

Ord. 0212-2006

MODIFICATION #3

This modification contains various changes required for completion of the Italian Village Substation.

Information to be included in all Legislation Modifying Contracts:

The names of all Companies bidding or submitting an RFP or RFSQ for the original Contract.

ABB, Inc.
Mitsubishi Electric Power Products, Inc.
V A Tech Elin USA Corporation

The location by City and State of all Companies bidding or submitting an RFP or RFSQ for the original Contract.

ABB, Inc.
650 Ackerman Road
Columbus, Ohio 43202

Mitsubishi Electric Power Products, Inc.
Thorn Hill Industrial Park
530 Keystone Drive
Warrendale, Pennsylvania 15086-7534

V A Tech Elin USA Corporation
501 Technology Drive
Canonsburg, Pennsylvania 15317

The status, Majority, MBE, FBE, of all Companies bidding or submitting an RFP or RFSQ for the original Contract.

ABB, Inc. – Majority
Mitsubishi Electric Power Products, Inc. – Majority
V A Tech Elin USA Corporation – Majority

The name and location of the Firm awarded the original Contract and the Contract Number.

ABB, Inc.
650 Ackerman Road
Columbus, Ohio 43202
P.O. # EL004478
AC022700/1

A description of work performed to date as part of the Contract and a full description of work to be performed during any future phasing of the Contract.

The contractor has completed all site work, building and equipment installation. The contractor is finishing punch list items.

An updated Contract timeline to Contract completion.

The substation has been energized. The contractor has completed the major portions of the project. The contractor is working to complete the project by spring of 2006.

VARIOUS CONTROL PANEL WIRING

The contract was bid with AEP's standard control panel control scheme. After the contract had been awarded to ABB and before ABB placed the panels on order, some of the equipment component manufacturers, that were specified, went out of business. These panels were sole source per AEP requirements.

AEP had to redesign the panel logic using different equipment components. These changes required considerable wiring changes to the panels, along with revisions to the data concentrators and an upgrade to the pulsar hybrid and addition of SEL-2884 relays to the AEP panels. The additional cost for this modification was \$20,731.

UPGRADED FENCE AND GATES

The project design and specifications required a security fence of seven feet (7') in height, with three (3) strands of barbed wire on top of the posts to meet code. This is a total fence height of eight feet (8'). Along the retaining walls, the fence was reduced to four feet (4') and set on top of the wall giving a total height from ground to top of over eight feet (8'). The specifications called for the fence to be galvanized chain link.

During the Italian Village Commission Meetings, the Commission and the next door building owner wanted the fencing changed from galvanized chain link to a more decorative fence. It was agreed to go with a black vinyl coated chain link fence with vertical black slats along the south and west side of the site. The additional cost for this modification was \$18,613.

CREDIT FOR UNUSED TRAVEL

The contract, as bid, had line items for factory witness testing for the 138KV GIS switchgear, transformers and 15KV switchgear. These line items were for up to three (3) Division engineers to travel to the factory and witness the various equipment factory tests. The Division did not send all three (3) engineers to the factory for witness tests. Not all the money that had been set up by City Council as part of the contract was spent. This item represents a refund credit to the City of \$12,138 from the contract awarded.

CONTAMINATED MATERIALS DISPOSAL

During construction, an unknown abandoned MCI communication duct system was encountered. The duct system contained lead insulated communication cables. Below the duct system was a twelve inch (12") pipe. The pipe was filled with an oily substance. Both the duct and pipe ran parallel with the property line and had to be removed for construction of foundations. The contractor had the oily substance tested and it was found to be contaminated with diesel fuel. The additional cost to the contractor for clean up and disposal of the contaminated materials was \$10,847.

