

JEA

**052-19 Brandy Branch Generating Station Cooling Tower Repair
Services**

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Scope – O&M

Torque Tube Supports

Each cell has two (2) torque tube supports, some of which have shown signs of deterioration. Each support will need to be inspected and evaluated for reliability. This includes:

- a. Inspecting the supports for structural integrity.
 - i. If the support passes inspection it shall be refurbished and reused.
 - ii. If the support fails inspection it shall be replaced with a new support

Fan Blades

The cooling tower has ten (10) fans with seven (7) blades per fan.

- a. Replace all blade clamps and hardware. There are a total of seventy (70), seven (7) per cell.

Scope - Capital

Gearboxes

Provide labor and equipment for the removal and installation of 10 Marley 4000 series gearboxes.

- a. Provide new hardware for gearboxes
- b. Coordinate with JEA and Marley with removal of the existing gearboxes from the cooling tower for shipping.
- c. Install the refurbished Marley gearboxes

Drift Eliminators

The cooling tower has ten (10) cells and the drift eliminators in each cell will need to be replaced in kind. This includes:

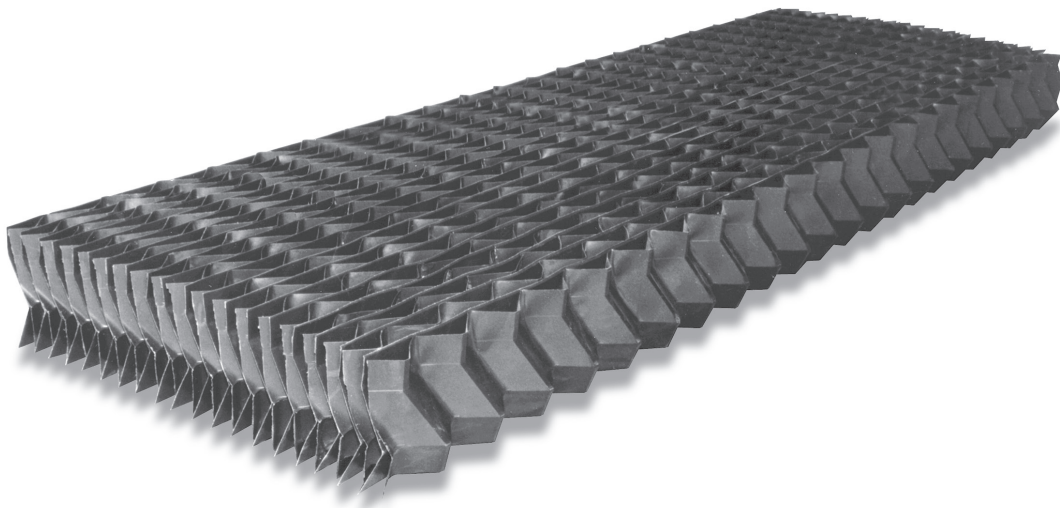
- a. Removal and disposal of the existing drift eliminators.
- b. Supply and install new 17 mil thick PVC cellular drift eliminators.
- c. Inspect the existing supports and sealers to ensure they can be reused.
 - i. Replace with new where needed with JEA approval.

Partition Walls

The cooling tower has thirteen (13) partition walls. The partition walls have some signs of deterioration and will need to be replaced in kind. This includes:

- a. Removal and disposal of the partition walls.
- b. Supply and install double sided partition walls. These walls shall be new marine grade and pressure treated ½" plywood.
- c. Supply and install FRP mid-bay supports.
- d. All hardware shall be 304 stainless steel and caulking

The scheduled outage dates are 3/4/19 to 4/30/19. The work will need to be completed a few days before for startup.



Marley developed the first cellular drift eliminator in the 1970s when designs were primarily ineffective blade type configurations. The XCEL generation of eliminators evolved in the early 80s. At that time no other eliminator could come close to XCEL eliminator's low drift rate and low pressure drop. Now, virtually every eliminator is a nesting cellular PVC type design.

The current XCEL TU eliminator is an advanced design that meets or exceeds today's demanding specifications for drift emissions without sacrificing fan horsepower.

