

STATE OF NORTH CAROLINA

The University of North Carolina at Chapel Hill

Invitation for Bid #: 300012346

Chilled Water Infrastructure Expansion Bernard Chiller Plant

Automatic Transfer Switch Bid Set

Submit Written Questions: 06/20/2025 at 1:00PM EST

Date Issued: 06/13/2025

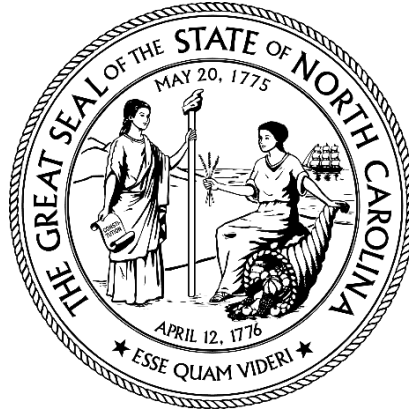
Bid Opening Date: 07/11/25 at 1:00 PM EST

Direct all inquiries concerning this IFB to:

Marcy Moore

MRO Category Manager

Email: Mmrowlan@unc.edu



STATE OF NORTH CAROLINA

Invitation for Bids

300012346

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 <u>ALL</u> Inquiries regarding this IFB to: Marcy Moore	Invitation for Bids # 3000012346
	Bids will be publicly opened: 07/11/2025
Using Agency: University of Chapel Hill	Commodity No. and Description: Prepurchase Electrical Equipment Automatic Transfer Switch
Requisition No.: 1001057232	

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:

Vendor: _____

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 University of Chapel Hill)

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1.0 PURPOSE AND BACKGROUND

The Owner will pre-purchase equipment and assign it to the awarded Contractor to expedite delivery and installation. The Contractor must review shop drawings to ensure all necessary labor and materials are included for installation. The Contractor is fully responsible for coordinating delivery, receiving, unloading, installation, and system integration as if they had purchased the equipment directly. This includes rigging, setting, connecting, starting, testing, and maintaining the equipment per manufacturer guidelines until project acceptance. All work must comply with the drawings and relevant specifications. Upon completion, the Contractor must compile shop drawings, O&M manuals, and part lists into the project documentation.

Electrical Equipment Supplier Responsibilities:

1. Provide shop drawings and submittal data.
2. Manufacture and deliver equipment, coordinating delivery and rigging.
3. Lead check-out, testing, and start-up.
4. Provide Owner training.
5. Supply O&M documentation.

Please see attached Scope of Work

1.1 CONTRACT TERM

This section is intentionally omitted

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 is 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 purport 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

Vendor: _____

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 nonresponsive.

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	06/13/2025
Hold Pre-Bid Conference/Site Visit	University	N/A
Submit Written Questions	Vendor	06/20/2025 at 1:00PM EST
Provide Responses to Questions	University	ASAP
Submit Bids	Vendor	07/11/2025 at 1:00PM EST
Contract Award	University	ASAP
Contract Effective Date	University	ASAP

2.5 SITE VISIT or PRE-BID CONFERENCE

This section is intentionally omitted.

2.6 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 mmrowlan@unc.edu by the date and time specified above. Vendors will enter "IFB - 3000012346: Questions" as the subject for the email. Question submittals will include a reference to the applicable IFB section and be submitted in a 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.

If applicable to this IFB and using 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.

Vendor: _____

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) Title Page: Include the company name, address, phone number and authorized representative along with the Bid Number.
- b) Completed and signed version of EXECUTION PAGES, along with the body of the IFB.
- c) Signed receipt pages of any addenda released in conjunction with this IFB, if required to be returned.
- d) Completed version of ATTACHMENT A: PRICING
- e) Completed version of ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION
- f) Completed and signed version of ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION
- g) Completed and signed version of ATTACHMENT H: VENDOR REQUEST FOR EO50 PRICE-MATCHING, if applicable

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 advantage(s) 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 the 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.

Vendor: _____

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 have been 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. Prices 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

Vendor: _____

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.

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. Please ensure to include "ATTACHMENT A: PRICING" located under Section 7.0 Attachments as part of the Vendor's response.

4.2 ESTIMATED QUANTITIES

This section is intentionally omitted.

4.3 PRODUCT IDENTIFICATION

BRAND SPECIFIC

See attached Chilled Water Infrastructure Expansion Bernard Chiller Plant documentation.

