STATE OF NORTH CAROLINA

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Invitation for Bid #: 3000012133

Description: Pre-purchased Process Pumps, East Chiller Plant

Date Issued: 02-13-2025

Bid Opening Date: 03-08-2025 NLT 1:00 PM EST

Direct all inquiries concerning this IFB to:

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THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Chilled Water Infrastructure Expansion East Chiller Plant

SCO ID 22-25588-02G, Code: 42123-355 / 42323-305
UNC Bldg. No. 505

Prepurchased Equipment Process Pumps Bid Set

Submitted by:

Affiliated Engineers

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AEI Project No. 23480-02

December 16, 2024

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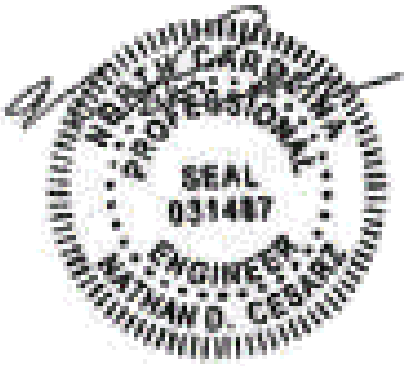

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SECTION 23 0513
MOTORS FOR MECHANICAL EQUIPMENT

PART 1 - GENERAL

1.1 SUBMITTALS

A. Product Data including the following:
   1. Manufacturer
   2. hp, voltage, phase, hertz, rpm
   3. Motor type
   4. Enclosure type
   5. Frame type
   6. Insulation class
   7. NEMA design designation
   8. Service factor
   9. Nominal efficiency at full load
   10. Power factor at full load
   11. Full load amperes
   12. Bearings
   13. Mountings
   14. Dimensions
   15. Weight
   16. Shaft grounding brush for motors driven by Variable Frequency Drives (VFD)

1.2 PRODUCT CRITERIA

A. Motors covered by this Specification shall conform to applicable requirements of NEMA, IEEE, ANSI, and NEC Standards and shall be third party listed where applicable for service specified. Third party agency shall be amongst those accredited by the North Carolina Building Code Council (NCBCC) to label electrical and mechanical equipment. https://www.ncosfm.gov/codes/state-electrical-division/qualified-testing-laboratories

B. Motors shall be designed for conditions in which they will be required to perform; i.e., general purpose, splash proof, explosion proof, standard duty, high torque or other special type as required by equipment manufacturers.

C. Select motors so they do not exceed nameplate rating nor operate into service factor to meet specified duty.

D. All motors shall have totally enclosed fan cooled (TEFC) enclosures.

E. Motors shall be furnished for starting in accordance with utility requirements and be compatible with starters specified hereinafter.

1. Starters for NEMA rated 460 V motors, 1/2 hp and above to be reduced voltage starting type.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. GE/ABB, US Motor, or Toshiba

2.2 MATERIALS

A. Materials shall be new and guaranteed for service intended.

2.3 INDUCTION MOTORS

A. Voltage Ratings
   1. Refer to equipment schedules and specification sections for voltages required.
   2. Unless otherwise indicated, motors 1/2 hp and smaller shall be rated 115 V for operation on 120 V, 1 Ph, 60 Hz service.
   3. Unless otherwise indicated, motors 1/2 hp and larger shall be rated:
      a. 460 V for operation on 480 V, 3 Ph, 60 Hz service.

B. Motors shall be 4 pole (approximately 1750 rpm) unless otherwise noted.

C. Single-phase motors shall be furnished with built-in thermal overload protection.

D. Use NEMA Design B motors, normal starting torque with regreasable ball bearings, and Class B insulation unless specified otherwise or unless manufacturer of equipment on which motor is being used has more stringent requirements.
   1. Bearings shall be rated for minimum AFBMA 9, L-10 life of 26,280 hours (belted) and 200,000 hours (direct-coupled) at full-load.
   2. Motors > 100HP shall have insulated bearings on both the non-drive end and the drive end side of the motor.

E. Motors shall be rated continuous duty and have 1.15 service factor unless otherwise noted.

F. Motors directly exposed to outdoors shall have two internal thermostats in the stator windings with normally closed contacts. One contact shall open if temperature rises above (overtemperature) setpoint and the other shall open when below (low temperature) setpoint determined by motor manufacturer. This shall be via digital input arranged to coordinate with normally closed contacts for motor thermostats. Outdoor motors shall also be provided with 120V heating elements to eliminate moisture in motor when fan is not being operated during and low temperature conditions. Thermostats shall be monitored and heaters activated by associated VFD controller. Heater power shall be provided and extended separately through the VFD.

G. Motors Driven by Variable Frequency Drives (VFD)

1. Motors shall comply with the latest NEMA MG 1, Section IV, Part 31 unless otherwise noted. Starter winding insulation shall be designed to operate under maximum voltage peak of not less than 1600 volts with time rise not greater than 0.1 micro-seconds. Motors shall have corona gas resistant stator insulation. Motors shall be rated for 90°C temperature rise with 40°C ambient.
2. Motors shall be listed as “Inverter Duty or Inverter Duty Rated”. Motors listed only as “suitable for use with inverter” is not acceptable for this project.
3. Motors shall have service factor not less than 1.0 when rated for inverter duty.
4. Insulation class shall be Class F or H.

H. Vibration shall not exceed 0.15" per second, unfiltered peak unless otherwise noted.

I. Motors (180 frames and larger) shall have provisions for lifting eyes or lugs capable of safety factor of 5.

J. Additional Grounding
1. Furnish each motor with grounding brush similar to AEGIS Shaft Grounding Ring on the DE (Driven Equipment) side of the motor to prevent bearing from shaft current. Soft carbon brushes are not acceptable. Shaft grounding ring shall be maintenance free. Grounding brush shall be installed on motor prior to installation in the field. Provide/confirm grounded connection between shaft grounding ring to motor casing. Provide sticker by grounding brush manufacturer on outside of motor casing for visual inspection.
2. Provide dedicated ground connection between the casing and the grounding lug in the terminal box.
3. For motors 100HP and larger, provide “HF bonding strap” which is a braided straps of 100mm wide copper, bare flat conductor cable with protective jacket. Bond motor casing to local structural steel.
4. The electrical contractor shall bond motor casing to local structural steel with braided straps of bare flat copper conductor cable.

K. Full load nominal efficiency of motors 1 hp and larger, except special-purpose motors including 2-speed or multi-speed motors, and rewound motors, shall meet or exceed listed values according to 10 CFR 431 Table 5 - Nominal Full-Load Efficiencies of NEMA Design A, NEMA Design B and IEC Design N Motors (Excluding Fire Pump Electric Motors) at 60 Hz.

	Open Drip-Proof Motors			Totally Enclosed Fan-Cooled Motors		
	1200 rpm	1800 rpm	3600 rpm	1200 rpm	1800 rpm	3600 rpm
HP	(6 pole)	(4 pole)	(2 pole)	(6 pole)	(4 pole)	(2 pole)
1	82.5	85.5	77.0	82.5	85.5	77.0
1.5	86.5	86.5	84.0	87.5	86.5	84.0
2	87.5	86.5	85.5	88.5	86.5	85.5
3	88.5	89.5	85.5	89.5	89.5	86.
5	89.5	89.5	86.5	89.5	89.5	88.5
7.5	90.2	91.0	88.5	91.0	91.7	89.5
10	91.7	91.7	89.5	91.0	91.7	90.2
15	91.7	93.0	90.2	91.7	92.4	91.0
20	92.4	93.0	91.0	91.7	93.0	91.0
25	93.0	93.6	91.7	93.0	93.6	91.7
30	93.6	94.1	91.7	93.0	93.6	91.7
40	94.1	94.1	92.4	94.1	94.1	92.4
50	94.1	94.5	93.0	94.1	94.5	93.0
60	94.5	95.0	93.6	94.5	95.0	93.6
75	94.5	95.0	93.6	94.5	95.4	93.6
100	95.0	95.4	93.6	95.0	95.4	94.1
125	95.0	95.4	94.1	95.0	95.4	95.0
150	95.4	95.8	94.1	95.8	95.8	95.0
200	95.4	95.8	95.0	95.8	96.2	95.4
250	95.4	95.8	95.0	95.8	96.2	95.8
300				95.6	96.2	95.9
400				95.6	96.2	95.9

L. Small fractional horsepower polyphase and single-phase motors shall have an average full load efficiency of not less than the following: Efficiency values listed are based on 10 CFR Part 431 published by the U.S. Department of Energy.

	1200 rpm	1800 rpm	3600 rpm
HP	(6 pole)	(4 pole)	(2 pole)
0.25	67.5	69.5	65.6
0.33	71.4	73.4	69.5
0.5	75.3	78.2	73.4
0.75	81.7	81.1	76.8
1.0	82.5	83.5	77.0
1.5	83.8	86.5	84.0
2	N/A	86.5	85.5
3	N/A	86.9	85.5

M. Single-phase motors for hard starting applications including outdoor applications shall be capacitor start type. Motors for fans and pumps located indoors may be split phase or permanent split-capacitor. Motors shall be equipped with permanently lubricated and sealed ball bearings and shall be selected for quiet operation. Motors 1/8 hp and below may be shaded pole type. Refer to individual equipment section for additional requirements or specific type of motors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install materials in accordance with drawings, approved Shop Drawings and manufacturer's recommendations.

B. Protect electric motors from construction dust and other contaminants.

END OF SECTION

SECTION 23 2123
PROCESS PUMPS

PART 1 - GENERAL

1.1 OWNER PRE-PURCHASED EQUIPMENT

A. This equipment will be prepurchased by the Owner and furnished to the successful Contractor after award for expediting delivery and installation as if the Contractor purchased the equipment directly.

B. Owner will make available manufacturer provided shop drawings of Owner prepurchased equipment for review by the Contractor. Contractor shall review shop drawings to ascertain that Contractor has included necessary labor and materials to install equipment and complete system it serves.

C. Contractor shall be responsible for arranging/coordinating delivery of Owner prepurchased equipment and all other related logistics and activities. This includes directing the delivery truck to the jobsite, coordinating the date and time of delivery, and receipt of the equipment at the jobsite. Manufacturer is responsible for equipment until it is unloaded at the jobsite by the Contractor.

D. Contractor shall install Owner prepurchased equipment and all appurtenances. This shall include, but not be limited to; unloading, rigging and setting equipment in place, making connections, starting, testing and installing equipment in accordance with manufacturer's recommendations, and maintaining equipment until such time as project is accepted by Owner. Perform all work and provide materials and connections for Owner furnished equipment in accordance with drawings and scope of work under all related specifications.

