



University of North Alabama
Office of Procurement
UNA Box 5025
Florence, AL 35632
Phone: (256)765-4206
Fax: (256)765-4329

Bid No. 2015-30 For: Collier Library Cooling Tower

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INVITATION FOR BIDS:

Sealed Proposals for furnishing materials, equipment or services as described herein will be received at the Purchasing Department, Bibb Graves Hall, Room 126, University of North Alabama, Florence, Alabama, until 2:00 p.m. local time on July 9, 2015

It is understood that the owner may accept any or all items at the prices listed in this proposal within a noted timeframes on the specification page. Time is of the essence to this bid and if delivery is not made within the time specified, the University reserves the right to cancel any order placed as a result of this bid. This bid may be withdrawn at any time prior to the scheduled time for the opening of bids, or any authorized postponement thereof.

DIRECTIONS FOR MAILING BIDS:

Do not place more than one bid in an envelope. Envelopes containing more than one bid may not be opened in time for a bid to be considered.

Envelopes containing bids must be sealed, marked and addressed as follows:

ADDRESSED TO:	(If via any postal service University of North Alabama Purchasing Department - Bid 2015-30 UNA M/S 5025 One Harrison Plaza Florence, AL 35632-0001	(If hand carry) University of North Alabama Purchasing Department - Bid 2015-30 Bibb Graves Hall, Room 126 One Harrison Plaza Florence, AL 35632-0001
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BID FOR: Cooling Tower
Bid No. 2015-30

CAUTION – The above mailing address line, UNA Box 5025, is the address for the University of North Alabama Central Mail Room and is not part of the physical address for the University of North Alabama Purchasing Department. Envelopes or packages addressed to this box number may not be received in the Purchasing Department by the specified bid due date and time. It is the bidder's responsibility to ensure that the bid is received in the Purchasing Department by the date and time specified; no assumptions should be made in regard to an extension due to unforeseen circumstances of any kind, no due date or time will change without advance written notice from the Procurement Office.

Bidders are strongly cautioned to mail or ship bids to allow ample time for receipt in the Purchasing Department, not the Central Mail Room nor Central Receiving. Overnight or next day delivery services may not be adequate. Since bids must be received in a sealed envelope, faxed or emailed bid copies cannot be accepted.

Bids received in the Purchasing Department after the specified date and time set forth above will not be considered

Bids will be opened in Bibb Graves Hall, Room 126 at 2:00 p.m. local time on July 9, 2015

Revised 1/30/08

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I have read and understand the contents of this page



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INSTRUCTIONS TO BIDDERS

1. All bidders are to submit bids on proposal forms furnished by the Assistant Vice President of Business Services, University of North Alabama (forms enclosed). All bid forms are to be signed in all designated spaces by an authorized officer or employee of the bidder. Telephone bids will not be accepted. Bids submitted by "fax" machine will not be accepted. All bids are to be mailed or delivered in a sealed envelope.
2. All bidders shall base their proposals on the exact schedule of equipment, material or service specifications herein.
3. Pictures, descriptions, and specifications should accompany all bids when required or desirable. Samples may be required and, if so, shall be furnished free of cost to the Owner.
4. Reference to manufacturers, suppliers, catalog numbers, etc., is intended to set quality standards and does not preclude bids from others as long as quality standards are met. Offers of equal items shall state the brand and number or level of quality. Alternates will not be considered unless they conform to the specifications.
5. All bidders are required to submit unit prices and extended prices, where applicable, for each item bid. Where the unit price and the extended total price do not agree, the unit price shall prevail.
6. The Owner reserves the right to accept any or all items on any bidder's proposal at the unit price submitted. The Owner reserves the right to reject any and all bids and to waive informalities.
7. All prices submitted on the proposal are to be delivered prices to the University of North Alabama and shall not include any state or local sales tax.
8. Bidders should sign & return all pages of the complete bid to imply complete understanding and compliance with all bid requirements.
9. All questions should be directed to the Purchasing Office, University of North Alabama, UNA Box 5025, Florence, AL 35632-0001, phone 256/765-4206.
10. Should a bidder find discrepancies in, or omissions from the bid documents or should he be in doubt as to their meaning, he should at once notify the Owner who will send written instructions to all bidders.
11. Bids received after the bid opening date and time, or any authorized postponement thereof, will not be considered.
12. **EQUAL EMPLOYMENT OPPORTUNITY/U.S. FAIR LABOR STANDARDS ACT:** By signing this proposal, bidder certifies that bidder is in compliance with the nondiscrimination clause contained in Section 202, Executive Order 11246, as amended by Executive Order 11375, relative to Equal Employment Opportunity for all persons without regard to race, color, religion, sex, or national origin, and the rules and regulations prescribed by the Secretary of Labor, Veteran's Act 38USC4212, Section 503 - Rehabilitation act of 1973 Title I of the Americans with Disabilities Act of 1990 42USC12101, and that any and all goods were produced in compliance with all applicable requirements of Sections 6, 7, and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.
13. Verbal communication before or while Bid is open shall have no force or affect whatsoever toward this bid as written, or the entire agreement. All parties represent that no promises, representations, or inducements have been made with respect to the subject matter of the bid nor a contract, except as specifically set forth herein. The bid or final contract, agreement, or order, can only be changed, altered, modified or amended by written agreement from both parties.