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 AND INSTALLATION

Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, fumes, water, corrosive substances, construction debris, and traffic. Provide temporary heaters in switchgear as required to prevent condensation.

Install equipment in accordance with manufacturer's recommendations.

1. Install ATS in accordance with applicable portions of ANSI/NECA 400.
2. ATS mounting and seismic restraints: a. Bolt ATS to concrete housekeeping pads, using anchor bolts in accordance with manufacturer's recommendations. Cast anchor bolt inserts into pads.
3. Install engraved plastic nameplates under provisions of Section 26 0553. Attach nameplate to exterior of ATS using small corrosion-resistant metal screws and rivets. Do not use contact adhesive.
4. Provide printed operating instructions for ATS, including control sequences and alternate procedures. Cover instructions with clear acrylic plastic.
5. Tighten electrical connectors and terminal according to equipment manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
6. Apply temporary heat to maintain temperature according to manufacturer's written instructions.

A. Schedule: The following schedule is anticipated relative to the pre-purchased 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: March 2026

b. Installation, Start-Up & Commissioning: April – 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.

4.6 AUTHORIZED RESELLER

This section is intentionally omitted

4.7 WARRANTY

Manufacturer's standard warranty shall apply. Vendors shall include a copy of the manufacturer's standard warranty with the bid response.

Vendor warrants that all equipment furnished under this IFB will be newly manufactured, of good material and workmanship. The warranty will apply from date equipment is put into operation for a minimum period of twelve (12) months or the length of the manufacturer's warranty, whichever is longer. Such 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. 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

Vendor: _____

expenditures of time. Vendor shall be responsible for compliance with warranty terms by any third-party service provider. Vendor shall provide contact information for warranty service provider, below.

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

Will the Vendor provide 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

This section is intentionally removed.

4.9 DESCRIPTIVE LITERATURE

DESCRIPTIVE LITERATURE/CERTIFICATION

Each bid shall be accompanied by complete descriptive literature, specifications, certifications, and all other pertinent data necessary for thorough evaluation of the item(s) offered and sufficient to determine compliance of the item(s) with the specifications. Failure to include such information shall be a sufficient basis for rejection of the bid.

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 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 is intentionally omitted. Please see standard Terms and Conditions attached.

4.15 NC COVID-19 VACCINATION AND TESTING REQUIREMENT

This section is intentionally omitted.

4.16 FEDERAL COVID-19 VACCINATION REQUIREMENT

This section is intentionally omitted.

4.17 LOBBYING ACTIVITY CERTIFICATION FOR FEDERAL GRANTS

Federal law prohibits recipients of federal funds, whether through grants, contracts, or cooperative agreements, from using those funds to influence or attempt to influence (lobby) a federal official in connection with obtaining, extending, or modifying any federal contract, grant, loan, or cooperative agreement. Further, federal law requires that applicants for federal funds certify:

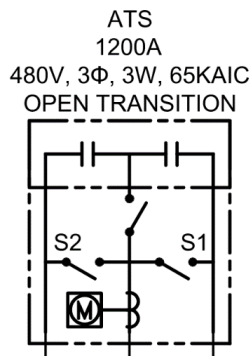
- that they abide by the above restriction;
- that they disclose any permissible (non-federal) paid lobbying on the Federal Awards being applied for; and
- that such certification requirements will also be included in any subawards meeting the applicable thresholds.

Vendors must complete and submit the CERTIFICATION FOR CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS and the OMB STANDARD FORM LLL when responding to this solicitation.

5.0 PRODUCT SPECIFICATIONS

5.1 SPECIFICATIONS

- A. Provide one (1) automatic transfer switch, 480V, 1200A, 3 phase, 3 pole, 60 Hz, 65KAIC, configured as indicated below:



- B. ATS shall consist of an inherently double throw power transfer switch mechanism and a microprocessor controller to provide automatic operation. Unless noted otherwise, ATS shall be front access only, ATS shall be used between two utility sources.
- C. The ATS shall have a utility (S1) - alternate utility (S2) programming configuration.
- D. Provide controller user interface and/or switches on front of the enclosure as follows:
 - 1. Preferred Source Selector (S1 or S2). This is to change which source is preferred in automatic operation.
 - 2. Manual Retransfer (On or Off). This is to toggle between automatic and manual retransfer to the preferred source upon a disruption.
 - 3. Manual bypass time delay on retransfer to preferred source.
- E. Provide indicator LED lights on the front of the enclosure as follows:
 - 1. S1 available
 - 2. S1 connected
 - 3. S2 available
 - 4. S2 connected
 - 5. Preferred Source (S1/S2)
 - 6. Manual Retransfer (On/Off)

Please see attached Chilled Water Infrastructure Expansion Bernard Chiller Plant for additional details.