E. The following summarizes the general responsibilities of the equipment manufacturer:

1. Provide shop drawings and submittal data.
2. Manufacture and delivery of equipment including coordination of exact delivery date and supervision of rigging, unloading, and setting.
3. Lead equipment check-out, testing, and start-up process and submit report(s).
4. Provide touch up paint.
5. Provide O&M documentation.
6. Provide Owner training and participate in commissioning process.

1.2 SCHEDULE

A. Schedule:

1. The following schedule is anticipated relative to the prepurchased equipment delivery, installation and activation. This is a preliminary schedule and exact dates are to be coordinated with the Owner and Contractor.
   a. Equipment Delivery: October 2025
   b. Installation, Start-Up & Commissioning: November 2025 – November 2026

B. Manufacturer shall be able to produce, test, and deliver the equipment (FOB) to a location dictated by the Contractor per the schedule described above.

C. Contractor shall plan construction to allow for equipment to be received and installed at the job site within the above delivery window. If Contractor is unable to install equipment upon coordinated delivery date(s), it is the Contractor's responsibility to provide appropriate storage for equipment, local to the University, and provide transportation of equipment from storage site to job site.

1.3 DESIGN CRITERIA

A. Pump sizes, capacities, pressures and operating characteristics shall be as scheduled.

B. Pumps shall meet or exceed operating efficiencies scheduled.

C. Furnish pumps complete with motors, impellers, drive assemblies, bearings and accessories as hereinafter specified. Furnish pump couplings with OSHA compliant coupling guards.

D. Where pumps are indicated for parallel operation, scheduled conditions are for each individual pump. Pumps shall operate within manufacturer's recommended operating range under all operating conditions, including all combinations and quantities of operating pumps.

E. Select motor with sufficient horsepower rating for non-overloading operation over entire pump curve.

F. Furnish each pump and motor with nameplate indicating manufacturer's name, serial number of pump, capacity in gpm and head in ft at design condition, motor power in hp, voltage, frequency, speed and full load current. Nameplate shall be permanently fastened to the pump base in a location that will allow the nametag to be readable in the event the pump head is insulated or an insulating enclosure is provided.

G. Test pumps hydraulically at 150% of rated pressure per Hydraulic Institute Standards, clean and paint before shipment. Manufacturer shall certify all pump ratings.

H. Pumps shall operate without objectionable noise or vibration.

I. After completion of balancing, if water balancing results in pump discharge balancing valve being closed 50% or more, replace or trim impeller so balancing valve is opened at least 75% to maintain design flow rate. Where pumps are driven by VFDs, balancing should be performed with pumps at design speed.

J. Head for pumps submitted for pumping through evaporators and condensers of chillers and water coils shall be increased, if necessary, to match equipment approved for project.

1.4 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: The equipment Manufacturer shall provide Industrial equipment that is the manufacturer’s standard product.

B. Service Representatives: The equipment service representative shall be a factory trained and certified agent of the equipment manufacturer.

C. Single source responsibility: Provide a source with responsibility and accountability to answer and resolve problems regarding compatibility, installation, performance and service.

D. Comply with referenced code and standards. Provide listings/approval stamp, label or other markings on equipment made to specified codes or standards.

1.5 RELATED WORK

A. Section 23 0513 - Motors for Mechanical Equipment

1.6 BID SUBMITTALS

A. The following shall be provided with the equipment bid proposal:
   1. Complete all pump data sheets and LCCA data input included in Part 5 of this section and submit with other bid documentation to allow for evaluation and selection of the best overall value equipment by the Owner for each pump. Voluntary alternates will be accepted and considered for evaluation.
   2. Cover letter with compliance table listing each specification section and indicating compliance “C”, deviation for alternate “D”, or exception with explanation “E”. Any deviation or exception shall be accompanied with detailed explanation of how design intent is being upheld for evaluation by the Owner and Designer.
   3. Detailed drawings of the proposed equipment shall be provided including a top view, right side view, left side view and front view. The drawings shall indicate the dimensions of the unit, locations and sizes of all connections, equipment component weights and recommended service clearances.
   4. Detailed electrical wiring diagram that indicates all required field wiring for power.

B. Product data including:
   1. Motor (manufacturer, type, frame size, hp, rpm, service factor, rotation, etc.)
   2. Materials of construction (casing, shaft, impeller, etc.)
   3. Pump base material and dimensions.
   4. Pump curve (constant and variable speed, including design duty point, NPSHr, etc.)

C. References: a complete list of references shall be provided with each Proposal. The list shall include a minimum of five (5) references where equipment of similar manufacturer type and capacity has been installed. The list shall indicate the name of the facility where the equipment has been installed, location (city and state) of the equipment, installation date, equipment capacity, contact name and contact telephone number of each reference.

D. Scheduled Maintenance Requirements: A complete list of the recommended scheduled maintenance requirements for the equipment shall be provided with each Proposal. The list shall identify each recommended service item and its recommended frequency (monthly, quarterly, etc.). The list shall, at a minimum, include the scheduled maintenance items identified.

E. Other information to verify compliance with the Invitation for Bids.

F. Award will be based on specification compliance and best overall value for the Owner.

1.7 FABRICATION SUBMITTALS

A. Shop Drawings: Detail pumps as indicate plans, elevations, sections, component details, attachments, and other construction elements. Include the followings:
   1. General
      a. Manufacturer's name and model number
      b. Identification as referenced in the documents
      c. Type of pump - principle of operation
      d. Installation and operating manuals.
      e. Manufacturers signed report/log of the installation and start-up.
   2. Performance
      a. Capacity - gpm rating
      b. Capacity - selected head
      c. Non-overloading HP rating
      d. Minimum flow requirements
      e. Pump Efficiency
      f. Pump NPSHr
      g. Motor
      h. Bearing Life
      i. Seal type
   3. Physical and Dimensional
      a. Materials of Construction (Casings, shaft, impellers, bearings, etc.)
      b. General arrangement drawings in .pdf and 3D CAD/Revit files.
      c. Assembled unit dimensions
      d. Weight loadings, base supports
      e. Rotation direction (CW or CCW)
      f. Required clearances for maintenance and operation, including working clearances for mechanical and electrical components
      g. Size and location of field connections and piping installation requirements.
      h. Drop-out flex coupler type and materials of construction.
   4. Electrical (Motor Data)
      a. Manufacturer
      b. Enclosure (TEFC, ODP, etc. as specified)
      c. Frame size
      d. Horsepower
      e. RPM
      f. Voltage, Phase
      g. Service Factor
      h. Efficiency

i. Insulation Class
j. Inverter Duty Status (Inverter Duty, Non-inverter duty)

B. Complete description of the proposed equipment maintenance training program including dates and locations. Include a complete listing of all documentation that will be provided during training program. This may include installation manuals, operation full maintenance and overhaul manuals, service manuals and bulletins, troubleshooting guides, etc.

C. Factory Test Reports: Perform and interpret test results for compliance with specifications requirements as appropriate.

1.8 OPERATION AND MAINTENANCE MANUAL SUBMITTAL

A. Prior to start-up of the equipment and related Owner Training, submit operations and maintenance manual in accordance with the following.

B. Manual shall include:
1. Manufacturer's name, model number, service manual, spare parts list, and descriptive literature.
2. Names, addresses and contact information for equipment local service representative(s).
3. Copies of final approved Shop Drawings and Product Data Submittals.
4. Instructions for starting and operating the equipment provided.
5. Complete maintenance instructions including preventive maintenance instructions and schedules for equipment.
6. Detailed one-line, color-coded wiring diagrams.
7. Inspection procedures.
8. List of most frequently encountered repairs and trouble-shooting manual(s).
9. Copies of warranties.

C. Manual submission process:
1. Submit a bookmarked digital draft file (.pdf) of the O&M Manual to the Designer for review and comment.
2. Upon acceptance by the Designer submit the final digital file (.pdf) of the O&M Manual along with two (2) hard copies bound in heavy duty 3-ring binders with table of contents and appropriate dividers to the Owner for use/reference during Owner Training sessions.

1.9 SPARE PARTS

A. Furnish one spare set of seals for each pump provided.

1.10 WARRANTY

A. Equipment Manufacturer shall provide five (5) year full parts and labor warranty from the date of Project Final Acceptance for the complete pump and motor assembly. Start-up services and labor warranty shall be performed by factory employed service technicians. Manufacturer shall agree to replace any and all pump related components (parts and labor, including travel) that are provided on the project at no cost to the Owner during the warranty period.

B. All written warranty claims by the Owner shall be responded to by the manufacturer within 24 hours including a site visit and diagnosis. Prior to leaving the site, a repair schedule shall be mutually established between the Owner and the manufacturer. If the manufacturer fails to meet the repair schedule, the Owner reserves the right to make the necessary repairs. The cost for the Owner to make the repairs shall be invoiced to the manufacturer by the Owner. Through submittal of a bid on this project, the manufacturer is obligated to reimburse the Owner for such repairs (Net 30 days).

PART 2 - PRODUCTS

2.1 DOUBLE SUCTION HORIZONTAL SPLIT CASE CENTRIFUGAL PUMPS

A. Manufactures: Goulds, Flowserve, Fairbanks-Nijhuis, or Peerless

B. Pumps shall be base mounted, double suction, flexible coupled, horizontal split case with ductile iron casings with ANSI Class 125/150 flanges, stainless steel fitted with working pressure of 175 psi and operating temperature of 225°F continuous. Pump design shall allow for servicing without disturbing piping, motor or requiring shaft realignment.

C. Casings shall be ductile iron having minimum tensile strength of 35,000 psi. Bearing housing supports and suction and discharge flanges shall be integrally cast with lower half of casings. Upper half of casings shall be removable without disconnecting suction and discharge piping.

D. Casings shall have tapped and plugged openings for priming, vent, drain, and suction and discharge gauge connections.

E. Impellers shall be enclosed double suction type made of stainless steel, hydraulically and dynamically balanced to ANSI/HI 14.6-2022, keyed and locked to pump shafts. Impellers shall have removable bronze-wear rings securely locked in place.

F. The pump bearings shall be heavy duty, single row anti-friction type arranged for oil lubrication and include a constant level oiler. Inboard and outboard bearing interchangeability is required.
   1. The bearing shall be adequately sized for long life without the addition of external cooling.
   2. Removable bearing housings shall be supplied with 360 degree mounting via a register fit and doweled to the pump bearing brackets cast integral with the casing halves.

3. Motor and pump bearings shall be sized for a minimum of 20,000 lbs. of B-10 life which is equivalent to 100,000 hrs average bearing life.