REMOVAL/REPLACEMENT OF UNSUITABLE MATERIALS

The contractor's bid was based on soil borings provided in the contract documents by the City that indicated the existing soil was acceptable to build on. The contractor also performed their own soil borings with the same findings. During excavation it was discovered that there were approximately 800 cubic yards of unsuitable soil that had to be removed and replaced in order to obtain adequate soil compaction required for construction of the substation. The unsuitable soil did not show up in the test borings and could not have been foreseen without an excavation of the entire site. The additional cost for this modification was \$59,166.

MISCELLANEOUS UPGRADES

The contractor was instructed by the Division of Electricity to make various changes from what was in the contract. These items were: to upgrade the manhole openings to the new fifty inch (50") standard opening from a thirty-six inch (36") opening; a drainage pipe and additional fill was added along the east edge of the property to provide more access inside the AEP switchyard; revised the ground study for the AEP yard and add additional grounding; added a light foundation and conduit in the substation yard; rework conduits to the 350 East First Avenue building transformer to provide construction power and testing power for the substation; and painted the interior of 138KV GIS building. The additional cost for this modification was \$18,579.

CREDIT FOR EXTRA TERMINATION KITS

The contract required additional cable termination kits be supplied for future 500MCM 15KV cable for outgoing feeder circuits. Due to a design change the feeder circuits will now be 750MCM. Therefore, the terminators for 500MCM cable will not be needed for this project. This item represents a refund credit to the City of \$4,120 from the contract award.

PENALTIES FOR TRANSFORMER LOAD LOSS

The contract states what the penalties are if the transformer does not meet the guaranteed "*No Load Losses*" and "*Load Losses*" at the neutral point at the FA/FA 55 degree C rating. Both transformers had "*No Load Losses*" that measured higher than the guaranteed value bid of 25.0KW. The losses, as tested during the witness testing, were 28.7KW and 27.5KW for units 1 and 2 respectively. These higher losses were due to a change in the core steel material purchased due to availability problems. This represents a refund credit to the City of \$31,100 from the contract award.

CONCRETE APPROACH RAMP REPAIR

At the time the contract was bid, the area between the Division of Electricity's substation and the building at 350 East First Avenue, owned by Capital Equities, was not paved. The contract was held up by the bond sale in 2004, which delayed the project by approximately four (4) months, pushing construction start in the winter. This put the construction schedule past the spring window that AEP gave to take a 138KV line outage to tie into the new substation.

By mutual agreement between the contractor and the Division of Electricity, the substation start was postponed until spring to allow the contractor to take advantage of better weather and still have construction completed in time for AEP's fall outage window. Because of the delays, the building owner at 350 East First Avenue installed the approach ramp so they could obtain their building occupancy permit. This ramp had to be removed and later reinstalled by the contractor to install underground manholes. These manholes were placed in the locations indicated in the construction plans. The additional cost for this modification was \$7,881.

ENCROACHING FIBER OPTIC LINE WORK IMPACT

The contractor bid and the contract indicates that the existing AEP overhead distribution circuit and Insight fiber optic line would be removed by the time construction started. AEP did have their distribution circuit removed before construction started but Insight did not. Insight's fiber line passed directly over where the contractor had to build the building to house the 138KV GIS switchgear and panels.

The contractor worked around the site with excavations and concrete work to avoid the fiber line until the building was constructed. The contractor had to start work on the GIS building exercising extreme caution working around the fiber line. They had to rent a large crane to erect the steel columns and rafters/purlines over the fiber line.

The project fell behind schedule because the fiber line was not removed in the proper time frame. Additional costs were incurred with crane rental, lost time and working overtime in an attempt to get the contract back on schedule. The building was on the critical path to complete the project. The additional cost for this modification was \$12,987.

DIVISION OF ELECTRICITY PROVIDED SAFETY SIGNS

The Division of Electricity provided the contractor with the Division of Electricity's standard safety signs which are used at all other substations. The contractor is providing the City with a credit of \$300 they had bid, which is contained in the contract price.