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 is intentionally omitted.

6.2 POST AWARD PROJECT REVIEW MEETINGS

This section is intentionally omitted.

6.3 CONTINUOUS IMPROVEMENT

The University encourages the Vendor to identify opportunities to reduce the total cost the University. A continuous improvement effort consisting of various ideas to enhance business efficiencies as performance progresses.

6.4 PERIODIC STATUS REPORTS

This section is 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.

Acceptance of work products shall be based on the following criteria: See Scope of work.

The University shall have the obligation to notify Vendor, in writing ten (10) calendar days following completion of such work or delivery of a deliverable described in the Contract that it is not acceptable. The notice shall specify in reasonable detail the reason(s) it is unacceptable. Acceptance by the University shall not be unreasonably withheld; but may be conditioned or delayed as required for reasonable review, evaluation, installation, or testing, as applicable to the work or deliverable. Final acceptance is expressly conditioned upon completion of all applicable assessment procedures. Should the work or deliverables fail to meet any specifications, acceptance criteria or otherwise fail to conform to the Contract, the University may exercise any and all rights hereunder, including, for Goods deliverables, such rights provided by the Uniform Commercial Code, as adopted in North Carolina.

6.6 INVOICES

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 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 resolution. Any claims by the

Vendor: _____

University shall be submitted in writing to the Vendor's Project Manager for 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.

6.9.1 PRICE ADJUSTMENTS

Prices proposed by the Vendor shall be firm against any increase for 60 days from the effective date of the Contract.

Price increase requests shall be submitted in writing to the Contract Lead, which shall include the reason(s) for the request and contain supporting documentation for the need. Price increases will be negotiated and agreed to by both the University and Vendor in advance of any price increase going into effect. The University is not obligated to accept pricing adjustments or increases and reserves the right to accept or reject them in part or in whole. Price de-escalation or decreases may be requested by the University at any time.

It is understood and agreed that orders will be shipped at the established Contract prices in effect on the date an order is placed. Invoicing that deviates from this provision may result in Contract to cancellation.

6.10 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 attachment associated with this IFB. Please provide your firm fixed price:\$_____

Total Cost; \$_____

ATTACHMENT B: INSTRUCTIONS TO VENDORS

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

<https://www.doa.nc.gov/divisions/purchase-contract/vendor-forms>

ATTACHMENT C: NORTH CAROLINA GENERAL TERMS & CONDITIONS

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

<https://www.doa.nc.gov/divisions/purchase-contract/vendor-forms>

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/divisions/purchase-contract/vendor-forms>

ATTACHMENT E: CUSTOMER REFERENCE FORM

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

<https://www.doa.nc.gov/divisions/purchase-contract/vendor-forms>

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/divisions/purchase-contract/vendor-forms>

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/divisions/purchase-contract/vendor-forms>

ATTACHMENT H: VENDOR REQUEST FOR EO50 PRICE-MATCHING

Complete, sign, and return the Vendor Request for EO50 Price-Matching, which can be found at the following link:

<https://www.doa.nc.gov/divisions/purchase-contract/vendor-forms>

LOBBYING ACTIVITY CERTIFICATION FOR FEDERAL GRANTS

The Certification for Contracts, Grants, Loans, and Cooperative Agreements and the OMB Standard Form LLL are separate

documents that can be found at the following link:

<https://www.doa.nc.gov/divisions/purchase-contract/vendor-forms>

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



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Chilled Water Infrastructure Expansion Bernard Chiller Plant

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

Prepurchase Electrical Equipment Automatic Transfer Switch Bid Set

Submitted by:



1414 Raleigh Road, Suite 305
Chapel Hill, North Carolina 27517
(919) 419-9802
License No. C-2982

AEI Project No. 23480-01

March 28th, 2025

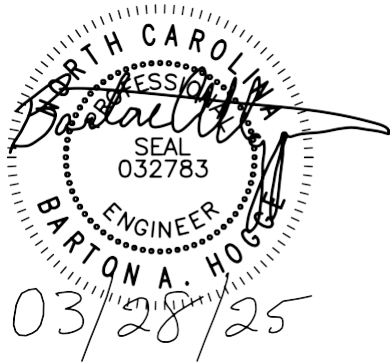
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SPECIFICATIONS