G. Pumps shall have easily removable casing rings designed such that hydraulic pressure seats them against shoulders in pump cases around entire periphery of wear rings. Wearing rings to be locked in place to prevent rotation.

H. Pump shafts shall be stainless steel, accurately machined and ground over its entire length. Furnish complete with stainless steel shaft sleeves with stainless steel sleeve nuts to center the rotor in the casing.

I. Pumps shall be furnished with single inside, unbalanced mechanical seals with carbon rotating faces, ceramic stationary seats, Buna-N elastomer and 316 SS spring, rated up to 225°F continuous operation. Seals shall be internally flushed.

J. Provide pumps with an API Plan 11 seal flush plan constructed of 316 SS tubing with Swagelok fittings.

K. Drop-out spacer type couplings with flexible neoprene sleeves shall be used to allow for pump servicing without moving motor of pump. An aluminum guard shall be provided at each coupling location.

L. Baseplate
   1. Each pump and drive assembly shall be provided with a factory installed continuous factory-fabricated steel baseplate designed for grouting during installation.
   2. Welding of the baseplate shall be by AWS certified welders.
   3. The mounting feet locations for the pump and drive elements shall be fully machined. There shall be 0.125” allowance in the mounting feet location of the motor for the addition of stainless steel shims to attain horizontal shaft alignment.
   4. The baseplate shall include horizontal jack screws at each element foot of the motor to facilitate alignment. The drive elements shall be pre-aligned to the pump prior to shipment.
   5. The pre alignment shall accommodate any thermal growth in the drive elements and shaft location from the drive to driven elements shall be within the tolerances of the coupling.

M. Chilled water pumps shall be provided with drip pans as specified in Part 4 - Execution.

N. Pumps shall conform to US Department of Energy (DOE) regulations 10 CFR Parts 429 and 431 as applicable.

PART 3 – EXECUTION – BY EQUIPMENT MANUFACTURER

3.1 FACTORY TESTING

A. Pump manufacturer shall conduct factory performance testing of completely assembled pump, drive line, motor, and frame base plate unit before shipment for one chilled water pump and one condenser water pump.

B. Factory performance testing shall be in accordance with ANSI/HI 14.6-2022 Rotodynamic Pumps for Hydraulic Performance Acceptance Tests. Acceptance Grade shall be as indicated for "Building Trades and HVAC" application in Table 14.6.4.
   1. Rate of flow:
      a. Rate of flow shall not be less than specified value.
      b. There is not a maximum limit on the rate of flow.
   2. Total head:
      a. Total head shall not be less than specified value.
      b. There is not a maximum limit on the total head.
   3. Power:
      a. There is not a minimum limit on the Power.
      b. Power shall not exceed motor nameplate rating at 1.0 service factor at any point along the pump curve.
   4. Efficiency:
      a. Efficiency shall not be less than specified value.
   5. There is not a maximum limit on efficiency.

C. If any pump fails to meet its specified rate of flow, total head, or power requirements, the Pump Manufacturer shall modify the pump and re-complete all performance testing. The Owner will not be responsible for costs incurred by the Pump Manufacturer for modifications to pumps or additional testing. The Owner will not accept any pump that does not meet these criteria.

D. For pumps provided with variable speed drives, test shall include operating the assembled unit over the entire variable speed range, variable head, and variable flow performance range contained on submitted pump Shop Drawing performance curves performance window formed between minimum flow and maximum flow limitations established by submitted NPSHR curve. Test each pump at 50 rpm intervals between 100 rpm and maximum design performance rpm specified.

E. After testing is complete and before pump is shipped, manufacturer shall submit to Engineer for final acceptance test reports which present all measured test data. Report shall be signed by authorized factory pump Design/Pump Test Engineer. The Pump Manufacturer shall not release the fully assembled pump for shipment without an approved stamp from the Engineer on the submitted test report.

F. Signed test reports shall include the following statement:
   1. "Provided that the pump being furnished is operated within the entire window of operating points between the tested speeds, heads, and flows, manufacturer shall warranty the pump against any performance loss, rotating part damage, stationary part damage, or structural damage caused by mechanically induced or fluid induced vibration occurring within the pump or within the footprint of the pump frame base plate."

G. The Pump Manufacturer shall confirm in writing that the pump does not pass through a critical speed or harmonic resonance frequency at speeds within the entire window of operating points.

3.2 TRAINING AND OPERATION

A. The equipment manufacturer shall provide full operating, service and maintenance training programs for the Owner's maintenance personnel. All costs associated with Owner Training shall be included in the base proposal, including travel and per diem expenses. Training shall occur at the Owners facility. Training will be scheduled separately at a time determined by the Owner.

B. Training shall only occur after the systems provided are installed by the Contractor, started up by the Manufacturer, and made ready for proper operation.

C. Manufacturer shall instruct and train Owner's representative in operation and maintenance and participate in any commissioning of each system provided for the project.

D. Include minimum of 8 hours of start-up and Owner training and a minimum of an additional 8 hours of commissioning support time for each system.

E. At a minimum, the training course shall cover the following topics:
   1. Start-up and Operation.
   2. Maintenance procedures (lubrication, adjustment, cleaning, etc.).
   3. Casing disassembly and re-assembly.
   4. Shaft inspection and repair.
   5. Impeller and wear ring inspection.
   6. Bearing removal and replacement.
   7. Seal removal and replacement.

F. A complete syllabus and O&M Manuals shall be submitted and approved by Owner four weeks prior to training.

G. At the end of each training course, the manufacturer shall provide to the Owner complete service manuals and bulletins that would be equal to the manuals that would be provided to the manufacturer’s own service technicians. The manufacturer shall include the Owner on their update mailing list to make available for purchase by the Owner, all updates to the service manuals and new service bulletins that are issued after the completion of the training program.

H. Owner may video tape training sessions for their use in future training of their operations and maintenance staff.

3.3 START-UP

A. Pump Manufacturer shall provide for services of factory trained service engineer who is in the full-time employment of the Pump Manufacturer on-site to supervise and approve installation, drive alignment, perform start-up, test and adjust unit for proper operation of all pumps being provided on the project. This shall include furnishing start-up and test log showing all initial settings and readings and shall be signed by Pump Manufacturer’s service representative. A minimum of 8 hours on-site per electric motor drive pump shall be included.

3.4 COMMISSIONING

A. In addition to time required for full start-up services, pump manufacturer shall provide for services of an experienced factory trained service engineer who is in the full-time employment of the pump manufacturer to participate in the Owner's commissioning process up to 4 hours on-site per pump.

PART 4 – EXECUTION – BY INSTALLING CONTRACTOR

4.1 INSTALLATION

A. Install pumps in strict accordance with manufacturer's instructions to avoid stress on casing and misalignment.

B. Set base mounted pumps on concrete bases, or concrete inertia base. Shim pump base at anchor points until level and a minimum of ½" above the concrete base and bolt down prior to grouting. When pumps are mounted on concrete equipment pads directly on floor slabs, and not spring supported inertia bases or thickened isolated pads, anchor bolts shall be of sufficient length to pass through equipment pad to provide minimum 3" embed into floor slab below the equipment pad. Provide removable form work and blocking to contain grout under and in the pump base. Fill entire base including motor base with non-shrinking grout. Remove forms and blocking and hand rub any defective grout to provide smooth and uniform finish.

C. Where pump connection size and indicated line sizes are not identical, provide necessary concentric reducers/increasers for vertical piping at pump connection and eccentric reducers/increasers for horizontal piping at pump connection. Install eccentric reducers/increasers with top of pipe level. All valves and piping specialties shall be full line size as indicated on drawings.

D. Provide 2" deep drain pan constructed of 16 Gauge 304 stainless steel, welded under each chilled water pump. Pan shall extend 1" beyond suction/discharge flanges and bearing housings. Contractor shall provide silicone sealant between pump feet and drain pan to make pan leak-proof. Contractor shall route 1" copper drain line from pan to nearest floor drain.

E. Piping connections to pumps shall not create stress on pump casing. After final connections are completed, remove bolts from flanged connections at pumps. Piping shall remain aligned with pump connections after bolts have been removed, or if bolts cannot be removed by hand, revise piping to align piping with pump connection. Piping/pump alignment verification shall be completed in the presence of the Owner's representative. If after completion of the strain-free verification of the piping system must be disassembled at any point in the system, the strain-free verification shall be repeated.

F. Contractor shall hire an independent certified technician from the selected pump manufacturer to field align flexible coupled pumps after base grouting is complete. Align pump and motor in all four planes: vertical angular, horizontal angular, vertical offset and horizontal offset. Any misalignment over 30 mils shall be made up with custom shims and the final alignment for the last 30 mils made up with standard shims. Alignment shall be within the tolerances for horizontal and vertical misalignment listed below:

RPM	Angular Misalignment Mils per Inch 0.001/1"	Offset Misalignment Mils 0.001"
3600	0.3/1"	1.0
1800	0.5/1"	2.0
1200	0.7/1"	3.0
900	1.0/1"	4.0

G. Record and submit all results of alignment procedure to Designer using the form in Part 5 of this section. After alignment is complete and within tolerance, pin pump and motor to base.

4.2 VIBRATION TEST

A. During start-up, perform field measurement of actual pump vibration levels for all water pumps and submit report.

B. Maximum RMS velocity measurement shall not exceed 0.13 in/sec at the following locations:
   1. Outer Pump Bearing
   2. Inner Pump Bearing
   3. Motor Drive-End Bearing

C. If vibration levels are exceeded, field alignment and balancing shall be repeated and another vibration test shall be performed.

4.3 STARTUP

A. Manufacturer's representative shall be on site during pump start up to approve installation prior to start up and witness startup operations and verify proper pump performance.

B. Verify piping system has been flushed, cleaned and filled.

C. Prime pump, vent air from casing and verify rotation is correct. To avoid damage to mechanical seals, never start or run pump in dry condition.

D. Verify lubrication of motor and pump bearings and lubricate properly in accordance with manufacturer's recommendations.

E. Touch up paint in each entire pump assembly.

F. After several days' operation, remove disposable startup strainer in suction diffuser and turn over to Owner.

G. Contractor shall schedule and expedite the manufacturers start-up process and support the Owners commissioning activities. Contractor shall coordinate exact timing of these activities and arrange for appropriate manufacturer personnel to be on-site.

H. After successful completion of equipment installation, the Contractor shall assemble and incorporate equipment shop drawings, operating/maintenance instructions, and part lists into the Contractor's project operation/maintenance manuals.

