Project: EMS STATION # 3 Standby Emergency Generator Installation Specifications

Demo existing 200 amp meter base, and wiring through wall to existing 200 amp main panel. Patch holes in exterior wall, and seal hole in back of exiting Panel A. Remove Utility PVC conduit to below grade and transition to Rigid galvanized conduit to New Meter Main Combination Panel above grade.

Demo existing generator and turn over to owner

Demo existing generator pad.

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Demo existing Generac automatic transfer switch and turn over to owner. Remove generator cable along wall and patch holes in wall. Interior, and exterior.
Label and save circuitry from Generac automatic transfer switch, and rework circuits to new sub panel B.

Install New 120/240V single phase, 3 wire, service entrance rated, 200amp Meter/Main Breaker Combination Panel with 3/0 feed through lugs to feed new Automatic Transfer Switch. (Include two 20 amp single pole circuit breakers for generator engine block heater, and battery charger, and 4 blank spaces for future exterior equipment)
Install two new ground rods, and new bare # 6 copper grounding electrode conductor if existing can't be located.

Install New 200 amp 120/240V single phase Nema 3R Automatic Transfer Switch (ATS) along side New Service Meter Main Combination panel.
Install 2" rigid conduit nipple with Meyers hub with bonding bushing between Meter Main and Automatic Transfer Switch. Install 3 # 3/0 thhn copper conductors, and 1 # 6 green copper conductor.

Install 1" conduit with 8 # 14s with ground from Automatic Transfer Switch to Generator for controls and signal conductors

Install 1" conduit from Main Meter Combination panel with 4 # 12 thhn conductors with 1 # 12 green thhn equipment grounding conductor. (One block heater circuit, and one battery Charger Circuit.)

Install 2" rigid conduit with Meyers hubs and 3 # 3/0 thhn copper conductors, and 1 # 6 green copper grounding conductor from New Automatic Transfer switch to existing 200amp Main Panel A. Use aluminum LBs to penetrate Wall. No PVC conduit or fittings will be accepted.

In existing 200amp Main Panel A separate grounding conductors, (Neutral) grounded conductors, and remove bond between ground and neutral as it is now a sub panel. Install ground bar if necessary for separation of conductors.

Install a New Sub Panel B 200amp buss, 120/240V, single phase, 40 circuit Main Lug only alongside existing 200amp Main Panel A
Install 100amp 2 pole circuit breaker in existing 200amp Main Panel A to feed New Sub Panel B.

Install 1 ½" EMT Nipple with Compression connectors and bonding bushings, 3 # 3 thhn copper conductors, 1 # 6 green copper conductor between Main Panel A and New Sub panel B.

Install 2" pvc conduit underground from generator to 200amp Automatic Transfer Switch, with 3 # 3/0 thhn copper conductors, and 1 # 6 green thhn copper service entrance feeder conductors. Where conduit is above ground transition to Rigid Conduit with Meyers hub connector to Automatic Transfer Switch.

Install New 120/240V, Single Phase, 50 KW Natural Gas Generator. Include sound attenuated weather proof cover, startup, testing, training, and 4hr load bank test. Include digital programmable screen at generator, with temp alarm, coolant alarm, oil alarm, etc.. include programable weekly test operation at owners desired time. Include 5 contacts for owner monitoring capabilities. Generator running, Generator fail, Phase loss, two spares for future. Include 5 year manufacturer warranty, and 1 year complete warranty.

Generator to be Kohler, Cummins, Caterpillar, or Generac.

Install ground rod at generator, and connect a # 4 bare copper conductor to frame bond to Grounding electrode system.

Install 12" concrete pad with # 5 rebar matt 12" on center. Pad to extend 12" past each side of generator. Anchor generator with 5/8" x 5" minimum stainless steel concrete anchors at each base hole. (Or to manufacturer requirements whichever is larger)

Ground and bond new service and bond building to meet NEC.

Include gas piping by licensed plumber under this contract. Gas Meter to be supplied by natural gas supplier. Consult with generator supplier, gas supplier, and plumbing contractor to assure correct piping for generator to operate as it should.

Note:

All exterior conduit above ground to be rigid galvanized conduit threaded and Meyers weatherproof hub connector type connections. Bonding lug on one end of each conduit entry.

All underground to be PVC schedule 40 conduit with transition to rigid galvanized 90 degree elbows and rigid conduit above grade. No PVC will be accepted above grade.

All interior conduit shall be EMT conduit with insulated throat steel compression connectors, and steel compression couplings.

Strap and fasten all conduit per NEC.