State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER	PAGE
DEFK9026	1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
JOHN ABBOTT
304-558-2544

VENDOR
RFQ COPY
TYPE NAME/ADDRESS HERE

SHIP TO
DIV ENGINEERING & FACILITIES
NATIONAL GUARD ARMORY
RTS. 4 & 119, N.

GASSAWAY, WV
26624 341-6368

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
06/05/2009				

BID OPENING DATE: 06/17/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT

ADDENDUM #04

THIS ADDEDNUM IS ISSUED TO CLARIFY AND MODIFY THE ORIGINAL REQUEST FOR QUOTATION SPECIFICATIONS, PER THE ATTACHED DOCUMENTATION; AND EXTEND THE BID OPENING FROM 6/11/2009 TO 6/17/2009; 1:30 PM.

REVISED BID OPENING: 6/17/2009; 1:30 PM

0001	1	LS		968-20		

BUILDING CONSTRUCTION

****** THIS IS THE END OF RFQ DEFK9026 ****** TOTAL:

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE

TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.

2. The State may accept or reject in part, or in whole, any bid.

3. All quotations are governed by the ***West Virginia Code*** and the ***Legislative Rules*** of the Purchasing Division.

4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required $125 fee.

5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.

6. Payment may only be made after the delivery and acceptance of goods or services.

7. Interest may be paid for late payment in accordance with the ***West Virginia Code***.

8. Vendor preference will be granted upon written request in accordance with the ***West Virginia Code***.

9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.

11. The laws of the State of West Virginia and the ***Legislative Rules*** of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.

12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.

13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.

14. HIPAA BUSINESS ASSOCIATE ADDENDUM: The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (**http://www.state.wv.us/admin/purchase/vrc/hipaa.htm**) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

15. WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT: If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.

2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.

3. Complete all sections of the quotation form.

4. Unit prices shall prevail in case of discrepancy.

5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.

6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

JERRY GOFF ARCHITECTURE ADDENDUM

100 First Avenue P.O. Box 1356 St. Albans, WV 25177 304.722.3379 Fax 304.722.3370

ADDENDUM NO. 4

To: Bidders
From: Jerry Goff, AIA
Date: June 4, 2009
Re: Gassaway Armory Addition & Renovation
DEFK9026

Drawings and Specifications for the Gassaway Armory Addition & Renovation, Gassaway, West Virginia dated March 26, 2009 as prepared by Jerry Goff Architecture, St. Albans, WV, are hereby amended and all costs accruing, which may result due to the following, shall be included in proposals for this project.

DRAWINGS:

1. Reference Drawing M-5, see the VAV Schedule, Note 1. change the NEMA 3R enclosure to NEMA 1 enclosure.

PROJECT MANUAL:

2. Reference the Division 15 – Mechanical Table of Contents.
   1) Add 15550-Breechings, Chimneys and Stacks. (This section is in the specs, but not listed on the table of contents.)
   2) Delete 15562-Indirect Fired Packaged H & V Units – (Not in this specification).

SPECIFICATION:

3. Reference Specification-15050, paragraph 1.1A add the following:
   "13. Firestop products." (These products were specified in Part 2 and 3, but not listed in Paragraph "A" above.)

4. Reference Specification-15985, DELETE "Specification Section-15985" bound in Project Manual and INSERT the entire attached Specification Section 15985 – Sequence Of Operation (rev).

5. Reference Specification Section 16050: See paragraph 1.1A., ADD the following:
   1) "7. Firestop Products."
   2) ADD the following paragraph:

   2.5 FIRESTOP PRODUCTS:

   A. Use only firestop products that have been UL 1479 or ASTM E-814 tested for specific fire-rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.

   B. For penetrations by steel conduit and electrical metallic tubing (EMT), the following materials are acceptable:

1. Hilti FS 601 Elastomeric Firestop Sealant
2. Hilti FS 605 High Performance Firestop Sealant.
3. Dow Corning Fire Stop Sealant 2000.
4. 3M Fire Barrier CP25.