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PROPOSAL FORM

In compliance with the University of North Alabama **INVITATION FOR BIDS** and **INSTRUCTIONS TO BIDDERS**, the undersigned hereby proposes to furnish and supply items to the University of North Alabama, Florence, Alabama, in strict accordance with the **SCHEDULE** and **SPECIFICATIONS**.

The undersigned bidder/proposer hereby certifies that it, its officers, partners, owners, providers, representatives, employees, and parties in interest, including the affiant, has not in any way colluded, conspired, connived or agreed, directly or indirectly, with any other bidder/proposer, potential bidder/proposer, firm or person, in connection with this solicitation, to submit a collusive or sham bid/proposal, to refrain from bidding/proposing, to manipulate or ascertain the price(s) of other bidders/proposers or potential bidders/proposers, or to secure through any unlawful act an advantage over other bidders/proposers or the university.

The prices submitted herein have been arrived at in an entirely independent and lawful manner by the bidder/proposer without consultation with other bidders/proposers or potential bidders/proposers or foreknowledge of the prices to be submitted in response to this solicitation by other bidders/proposers or potential bidders/proposers on the part of the bidder/proposer, its officers, partners, owners, providers, representatives, employees, or parties in interest, including the affiant.

DATED: _____

COMPANY NAME: _____

BY: _____

(Signature)

(Typed or Printed Name)

(Title)

BUSINESS ADDRESS: _____

TELEPHONE: _____

Email Address: _____

This address will be used to publish the bid tabulation & any other communication regarding bid results

If Bidder is a Corporation, write the State of Incorporation, and if a Partnership, give full name of partners, using space below.

_____ **initial**
I have read and understand the contents of this page



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**UNIVERSITY OF NORTH ALABAMA
VENDOR CERTIFICATION
PURSUANT TO ACT NO 2012-491 & ACT2014-044**

ALABAMA LAW (SECTION 31-13-9 , CODE OF ALABAMA 1975: By signing a contract resulting from this proposal, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the state of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

ALABAMA LAW SECTION 16-25-26C , CODE OF ALABAMA 1975; Legislation requiring the University of North Alabama to report to Retirement Systems of Alabama individuals paid for personal services who are currently receiving benefits from TRSA or ESA became effective October 1, 2013. No minimum level of compensation was defined. **Any individual receiving direct or indirect compensation from this contract who is a retiree receiving benefits from the State of Alabama Retirement System MUST NOTIFY UNA of this status along with Bid/RFP Submission.**

Bidder hereby certifies full compliance with Act No. 2012-491 & Act No. 2014-044:

Date: _____

Company: _____

Authorizing Signature: _____

Printed Name: _____

Title: _____

State of _____ County of _____

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CERTIFICATE OF COMPLIANCE WITH THE BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT (ACT 2011-535, as amended by Act 2012-491)

DATE: _____ RE: Contract/Grant/ Incentive (*describe by number or subject*): BID/RFP _____

_____ by and between

_____ (Contractor/Grantee) and

_____ (State Agency, Department or Public Entity)

The undersigned hereby certifies to the State of Alabama as follows:

1. The undersigned holds the position of with the Contractor/Grantee named above, and is authorized to provide representations set out in this Certificate as the official and binding act of that entity, and has knowledge of the provisions of THE BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT (ACT 201 1-535 of the Alabama Legislature, as amended by Act 2012-491) which is described herein as "the Act".
2. Using the following definitions from Section 3 of the Act, select and initial either (a) or (b), below, to describe the Contractor/Grantee's business structure. BUSINESS ENTITY. Any person or group of persons employing one or more persons performing or engaging in any activity, enterprise, profession, or occupation for gain, benefit, advantage, or livelihood, whether for profit or not for profit. "Business entity" shall include, but not be limited to the following:
 - a) Self-employed individuals, business entities filing articles of incorporation, partnerships, limited partnerships, limited liability companies, foreign corporations, foreign limited partnerships, foreign limited liability companies authorized to transact business in this state, business trusts, and any business entity that registers with the Secretary of State.
 - b) Any business entity that possesses a business license, permit, certificate, approval, registration, charter, or similar form of authorization issued by the state, any business entity that is exempt by law from obtaining such a business license, and any business entity that is operating unlawfully without a business license.

EMPLOYER.: Any person, firm, corporation, partnership, joint stock association, agent, manager, representative, foreman, or other person having control or custody of any employment, place of employment, or of any employee, including any person or entity employing any person for hire within the State of Alabama, including a public employer.

This term shall not include the occupant of a household contracting with another person to perform casual domestic labor within the household.

____ (a) The Contractor/Grantee is a business entity or employer as those terms are defined in Section 3 of the Act.

____ (b) The Contractor/Grantee is not a business entity or employer as those terms are defined in Section 3 of the Act.

3. As of the date of this Certificate, Contractor/Grantee does not knowingly employ an unauthorized alien within the State of Alabama and hereafter it will not knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama;
4. Contractor/Grantee is enrolled in E-Verify unless it is not eligible to enroll because of the rules of that program or other factors beyond its control.

Certified this ____ day of _____ 20 ____.

Name of Contractor/Grantee/Recipient

By: _____

Its: _____

The above Certification was signed in my presence by the person whose name appears above, on this ____ day of _____ 20 ____.

WITNESS: _____ Printed name of Witness: _____

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State of Alabama
Disclosure Statement
(Required by Act 2001-955)

ENTITY COMPLETING FORM

Agreement Number

ADDRESS

CITY, STATE, ZIP

TELEPHONE NUMBER

()

STATE AGENCY/DEPARTMENT THAT WILL RECEIVE GOODS, SERVICES, OR IS RESPONSIBLE FOR GRANT AWARD

ADDRESS

CITY, STATE, ZIP

TELEPHONE NUMBER

()

This form is provided with:

☐ Contract ☐ Proposal ☐ Request for Proposal ☐ Invitation to Bid ☐ Grant Proposal

Have you or any of your partners, divisions, or any related business units previously performed work or provided goods to any State Agency/Department in the current or last fiscal year?

☐ Yes ☐ No

If yes, identify below the State Agency/Department that received the goods or services, the type(s) of good or services previously provided, and the amount received for the provision of such goods or services.

Have you or any of your partners, divisions, or any related business units previously applied and received any grants from any State Agency/Department in the current or last fiscal year?

☐ Yes ☐ No

If yes, identify the State Agency/Department that awarded the grant, the date such grant was awarded, and the amount of the grant.

1. List below the name(s) and address(es) of all public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the State Department/Agency for which the public officials/public employees work. (Attach additional sheets if necessary.)

2. List below the name(s) and address(es) of all family members of public officials/public employees with whom you, members of your immediate family, or any of your employees have a family relationship and who may directly personally benefit financially from the proposed transaction. Identify the public officials/public employees and State Department/Agency for which the public

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officials/public employees work. (Attach additional sheets if necessary.)

If you identified individuals in items one and/or two above, describe in detail below the direct financial benefit to be gained by the public officials, public employees, and/or their family members as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

Describe in detail below any indirect financial benefits to be gained by any public official, public employee, and/or family members of the public official or public employee as the result of the contract, proposal, request for proposal, invitation to bid, or grant proposal. (Attach additional sheets if necessary.)

