

## GENERAL

## 1.1. Safety Requirements

- A. Refer to section 01 35 26, SAFETY REQUIREMENTS for safety and infection control requirements.

## 1.2. General Intention

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing Chiller, and furnish labor and materials and perform work for replacement of chiller system as required by 23 64 00.01.
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- C. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.

## 1.3. Statement of Bid Item(s)

- A. General Improvement: The contractor shall provide all personnel, equipment, supplies, facilities, transportation, tools, materials, supervision and other items and non-personal services necessary to perform replacement of Rotary-Screw Compressor, Air-Cooled Water Chiller. The contractor shall perform to the standards in this contract.

## 1.4. Specifications and Drawings for Contractor

- A. Specifications and contract documents may be obtained from the website where the solicitation is posted or from the Contracting Officer. Additional copies will be at Contractor's expense.

## 1.5. Construction Security Requirements

## A. Security Plan

- 1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
- 2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

## B. Security Procedures

- 1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
- 2. Before starting work the General Contractor shall give one week's notice to the Contracting Officer so that escorts can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
- 3. No photography of VA premises is allowed without written permission of the Contracting Officer Representative.
- 4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

## C. Guards

- 1. Not Applicable.

## D. Key Control

- 1. The General Contractor shall provide duplicate keys and lock combinations to the Contracting Officers Representative (COR) for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
- 2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.

## E. Document Control

- 1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
- 2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
- 3. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
- 4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
- 5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
- 6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
- 7. All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).
  - a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.

- b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.
- F. Motor Vehicle Restrictions
  - 1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
  - 2. A limited number of (2 to 5) permits shall be issued for General Contractor and its employees for parking in designated areas only.
- 1.6. Operations and Storage Areas
  - A. The Contractor shall confine all operations on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.
  - B. Temporary buildings and storage areas are not authorized.
  - C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(FAR 52.236-10)
  - D. Working space and staging of materials shall be determined by the COR.
  - E. Workman are subject to the rules of the Medical Center applicable to their conduct.
  - F. Execute work so as to interfere as little as possible with normal functioning of the Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by the COR where required by limited working space.
    - 1. Do not stage materials and equipment in other than assigned areas.
    - 2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
    - 3. Buildings to Medical Center will not be vacated during duration of construction.
    - 4. Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by the COR. All such actions shall be coordinated with the COR or Utility Company involved.
      - a. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
  - G. Phasing
    - 1. The Medical Center must maintain its operation 24 hours a day 7 days a week. Therefore, any interruption in service must be scheduled and coordinated with the COR to ensure that no lapses in operation occur. It is the CONTRACTOR'S responsibility to develop a work plan and schedule detailing, at a minimum, the procedures to be employed, the equipment and materials to be used, the interim life safety measure to be used during the work, and a schedule defining the duration of the work with milestone subtasks. The work to be outlined shall include, but not be limited to:
      - a. To insure such executions, Contractor shall furnish the COR with a schedule of approximate dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the COR four weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such dates to insure accomplishment of this work in successive phases mutually agreeable to the COR and Contractor.
  - H. Building number 100 will be occupied during performance of work but immediate areas of alterations will be vacated.
    - 1. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Contractor shall permit access to the Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. These routes whether access or egress shall be isolated from the construction area by temporary partitions and have walking surfaces, lighting etc. to facilitate patient and staff access. Coordinate alteration work

in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.

- I. Construction Fence
    - 1. Not Applicable.
  - J. When a building and/or construction site is turned over to Contractor, Contractor shall accept entire responsibility including upkeep and maintenance therefore:
    - 1. Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.
    - 2. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
  - K. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR.
    - 1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of COR. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without a detailed work plan, the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS for additional requirements.
    - 2. Contractor shall submit a request to interrupt any such services to COR in writing, 30 days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
    - 3. Contractor will be advised of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
    - 4. Major interruptions of any system must be requested, in writing, at least 30 calendar days prior to the desired time and shall be performed as directed by the COR.
    - 5. In case of a contract construction emergency, service will be interrupted on approval of COR. Such approval will be confirmed in writing as soon as practical.
    - 6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
  - L. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged at the main, branch or panel they originate from. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.
  - M. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
    - 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.
    - 2. Cutting, altering and removal of existing roads, walks and entrances are not authorized.
  - N. Coordinate the work for this contract with other construction operations as directed by COR. This includes the scheduling of traffic and the use of roadways, as specified in Article 15, USE OF ROADWAYS.
  - O. Cemetery Projects
    - 1. Not Applicable.
- 1.7. Alterations
- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the COR and a representative of VA Supply Service, of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed to the Contracting Officer. This report shall list by rooms and spaces:
    - 1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
    - 2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
    - 3. Shall note any discrepancies between drawings and existing conditions at site.