SECTION	TITLE
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26 3623	Automatic Transfer Switches
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CERTIFICATION



END OF TABLE OF CONTENTS

SECTION 26 3623
AUTOMATIC TRANSFER SWITCHES

PART 1 - GENERAL

1.1 OWNER PRE-PURCHASED EQUIPMENT

- A. This equipment will be pre-purchased by the Owner and assigned to the successful Contractor after award for expediting delivery and installation.
- B. Owner will make available shop drawings of Owner pre-purchased equipment for review. 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 equipment and all other activities as if the Contractor purchased the equipment directly. This includes directing the delivery truck to the jobsite, coordinating the date and time of delivery, receipt/unloading of the equipment at the jobsite.
- D. Contractor shall install equipment and all auxiliaries as though Contractor had purchased equipment. This shall include, but not be limited to; 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. After completion of equipment installation, assemble equipment shop drawings, operating/maintenance instructions and part lists into the Contractor's project operation/maintenance manuals.
- F. The following summarizes the general responsibilities of the electrical equipment supplier:
 - 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.
 - 4. Provide Owner training.
 - 5. Provide O&M documentation.

1.2 SCHEDULE

A. Schedule:

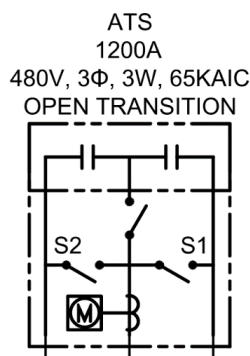
1. The following schedule is anticipated relative to the pre-purchased equipment delivery, installation and activation. This is a preliminary schedule and exact dates are to be coordinated with the Owner and Contractor.

- a. Equipment Delivery: March 2026
- b. Installation, Start-Up & Commissioning: April – 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.

1.3 DESCRIPTION OF SYSTEM

- A. Provide one (1) automatic transfer switch, 480V, 1200A, 3 phase, 3 pole, 60 Hz, 65KAIC, configured as indicated below:



- B. ATS shall consist of an inherently double throw power transfer switch mechanism and a microprocessor controller to provide automatic operation. Unless noted otherwise, ATS shall be front access only, ATS shall be used between two utility sources.
- C. The ATS shall have a utility (S1) - alternate utility (S2) programming configuration.
- D. Provide controller user interface and/or switches on front of the enclosure as follows:
 1. Preferred Source Selector (S1 or S2). This is to change which source is preferred in automatic operation.
 2. Manual Retransfer (On or Off). This is to toggle between automatic and manual retransfer to the preferred source upon a disruption.
 3. Manual bypass time delay on retransfer to preferred source.
- E. Provide indicator LED lights on the front of the enclosure as follows:
 1. S1 available
 2. S1 connected
 3. S2 available
 4. S2 connected
 5. Preferred Source (S1/S2)
 6. Manual Retransfer (On/Off)

- F. This equipment shall be fully commissioned per the requirements in the North Carolina State Construction Office 2020 Electrical Guidelines and Policies Section 260800 and per ANSI/NETA ECS-2015. The Owner will contract directly with the commissioning agent separate from the General Contractor. Equipment supplier shall provide commissioning assistance during shop drawing submittal reviews, equipment inspections, equipment start-up and commissioning. Equipment supplier shall assist with coordinating the scheduling of commissioning activities as directed by the commissioning agent.

1.4 REFERENCE STANDARDS

- A. NEMA ICS 10 Part 1 Industrial Control and Systems Part 1: Electromechanical AC Transfer Switch Equipment
- B. UL 1008 Automatic Transfer Switches

1.5 BID SUBMITTALS

- A. 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.
- B. Submit shop Drawings for equipment provided under this Section.
 - 1. General Arrangement:
 - a. Indicate front, plan, and side views of ATS; access requirements (front, side, rear); overall dimensions and components list; shipping splits and weights.
 - b. Front elevation indicating location of devices and instruments.
 - c. Sections through ATS showing space available for conduits
 - 1) Conduit entrance locations and requirements.
 - 2) Nameplate legends.
 - 3) Configuration, size and number of bus bars for each phase and current rating of buses.
 - 4) Ground bus.
 - 5) Short circuit ratings of overcurrent protective devices, and bus withstand rating.
 - 6) Instrument details; enclosure types and details.
 - 7) Wiring diagrams: power, signal and control wiring.