PART 5 – PERFORMANCE

5.1 PUMP SUMMARY DATA SHEET

A. Complete and submit this form **with Bid** and subsequent shop drawing submittals for each size or type of pump.

General

Project: _____
Identification: _____
Service: _____
Location: _____
Type: _____
Manufacturer: _____
Model Number:

Performance

Capacity (Flow): _____
Discharge Head (Feet): _____
Net Positive Suction Head (Feet): _____
Efficiency (%): _____
Horsepower required for non-overloading operation over entire pump curve: _____

Physical Characteristics

Suction Size: _____
Discharge Size: _____
Casing Material: _____
Impeller Material: _____
Shaft Sleeve Material: _____
Shaft Material: _____
Seal Type: _____
Seal Face Material: _____
Seal Seat Material: _____
Bearing Assembly Material: _____
Working Pressure & Continuous Operating Temperature: _____
Maximum Intermittent Temperature: _____

Motor

Manufacturer: _____

Horsepower: _____

Voltage: _____

Phase: _____

Hertz: _____

RPM: _____

Motor Type: _____

Enclosure Type _____

Frame Type: _____

Insulation Class: _____

NEMA Design Designation: _____

Service Factor: _____

Nominal Efficiency: _____

Nominal Power Factor: _____

Full Load Amps: _____

Variable Frequency Drives (Y or N): _____

5.2 LIFE CYCLE COST ANALYSIS FORM

A. Complete and submit the following form **with Bid** submittal for each size or type of pump.

B. Refer to the equipment schedules in the contract documents for performance requirements. Submit performance Power Input (kW) data at each load point for each pump being provided. Where pumps have same flow, head, efficiency and motor horsepower, submit form for one pump only.

NC SCO LCCA Form - PUMPS 75HP AND LARGER	
Project Owner:	University of North Carolina
Project Title:	CHW Infrastructure Expansion - ECP
Project ID#:	22-25588-02G

Equipment Utilization Profile		
Load %	Load (gpm)	Hours Per Year
66	2400	500
57	2040	2000
53	1920	1500
50	1800	1000

Vendor Data – Input Equipment Part Load Performance kW		
Load %	Load (gpm)	Power Input (kW)
66	2400	
57	2040	
53	1920	
50	1800	

Life Cycle Calculation (To Be Completed by Designer)	
1st Year ($)	
1st Year x 30 ($)	
Bid Price ($)	
LCC ($)	
Formula: LCC = Bid Price ($) + 1st Year ($) x 30 Years	
Note: Electricity cost calculated based on $0.08 / kWh	

5.3 PUMP ALIGNMENT RECORD

This alignment form pertains to horizontal, general service, centrifugal pumps driven by an independent driver through a flexible coupling and with pump and driver mounted on a common base plate, and driver mounted on a common base plate.	
Project: UNC CHW Infrastructure Expansion - ECP	Date: _____
Pump Equipment Number: _____	
Pump HP: _____	

Pump checked for rotation prior to coupling installation		
Yes: _____	No: _____	Signature: _____
Angular Alignment Without Flanges Connected:		
0-degrees	90-degrees	180-degrees
270-degrees		
Offset Alignment Without Flanges Connected:		
0-degrees	90-degrees	180-degrees
270-degrees		
Piping Alignment	Are bolts free to move? _____	
Does piping remain aligned when bolts are removed? _____		
Angular Alignment With Flanges Connected:		
0-degrees	90-degrees	180-degrees
270-degrees		
Offset Alignment With Flanges Connected:		
0-degrees	90-degrees	180-degrees
270-degrees		
Contractor's Signature: _____		
Owner's Signature: _____		

END OF SECTION

Affiliated Engineers, Inc.
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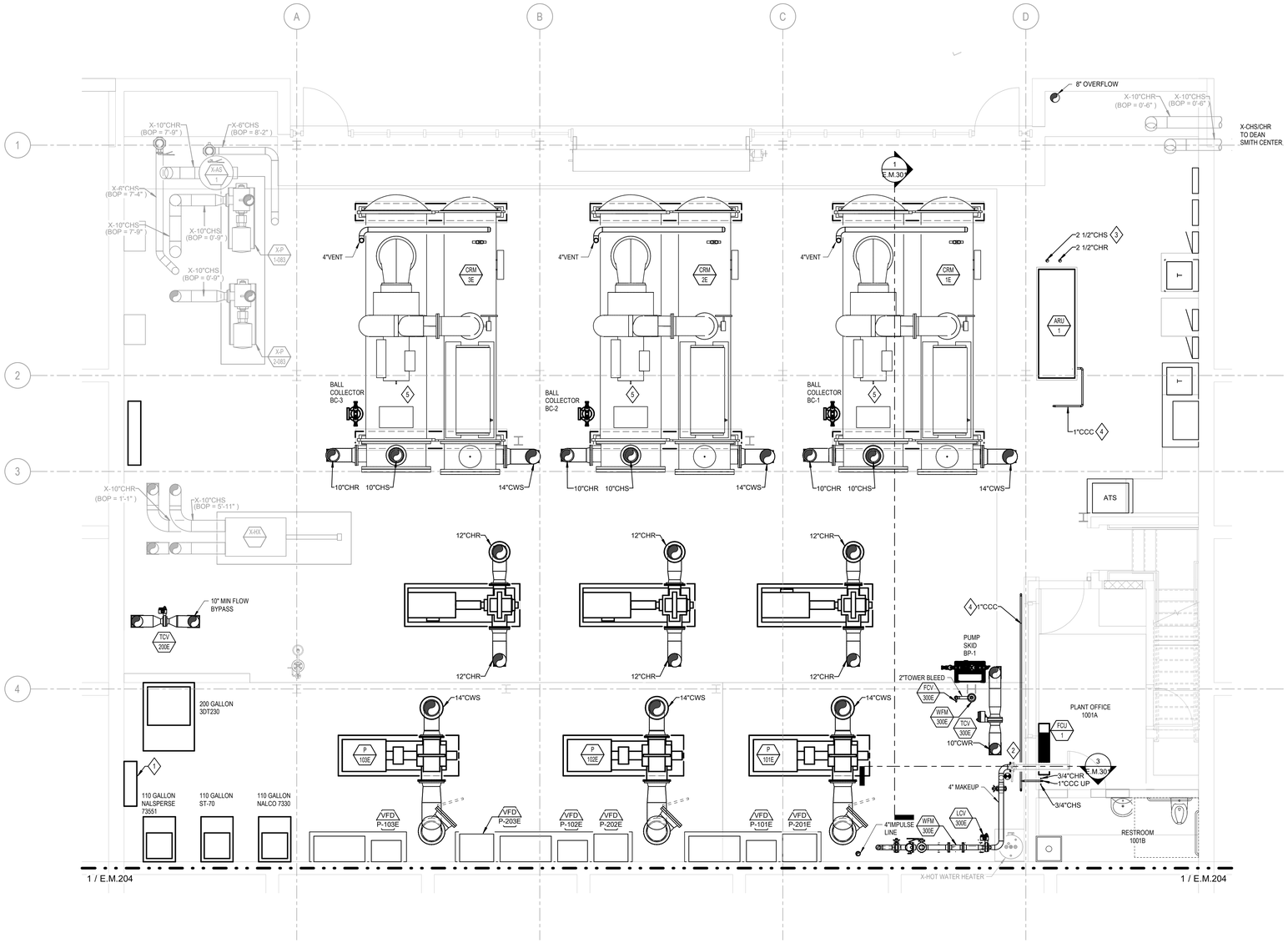
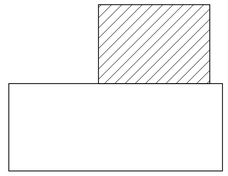
Chapel Hill, NC 27517
Tel 919.419.9802
www.aeieng.com
NC Lic. No. C-2982



1 MECHANICAL NEW WORK PLAN - LOWER LEVEL

SCALE: 1/4" = 1'-0"



KEYPLAN

Sheet Keynotes:

1. STAND WITH WATER TREATMENT CONTROL PANEL AND COUPON RACKS.
2. REMOVE EXISTING BLIND FLANGE FOR CONNECTION OF NEW NON-POTABLE WATER MAKEUP FEED.
3. CONTRACTOR IS TO PROVIDE SUPPLEMENTAL STEEL SPANNING ROOF SRUCTURE TO SUPPORT ALL PIPING 4" AND SMALLER AND ALL DUCTWORK. SUPLEMENTAL STEEL SHALL BE ATTACHED TO ROOF STRUCTURE WITH A CONCENTRICALLY LOADED CLAMP.
4. ROUTE CONDENSATE PIPING ALONG FLOOR TO FLOOR SINK.
5. BASIS OF DESIGN CHILLER IS SHOWN AS A YORK YZ. IF ANOTHER CHILLER IS CHOSEN AFTER LCCA, MODIFICATIONS WILL NEED TO BE MADE TO CHILLER PIPING FOR NEW FOOTPRINT AND CONNECTION POINTS.

12/06/24

Rev	Date	Description of Issue
B	10/18/24	CD FOR REVIEW
A	05/24/24	SD / DD

Project

THE UNIVERSITY *of* NORTH CAROLINA *at* CHAPEL HILL

Chilled Water Infrastructure Expansion

SCO# 22-25588-02B
CODE: 42123-355 / 42323-305
UNC BLDG. NO 505

Sheet Title

MECHANICAL NEW WORK PLAN - LOWER LEVEL

Scale: 1/4" = 1'-0"

Date: 10/18/24 | Drawn By: DVS

Project No.: 23480-02 | Checked By: BJP

Sheet No.

E.M.202

CHILLERS

23 6000

MARK (CRM)	LOCATION	TYPE	CAPACITY (TONS)	MAXIMUM KW/TON	EVAPORATOR GPM	EWT (°F)	LWT (°F)	PASS	MAX. PD (FT)	FOULING FACTOR	REMARKS OWNER PRE-PURCHASED AND FURNISHED TO THE CONTRACTOR
1E	CHILLER BAY-GROUND LEVEL	CENT	1,400	0.612	2,400	56	42	2	18.1	0.0001	
2E	CHILLER BAY-GROUND LEVEL	CENT	1,400	0.612	2,400	56	42	2	18.1	0.0001	
3E	CHILLER BAY-GROUND LEVEL	CENT	1,400	0.612	2,400	56	42	2	18.1	0.0001	

CHILLERS

MARK (CRM)	CONDENSER GPM	EWT (°F)	LWT (°F)	PASS	MAX. PD (FT)	FOULING FACTOR	ELECTRICAL MAX. POWER INPUT (KW)	FLA	LRA	INRUSH	VOLTS	PH	STARTER TYPE
1E	4,200	85	95	2	18.5	0.00025	858	1080	6235	-	480	3	VFD (UNIT MOUNTED)
2E	4,200	85	95	2	18.5	0.00025	858	1080	6235	-	480	3	VFD (UNIT MOUNTED)
3E	4,200	85	95	2	18.5	0.00025	858	1080	6235	-	480	3	VFD (UNIT MOUNTED)

COOLING TOWERS

MARK (CTF)	LOCATION	GPM EACH CELL	MAX. PD (FT)	TEMPERATURE (°F) AIR WB	EWT	LWT	FAN MOTOR MAX. HP	VOLT	PHASE	REMARKS OWNER PRE-PURCHASED AND FURNISHED TO THE CONTRACTOR
301E	EQUIPMENT YARD SOUTH OF PLANT	4200	55	80	95	85	125	480	3	(1)
302E	EQUIPMENT YARD SOUTH OF PLANT	4200	55	80	95	85	125	480	3	(1)
303E	EQUIPMENT YARD SOUTH OF PLANT	4200	55	80	95	85	125	480	3	(1)

NOTES:
(1) PROVIDED WITH DIRECT DRIVE PMR TYPE MOTORS AND COMPANION VFDS.