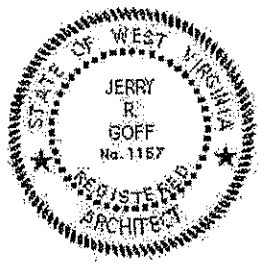
C. For penetrations by PVC jacketed, flexible cable or cable bundles, the following materials is acceptable:
1. Hilti FS 611A Intumescent Firestop Sealant
2. 3M Fire Barrier CP25
3. 3M Fire Barrier FS-195 Wrap-Strip

D. For large size/complex penetrations made to accommodate cable trays, electrical busways or raceways, the following materials is acceptable:
1. Hilti FS 635 Trowelable Firestop Compound
2. Dow Corning Fire Stop Foam 2001
3. 3M Fire Barrier CS-195 Composite Sheet

Attachments:

Specification Section 15985 – Sequence Of Operation (rev)

END



PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Sequence of operation is hereby defined as the manner and method by which controls function. Requirements for each type of control system operation are specified in this section.

1.2 SUBMITTALS

A. Submit shop drawings for each system automatically controlled, containing the following information:

B. Schematic flow diagram of system showing fans, pumps, coils, dampers, valves, and control devices.

C. Label each control device with setting or adjustable range of control.

D. Indicate factory and field wiring.

E. Indicate each control panel required, with internal and external wiring clearly indicated. Provide detail of panel face, including controls, instruments, and labeling. Include verbal description of Sequence of Operation.

F. Complete written Sequence of Operation.

G. Damper schedules showing size, configuration, capacity and location of all equipment.

H. Data sheets for all hardware and software control components.

I. Description of installation materials including conduit, wire, flex, etc.

J. Floor plan showing all devices, equipment, sensor, etc. locations and wiring requirements between components. Provide AutoCAD version 2009 drawings to Owner at completion of project.

K. Include copy of shop drawings in each maintenance manual.

PART 2 - PRODUCTS (not applicable to this section).

PART 3 - EXECUTION

3.1 SEQUENCE OF CONTROLS

A. Make-Up Air Unit MUA-1

1. Unit shall be interlocked to operate when any of the three kitchen exhaust fans are on (EF-3,4,5). When the kitchen exhaust fans are energized, the make-up air supply fan operates continuously; outside air damper opens; gas-heating valve modulates or the cooling system cycles to maintain desired temperature setpoint as controlled by room temperature sensor through BAS. On going to unoccupied mode per BAS schedule, outside air damper is to close, return air damper is to open (with smoke detector assembly interlocked to shut off unit per WV State Fire Code) and unit is to

modulate heating valve or cooling system to meet unoccupied heating or cooing temperature setpoint.

2. The following points shall be monitored and alarmed at the BAS:

    a. Discharge air temperature.
    b. Room temperature.
    c. Supply fan status.
    d. Filter status.

B. Exhaust Fans: By local control or thru the BAS as noted on the drawings and herein.

C. Ductless Split System Unit: Controlled by wall mounted thermostat. Units for mail room and adjacent entry space are to be set up to operate simultaneously with EF-6 to maintain relative pressures shown on plans with air flows noted.

D. Gas-Fired Unit Heaters: Wall mounted thermostat shall cycle fan and open gas valve.

E. Electric Wall, Ceiling and Unit Heaters: Units shall be controlled by factory-mounted thermostat.

F. Variable Air Volume (VAV) Terminal Units (RTU-1,2,3) (Similar for RTU-4,5 but with heat recovery wheel and exhaust fan assembly):

1. The VAV terminal units shall be individually controlled by a DDC VAV controller per VAV terminal unit. The DDC VAV controller, damper motor, transducer and transformer shall be supplied by the BAS contractor and furnished to the terminal unit supplier. The cost to factory mount, calibrate and test the controller, transducer, transformer and actuator shall be coordinated prior to bid day and included in the BAS price.
2. The BAS shall perform the following VAV Terminal unit control strategies and the specified monitoring and diagnostics.

    a. Grouping - The BAS shall be able to group VAV boxes via keyboard commands. These groups shall make it possible for the operator to send a common command to all boxes in a group to operate in the same mode. A sample of this group report must be provided in the submittal package for approval by engineer and owner. BAS shall also compile on a group basis, the following:

        1) Minimum group temperature
        2) Maximum group temperature
        3) Average group temperature
        4) Current airflow through boxes in group (total)

    b. Setpoint Control - The BAS shall edit the zone space temperature setpoint of each VAV box. The zone temperature setpoint shall be operator adjustable. Individual zone setpoint and control logic shall reside at the zone level, and not be dependent upon the BAS for control. In the event of communication loss, the box will continue to control to current setpoints.
    c. Cooling Valve Control - The BAS shall control the cooling air valve to a fully open, fully closed, maximum CFM, or minimum CFM position based on operator commands. The operator shall also have the capability to adjust the maximum & minimum airflow limits of the air valve through the BAS.
    d. Operating Mode - The BAS shall place the box in either the occupied or unoccupied mode based on an operator adjustable time schedule. Separate heating & cooling setpoints shall be enterable for each mode through the BAS. Other modes available for special applications shall include full open, full closed, maximum flow, and minimum flow.
    e. Control Offset - The BAS shall be capable of offsetting the cooling or heating setpoints of one or more groups of boxes by an operator adjustable amount. This capability will allow for automatic zone setpoint changes based on system requirements, such as demand limiting.
    f. Automatic Recalibration - The system shall automatically recalibrate its airflow sensing & air valve position measurement system at system startup and on a scheduled basis.