1.6 FABRICATION SUBMITTALS

- A. All information from the Bid Submittal per Section 1.4 to include any updates to the development of any of the information.
- B. Submit shop Drawings for equipment provided under this Section.
 - 1. General Arrangement:
 - a. Indicate front, plan, and side views of ATS; access requirements (front, side, rear); overall dimensions and components list; shipping splits and weights.

- b. Front elevation indicating location of devices and instruments.
- c. Sections through ATS showing space available for conduits
 - 1) Conduit entrance locations and requirements.
 - 2) Nameplate legends.
 - 3) Configuration, size and number of bus bars for each phase and current rating of buses.
 - 4) Ground bus.
 - 5) Short circuit ratings of overcurrent protective devices, and bus withstand rating.
 - 6) Instrument details; enclosure types and details.
 - 7) Wiring diagrams: power, signal and control wiring.
- C. Closeout Submittals
 - 1. Project Record Documents:
 - a. Record actual locations, configurations, and ratings of major components on single-line diagrams and plan layouts.
 - 2. Operation and Maintenance Data:
 - a. Include manufacturer's recommended operating instructions, maintenance procedures and intervals, and preventive maintenance instructions.
 - b. Include manufacturer's written instructions for testing and adjusting overcurrent protective devices.
 - c. Include spare parts data listing, source, and current prices of replacement parts and supplies
 - d. Include time-current curves, including selectable ranges for each type of overcurrent protective device.

1.7 QUALITY ASSURANCE

- A. Obtain automatic transfer switches from one source and by single manufacturer.
- B. Regulatory Requirements:
 - 1. Comply with NFPA 70 for components and installation.
 - 2. Furnish products listed and classified by a third party agency amongst those acceptable to the NCBCC (North Carolina Building Code Council) to Label Electrical & Mechanical Equipment.
 - 3. Furnish products listed and classified by Underwriters Laboratories, Inc., as suitable for purpose specified and indicated.
- C. Automatic transfer switches shall be UL 1008 listed or equal.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store in clean, dry space. Maintain factory wrapping or provide additional canvas or plastic cover to protect units from dirt, fumes, water, corrosive substances, construction debris, and traffic. Provide temporary heaters in switchgear as required to prevent condensation.

1.9 WARRANTY

- A. Manufacturer shall provide standard two year warranty against defects in materials and workmanship for products specified in this Section. Warranty period shall begin on date of final acceptance.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Acceptable Manufacturers:
 - 1. Asco
 - 2. Eaton
 - 3. Russelectric

2.2 AUTO-TRANSFER SWITCH

- A. Auto-transfer switch:
 - 1. Mechanically held, electrically operated type
 - 2. Interlocked to ensure only two possible positions, normal and emergency.
 - 3. Rated for continuous duty in unventilated sheet metal enclosure
 - 4. Suitable for all classes of loads at maximum rated voltages
 - 5. The ATS shall be rated to close on and withstand the available RMS symmetrical short circuit current at the ATS terminals with the circuit breaker rating as shown on the plans. The ATS shall be UL listed in accordance with UL 1008 and be labeled.
 - 6. Shall be open transition type as specified on drawings.
- B. Provide main contacts with silver alloy wiping action type protected by arcing contacts.
- C. Provide switch components accessible from front of enclosure.
- D. Provide switch with the following items:
 - 1. Adjustable 0.5 to 6 second time delay to override momentary voltage dips and outages (factory set at 3 seconds).
 - 2. Time delay on transfer to S2. Adjustable from 1 to 300 seconds (factory set at 1 seconds).
 - 3. Time delay on retransfer to S1. Adjustable from 2 seconds to 30 minutes (factory set at 5 minutes). During the retransfer delay the ATS shall immediately transfer to normal power if the alternate source fails.
 - 4. Full phase protection consisting of 2 phase relays and one close differential relay. Relays shall have a voltage drop out range of 70-95% (factory set at 85%). Relays shall have voltage pickup set to 90% of rated voltage.
 - 5. Relay to prevent transfer to emergency until voltage and frequency of alternate source have reached 90% of rated value.