List below the name(s) and address(es) of all paid consultants and/or lobbyists utilized to obtain the contract, proposal, request for proposal, invitation to bid, or grant proposal:

By signing below, I certify under oath and penalty of perjury that all statements on or attached to this form are true and correct to the best of my knowledge. I further understand that a civil penalty of ten percent (10%) of the amount of the transaction, not to exceed \$10,000.00, is applied for knowingly providing incorrect or misleading information.

Signature

Date

Notary's Signature

Date

Date Notary Expires

Act 2001-995 requires the disclosure statement to be completed and filed with all proposals, bids, contracts, or grant proposals to the State of Alabama in excess of \$5,000.

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I have read and understand the contents of this page



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This form must be completed and returned before any contract(s) will be issued by the University of North Alabama

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REQUIREMENTS/ SPECIFICATIONS

The University of North Alabama is seeking bids for the equipment and installation services to replace the building Cooling Tower serving Collier Library and the UNA Computer Center on campus.

BIDDERS: Include a copy of a formal quote on company letterhead which reflects all details included to achieve the unit prices posted within this bid document. BIDS WITHOUT THIS MAY NOT BE ACCEPTED.

Item #1

Description: Cooling Tower

Manufacturer/Model # (or aproved equal): Baltimore Aircoil Company Model _New Series 3000, XES3E-8518-06H.

Performance Summary: The cooling tower must support the existing 190 ton chiller. The cooling tower must have capacity to cool not less than 570 gpm from 95 F to 85 F when outdoor ambient is 95 F dry bulb and 78 F wet bulb.

Complete Specifications: See Appendix A

Location information: located on ground level, west of Collier Library

Special notes: All proposals must include specifices with respect to overall unit dimensions as there is limited space available at the existing Cooling Tower site.

QUOTE

Please provide a cut/spec sheet for the unit you are propsing. This cut/spec sheet should clearly note all standard features and any optional features which are included in the bid price. Additionally, the cut/spec sheet should include the physical dimensions of the unit. Unit Price noted for equipment MUST include all freight & handling; no additional expenses will be approved above the quoted unit price.

Item #1: Cooling Tower Qty: 1 Unit price:\$ _____

Standard Parts and Labor Warranty Period: _____ years

Additional cost, if any, for extending the Parts and Labor Warranty Period to 10 years: \$ _____

Delivery commitment after receipt of order: _____ Days

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Item #2

Description: Removal of existing Cooling Tower and & complete installation of new Cooling Tower

Quantity: 1 LOT which represents the all factors involved in the removal & installation

Specifications: See Appendix B

Location information: located on ground level, west of Collier Library

Warranty note: contractor must provide a 1-year warranty on all installation work.

Schedule: We are planning to replace this unit after the end of the 2015 cooling season, which will be sometime after October 1, 2015. Please base your proposal on doing this work at some time between the end of the cooling season and the beginning of the cooling season (approximately February 15, 2016). We may decide to do this work over UNA's Christmas Break (Dec. 14 – Jan. 8) to minimize the impact on UNA's operations in this high traffic area. However, we intend to order this unit as soon as possible so that, if necessary, an emergency installation can be accomplished. If an emergency installation is necessary, any overtime premiums or emergency freight charges will be considered for approval as they arise. NOTE: no holiday or premium labor should be factored into quote.

QUOTE

Item #2: Removal and installation Services Qty: 1 LOT LOT price:\$_____

Installation Warranty Period: _____ years

Details of warranty should be included with bid package.

FOB UNIVERSITY OF NORTH ALABAMA, FLORENCE, AL 35632-0001

For any questions regarding use or needed performance of this equipment

Contact Mike Thompson (256)765-4871; email mthompson@una.edu

For questions regarding bid submission

Contact the Office of Procurement, Cindy Conlon (256)765-4293; email chconlon@una.edu

All Bid Prices must include delivery terms: F.O.B. UNIVERSITY OF NORTH ALABAMA, FLORENCE, AL 35632-0001 (no additional freight or delivery expenses will be approved)

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APPENDIX A: Cooling Tower

1.0 Cooling Tower

1.1 General: Furnish (installation by others) factory-assembled, induced draft, crossflow cooling tower(s) with vertical air discharge, conforming in all aspects to the specifications, schedules and as shown on the plans. Overall dimensions shall not exceed approximately 8'-6" ft (mm) long X 18'-1" ft (mm) wide X 11'-2" ft (mm) high. The total connected fan horsepower shall not exceed 5 HP (kW). The cooling tower(s) shall be Baltimore Aircoil Company Model New Series 3000, XES3E-8518-06H.

