH-6, MH-7 and MH-8. Refer to revised drawings E-5, E-7, C-2 for revised routing.

6.13 Confirming we will be responsible for replacing the trees along the ductbank run outside the fence if the damage to the roots are significant.

Reply: Contractor is responsible for replacing trees along the ductbank run outside the fence if the damage to the roots are significant.

6.14 Please identify how we are running the ductbank not shown that is connecting to the new AASF Fire Pump House 1000KVA Transformer.

Reply: Refer to Addendum #3 for revised drawing, E-7.

6.15 Civil drawings are only requesting two 4" conduits in the ductbanks shown from the new switchgear to the buildings. Please confirm that two 4" conduits are to be run to EACH of the buildings served.

Reply: Primary ductbank cross section from Switchgear to MH-6 shall be (6)-4" conduits in a 2 x 3 arrangement with 3 active, 3 spare. Ductbank cross section from MH-6 to MH-8 shall be (4)-4" conduits in a 2 x 2 arrangement with 2 active, 2 spare. Ductbank cross section from MH-8 new AASF Fire Pump Transformer shall be (2)-4" conduits in a 1 x 2 arrangement with 1 active, 1 spare.

6.16 What is the arrangement of the Telecom conduits from the switchgear to all buildings?

Reply: Telecom Ductbank shall be (2) x 4" conduits in a 1x2 arrangement. 1 active and 1 spare conduit.

6.17 Confirm every other fence post must be grounded, the drawing on E-34 only shows one post tied in.

Reply: Per notes on sheet E-34 and E-39, every other fence post must be grounded.

6.18 Confirm there are no ground test wells on the project, there is a symbol for them but they are not shown anywhere.

Reply: Refer to revised drawing, E-34, issued in this addendum.

6.19 Do the fire alarm devices within the switchgear house have to be from a certain vendor? Or is it a self-sustained system just for the enclosure.

Reply: No specific vendor was utilized in the basis of design. Ensure that system is self-sustained.

6.20 Addendum 2 called for new fire alarm in the fire pump house, is there new devices shown somewhere or is it just referring to cybersecurity?

Reply: No new fire alarm devices are included in design at the fire pump house. Specification was included for any coordination required with the existing system.

6.21 We would like to request an extension to the project due date to allow our more involved vendors to get a complete scope quote together.

Reply: See Addendum #3.

6.22 Casings are not installed via directional drilling, but by the jack and bore method, which is very disruptive as it requires the excavation of large-size jacking and receiving pits (~12'x36'). The pits would also be very deep as jack and boring is more for horizontal installations.

1. Please confirm that directional drilling, not jack and boring, is to be used at highlighted locations on drawing C-2.

Reply: Casings are available in various material to allow directional drilling. Casings do not have to be metal casings. Directional drilling is to be used as specified.

6.23 Please provide depths of proposed manholes MH-3, TH-3, MH-4 and T-MH-4. Has design factored in 12'-13' elevation difference between the sets of manholes?

Reply: Manholes shall be set 18" Below Grade to top of manhole envelope, set manhole frame & cover on precast concrete collars totaling 12". Top of manhole shall match adjacent grade (grass/asphalt paving, etc.). The elevation change was factored in. Contractor to confirm elevations during construction.

6.24 RFI response #5.57 states that ductbanks are required for all conduit installations. Concrete encasement is NOT compatible with the directional drilling method to be used for conduits installations between MH-3/TH-3 and MH-4/T-MH-4. Please clarify.

Reply: Concrete encasement is only required for open cut excavations and shall be omitted if installed under Alternate #1.

6.25 How is the highlighted telecom line between T-MH-1 and the handhole to be installed? If via open cut, please provide sectional details of existing concrete walk.

Reply: Assume sidewalk is a 4" concrete pad over 4" stone.

6.26 Please confirm requirements (if any) for temporary power during building transformer shutdown work. In addition, please confirm allowable duration of building shutdowns as we foresee them lasting longer than one day (8 hours) to complete transformer rework and reenergization.

Reply: Temporary power provisions shall be provided for the Biden Headquarters if the shutdown(s) exceed 8 consecutive hours. Provide 200kW roll up generator complete with fuel to serve the 400A ATS for this duration. AASF and Duncan RC do not require temporary power. Provide all refueling operations. AASF Fire Pump House can be phased to avoid any shutdowns greater than 1 hour.

6.27 Are lightning/surge arresters required for the Metal Clad switchgear?

Reply: Yes, per specifications; they shall be distribution class style. Refer to revised drawing E-12 in this addendum for location of arresters.

Original Signature on File
Edward Fayda, P.E.

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Attachments:
1. Specification Section 26 33 53 STATIC UNINTERRUPTIBLE POWER SUPPLIES
2. Drawing CS-3
3. Drawing E-5
4. Drawing E-7
5. Drawing E-8
6. Drawing E-9
7. Drawing E-12
8. Drawing E-34
9. Drawing E-35
10. Drawing E-36
11. Drawing E-37
12. Drawing E-40
13. Drawing E-41
14. Drawing C-2
15. Drawing C-4
16. Drawing PV-13
17. Drawing PV-14
18. Drawing PV-15
19. Sketch SK-S1

cc: All Registered Plan Holders