6. Provide bi-direction in-phase monitor or dual motor operator with programmed neutral to allow voltage decay in motor and transformer circuits.
- E. Bypass/isolation switch:
1. Dual-source enclosed.
 2. Isolate transfer switch and de-energize for maintenance, testing or repair.
 3. Dual-source operation - bypass either to normal or emergency source directly to load at discretion of operator.
 4. Break-before-make operation of contacts.
 5. Operation - fully mechanical, designed to provide quick-make-quick-break of contacts and only allow switch to be fully closed or fully open with no mid position possible.
 6. Operation - possible regardless of the position or condition of the automatic transfer switch.

2.3 CONTROLLER

- A. The controller's sensing and logic shall be provided by a single built-in microprocessor with the ability to communicate serially through an optional serial communication module.
- B. Voltage sensing shall be true RMS type and shall be accurate to $\pm 1\%$ of nominal voltage. Frequency sensing shall be accurate to $\pm 0.2\%$. The panel shall be capable of operating over a temperature range of -20 to +60 degrees C and storage from -55 to +85 degrees C.
- C. Sensing and control logic shall be provided on multi-layer printed circuit boards. Interfacing relays shall be industrial grade plug-in type with dust covers. The panel shall be enclosed with a protective cover and be mounted separately from the transfer switch unit.
- D. All customer connections shall be wired to a common terminal block.
- E. Controller Display and Keypad:
1. A four line, 20 character LCD display and keypad shall be an integral part of the controller for viewing all available data and setting desired operational parameters. Operational parameters shall also be available for viewing and limited control through the serial communications input port. The following parameters shall only be adjustable via DIP switches on the controller:
 - a. Nominal line voltage and frequency
 - b. Single or three phase sensing
 - c. Operating parameter protection
 - d. All instructions and controller settings shall be easily accessible, readable and accomplished without the use of codes, calculations, or instruction manuals.
- F. Voltage, Frequency and Phase Rotation Sensing:

1. Voltage and frequency on both sources as indicated on the ATS schedule on the drawings shall be continuously monitored, with the following pickup, dropout and trip setting capabilities.
2. Repetitive accuracy of all settings shall be within $\pm 0.5\%$ over an operating temperature range of -20°C to 60°C .
3. Voltage and frequency settings shall be field adjustable in 1% increments either locally with the display and keypad or remotely via serial communications port access.
4. The controller shall sense the phase rotation of both the S1 and S2 sources. The source shall be considered unacceptable if the phase rotation is not the preferred rotation selected (ABC or CBA).
5. Source status screens shall be provided for both S1 & S2 showing digital readout of voltage on all 3 phases, frequency, and phase rotation.

2.4 METERING

- A. Provide power meter system located inside ATS cabinet, readable from front of enclosure.
- B. The data monitor system shall be listed to UL 3111-1 and industrially rated for an operating temperature range of -20°C to 60°C
- C. The data monitor system shall be accurate to 1% measured, 2% computed values and display resolution to .1%. Voltage and current for all phases shall be sampled simultaneously to assure high accuracy in conditions of low power factor or large waveform distortions (harmonics).
- D. The system shall be capable of operating without modification at nominal frequencies of 45 to 66 Hz and over a control power input range of 20 – 32VDC.
- E. The data monitor system shall be capable of interfacing with a communications module to permit information to be sent to the DCIM system
- F. The data monitor system shall accept inputs from industry standard instrument transformers (120 VAC secondary PT's and 5A secondary CTS.) Direct phase voltage connections, 800 VAC and under, shall be possible without the use of PT's.
- G. All setup parameters required shall be stored in non-volatile memory and retained in the event of a control power interruption.
- H. The following metered readings shall be communicated (for both sources) to the display:
 1. Current, per phase RMS and neutral
 2. Current Unbalance %
 3. Voltage, phase-to-phase and phase-to-neutral
 4. Voltage Unbalance %
 5. Real power (KW), per phase and 3-phase total
 6. Apparent power (KVA), per phase and 3-phase total

7. Reactive power (KVAR), per phase and 3-phase total
 8. Power factor, 3-phase total & per phase
 9. Frequency
- I. The data monitor system shall be equipped with a continuous duty, 4 line x 20 character LCD backlit display to provide local access to the metered quantities as described above. Displaying each of the quantities shall be accomplished through the use of menu scroll buttons.

2.5 ENCLOSURE

- A. The ATS shall be provided in a Type 1 enclosure.
- B. All standard and optional door-mounted switches and pilot lights shall be 8mm to 16-mm industrial grade type or equivalent for easy viewing & replacement. Door controls shall be provided on a separate removable plate, which can be supplied loose for open type units.