1.2 Thermal Capacity: The cooling tower(s) shall be warranted by the manufacturer to cool 570 USGPM (lps) of water from 95 °F(°C) to 85 °F(°C) at 78 °F(°C) entering wet bulb temperature. Additionally, the thermal performance shall be certified by the Cooling Technology Institute in accordance with CTI Certification Standard STD-201. Lacking such certification, a field acceptance test shall be conducted within the warranty period in accordance with CTI Acceptance Test Code ATC-105, by the Cooling Technology Institute or other qualified independent third party testing agency. Manufacturers' performance guarantees or performance bonds without CTI Certification or independent field thermal performance test shall not be accepted. The cooling tower(s) shall comply with the energy efficiency requirements of ASHRAE Standard 90.1.

The cooling tower needs to support the existing 190 ton chiller: Cooling tower must have capacity to cool not less than 570 gpm from 95 F to 85 F when outdoor ambient is 95 F dry bulb and 78 F wet bulb.

1.3 JE PREMIER SERIES® Construction: All steel panels and structural members, including the structural frame, hot and cold water basins, distribution covers, fan deck and fan cylinder shall be constructed of Type 304 stainless steel and assembled with Type 304 stainless steel nut and bolt fasteners. All factory seams in the cold water basin shall be welded to ensure watertight assembly and welded seams shall be warranted against leaks for five (5) years. Stainless steel basins with bolted seams are not acceptable. The entire cooling tower, including fan motor, drive system, bearings, and structure, shall be backed by a comprehensive Louver-to-LouverSM Five-Year warranty. Type 301 Stainless Steel shall not be an acceptable alternative.

1.4 Quality Assurance: The cooling tower manufacturer shall have a Management System certified by an accredited registrar as complying with the requirements of ISO9001:2008 to ensure consistent quality of products and services. Manufacturers that are not ISO9001 Certified shall not be acceptable.

1.5 Wind and Seismic Forces: The structure shall be designed, tested and certified in accordance with IBC 2009 regulations to meet a minimum unrestricted seismic design $S_{DS} = 3.10g$ with an Importance Factor of 1.0 and wind load of 82 psf. The unit shall be certified by the manufacturer for operation after an event, up to S_{DS} and the wind load ratings listed above, and verify that such rating is based on actual shake-table testing. Experience or calculation data is not acceptable to verify operation. Units not provided with a certificate of IBC 2009

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compliance shall not be an acceptable alternative.

2.0 Construction Details

2.1 Structure: The cooling tower shall be constructed with a sturdy structural frame designed to transmit all wind, seismic and mechanical loads to the equipment anchorage. The frame shall be constructed of heavy-gauge steel angles and channels.

2.2 Casing Panels: Corrosion resistant Type 304 stainless steel.

2.3 Cold Water Basin: The cold water basin shall be constructed of heavy-gauge Type 304 stainless steel panels and structural members. All factory seams shall be welded to ensure watertight construction and welded seams shall be warranted against leaks for a period of five (5) years from date of shipment. Stainless steel basins with bolted seams are not acceptable. Basin shall include a depressed center section with drain/clean-out connection. The basin area under the fill shall be sloped toward the depressed center section to facilitate cleaning. Standard basin accessories shall include a corrosion resistant make-up valve with large diameter plastic float for easy adjustment of the operating water level, removable anti-vortexing device to prevent air entrainment, and large area lift out strainers with perforated openings sized smaller than the water distribution system nozzles.

2.4 Water Outlet: The water outlet connection shall be beveled for welding and grooved for mechanical coupling or bolt hole circle designed to accept an ASME Class 150 flat face flange. The outlet shall be provided with large-area lift out strainers with perforated openings sized smaller than the water distribution nozzles and an anti-vortexing device to prevent air entrainment. The strainer and vortex device shall be constructed of the same materials as the cold water basin to prevent dissimilar metal corrosion.

