

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

A. Description

1. The work of this Central Chilled Water Facility expansion Contract shall include all labor, material, equipment and administrative tasks required to provide a complete and operable Chilled Water Facility as shown on the Drawings and specified herein. The Work includes interfacing and connecting to existing facilities and systems.
2. The following outline highlights the principal elements of the scope of work for the Base Bid and Alternate Nos. 1 and 2 for this Contract:
 - a. Under Alternate No. 1 submit the amount to be added to the Base Bid if the instrument air compressor and air dryer, as described in paragraph 4a, are added.
 - b. Under Alternate No. 2, submit the amount to be added to the Base Bid if the chiller condenser tube brush cleaning system, as described in paragraph 4b, is added.
 - c. Under Alternate No. 3, submit the amount to be added to the Base Bid if the two (2) Wonderware Intouch 9.5 HMI stations, as described in paragraph 4c, are added
3. Base Bid: Central Chilled Water Facility Expansion (CCWF)
 - a. Civil Work, including but not limited to: site clearing, grubbing, removal of trees top-soil, earthwork, grading, erosion control, cooling tower, bituminous paving and underground utilities. Top-soil and excavated earth disposal on-site as directed by BNL.
 - b. Architectural Work, including but not limited to: providing a five bay expansion of the CCWF Building 600, the Fire Control Center addition to Building 600, re-roofing Building 600, Pump House Building 600A expansion, pre-fabricated Building 600C and miscellaneous Work in existing Central Chilled Water Facility (CCWF) Building 600.
 - c. Structural Work, including but not limited to: foundations for the CCWF Building 600 expansion, Fire Control Center addition to Building 600, Pump House Building 600A expansion, Building 600C and outdoor electrical substation 600B. The concrete basin and stair tower for two cooling tower cells and three future cells. Structure for the CCWF Building 600 expansion and Fire Control Center addition and miscellaneous work in existing CCWF Building 600.
 - d. Mechanical Work, including but not limited to: two chillers, secondary chilled water pumps, condenser water pumps and associated piping systems in CCWF Building 600 expansion; two primary chilled water pumps and associated piping systems in Pump House Building 600A expansion; two cooling tower cells and Sonoxide condenser water treatment system. Only the Sonoxide equipment will be provided by BNL. CCWF Building 600 expansion mechanical systems include HVAC, plumbing, steam and condensate, compressed air, domestic water, service water and fire protection. Building 600A expansion mechanical systems include heating, ventilation

and plumbing. WORK in existing CCWF Building 600 includes steam and condensate piping, domestic water, service water, fire protection and fire protection piping to the CCWF expansion and miscellaneous Work in existing CCWF Building 600.

- e. Electrical work, including but not limited to: new motor control center(s), power distribution and lighting in CCWF Building 600 and Building 600A expansions and cooling tower. Expansion of outdoor substation 600B, power and lighting for Sonoxide System Building 600C and site lighting. Miscellaneous work in existing CCWF Building 600;
 - f. Instrument and Control Work, including but not limited to: providing, installing, and configuring Control System components to extend the existing Control System, and providing, installing, calibrating, and commissioning all new instruments, controls, and control panels, as required for the proper operation of the Chilled Water System in the CCWF Building 600 expansion, Primary Pumphouse Building 600A expansion and cooling tower system. PLC and HMI programming and software commissioning is by others.
 - g. Drainage and disposal of any chilled water or condenser water contained in the existing piping systems shall be as directed by BNL Site Environmental Office, and shall not cause detrimental erosion or other damage.
4. Alternates
- a. Alternate No. 1, Instrument Air Compressor and Desiccant Air Dryer system: includes compressor, dryer, after filters, compressed air receiver tank, interconnecting piping, chilled water supply and return piping, back-up service water supply piping, cooling water circulating pump and associated valves, instrumentation and control and compressed air piping to the compressed air distribution header in the CCWF Building 600 expansion. Compressor is specified in Section 15215 and Dryer and Afterfilter in Section 15212.
 - b. Alternate No. 2, Chiller Condenser Tube Brush Cleaning System: includes the 4-way condenser water flow reversing valves, pneumatic control system, and tube cleaning brushes and baskets as specified in Section 15120.
 - c. Alternate No. 3, Two (2) Wonderware InTouch 9.5 HMI stations: includes personal computers, 60k InTouch runtime license, configuration and programming, as specified in Section 13855, Section 13865 and Section 13875. Refer to drawing M-622 for Control System architecture.

1.2 WORK BY OTHERS

- A. Other contracts will be let and run concurrently and shall interface with the Contract. The Bidder and the Contractor are responsible for the proper assessment of the information which has a bearing on the scope of work of this Contract and obtaining clarification where necessary.
- B. BNL will provide the following:
 - 1. Sonoxide condenser water treatment system equipment to be installed by the Contractor.
 - 2. Main PLC Panel as shown on drawings M-630-1 through M-630-24 will be provided and installed by BNL, except as noted on the drawings. ControlNet and redundancy connections to the panel are by the Contractor.

- C. The A/E firm, Giffels Inc., will provide the following:
1. HMI screen modifications and additions, and PLC and HMI programming, including loading, debugging and checkout of the control programs, subsequent to Contractor's completion of the Chilled Water System expansion and confirmation of control wiring continuity.

END OF SECTION

Revision History	
Date	Rev. No.
E	0
F	0
02-19-09	0

THIS PAGE INTENTIONALLY LEFT BLANK