g. Remote Setpoint Adjustment - The BAS zone temperature setpoint programmed in software shall be capable of being manually overridden by a remote adjustment at the temperature sensor. This manual readjustment feature may be disabled through the BAS, if desired.

h. Portable interface terminal - The VAV box shall have a communications port on the space sensor for use with a hand held portable operator's terminal. This portable terminal shall give the operator the capability to interrogate & edit DDC/VAV box parameters.

i. Terminal unit status reports - For each terminal unit, the BAS shall provide an operating status summary of all unit sensed values (zone temperature, CFM, etc.), setpoints, and modes.

j. Terminal unit group report - For each group of VAV terminal units, the BAS shall report the group mode, heating and cooling airflow, average zone temperature, minimum zone temperature, and maximum zone temperature. The report shall also display for each terminal unit in the group the present temperature control setpoints and the current zone temperature.

k. Each unit to control electric heating coil through unit mounted SCR controls proportionally as needed to maintain current temperature setpoint as defined through BAS.

3. Terminal box diagnostics

a. If zone temperature sensor input fails above its high range, unit shall control at its maximum CFM setpoint. If sensor input fails below its low range, unit shall control to its minimum CFM setpoint.

b. In both cases, all heat outputs shall be disabled. A diagnostic message shall be displayed upon operator inquiry.

c. If flow-measuring system fails, unit shall automatically convert to a pressure dependent, damper position based algorithm. Diagnostic message shall be displayed upon operator inquiry.

d. If zone temperature setpoint potentiometer on zone sensor fails, unit shall automatically control to 74 degrees F. Diagnostic message shall be displayed upon operator inquiry.

e. If communications are lost, controller shall continue to operate in the current mode of operation. All setpoints shall be retained in nonvolatile memory. If communications are not restored within 15 minutes, unit shall automatically initiate a reset-recalibrate.

4. Occupied/Unoccupied Control

a. Occupied mode: Upon a rise in space temperature above cooling set point, the terminal unit shall modulate to provide maximum cooling CFM. A drop in space temperature will result in the unit modulating to provide its minimum cooling CFM. As the space temperature continues to fall, the unit shall modulate its cooling flow to its minimum heating CFM and enable the heating reheat coil as follows:

1) Electric heat – Below heating setpoint, energize electric heating elements proportionally through SCR controls and BAS.

b. Unoccupied Cycle -During the unoccupied mode, the primary air valve shall modulate similarly to maintain unoccupied temperature setpoint through BAS.

5. The following points shall be monitored at the BAS:

a. Discharge air temperature.
b. Space temperature.
c. Airflow (CFM).
d. Damper position.

G. VAV Rooftop Units (RTU-1,2,3) (Similar for RTU-4,5 but with heat recovery wheel and exhaust fan assembly):

1. Occupied Mode: The Supply Fan will operate continuously, the VFD on the Supply Fan will modulate to maintain the Duct Static Pressure. The Gas Valve shall stage, Economizer Dampers will modulate and compressor will stage in sequence to maintain Discharge Air Temperature.
2. Unoccupied Mode: The Supply Fan shall and gas valve cycle to maintain unoccupied setpoint. Outdoor Air Damper and Cooling will be fully off.
3. Morning Warmup Heating Mode: The Supply Fan will operate continuously, the VFD's will modulate to maintain the Duct Static Pressure, the Outdoor Air Damper and Cooling will be off, and the Gas Valve will stage to maintain the maximum heating Discharge Air Temperature setpoint.
4. Supply Fan Control: The Supply Fan will operate continuously whenever the RTU is in either the Occupied Mode or the Morning Warm-up Heating Mode. The fan will be off whenever the Stop / Auto interlock is open or the Mixed Air Low Limit is tripped. The Supply Status shall indicate a failure after a two-minute delay. The Low Limit and the Fan Failure require a manual reset.
5. Supply Fan VFD Control: When the Supply Fan is in the occupied mode, the VFD will slowly ramp (adjustable) up to setpoint and modulate to maintain the proper Duct Static Pressure. The BAS shall dynamical calculate the minimum required duct static pressure to satisfy the VAV terminal units.
6. Exhaust Fan Control: The exhaust fan VFD will modulate to maintain building space pressure based on differential pressure of indoor building space static pressure and atmospheric pressure.
7. Economizer Control: When the Outdoor Air Temperature is less than the changeover setpoint, the Economizer Outdoor Air Damper will modulate between the adjustable minimum position and full open to maintain the Discharge Air Temperature at the Economizer Setpoint. The Economizer Outdoor Air Damper will modulate closed as required to maintain the Mixed Air Temperature at or above the Mixed Air Setpoint. A manual reset Mixed Air Low Limit will turn the Supply Fan OFF if any 12 inches of its sensing element is below its setpoint. The relief air damper shall modulate in conjunction with the return air damper to maintain the proper building pressure.