2.5 Water Distribution System: The hot water distribution basins shall be open and gravity fed for easy cleaning, and constructed of Type 304 stainless steel. The basins must be accessible from outside the unit and serviceable during tower operation. Basin weirs and plastic metering devices shall be provided to assure the even distribution of water over the fill. Weir dams shall accommodate a flow range of 50% to 100% of the design flow rate. Lift-off distribution covers shall be constructed of heavy-gauge Type 304 stainless steel and designed to withstand 50 psf (244 kg/m²) live load or a 200 pound (90.7 kg) concentrated load. Gravity flow nozzles shall be snap-in type for easy removal. Should pressurized nozzles be used, they shall utilize grommets, which ensure easy removal.

3.0 Mechanical Equipment

3.1 Fan(s): Fan(s) shall be heavy-duty, axial flow with aluminum alloy blades selected to provide optimum cooling tower thermal performance with minimal sound levels. Air shall discharge through a fan cylinder designed for streamlined air entry and minimum tip clearance for maximum fan efficiency. The top of the fan cylinder shall be equipped with a conical, non-sagging removable fan guard.

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3.2 Bearings: Fan(s) and shaft(s) shall be supported by heavy-duty, self-aligning, grease-packed ball bearings with moisture proof seals and integral slinger collars, designed for a minimum L₁₀ life of 80,000 hours.

3.3 Fan Drive: The fan(s) shall be driven by a one-piece, multi-groove, solid back V- type powerband with taper lock sheaves designed for 150% of the motor nameplate horsepower. The powerband shall be constructed of neoprene reinforced polyester cord and be specifically designed for cooling tower service.

3.4 Sheaves: Fan and motor sheave(s) shall be fabricated from corrosion-resistant materials to minimize maintenance and ensure maximum drive and powerband operating life.

3.5 Fan Motor: Fan motor(s) shall be totally enclosed fan cooled (TEFC) and mounted outside the airstream. The motor shall be furnished with special moisture protection on windings, shafts and bearings. Fan motors shall be premium efficient/inverter duty type designed per NEMA Standard MG1, Section IV Part 31.

3.6 Mechanical Equipment Warranty: The fan(s), fan shaft(s), sheaves, bearings, mechanical equipment support and fan motor shall be warranted against defects in materials and workmanship for a period of five (5) years from date of shipment.

4.0 Fill and Drift Eliminators

4.1 Fill and Drift Eliminators: The fill and integral drift eliminators shall be formed from self-extinguishing (per ASTM-568) polyvinyl chloride (PVC) having a flame spread rating of 5 per ASTM E84 and shall be impervious to rot, decay, fungus and biological attack. The fill shall be suitable for entering water temperatures up to and including 130°F. The fill shall be manufactured, tested and rated by the cooling tower manufacturer and shall be elevated above the cold water floor to facilitate cleaning.

5.0 Air Inlet Louvers

5.1 Air Inlet Louvers: Air inlet louvers shall be separate from the fill and removable to provide easy access for inspection of the air/water interface at the louver face. Louvers shall prevent water splash out during fan cycling and be constructed of corrosion resistant Type 304 stainless steel.

6.0 Access

6.1 Plenum Access: Two hinged access doors shall be provided for access into the plenum section.

7.0 Sound

7.1 Sound Level: To maintain the quality of the local environment, the maximum sound pressure levels (dB) measured 50 ft from the cooling tower operating at full fan speed shall not exceed the sound levels detailed

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below. If the tower exceeds these conditions the tower must be either oversized and reduced in horsepower, provided with a low sound fan, or provided with sound attenuation.

8.0 Accessories

8.1 Balancing Valves: Heavy-duty butterfly valves shall be provided at the hot water inlet connections. These valves shall include cast iron bodies, elastomer seat and steel operating stems. There shall be a locking handle to maintain the valve setting in any position. Wafer type field supplied spool piece is required between the inlet connection and the valve.

8.2 Basin Heater(s): Not required.

8.3 Basin Water Level Control: The cooling tower manufacturer shall provide an electric water level control (EWLC) system. The system shall consist of water level sensing and control units in quantities and locations as indicated on the drawings. Each water level sensing and control unit shall be hermetically sealed and consist of the following: solid state controls including all necessary relays and contacts to achieve the specified sequence of operation; status code L. E. D which illuminates to indicate status: stainless steel water level sensing electrodes with brass holder; Schedule 40 PVC standpipe assembly with vent holes, and all necessary stainless steel mounting hardware. Provide PVC union directly below the control enclosure to facilitate the removal and access of electrodes and control enclosure. The number and position of water level sensing electrodes shall be provided to sense the following: high water level, low water level, high water alarm level, low water alarm level, and heater safety cutout.