VARIABLE FREQUENCY DRIVES

23 0514

MARK (VFD)	EQUIPMENT	LOCATION	HP	VOLTS	RPM	PULSE	INPUT CIRCUIT BREAKER	INPUT LINE REACTOR	OUTPUT DV/DT FILTER	BYPASS STARTER	HARMONIC TRAP	SINGLE ENCLOSURE	NEMA ENCLOSURE TYPE	SCCR (MIN)	REMARKS OWNER PRE-PURCHASED AND FURNISHED TO THE CONTRACTOR
P-201E	CHW PUMP	MECHANICAL ROOM	200	480	1800	6	Y	Y	N	N	N	Y	12	65kAIC	
P-202E	CHW PUMP	MECHANICAL ROOM	200	480	1800	6	Y	Y	N	N	N	Y	12	65kAIC	
P-203E	CHW PUMP	MECHANICAL ROOM	200	480	1800	6	Y	Y	N	N	N	Y	12	65kAIC	
P-101E	CW PUMP	MECHANICAL ROOM	200	480	1200	6	Y	Y	N	N	N	Y	12	65kAIC	
P-102E	CW PUMP	MECHANICAL ROOM	200	480	1200	6	Y	Y	N	N	N	Y	12	65kAIC	
P-103E	CW PUMP	MECHANICAL ROOM	200	480	1200	6	Y	Y	N	N	N	Y	12	65kAIC	
CTF-301E	CT FAN	EXTERIOR ELECTRICAL ENCLOSURE	125	480	180	6	Y	Y	N	N	N	Y	1	65kAIC	
CTF-302E	CT FAN	EXTERIOR ELECTRICAL ENCLOSURE	125	480	180	6	Y	Y	N	N	N	Y	1	65kAIC	
CTF-303E	CT FAN	EXTERIOR ELECTRICAL ENCLOSURE	125	480	180	6	Y	Y	N	N	N	Y	1	65kAIC	

VALVES

23 0902

MARK	LOCATION	SYSTEM	SERVICE	TYPE	OPERATING	SIZE (IN)	GPM	Cv@100% STROKE MIN	Cv@100% STROKE MAX	SHUTOFF PRESSURE DIFFERENTIAL (PSIG)	FAIL POSITION FC, FO OR OR FIP (1)	ACTUATOR TYPE	ACTUATOR VOLTAGE	REMARKS
FCV/201E	CHILLER ROOM	CHS	CRM 1E	BUTTERFLY	MODULATING	10	2,400	3,500	4,500	100	FIP	ELECTRIC	120	
FCV/202E	CHILLER ROOM	CHS	CRM 2E	BUTTERFLY	MODULATING	10	2,400	3,500	4,500	100	FIP	ELECTRIC	120	
FCV/203E	CHILLER ROOM	CHS	CRM 3E	BUTTERFLY	MODULATING	10	2,400	3,500	4,500	100	FIP	ELECTRIC	120	
TCV/200E	CHILLER ROOM	CHR	MINIMUM FLOW / STARTUP BYPASS	BUTTERFLY	MODULATING	6	1,200	400	500	100	FIP	ELECTRIC	120	
FCV/101E	CHILLER ROOM	CWR	CRM 1E	BUTTERFLY	MODULATING	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
FCV/102E	CHILLER ROOM	CWR	CRM 2E	BUTTERFLY	MODULATING	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
FCV/103E	CHILLER ROOM	CWR	CRM 3E	BUTTERFLY	MODULATING	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
TCV/300E	CHILLER ROOM	CWR	TOWER BYPASS	BUTTERFLY	MODULATING	8	2,100	2,000	2,500	100	FIP	ELECTRIC	120	
FV/301E	EQUPMENT YARD	CWR	CTF 1E	BUTTERFLY	TWO POSITION	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
FV/302E	EQUPMENT YARD	CWR	CTF 2E	BUTTERFLY	TWO POSITION	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
FV/303E	EQUPMENT YARD	CWR	CTF 3E	BUTTERFLY	TWO POSITION	14	4,200	7,000	8,000	100	FIP	ELECTRIC	120	
LCV/350E	CHILLER ROOM	RCW	CONDENSER WATER MAKE-UP	V-BALL	MODULATING	3	200	200	225	100	FC	ELECTRIC	120	
LCV/300E	CHILLER ROOM	DCW	CONDENSER WATER MAKE-UP	V-BALL	MODULATING	3	200	200	225	100	FC	ELECTRIC	120	
FCV/300E	CHILLER ROOM	CWR	TOWER BLEED	V-BALL	MODULATING	2	65	-	-	100	FC	ELECTRIC	120	
FV/350E	CHILLER ROOM	RCW	RECLAIM WATER MAKE-UP SAMPLE	BALL	TWO POSITION	1	-	-	-	100	FC	ELECTRIC	120	STAINLESS STEEL BODY, BALL, ETC.
PCV/800AE	CHILLER ROOM	DCW	CHILLED WATER MAKE-UP	V-BALL	MODULATING	2	80	27	32	100	FC	ELECTRIC	120	30 DEGREE PORT ANGLE
PCV/800BE	CHILLER ROOM	DCW	CHILLED WATER MAKE-UP	V-BALL	MODULATING	4	470	330	350	100	FC	ELECTRIC	120	90 DEGREE PORT ANGLE

(1) FC=FAIL CLOSED, FO=FAIL OPEN, FIP=FAIL IN PLACE

WATER FLOW METERS

23 0903

MARK (FIT)	SYSTEM	SERVICE	TYPE	CAPACITY (GPM)	SIZE (IN)	MAX. PD (FT)	VOLTAGE	REMARKS
800E	DCW	CHILLED WATER MAKE-UP	INLINE MAGNETIC	80	2	N/A	24VDC	
801E	DCW	CHILLED WATER MAKE-UP	INLINE MAGNETIC	470	4	N/A	24VDC	
200E	CHS	MINIMUM FLOW BYPASS	INLINE MAGNETIC	1200	10	N/A	24VDC	
201E	CHR	CRM 1E	INLINE MAGNETIC	2400	10	N/A	24VDC	
202E	CHR	CRM 2E	INLINE MAGNETIC	2400	10	N/A	24VDC	
203E	CHR	CRM 3E	INLINE MAGNETIC	2400	10	N/A	24VDC	
101E	CWS	CRM 1E	INLINE MAGNETIC	4200	14	N/A	24VDC	
102E	CWS	CRM 2E	INLINE MAGNETIC	4200	14	N/A	24VDC	
103E	CWS	CRM 3E	INLINE MAGNETIC	4200	14	N/A	24VDC	
300E	CWS	TOWER BLEED	INLINE MAGNETIC	65	2	N/A	24VDC	
350E	RCW	CONDENSER MAKEUP	INLINE MAGNETIC	200	4	N/A	24VDC	
300E	DCW	CONDENSER MAKEUP	INLINE MAGNETIC	200	4	N/A	24VDC	

PUMPS

MARK (P)	LOCATION	SERVICE	TYPE	CAP. (GPM)	HEAD (FT)	MAX. NPSHR (FT)	MIN. EFF. (%)	SIZE (IN) SUCT.	SIZE (IN) DISCH.	ELECTRICAL CHARACTERISTICS MOTOR VFD	HP	RPM	VOLT	PH	REMARKS OWNER PRE-PURCHASED AND FURNISHED TO THE CONTRACTOR
201E	MECHANICAL ROOM	CHILLED WATER	HORIZONTAL SPLIT CASE	3600	160	19.2	85.5.	12	10	YES	200	1800	480	3	
202E	MECHANICAL ROOM	CHILLED WATER	HORIZONTAL SPLIT CASE	3600	160	19.2	85.5	12	10	YES	200	1800	480	3	
203E	MECHANICAL ROOM	CHILLED WATER	HORIZONTAL SPLIT CASE	3600	160	19.2	85.5	12	10	YES	200	1800	480	3	
101E	MECHANICAL ROOM	CONDENSER WATER	HORIZONTAL SPLIT CASE	6300	90	13.2	85.5	16	14	YES	200	1200	480	3	
102E	MECHANICAL ROOM	CONDENSER WATER	HORIZONTAL SPLIT CASE	6300	90	13.2	85.5	16	14	YES	200	1200	480	3	
103E	MECHANICAL ROOM	CONDENSER WATER	HORIZONTAL SPLIT CASE	6300	90	13.2	85.5	16	14	YES	200	1200	480	3	

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NC Lic. No. C-2982

NORTH CAROLINA PROFESSIONAL SEAL 031487 ENGINEER NITHAN D. CESARZ

12/16/24

Sheet Keynotes:

Rev	Date	Description of Issue
B	10/18/24	CD FOR REVIEW
A	05/24/24	SD / DD

Project

THE UNIVERSITY *of* NORTH CAROLINA *at* CHAPEL HILL

Chilled Water Infrastructure Expansion
SCO# 22-25588-02B
CODE: 42123-355 / 42323-305
UNC BLDG. NO 505

Sheet Title

MECHANICAL SCHEDULES

Scale: NONE

Date: 10/18/24

Drawn By: DDC

Project No.: 23480-02

Checked By:

Sheet No.

E.M.601

STATE OF NORTH CAROLINA

Invitation for Bids

3000012133

For internal State agency processing, including tabulation of bids, provide your company's eVP (Electronic Vendor Portal) Number. Pursuant to G.S. 132-1.10(b) this identification number shall not be released to the public. **This page will be removed and shredded, or otherwise kept confidential**, before the procurement file is made available for public inspection.

This page shall be filled out and returned with your bid.
Failure to do so shall be sufficient cause to reject your bid.