4. Shall designate areas for working space, materials staging and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and COR.
  - B. Any items required by specifications to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of COR and/or Supply Representative, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
  - C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and COR together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
    1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
  - D. Protection: Provide the following protective measures:
    1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
    2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
    3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.
- 1.8. Disposal and Retention
- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
    1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR.
    2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
    3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.
- 1.9. Protection of Existing Vegetation, Structures, Equipment, Utilities and Improvements
- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
  - B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(FAR 52.236-9)
  - C. Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.
- 1.10. Restoration
- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the COR. Existing work to be altered or extended and that is found to be defective in

any way, shall be reported to the COR before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.

- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.11. Physical Data

- A. Not Applicable.

(FAR 52.236-4)

1.12. Professional Surveying Services

- A. Not Applicable.

1.13. Layout of Work

- A. Not Applicable.

(FAR 52.236-17)

1.14. As Built Drawings

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the COR review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings in the electronic version (scanned PDF) to the Chief of Facilities Management within 15 calendar days after each completed phase and after the acceptance of the project by the COR.
- D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.15. Use of Roadways

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the COR, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed and restoration performed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.
- B. When new permanent roads are to be a part of this contract, Contractor may construct them immediately for use to facilitate building operations. These roads may be used by all who have business thereon within zone of building operations.
- C. When certain buildings (or parts of certain buildings) are required to be completed in advance of general date of completion, all roads leading thereto must be completed and available for use at time set for completion of such buildings or parts thereof.

1.16. Resident Engineer's Field Office

- A. Not Applicable

1.17. Temporary use of Mechanical and Electrical Equipment

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to written approval and compliance with the following provisions:
  - 1. Permission to use each unit or system must be given by COR in writing. If the equipment is not installed and maintained in accordance with the written agreement and following provisions, the COR will withdraw permission for use of the equipment.
  - 2. Electrical installations used by the equipment shall be completed in accordance with the specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Installation of temporary electrical equipment or devices shall be in accordance with NFPA 70, National Electrical Code, Article 590, *Temporary Installations*. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
  - 3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
  - 4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.

5. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.
  6. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government. Boilers, pumps, feedwater heaters and auxiliary equipment must be operated as a complete system and be fully maintained by operating personnel. Boiler water must be given complete and continuous chemical treatment.
  - B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, shall be replaced with identical replacements, at no additional cost to the Government.
  - C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.
- 1.18. Temporary use of New Elevators
- A. Not Applicable
- 1.19. Temporary use of Existing Elevators
- A. The Contractor and his personnel shall be permitted use of existing elevator(s) subject to the following provisions:
    1. Contractor shall make arrangements with the COR for use of elevator(s).
    2. Personnel for operating elevator(s) shall not be provided by the Department of Veterans Affairs.
    3. Contractor shall cover and provide maximum protection of the entire elevator(s) installation.
    4. All elevator(s) parts worn or damaged during temporary use shall be removed and replaced with new parts at the Contractor's expense. This shall be determined by an ASME accredited certified elevator safety inspector after temporary use and before acceptance by the Government. Submit report to the COR for approval.
      - a. Elevator shall be tested as required by the testing section of the elevator(s) specifications before acceptance by the Department of Veterans Affairs. The Contractor shall be responsible for all cost associated with testing and inspection.
- 1.20. Temporary Toilets
- A. Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.
- 1.21. Availability and use of Utility Services
- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
  - B. The Contractor, at Contractor's expense and in a workmanlike manner, in compliance with code and as satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia and repair restore the infrastructure as required.
  - C. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
  - D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials.
  - E. Electricity (for Construction and Testing): Furnish all temporary electric services.
    1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.
  - F. Water (for Construction and Testing): Furnish temporary water service.
    1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection as per code. Water is available at no cost to the Contractor.
    2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COR discretion) of use of water from Medical Center's system.
  - G. Fuel: Natural and LP gas and burner fuel oil required for boiler cleaning, normal initial boiler-burner setup and adjusting, and for performing the specified boiler tests will be furnished by the Government. Fuel required for prolonged boiler-burner setup, adjustments, or modifications due to improper design or operation of boiler, burner, or control devices shall be furnished and paid by the Contractor at Contractor's expense.
- 1.22. New Telephone Equipment
- A. Not Applicable
- 1.23. Tests