    a. The Outdoor Air Damper will be closed if the Economizer function is disabled or if the Discharge Air Temperature Sensor has failed. If the RTU is in the Morning Warmup mode, the Supply Fan is OFF or the Mixed Air Temperature Sensor has failed, the Outdoor Air Damper will be closed.

8. Gas Valve Control: The Gas Valve will stage to maintain the Discharge Air Temperature at the Discharge Heating Setpoint. If the RTU is in the Heating mode, the unit will control to the maximum heating Discharge Air Setpoint. The Gas Valve will be closed if the Outdoor Air Damper is open past its minimum position or if mechanical cooling is enabled.
9. DX Cooling: The will stage to maintain the Discharge Air Temperature at the Discharge Cooling Setpoint. If the Economizer function is enabled and the Outdoor Air Damper is not fully opened, the Cooling will be OFF. Compressor unit will be Off if the RTU is in the Heating mode, the Supply Fan is OFF, or the Discharge Air Sensor has failed.
10. BAS to monitor main return air CO2 level and adjust return/outside air dampers accordingly for energy conservation on each of the rooftop units RTU-1,2 and 3 (not included on RTU-4 or 5).
11. Building Automation System Interface: The Building Automation System (BAS) shall send the RTU a Discharge Air Cooling Setpoint, and a Duct Static Pressure Setpoint. The BAS shall also send Start-up, Occupied, Unoccupied, Morning Warmup, Heating / Cooling, Economizer enable, Timed Override, Startup, Coastdown, Demand Limit, Duty Cycle, Night Setback, Purge, and Priority Shutdown commands.

    a. If communication with the BAS is lost, the RTU uses its default setpoints and operates in the Occupied Cooling mode. The Economizer function is enabled based on the RTU Outdoor Air Temperature Sensor.

12. The following points shall be monitored and alarmed at the RTU controller and the BAS:

    a. Discharge air temp
    b. Mixed space air temp
    c. Building space pressure
    d. Supply and exhaust fan current
    e. Filter Norm/Dirty
    f. Duct Static Pressure
    g. Return air CO2

13. The following points will be operator adjustable and/or automatically reset by a BAS program:

    a. Cooling stages
    b. Economizer setpoint-OA changeover
    c. Outside air quantity damper
    d. Return air damper
    e. Economizer damper
    f. Discharge air temp
    g. Duct static pressure
    h. Building space pressure

H. VAV Rooftop Unit & Heat Recovery Units The BAS shall index the system to occupied and unoccupied modes (RTU-4,5):

1. Occupied Mode: Supply and exhaust fans operate continuously, motorized outside air damper and motorized supply air damper opens, air to air heat recovery wheel is controlled by unit outside air thermostat, gas duct furnace gas valve modulates to maintain desired setpoint as controlled by discharge air sensor and room override sensor in conjunction with rest of RTU heating and cooling control through BAS.

2. Unoccupied Mode: System is cycled on and off to maintain unoccupied setpoint as controlled by room override sensor in conjunction with rest of RTU heating and cooling control through BAS.

3. Heating and cooling operations with unit separate from heat recovery operation described above is to be similar to what is noted above for other VAV rooftop units (RTU-1,2,3). BAS is also to provide all monitoring, control and alarm points for RTU-4,5 similar to RTU-1,2,3 as noted above.

4. The following points shall be monitored and alarmed at the BAS:

    a. Discharge air temperature.
    b. Space temperature.
    c. Supply fan status.
    d. Filter status.

END OF SECTION