_____

Vendor Name

_____

Vendor eVP #

Note: For a contract to be awarded to you, your company (you) must be a North Carolina registered vendor in good standing. You must enter the vendor number assigned through eVP (Electronic Vendor Portal). If you do not have a vendor number, register at https://vendor.ncgov.com/vendor/login

STATE OF NORTH CAROLINA
The University of North Carolina at Chapel Hill

Refer *ALL* Inquiries regarding this IFB to: ***SEE FRONT COVER***	**Invitation for Bids # 3000012133** **Bids will be publicly opened: 03-08-2025**
Using Agency: UNC-CH **Requisition No.: 10010133620**	**Commodity No. and Description:**

EXECUTION

In compliance with this Invitation for Bids (IFB), and subject to all the conditions herein, the undersigned Vendor offers and agrees to furnish and deliver any or all items upon which prices are bid, at the prices set opposite each item within the time specified herein.

By executing this bid, the undersigned Vendor understands that false certification is a Class I felony and certifies that:

- this bid is submitted competitively and without collusion (G.S. 143-54),
- that none of its officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and
- it is not an ineligible Vendor as set forth in G.S. 143-59.1.

Furthermore, by executing this bid, the undersigned certifies to the best of Vendor's knowledge and belief, that:

- it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal or State department or agency.

As required by G.S. 143-48.5, the undersigned Vendor certifies that it, and each of its sub-Contractors for any Contract awarded as a result of this IFB, complies with the requirements of Article 2 of Chapter 64 of the NC General Statutes, including the requirement for each employer with more than 25 employees in North Carolina to verify the work authorization of its employees through the federal E-Verify system.

As required by Executive Order 24 (2017), the undersigned vendor certifies will comply with all Federal and State requirements concerning fair employment and that it does not and will not discriminate, harass, or retaliate against any employee in connection with performance of any Contract arising from this solicitation.

G.S. 133-32 and Executive Order 24 (2009) prohibit the offer to, or acceptance by, any State Employee associated with the preparing plans, specifications, estimates for public Contract; or awarding or administering public Contracts; or inspecting or supervising delivery of the public Contract of any gift from anyone with a Contract with the State, or from any person seeking to do business with the State. By execution of this bid response to the IFB, the undersigned certifies, for Vendor's entire organization and its employees or agents, that Vendor are not aware that any such gift has been offered, accepted, or promised by any employees or agents of Vendor's organization.

By executing this bid, Vendor certifies that it has read and agreed to the **INSTRUCTION TO VENDORS** and the **NORTH CAROLINA GENERAL TERMS AND CONDITIONS incorporated herein**. These documents can be accessed from the ATTACHMENTS page within this document.

Failure to execute/sign bid prior to submittal may render bid invalid and it MAY BE REJECTED. Late bids cannot be accepted.

COMPLETE/FORMAL NAME OF VENDOR:			
STREET ADDRESS:		P.O. BOX:	ZIP:
CITY & STATE & ZIP:		TELEPHONE NUMBER:	TOLL FREE TEL. NO:
PRINCIPAL PLACE OF BUSINESS ADDRESS IF DIFFERENT FROM ABOVE (SEE INSTRUCTIONS TO VENDORS ITEM #21):			
PRINT NAME & TITLE OF PERSON SIGNING ON BEHALF OF VENDOR:		FAX NUMBER:	
VENDOR'S AUTHORIZED SIGNATURE:	**DATE:**	E-MAIL:	

VALIDITY PERIOD

Offer shall be valid for at least sixty (60) days from date of bid opening, unless otherwise stated here: _____ days, or if extended by mutual agreement of the parties. Any withdrawal of this offer shall be made in writing, effective upon receipt by the agency issuing this IFB.

BID ACCEPTANCE

If your bid is accepted, all provisions of this IFB, along with the written results of any negotiations, shall constitute the written agreement between the parties ("Contract"). THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL GENERAL TERMS AND CONDITIONS are incorporated herein and shall apply. Depending upon the Goods or Services being offered, other terms and conditions may apply, as mutually agreed.

FOR STATE USE ONLY: Offer accepted and Contract awarded this ____ day of _____, 20____, as indicated on the attached certification, by _____

(Authorized Representative of [Enter Agency Title])

1.0 PURPOSE AND BACKGROUND

The intent of this solicitation is to award a contract for Pre-Purchasing Electrical Equipment Medium Voltage Switchgear for the University of North Carolina at Chapel Hill

1.1 CONTRACT TERM

Bids shall be submitted in accordance with the terms and conditions of this IFB and any addenda issued hereto.

2.0 GENERAL INFORMATION

2.1 INVITATION FOR BID DOCUMENT

The IFB is comprised of the base IFB document, any attachments, and any addenda released before Contract award, which are incorporated herein by reference.

2.2 E-PROCUREMENT FEE

This section was intentionally omitted.

2.3 NOTICE TO VENDORS REGARDING IFB TERMS AND CONDITIONS

It shall be the Vendor's responsibility to read the Instructions to Vendors, the University of North Carolina at Chapel Hill General Terms and Conditions, all relevant exhibits and attachments, and any other components made a part of this IFB and comply with all requirements and specifications herein. Vendors also are responsible for obtaining and complying with all Addenda and other changes that may be issued in connection with this IFB.

If Vendors have questions or issues, or exceptions regarding any component within this IFB, those must be submitted as questions in accordance with the instructions in the BID QUESTIONS Section. If the University determines that any changes will be made as a result of the questions asked, then such decisions will be communicated in the form of an IFB addendum. The University may also elect to leave open the possibility for later negotiation of specific provisions of the Contract that have been addressed during the question-and-answer period, prior to contact award.

Other than through this process or negotiation under 01 NCAC 05B.0503, the State rejects and will not be required to evaluate or consider any additional or modified terms and conditions submitted with Vendor's bid. This applies to any language appearing in or attached to the document as part of the Vendor's bid that purports to vary any terms and conditions or Vendors' instructions herein or to render the bid non-binding or subject to further negotiation. Vendor's bid shall constitute a firm offer that shall be held open for the period required herein ("Validity Period" above).

The University may exercise its discretion to consider Vendor proposed modifications. By execution and delivery of this IFB Response, the Vendor agrees that any additional or modified terms and conditions, whether submitted purposely or inadvertently, shall have no force or effect, and will be disregarded unless expressly agreed upon through negotiations

and incorporated by way of a Best and Final Offer (BAFO). Noncompliance with, or any attempt to alter or delete, this paragraph shall constitute sufficient grounds to reject Vendor's bid as non-responsive.

2.4 IFB SCHEDULE

The table below shows the *intended* schedule for this IFB. The State will make every effort to adhere to this schedule.

Event	Responsibility	Date and Time
Issue IFB	University	02-13-2025
Hold Pre-Bid Conference/Site Visit	University	N/A
Submit Written Questions	Vendor	02-27-2025 NLT 1:00 PM EST
Provide Responses to Questions	University	ASAP
Submit Bids	Vendor	03-08-2025 NLT 1:00 PM EST
Contract Award	University	ASAP
Contract Effective Date	University	TBD

BID QUESTIONS

Upon review of the IFB documents, Vendors may have questions to clarify or interpret the IFB in order to submit the best bid possible. To accommodate the Bid Questions process, Vendors shall submit any such questions by the "Submit Written Questions" date and time provided in the IFB SCHEDULE Section above, unless modified by Addendum.

Written questions shall be e-mailed to *mark_sillman@unc.edu* by the date and time specified above. Vendors will enter "IFB – 3000012133 – Company Name" as the subject for the email. **Questions shall be submitted as an MS WORD Document and shall include a reference to the applicable IFB section and be submitted in the format shown below:**

Reference	Vendor Question
IFB Section, Page Number	Vendor question …?

Questions received prior to the submission deadline date, the University's response, and any additional terms deemed necessary by the University will be posted in the form of an addendum to *the electronic Vendor Portal (eVP), https://evp.nc.gov,* and shall become an Addendum to this IFB. No information, instruction or advice provided orally or informally by any University personnel, whether made in response to a question or otherwise in connection with this IFB, shall be considered authoritative or binding. Vendors shall rely *only* on written material contained in an Addendum to this IFB.

2.7 BID SUBMITTAL

IMPORTANT NOTE: This is an absolute requirement. Vendor shall bear the risk of late submission due to unintended or unanticipated delay. It is the Vendor's sole responsibility to ensure its bid has been received as described in this IFB by the specified time and date of opening. The date and time of receipt will be marked on each bid when received. Any bid or portion thereof received after the bid submission deadline will be rejected.

[eVP]

All proposal responses shall be submitted electronically via the electronic Vendor Portal (eVP). Additional information can be found at the eVP updates for Vendors link: https://eprocurement.nc.gov/news-events/evp-updates-vendors.

Failure to submit a bid in strict accordance with these instructions shall constitute sufficient cause to reject a Vendor's bid(s). Vendors are strongly encouraged to allow sufficient time to upload bids.

Critical updated information may be included in Addenda to this IFB. It is important that all Vendors responding on this IFB periodically check the State's eVP website for any Addenda that may be issued prior to the bid opening date. All Vendors shall be deemed to have read and understood all information in this IFB and all Addenda thereto.

2.8 BID CONTENTS

Vendors shall populate all attachments of this IFB that require the Vendor to provide information and include an authorized signature where requested. Failure to provide all required items, or Vendor's submission of incomplete items, may result in the University rejecting Vendor's bid, in the University's sole discretion

Vendor IFB responses shall include the following items and attachments, which shall be arranged in the following order:

a) Primary Cover Letter, which must contain all of the following; (i) a statement that confirms that the Vendor has read the IFB in its entirety, including all links, and all Addenda released in conjunction with the IFB; (ii) a statement that the Vendor agrees to perform in accordance with the scope of work, requirements, and specifications contained herein; and (iii) Vendor's agreement to comply with all instructions, terms and conditions, and attachments.

b) Secondary Scope of Work required Cover Letter, see Scope of Work document attached.

c) Title Page: Include the company name, address, phone number and authorized representative along with the Bid Number.

d) Completed and signed version of EXECUTION PAGES, along with the body of the IFB.

e) Signed receipt pages of any addenda released in conjunction with this IFB, if required to be returned.

f) Vendor Response *[Indicate relative section references as a guide to responding to sections requiring additional responses outside of the solicitation document. If not required, delete.]*

g) Completed version of ATTACHMENT A: PRICING

h) Completed version of ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION

i) Completed version of ATTACHMENT E: CUSTOMER REFERENCE FORM

j) Completed version of ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR

k) Completed and signed version of ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION

2.9 ALTERNATE BIDS

Unless provided otherwise in this IFB, Vendor may submit alternate bids for comparable Goods, various methods or levels of Service(s), or that propose different options. Alternate bids must specifically identify the IFB requirements and advantages addressed by the alternate bid. Any alternate bid, in addition to the marking described above, must be clearly marked with the legend: "Alternate Bid #___ *[for 'name of Vendor']*". Each bid must be for a specific set of Goods and Services and must include specific pricing. If a Vendor chooses to respond with various offerings, each must be offered with a separate price and be contained in a separate bid. Each bid must be complete and independent of other bids offered.