ASPHALT REPAIRS

At the time the contract was bid, the area between the Division of Electricity's substation and the building at 350 East First Avenue, owned by Capital Equities, was not paved. The Contract was held up by the bond sale in 2004, which delayed the project by approximately four (4) months, pushing construction start in the winter. This put the construction schedule past the spring window that AEP gave to take a 138KV line outage to tie into the new substation.

By mutual agreement between the contractor and Division of Electricity, the substation start was postponed until spring to allow the contractor to take advantage of better weather and still have construction completed in time for AEP's fall outage window. Because of the delays, the building owner at 350 East First Avenue paved the parking lot so they could obtain their building occupancy permit.

The contractor had to remove large parts of this pavement in order to install duct banks, grounding system and drains. In order to repair the pavement to its previous condition, the contractor patched the excavation areas and recapped the entire parking lot with asphalt. The additional cost for this modification was \$30,489.

ASSISTANCE WITH TELEPHONE SERVICE

The Division of Electricity needed assistance in getting SBC to install a telephone line and data line into the substation. These phone lines were needed before the Division could energize and operate the substation. ABB, Inc. was asked to assist with this work. The additional cost for this modification was \$3,850.

A description of any and all modifications to date, including the amounts of each modification and the Contract Number associated with any modification to date. (List each modification separately).

Modification #1: \$89,785 – (EL005062) - This modification was a change in design and installation to install the 138KV GIS bus from overhead to underground.

Modification #2: \$82,663 – (EL005242) - Due to site conditions and set back requirements, the 138KV building was moved fifteen feet (15') north. This move required that the 138KV GIS bus had to be extended fifteen feet (15'). Also, the HVAC system in the 138KV building was modified to include air conditioning. The air conditioning was required for the control equipment being used in the building.

A full description of the work to be performed as part of the proposed Contract modification. (Indicating the work to be a logical extension of the Contract is not sufficient explanation).

VARIOUS CONTROL PANEL WIRING CHANGES

This substation tied into AEP's transmission line between two (2) AEP substations. In order to maintain the integrity of their system, AEP had requirements that the City had to meet in order to construct the substation. AEP has standardized their control panels so that one (1) station will be the same as the others. One of the component manufacturers went out of business requiring AEP to redesign their panels. The redesign required the panel manufacturer to rework the wiring and add some new components.

UPGRADED FENCE AND GATES

During the Commission Review Meetings, the Division of Electricity was requested to change the fencing from a standard galvanized chain link fence to black vinyl coated chain link fence. The Division agreed to change the south and west fences, which can be seen from the Italian Village Area.

CREDIT FOR UNUSED TRAVEL

The contract had a line item for three (3) Division engineers to travel to the plant for witness testing. Only two (2) engineers actually traveled for these tests, therefore, the contract is being modified for a deduction to reflect this change.

CONTAMINATED MATERIALS DISPOSAL

During construction, an abandoned unknown MCI communication duct system was encountered. The duct system contained lead insulated communication cables. Below this duct system was an unknown and abandoned drain pipe. The pipe was filled with an oily substance. Both the duct and pipe ran parallel with the property. Both had to be removed and disposed of for construction to continue.

REMOVAL/REPLACEMENT OF UNSUITABLE MATERIALS

The contract has reference soil borings and footing recommendations. The contractor took additional soil borings with similar foundation recommendations. After excavation, the soils testing company could not obtain a compaction test rating that would support the structures being constructed. The contractor had to remove approximately 800 cubic yards of additional soil and replaced it to obtain compaction.

MISCELLANEOUS UPGRADES

The Division of Electricity directed the contractor to make various miscellaneous upgrades as follows:

1. Change the opening size in the three (3) manholes from thirty-six inches (36") to fifty inches (50") to meet the Division's new manhole opening standards.
2. A culvert was added behind the AEP switchyard to provide additional room to relocate the fence to provide additional access inside the yard to move around the equipment.
3. Additional ground study was required by AEP for the equipment being installed within the AEP switchyard. This was required to prove to AEP that the ground system would support their system.
4. The existing conduits from the transformer at 350 East First Avenue had to be reworked to feed a transformer to provide construction power and testing power for the project.
5. The contractor added a concrete block wall inside the 138KV building that was not called for in the specifications. This wall was to provide additional fire protection between the 138KV GIS and transformer. The Division of Electricity elected to have this wall painted to match the building.