2.6 ACCESSORIES AND FEATURES

- A. A three position momentary-type test switch shall be provided for the test/automatic/reset modes. The test position will simulate a source failure. The reset position shall bypass the time delays on transfer.
- B. Auxiliary contacts, rated 10 amps, 120 VAC shall be provided consisting of one contact, closed when the ATS is connected to the S1 source and one contact closed, when the ATS is connected to the S2 source.
- C. LED indicating lights (8mm to 16 mm industrial grade, type 12) shall be provided; one to indicate when the ATS is connected to S1 (green) and one to indicate when the ATS is connected to the S2 (red).
- D. LED indicating lights (8mm to 16 mm industrial grade, type 12) shall be provided and energized by controller outputs. The lights shall provide true source availability of the S1 and S2 sources, as determined by the voltage sensing trip and reset settings for each source.
- E. The following features shall be built-in to the controller, but capable of being activated through keypad programming:
1. Provide the ability to select "commit/no commit to transfer" to determine whether the load should be transferred to the S2 source if the S1 source restores before the S2 source is ready to accept the load.
 2. Terminals shall be provided for a remote contact which opens to signal the ATS to transfer to S2 and for remote contacts which open to inhibit transfer to S2 and/or retransfer to S1. Both of these inhibit signals can be activated through the keypad retransfer to S1. Both of these inhibit signals can be activated through the keypad.
 3. The controller shall be capable of accepting a normally open contact that will allow the transfer switch to function in a non-automatic mode using an external control device.

- F. System Status - The controller LCD display shall include a "System Status" screen which shall be readily accessible from any point in the menu by depressing the "ESC" key a maximum of two times. This screen shall display a clear description of the active operating sequence and switch position.
- G. Self Diagnostics - The controller shall contain a diagnostic screen for the purpose of detecting system errors. This screen shall provide information on the status input signals to the controller which may be preventing load transfer commands from being completed.
- H. Communications Interface – The controller shall be capable of interfacing, through a serial communication module remotely through modem serial communications. Standard software specific for transfer switch applications shall be available by the transfer switch manufacturer. This software shall allow for the monitoring, control and setup of parameters.
- I. Data Logging – The controller shall have the ability to log data and to maintain the last 99 events, even in the event of total power loss. The following events shall be time and date stamped and maintained in a non-volatile memory:
 - 1. Event Logging
 - a. Data and time and reason for transfer S1 to S2.
 - b. Data and time and reason for transfer S2 to S1.
 - c. Data and time S1 source available.
 - d. Data and time S2 source not available.
 - 2. Statistical Data
 - a. Total number of transfers.
 - b. Total number of transfers due to source failure.
 - c. Total number of days controller is energized.
 - d. Total number of hours both S1 and S2 sources are available.
- J. Communications Module - A full duplex RS485 interface shall be installed in the ATS controller to enable serial communications. An ethernet port for Modbus TCP communications with the building BAS/DCS per the ATS points list schedule as shown on the drawings.

PART 3 – EXECUTION – BY EQUIPMENT MANUFACTURER

- A. Factory Testing and Quality Assurance Inspection
 - 1. The equipment shall be factory tested to simulate a complete and integrated system. A certified factory test report shall be furnished to verify system testing.
 - 2. The ATS shall be subjected to the factory testing and quality control inspections to insure reliable operation. These tests and inspections shall include, but not necessarily be limited to, the following:
 - a. Perform a megger test with a 1000 volt megger. The minimum acceptable megger reading shall be 100 megohms on the ATS and contactors in the open position.

- b. Insulation tests of all equipment and wiring, buses, etc., in accordance with manufacturer's standard practice.
 - c. Circuit continuity and wiring.
 - d. Mechanical equipment adjustment and operation of all moveable equipment and devices.
 - e. Equipment arrangements, types, and ratings for conformance with approved drawings.
 - f. Bus bar phasing and bracing.
 - g. Integrity of all electrical connections.
 - h. Conformity with the nameplate and circuit identification indicated on the Drawings and the approved manufacturer's drawings.
 - i. Demonstration of all ATS Functions.
- B. Field Quality Control
 - 1. Factory authorized technician shall be present during start-up and commissioning of the ATS and shall participate in that effort including the integrated testing of the ATS with the remote communication to the BAS.
 - 2. Inspect ATS for physical damage, proper alignment, connections, anchorage, seismic restraints and grounding.
 - 3. Test continuity of each circuit.
 - 4. Test ATS with Contractor per the sequence of operations as detailed on the drawings.
 - 5. Provide start-up and testing per manufacturer's recommended practice.
 - 6. Interpret test results in writing and submit to Designer. Correct and retest with Contractor as required and provide new test results until within the manufacturers and specifications criteria.
- C. The start-up technician shall perform the following items:
 - 1. Verify contactor connections, control power availability, visually inspect any relay settings.
 - 2. Verify that the ATS and control equipment are fully operational and perform per the sequence of operation specified.
 - 3. Demonstrate all functions of the control system, both automatic and manual, to the satisfaction of the Designer and Owner's commissioning agent.
 - 4. Provide documentation in the form of function checklists and recorded data for each section to the Designer.