- A. As per specification section 23 64 00.01 the contractor shall provide a written testing and commissioning plan complete with component level, equipment level, sub-system level and system level breakdowns. The plan will provide a schedule and a written sequence of what will be tested, how and what the expected outcome will be. This document will be submitted for approval prior to commencing work. The contractor shall document the results of the approved plan and submit for approval with the as built documentation.
- B. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.
- C. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.
- D. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire system which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a system which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.
- E. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably period of time during which operating and environmental conditions remain reasonably constant and are typical of the design conditions.
- F. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

#### 1.24. Instructions

- A. Contractor shall furnish Maintenance and Operating manuals (hard copies and electronic) and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals and one compact disc (four hard copies and one electronic copy each) for each separate piece of equipment shall be delivered to the COR coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed training to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the COR and shall be considered concluded only when the COR is satisfied in regard to complete and thorough coverage. The contractor shall submit a course outline with associated material to the COR for review and approval prior to scheduling training to ensure the subject matter covers the expectations of the VA and the contractual requirements. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the COR, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

#### 1.25. Government Furnished Property

- A. Not Applicable

#### 1.26. Relocated Equipment and Items

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items indicated by symbol "R" or otherwise shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the COR.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, at the main whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".

- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
  - E. Contractor shall employ services of an installation engineer, who is an authorized representative of the manufacturer of this equipment to supervise assembly and installation of existing equipment required to be relocated.
  - F. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.
- 1.27. Storage Space for Department of Veterans Affairs Equipment
- A. Not Applicable
- 1.28. Construction Sign
- A. Not Applicable
- 1.29. Safety Sign
- A. Not Applicable
- 1.30. Photographic Documentation
- A. Not Applicable
- 1.31. Final Elevation Digital Images
- A. Not Applicable
- 1.32. Historic Preservation
- A. Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the COR verbally, and then with a written follow up.
- 1.33. VA TRIRIGA CPMS
- VA contractors, selected by award to perform work, are required to get access to the VA TRIRIGA CPMS. The TRIRIGA CPMS is the management and collaborative environment that the VA uses for all Major, Minor and Non-Recurring Maintenance (NRM) projects within the Office of Construction & Facilities Management (CFM), Veterans Health Administration (VHA), National Cemetery Administration (NCA), and the Veterans Benefits Administration (VBA).
- The contractor is solely responsible for acquiring access to the VA TRIRIGA CPMS.
- To gain access to the VA TRIRIGA CPMS the contractor is encouraged to follow the licensing process outline as specified below:
- A. Requirement: TRIRIGA is the management and collaborative environment that VA uses for all construction projects. VA requires its contractors to procure TRIRIGA access as part of the cost of performance for a VA construction related contract.
  - B. Access Request and Payment can be made through the following URL <https://valicensing.oncfi.com/>  
Inquiries or to request additional services, contact the following:  
Craig Alsheimer, Federal Account Manager  
Computerized Facility Integrations, LLC  
18000 West Nine Mile Road  
Suite 700  
Southfield, MI 48075  
Email: [calsheimer@gocfi.com](mailto:calsheimer@gocfi.com)  
Phone: 248-557-4234 Extension 6010; 410-292-7006
  - C. Process:
    - 1. Once the contractor has been notified by VA of the award and a unique contract number, the contractor can enter a request for access to TRIRIGA at URL <https://valicensing.oncfi.com/>
    - 2. CFI will process the request for access and payment. CFI will create the USER ID and a password. Security provisions required to align the contractor to the Contract Number will be entered and an email will be generated and submitted to the requestor.
    - 3. CFI will also provide standard terms and conditions related to the transaction and use agreement.

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