2.10 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Relevant definitions for this IFB are provided in 01 NCAC 05A .0112 and in the Instructions to Vendors referenced below which are incorporated herein by this reference.

3.0 METHOD OF AWARD AND BID EVALUATION PROCESS

3.1 METHOD OF AWARD

North Carolina G.S. 143-52 provides a general list of criteria the University shall use to award contracts, as supplemented by the additional criteria herein. The Goods or Services being procured shall dictate the application and order of criteria; however, all award decisions shall be in the University's best interest.

All responsive bids will be reviewed, and award or awards will be based on the responsive bid(s) offering the lowest price that meets the specifications to include any required verifications set out herein such as but not limited to past performance, references, and financial documents.

While the intent of this IFB is to award a Contract(s) to a single Vendor for all line items, the University reserves the right to make separate awards to different Vendors for one or more line items, to not award one or more line items or to cancel this IFB in its entirety without awarding a Contract, if it is considered to be most advantageous to the University to do so.

If a Vendor selected for award is determined by the University to be a non-resident of North Carolina, all responsive bids will be reviewed to determine if any of them were submitted by a North Carolina resident Vendor who requested an opportunity to match the price of the winning bid, pursuant to Executive Order #50 and G.S. 143-59 (for more information, please refer to ATTACHMENT H: VENDOR REQUEST FOR EXECUTIVE ORDER #50 PRICE MATCHING. If such bid(s) are identified, the University will then determine whether any such bid falls within the price-match range, and, if so, make a Contract award in accordance with the process that implements G.S. 143-59 and Executive Order #50.

The University reserves the right to waive any minor informality or technicality in bids received.

3.2 CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION

While this IFB is under evaluation, the responding Vendor, including any subcontractors and suppliers, is prohibited from engaging in conversations intended to influence the outcome of the evaluation. See Paragraph 29 of the Instructions to Vendors entitled COMMUNICATIONS BY VENDORS.

Each Vendor submitting a bid to this IFB, including its employees, agents, subcontractors, suppliers, subsidiaries and affiliates, is prohibited from having any communications with any person inside or outside the using agency; issuing agency; other government agency office or body (including the purchaser named above, any department secretary, agency head, members of the General Assembly and Governor's office); or private entity, if the communication refers to the content of Vendor's bid or qualifications, the content of another Vendor's proposal, another Vendor's qualifications or ability to perform a resulting contract, and/or the transmittal of any other communication of information that could be reasonably considered to have the effect of directly or indirectly influencing the evaluation of proposals, the award of a contract, or both.

Any Vendor not in compliance with this provision shall be disqualified from evaluation and award. A Vendor's proposal may be disqualified if its subcontractor and/or supplier engage in any of the foregoing communications during the time that the procurement is active (*i.e.*, the issuance date of the procurement until the date of contract award or cancellation of the procurement). Only those discussions, communications or transmittals of information authorized or initiated by the issuing agency for this IFB, or inquiries directed to the purchaser named in this IFB regarding requirements of the IFB (prior to proposal submission) or the status of the award (after submission) are excepted from this provision.

3.3 BID EVALUATION PROCESS

Only responsive submissions will be evaluated.

The University will conduct an evaluation of responsive Bids, as follows:

Bids will be received according to the method stated in the Bid Submittal section above.

All bids must be received by the issuing agency not later than the date and time specified in the IFB SCHEDULE Section above, unless modified by Addendum. Vendors are cautioned that this is a request for offers, not an offer or request to contract, and the University reserves the unqualified right to reject any and all offers at any time if such rejection is deemed to be in the best interest of the University.

At the date and time provided in the IFB SCHEDULE Section above, unless modified by Addendum, the bids from each responding Vendor will be opened publicly and all offers (except those that were previously withdrawn, or voided bids) will be tabulated. The tabulation shall be made public at the time it is created. When negotiations after receipt of bids is authorized pursuant to G.S. 143-49 and 01 NCAC 05B.0503, only the names of offerors and the Goods and Services offered shall be tabulated at the time of opening. If negotiation is anticipated, cost and price shall become available for public inspection at the time of the award. Interested parties are cautioned that these costs and their components are subject to further evaluation for completeness and correctness and therefore may not be an exact indicator of a vendor's pricing position.

At their option, the evaluators may request oral presentations or discussions with any or all Vendors for clarification or to amplify the materials presented in any part of the bid. Vendors are cautioned, however, that the evaluators are not required to request presentations or other clarification—and often do not. Therefore, all bids should be complete and reflect the most favorable terms available from the Vendor. Vendor Pricing in the bid cannot be altered or modified as part of a clarification.

Bids will generally be evaluated, based on completeness, content, cost and responsibility of the Vendor to supply the requested Goods and Services. Specific evaluation criteria are listed in Section 3.1 METHOD OF AWARD.

Upon completion of the evaluation process, the University will make Award(s) based on the evaluation and post the award(s) to the State's eVP website under the IFB number for this solicitation. Award of a Contract to one Vendor does not mean that the other bids lacked merit, but that, all factors considered, the selected bid was deemed most advantageous and represented the best value to the University.

The University reserves the right to negotiate with one or more Vendors, or to reject all original offers and negotiate with one or more sources of supply that may be capable of satisfying the requirement, and in either case to require Vendor to submit a Best and Final Offer (BAFO) based on discussions and negotiations with the University.

3.4 PERFORMANCE OUTSIDE THE UNITED STATES

Vendor shall complete ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR. In addition to any other evaluation criteria identified in this IFB, the University may also consider, for purposes of evaluating proposed or actual contract performance outside of the United States, how that performance may affect the following factors to ensure that any award will be in the best interest of the University:

a) Total cost to the University
b) Level of quality provided by the Vendor
c) Process and performance capability across multiple jurisdictions
d) Protection of the University's information and intellectual property
e) Availability of pertinent skills
f) Ability to understand the University's business requirements and internal operational culture
g) Particular risk factors such as the security of the University's information technology
h) Relations with citizens and employees
i) Contract enforcement jurisdictional issues

3.5 INTERPRETATION OF TERMS AND PHRASES

This IFB serves two functions: (1) to advise potential Vendors of the parameters of the solution being sought by the University; and (2) to provide (together with other specified documents) the terms of the Contract resulting from this procurement. The use of phrases such as "shall," "must," and "requirements" are intended to create enforceable contract conditions. In determining whether bids should be evaluated or rejected, the University will take into consideration the degree to which Vendors have proposed or failed to propose solutions that will satisfy the University's needs as described in the IFB. Except as specifically stated in the IFB, no one requirement shall automatically disqualify a Vendor from consideration. However, failure to comply with any single requirement may result in the University exercising its discretion to reject a bid in its entirety.

4.0 REQUIREMENTS

This Section lists the requirements related to this IFB. By submitting a bid, the Vendor agrees to meet all stated requirements in this Section, as well as any other specifications, requirements, and terms and conditions stated in this IFB. If a Vendor is unclear about a requirement or specification or believes a change in a requirement would allow for the University to receive a better bid, the Vendor is encouraged to submit these items in the form of a question during the question and answer period in accordance with the Bid Questions Section above.

SEE SCOPE OF WORK DOCUMENT ATTACHED

4.1 PRICING

Bid price shall constitute the total cost to the University for delivery fully assembled and ready for use, including all applicable charges for shipping, delivery, handling, administrative and other similar fees. Complete ATTACHMENT A: PRICING FORM and include in Vendor's response.

4.2 ESTIMATED QUANTITIES

This section was intentionally omitted.

4.3 PRODUCT IDENTIFICATION

SUITABILITY FOR INTENDED USE

Vendors are requested to offer only items directly complying with the specifications herein or comparable items which will provide the equivalent capabilities, features and diversity called for herein. The University reserves the right to evaluate all bids for suitability for the required use and to award the one best meeting requirements and considered to be in the University's best interest.

4.4 TRANSPORTATION AND IDENTIFICATION

The Vendor shall deliver Free-On-Board (FOB) Destination to any requested location within the State of North Carolina with all transportation costs and fees included in the total bid price.

When an order is placed using a purchase order, the purchase order number shall be shown on all packages and shipping manifests to ensure proper identification and payment of invoices. If an order is placed without using a purchase order, such as via phone, the Buyer's name shall be show on all packages. A complete packing list shall accompany each shipment. Vendors shall not ship any products until they have received an order.

4.5 DELIVERY

The Vendor shall deliver Free-On-Board (FOB) Destination to the following location(s):

For completion by Vendor: Delivery will be made from _____ (city, state) within _____ consecutive calendar days after receipt of purchase order. Promptness of delivery may be used as a factor in the award criteria.

Delivery shall not be considered to have occurred until installation has been completed. Upon completion of the installation, the Vendor shall remove and properly dispose of all waste and debris from the installation site. The Vendor shall be responsible for leaving the installation area clean and ready to use.

4.6 AUTHORIZED RESELLER

The Vendor shall be authorized by the manufacturer to distribute or resell the products and/or maintenance offered in this IFB. The Vendor shall provide a signed statement from the manufacturer confirming authorization with its bid response. Failure to provide this statement shall constitute sufficient grounds for rejection of Vendor's offer, at the discretion of the University.

Vendor is the: ☐ **Manufacturer** ☐ **Dealer** ☐ **Reseller** ☐ **Distributor**

Authorized: ☐ **Yes** ☐ **No** **Attached Manufacturer's Authority:** ☐ **Yes** ☐ **No**

4.7 WARRANTY

Vendor warrants that all equipment furnished under this IFB will be newly manufactured, of good material and workmanship. The warranty will apply from the date equipment is put into operation for a minimum period of at least twelve (12) months or the length of the manufacturer's warranty, whichever is longer. Such a warranty shall cover the cost of all defective parts replacement, labor, freight, and technicians' travel at no additional cost to the University, or as specified by the Purchasing Agency herein. To the extent not superseded by the terms of this paragraph, manufacturer's warranty terms shall apply. The Vendor's warranty shall be at least the level of coverage provided for its comparable customers.