3.2 DEMONSTRATION

- A. Factory service technician shall provide Owner start-up and training tailored to this project. Provide 4-hour equipment training session. This includes all operation and maintenance as well as paralleling system operation, functionality, and maintenance. Provide written, detailed training plan.

3.3 WARRANTY AND SERVICE

- A. ATS manufacturer warrants the equipment to be free from defects in material and workmanship for two years from date of final acceptance.
- B. ATS manufacturer shall have an established network of factory owned and operated service centers within the continental United States capable of servicing the specified equipment.
- C. After-warranty service contracts shall be available to the owner by the manufacturer to provide periodic maintenance and/or repair of the specified equipment.

PART 4 – EXECUTION – BY INSTALLING CONTRACTOR

4.1 INSTALLATION

- A. Install equipment in accordance with manufacturer's recommendations.
- B. Provide equipment protection during and subsequent to installation.
 - 1. Install ATS in accordance with applicable portions of ANSI/NECA 400.
 - 2. ATS mounting and seismic restraints:
 - a. Bolt ATS to concrete housekeeping pads, using anchor bolts in accordance with manufacturer's recommendations. Cast anchor bolt inserts into pads.
 - 3. Install engraved plastic nameplates under provisions of Section 26 0553. Attach nameplate to exterior of ATS using small corrosion-resistant metal screws and rivets. Do not use contact adhesive.
 - 4. Provide printed operating instructions for ATS, including control sequences and alternate procedures. Cover instructions with clear acrylic plastic.
 - 5. Tighten electrical connectors and terminal according to equipment manufacturer's published torque-tightening values. Where manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
 - 6. Apply temporary heat to maintain temperature according to manufacturer's written instructions.
- C. Connections
 - 1. Ground ATS according to Section 26 0526.
 - 2. Connect power and control wiring according to Section 26 0519.
- D. Repainting
 - 1. Remove paint splatters and other marks from surface of equipment.
 - 2. Touch-up chips, scratches or marred finishes to match original finish, using manufacturer-supplied paint kit. Leave remaining paint with Owner.
- E. Adjusting
 - 1. Set field-adjustable circuit breakers trip settings, to values indicated recommended by the overcurrent protective device coordination study by Designer.

F. Cleaning

1. Clean ATS during construction phase, prior to initial testing and energization, and prior to final punch list, after other trades have departed. Cleaning procedures shall be as follows:
 - a. Vacuum dirt and construction debris from interior and exterior of equipment; do not use compressed air to assist in cleaning.
 - b. Rack out ATS.
 - c. Wipe down surfaces, and parts per manufacturers written recommendations.
 - d. Use paintbrush to dust small, hard-to-reach crevices.

4.2 FIELD ACCEPTANCE TESTING

- A. Acceptance testing shall be performed in accordance with Section 26 0812.
- B. Confirm sequence of operations with Designer and Owner's commissioning agent.
- C. All equipment shall be given complete operational tests to ascertain that all design functions are satisfactorily performed. Testing shall include:
 1. Actuation of all alarm indication devices.
 2. All control circuits, automatic operations and interlocks shall be tested under simulated operating conditions.
 3. All of the above shall be tested according to design specifications for correct and positive operations.
- D. It shall be the responsibility of the installing Contractor to verify that the following items have been completed and are ready to perform as specified before the arrival of the manufacturers start-up technician.
 1. Inspect for obvious shipping damage.
 2. The ATS is installed, anchored down and grounded.
 3. Terminate all power cables.
 4. Install customer control wiring to external equipment.
- E. Adjust or replace equipment as needed to comply with manufacturer's specifications and resubmit corrected test reports.

END OF SECTION