CREDIT FOR EXTRA TERMINATION KITS

The contract required the contractor to supply cable terminators for all outgoing feeders. Due to a design change and a change in Division standards, the feeder circuit sizes have increased, making the termination kits specified the wrong size. The Division will purchase the new terminators for the feeders as needed.

PENALITIES FOR TRANSFORMER LOAD LOSS

The contract requires that the transformer manufacturer meet or exceed guaranteed “*No Load Losses*” and “*Load Losses*” at the neutral point at the FA/FA 55 degree C rating. The transformers did not meet the guaranteed losses; therefore, the manufacturer is reducing the transformer cost by the guaranteed losses.

CONCRETE APPROACH RAMP REPAIR

At the time this contract was bid, the approach was gravel. Due to the project award delays, the building owner at 350 East First Avenue installed a concrete approach to the parking lot from First Avenue. This approach was installed in the same area that our contractor was to install two (2) underground manholes. The approach was installed after the contract was in place with ABB and before the manholes were ready to be installed.

ENCROACHING FIBER OPTIC LINE WORK IMPACT

The bid package indicated that the existing Insight fiber optic would be removed before construction started. Insight’s line passed directly over where the 138KV building was to be constructed. Insight did not get their fiber line removed before the building was installed. This caused the contractor to have to rent a large crane to erect the steel columns and rafters/purlines over the fiber lines. Other delays and overtime was caused because of working around this line to get back on schedule.

DIVISION OF ELECTRICITY PROVIDED SAFETY SIGNS

The Division of Electricity provided their standard safety signs to the contractor instead of having the contractor supplying them. The contractor deducted the cost from the contract.

ASPHALT REPAIRS

At the time the contract was bid, the area between the City’s property and 350 East First Avenue was not paved. The property owner at 350 East First Avenue paved the lot before construction started due to delays in awarding the Contract and winter weather. This was so the building at 350 East First Avenue could get an occupancy permit. Because of this, the contractor had to remove large parts of the pavement in order to install the duct banks, grounding system and drains. In order to repair the pavement to its previous condition, the contractor patched the excavation areas and recapped the entire parking lot with asphalt.

ASSISTANCE WITH TELEPHONE SERVICE

The Division of Electricity needed assistance in getting SBC to install a phone line and data line into the substation. The phone lines were needed before the substation could be energized and operated by the SCADA system.

If the Contract modification was not anticipated and explained in the original Contract legislation, a full explanation as to the reasons the work could not have been anticipated is required. (Changed or field conditions is not sufficient explanation. Describe in full the changed conditions that require modification of the Contract scope and amount).

See above comments.

An explanation of why the work to be performed as part of the Contract modification cannot be bid out. (Indicating the work to be a logical extension of the Contract is not sufficient explanation).

This contract was bid as a design-build contract because of the specialty equipment. The manufacturer/contractor had full control of the design to meet the Division of Electricity's design criteria. The manufacturer/contractor supplied the equipment and the structures, etc. had to mate up to this equipment.

A cost summary to include the original Contract amount, the cost of each modification to date, (list each modification separately), the cost of the modification being requested in the legislation, the estimated cost of any future known modifications and a total estimate of the Contract cost.

Original contract amount:	\$ 6,816,910
Contract modification #1:	\$ 89,100
Contract modification #2:	\$ 82,663
Requested contract modification #3:	\$ 135,485
Future contract modification:	\$ <u>0</u>
Total estimated contract cost:	\$ 7,124,158