8.4 Vibration Cutout Switch: Provide a mechanical local reset vibration switch. The mechanical vibration cutout switch will be guaranteed to trip at a point so as not to cause damage to the cooling tower. To ensure this, the trip point will be set in a frequency range of 0 to 3,600 RPM and a trip point of 0.2 to 2.0 g's.

8.5 Basin Sweeper Piping: The cold water basin of the cooling tower shall be equipped with PVC sump sweeper piping with plastic eductor nozzles.

8.6 Air intake Option: Provide removable Type 304 stainless steel 1"x1" (25.4 mm x 25.4 mm) mesh air intake screens.

8.7 Ladder: An aluminum ladder (with galvanized steel safety cage) shall be provided for access to the fan deck. Access door or service platforms are not acceptable.

8.8 Handrails: 1-1/4" (31.75 mm) galvanized steel pipe handrail shall be provided around the perimeter of the cooling tower cells. The handrails shall be provided with knee and toe rails and shall conform to the requirements of OSHA applicable at the time of shipment.

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8.9 Internal Walkway: An internal walkway shall be provided in the plenum section to provide for inspection and maintenance. All working surfaces shall be able to withstand 50 psf (244 kg/m²) live load or 200 pound (90.7 kg) concentrated load. Other components of the cooling tower, i.e. basin and fill/drift eliminators, shall not be considered an internal working surface. Cooling tower manufacturers that promote these surfaces to be used as a working platform shall provide a two-year extended warranty to the Owner to repair any damage to these surfaces caused during routine maintenance.

8.10 Internal Platform: An internal platform shall be provided in the plenum section to provide for inspection and maintenance. All working surfaces shall be able to withstand 50 psf live load or 200 pound concentrated load. Other components of the cooling tower, i.e. basin floor and fill/drift eliminators, shall not be considered an internal working surface. Cooling tower manufacturers that promote these surfaces to be used as a working platform shall provide a two-year extended warranty to the Owner to repair any damage to these surfaces caused during routine maintenance.

8.11 Externally Mounted Pre-wired Terminal Box: The cooling tower shall ship from the factory with the fan motor(s) (and vibration cutout switch) wired to terminal blocks encased in a Type 304 stainless steel NEMA 3R enclosure, mounted on the outside of the tower. No casing penetrations shall be permitted in the field.

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APPENDIX B: Remove & Replace Collier Library Cooling Tower

The following narrative describes the scope of work for the replacement of the cooling tower serving Collier Library and the Computer Center. The existing cooling tower is located on the west side of Collier Library.

By installing contractor:

1. Disconnect piping (5" supply, 6" return, 1" fill, 3" overflow, 2" drain with valve) from demolition points to existing cooling tower. Demolition points will be near ground level for each pipe.
2. Disconnect/remove existing cooling tower
3. Dispose of the following: existing cooling tower, associated rails/supports, piping not being reused.
4. Provide general cleanup of cooling tower area before new cooling tower is installed.
5. Install new cooling tower (cooling tower may or may not be supplied by contractor, see bid section B for more details).
6. Installing contractor to be responsible for receiving and storing the cooling tower before the installation date.
7. Install new piping (5" supply, 6" return, 1" fill, 3" overflow, 2" drain with valve) from demolition points (at or near ground level) to new cooling tower.
8. All new piping to be painted with one coat of primer and two coats of enamel. Maintain the integrity of the existing cooling tower fan motor feed wiring/conduit as it to be reused (electrical disconnect/reconnect by UNA).
9. Installing contractor to provide all materials and equipment (other than owner furnished equipment) and perform all labor required to install a complete and operable mechanical system as indicated in this report.
10. Drain valve, fill float/valve assembly, backflow preventer connected to fill line, etc.

By others:

1. Locate underground utilities in the general area.
2. Electrical
3. Controls
4. Draining of the existing system and refilling the new system to assist with leak checks and performance monitoring.

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