The report of a problem does not presuppose that every call must result in an "on-site" visit for service/repair. The Vendor and/or service sub-contractor shall utilize best efforts to resolve problems in a timely fashion by using acceptable servicing methods to include, but not limited to, verbal problem analysis and remote diagnosis. The warranty requirement does not impose any additional duty on the University to make other than normal and good faith problem resolution efforts or expenditures of time. The vendor shall be responsible for compliance with warranty terms by any third-party service provider. The vendor shall provide contact information for the warranty service provider, below.

Vendor is authorized by manufacturer to repair equipment offered during the warranty period? ☐ YES ☐ NO

Will the Vendor provide a warranty service? ☐ YES ☐ NO, a manufacturer-authorized third party will perform warranty service.

Contact information for warranty service provider:

Company Name: _____

Company Address: _____

_____

Contact Person (name): _____

Contact Person (phone number): _____

Contact Person (email): _____

4.8 MAINTENANCE OPTION

Following expiration of the above warranty, Vendor, or its third-party service provider, shall maintain the system specifications and performance level in accordance with the manufacturer's published specifications and those of this IFB. Maintenance shall include all parts, remedial maintenance labor, travel and living expenses incurred. Except as specifically provided for elsewhere herein, coverage shall be at least for 8:00 am ET to 5:00 pm ET, Monday through Friday, except university recognized holidays and shall include a minimum of two (2) preventive and safety maintenance inspections per year. The University shall have the option to accept the maintenance coverage in this paragraph at the price offered in ATTACHMENT A: PRICING of this IFB, if applicable.

4.9 [SAMPLES] [DEMONSTRATION] [DESCRIPTIVE LITERATURE]

This section was intentionally omitted.

4.10 HUB PARTICIPATION

Pursuant to North Carolina General Statute G.S. 143-48, it is State policy to encourage and promote the use of small, minority, physically handicapped, and women contractors in purchasing Goods and Services. As such, this IFB will serve to identify those Vendors that are minority owned or have a strategic plan to support the State's Historically Underutilized Business program by meeting or exceeding the goal of 10% utilization of diverse firms as 1st or 2nd tier subcontractors. Vendor shall complete ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION.

4.11 REFERENCES

Vendors shall provide at least three (3) references, using ATTACHMENT E: CUSTOMER REFERENCE FORM, for which your company has supplied the exact model of equipment offered. The University *may* contact these users to determine the quality level of the offered equipment; as well as, but not limited to user satisfaction with Vendor performance. Information obtained *may* be considered in the evaluation of the bid.

4.12 VENDOR'S REPRESENTATIONS

If the bid results in an award, Vendor agrees that it will not enter any agreement with a third party that may abridge any rights of the University under the Contract. If any Services, deliverables, functions, or responsibilities not specifically described in this solicitation are required for Vendor's proper performance, provision and delivery of the Service and deliverables under a resulting Contract, or are an inherent part of or necessary sub-task included within such service, they will be deemed to be implied by and included within the scope of the contract to the same extent and in the same manner as if specifically described in the Contract. Unless otherwise expressly provided herein, Vendor will furnish all of its own necessary management, supervision, labor, facilities, furniture, computer and telecommunications equipment, software, supplies and materials necessary for the Vendor to provide and deliver the Services and/or other Deliverables.

4.13 FINANCIAL STABILITY

As a condition of contract award, the Vendor must certify that it has the financial capacity to perform and to continue to perform its obligations under the Contract; that Vendor has no constructive or actual knowledge of an actual or potential legal proceeding being brought against Vendor that could materially adversely affect performance of this Contract; and that entering into this Contract is not prohibited by any contract, or order by any court of competent jurisdiction

Each Vendor shall certify it is financially stable by completing the ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION. The University is requiring this certification to minimize potential performance issues from contracting with a Vendor that is financially unstable. This Certification shall be deemed continuing, and from the date of the Certification to the expiration of the Contract, the Vendor shall notify the University within thirty (30) days of any occurrence or condition that materially alters the truth of any statement made in this Certification.

4.14 AGENCY INSURANCE REQUIREMENTS MODIFICATION

This section was intentionally omitted.

4.15 NC COVID-19 VACCINATION AND TESTING REQUIREMENT

This section was intentionally omitted.

4.16 FEDERAL COVID-19 VACCINATION REQUIREMENT

This section was intentionally omitted.

4.17 LOBBYING ACTIVITY CERTIFICATION FOR FEDERAL GRANTS

This section was intentionally omitted.

5.0 PRODUCT SPECIFICATIONS

5.1 SPECIFICATIONS

See the Scope of Work document, Chilled Water Infrastructure Expansion East Chiller Plant

SCO ID 22-25588-02G, Code: 42123-355 / 42323-305

UNC Bldg. No. 505

Pre-purchased Equipment, Process Pumps

VENDOR'S RESPONSE

Item #	***Specifications***	**Product/Service Offered Meets Specification**
		☐ YES ☐ NO
		☐ YES ☐ NO

5.2 CERTIFICATION AND SAFETY LABELS

All manufactured items and/or fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving a connection to a manufactured, natural, or LP gas source shall be constructed and approved in a manner acceptable to the appropriate state inspector which customarily requires the label or re-examination listing or identification marking of the appropriate safety standard organization; such as the American Society of Mechanical Engineers for pressure vessels; the Underwriters Laboratories and /or National Electrical Manufacturers' Association for electrically operated assemblies; or the American Gas Association for gas operated assemblies, where such approvals of listings have been established for the type of device offered and furnished. Further, all items furnished shall meet all requirements of the Occupational Safety and Health Act (OSHA), and state and federal requirements relating to clean air and water pollution.

5.3 DEVIATIONS

The nature of all deviations from the Specifications listed herein shall be clearly described by the Vendor. Otherwise, it will be considered that items offered by the Vendor are in strict compliance with the Specifications provided herein, and the successful Vendor shall be required to supply conforming goods. Deviations shall be explained in detail on an attached sheet. However, no implication is made or intended by the University that any deviation will be acceptable. Do not list objections to the North Carolina General Terms and Conditions in this section.

6.0 CONTRACT ADMINISTRATION

All Contract Administration requirements are conditioned on an award resulting from this solicitation. This information is provided for the Vendor's planning purposes

6.1 CONTRACT MANAGER AND CUSTOMER SERVICE

This section was intentionally omitted.

6.2 POST AWARD PROJECT REVIEW MEETINGS

This section was intentionally omitted.

6.3 CONTINUOUS IMPROVEMENT

This section was intentionally omitted.

6.4 PERIODIC STATUS REPORTS

This section was intentionally omitted.

6.5 ACCEPTANCE OF WORK

Performance of the work and delivery of Goods shall be conducted and completed at least in accordance with the Contract requirements and recognized and customarily accepted industry practices. Performance shall be considered complete when the Services or Goods are approved as acceptable by the Contract Administrator.

6.6 INVOICES

The vendor shall invoice the Purchasing Agency. The standard format for invoicing shall be Single Invoices meaning that the Vendor shall provide the Purchasing Agency with an invoice for each order. Invoices shall include detailed line item information to allow the Purchasing Agency to verify pricing at point of receipt matches the correct price from the original date of order. At a minimum, the following fields shall be included on all invoices:

Vendor's Billing Address, Customer Account Number, NC Contract Number, Order Date, Buyer's Order Number, Manufacturer Part Numbers, Vendor Part Numbers, Item Descriptions, Price, Quantity, and Unit of Measure.

INVOICES MAY NOT BE PAID UNTIL AN INSPECTION HAS OCCURRED AND THE GOODS ACCEPTED.

6.7 DISPUTE RESOLUTION

During the performance of the Contract, the Parties agree that it is in their mutual interest to resolve disputes informally. Any claims by the Vendor shall be submitted in writing to the University's Contract Manager for a resolution. Any claims by the University shall be submitted in writing to the Vendor's Project Manager for a resolution. The Parties shall agree to negotiate in good faith and use all reasonable efforts to resolve such dispute(s).

During the time the Parties are attempting to resolve any dispute, each shall proceed diligently to perform their respective duties and responsibilities under this Contract. The Parties will agree on a reasonable amount of time to resolve a dispute. If a dispute cannot be resolved between the Parties within the agreed upon period, either Party may elect to exercise any other remedies available under the Contract, or at law. This provision, when agreed in the Contract, shall not constitute an agreement by either party to mediate or arbitrate any dispute.

6.8 PRODUCT RECALL

Vendor expressly assumes full responsibility for prompt notification to the Buyer listed on the face of this IFB of any product recall in accordance with the applicable state or federal regulations. The Vendor shall support the University, as necessary, to promptly replace any such products, at no cost to the University.

6.9 CONTRACT CHANGES

Contract changes, if any, over the life of the Contract shall be implemented by contract amendments agreed to in writing by the University and Vendor. Amendments to the contract can only be made through the contract administrator.

The remainder of this page is intentionally left blank

7.0 ATTACHMENTS

IMPORTANT NOTICE

RETURN THE REQUIRED ATTACHMENTS WITH YOUR RESPONSE

FOLLOW THE LINKS TO ACCESS EACH ATTACHMENT

ATTACHMENT A: PRICING (No actual attachment, see below)

Complete and return the Pricing associated with this IFB by submitting all costs including transportation on a standard company quote document with a line for "TOTAL COST TO THE UNIVERSITY".

ATTACHMENT B: INSTRUCTIONS TO VENDORS

The Instructions to Vendors, which are incorporated herein by this reference, may be found here:

https://finance.unc.edu/departments/purchasing/bidders-instructions/

ATTACHMENT C: NORTH CAROLINA GENERAL TERMS & CONDITIONS

The University of North Carolina at Chapel Hill General Terms and Conditions, which are incorporated herein by this reference, may be found here:

https://finance.unc.edu/departments/purchasing/terms-products/

ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION

Complete and return the Historically Underutilized Businesses (HUB) Vendor Information form, which can be found at the following link:

https://www.doa.nc.gov/pandc/onlineforms/form-hub-supplemental-vendor-information-9-2021/download

ATTACHMENT E: CUSTOMER REFERENCE FORM

Complete and return the Customer Reference Form, which can be found at the following link:

https://ncadmin.nc.gov/media/15503/open

ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR

Complete and return the Location of Workers Utilized by Vendor, which can be found at the following link:

https://www.doa.nc.gov/pandc/onlineforms/form-location-workers-09-2021/download

ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION

Complete, sign, and return the Certification of Financial Condition, which can be found at the following link:

https://www.doa.nc.gov/pandc/onlineforms/form-certification-financial-condition-09-2021/download

***** Failure to Return the Required Attachments May Eliminate Your Response from Further Consideration *****