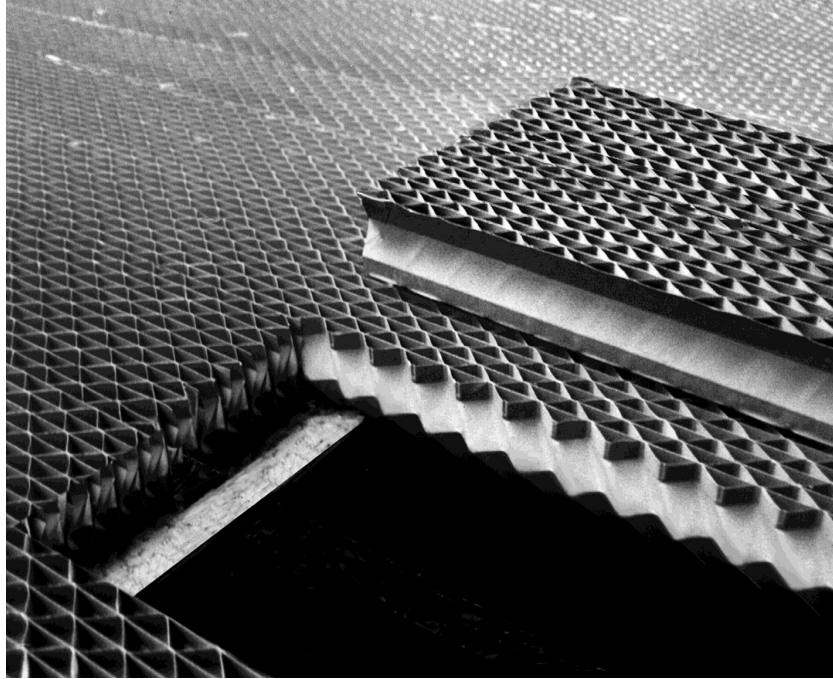
Drift rates of today's XCEL eliminator are half that of the original XCEL design with equivalent pressure drop.

The eliminator discharge angle is important enough to warrant two separate eliminator designs—one for crossflow and one for counterflow cooling towers. Tests show the air direction leaving the eliminator is extremely important—imperfect designs create additional work for the fan. This means either increased fan horsepower—or reduced cooling tower performance. The crossflow version features drainage slots

within the eliminator pack to ensure trapped drift is returned to the wet side of the cooling tower.

Low drift rates are the primary goal of eliminator designs with XCEL yielding typical drift rates of .0005% of the total gpm. Lower drift rates may be achievable depending upon tower configuration.

Considering low drift rates and low pressure drop, XCEL is one of the most effective cooling tower drift eliminator available for cooling towers today.



SUGGESTED SPECIFICATION

Drift eliminators shall be of cellular type, Marley XCEL TU or approved equal. The eliminators shall be thermoformed from 17 mil (.017) PVC (polyvinyl chloride) material into a configuration providing at least three changes of air direction and solvent welded into multiple sheet packs. Flame spread rating of the material must not exceed 25 per ASTM E-84.

Eliminators used in crossflow towers must provide a discharge angle (as defined by the angle of the last section of the eliminator itself) of at least 42° from the horizontal when installed.

The mass drift quantity, determined by the CTI Drift Test Code ATC-140 shall not exceed _____% of the total gpm and shall be guaranteed for all operating conditions.

The eliminator packs shall be able to span 66" unsupported for counterflow configurations and 72" for crossflow, with minimal deflection at design conditions. Eliminators shall be FM approved.

Eliminator packs shall measure up to 24" wide, 5.75" in depth and up to 12'-0" long.

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In the interest of technological progress, all products are subject to design and/or material change without notice.



Appendix B - Minimum Qualifications Form
052-19 Brandy Branch Generating Station Cooling Tower Repair Services

The minimum qualifications shall be submitted in the format attached. The references shall be presented in the order described below. In order to be considered a qualified supplier by JEA you must meet all the criteria listed and be able to provide all the services listed in this specification. Submit with Bid or Proposal in accordance with the requirements of the solicitation.

Company shall ensure listed references can be contacted to verify minimum qualifications compliance. If JEA cannot contact the submitted reference, JEA may request an additional point of contact from the same reference, however, will not allow the Company to change references. If the reference cannot be verified, JEA may reject the submitted Bid or Proposal.

RESPONDENT INFORMATION

COMPANY NAME: _____

BUSINESS ADDRESS: _____

CITY, STATE, ZIP CODE: _____

TELEPHONE: _____

FAX: _____

E-MAIL: _____

- The Bidder shall have successfully completed two (2) similar projects in the past three (3) years, date ending the Bid Due Date. A similar project is defined evaporative cooling tower repair services contract. Each project shall have been greater than \$300,000.00 in value.

Appendix B - Bid Form
052-19 Brandy Branch Generating Station Cooling Tower Repair Services

Submit an **original, two (2) copies and one (1) CD or thumb drive** along with other required forms in a sealed envelope to: JEA Procurement Dept., 21 W. Church St., Bid Office, Customer Center, 1st Floor, Room 002, Jacksonville, FL 32202-3139.

Company Name: _____

Company's Address _____

License Number: _____

Phone Number: _____ FAX No: _____ Email Address: _____

BID SECURITY REQUIREMENTS

- ☐ None required
☒ Certified Check or Bond Five Percent (5%)

TERM OF CONTRACT

- ☐ One Time Purchase
☐ Annual Requirements
☒ Other, Specify - Project Completion

SAMPLE REQUIREMENTS

- ☒ None required
☐ Samples required prior to Response Opening
☐ Samples may be required subsequent to Bid Opening

SECTION 255.05, FLORIDA STATUTES CONTRACT BOND

- ☐ None required
☒ Bond required 100% of Bid Award

QUANTITIES

- ☒ Quantities indicated are exacting
☐ Quantities indicated reflect the approximate quantities to be purchased Throughout the Contract period and are subject to fluctuation in accordance with actual requirements.

INSURANCE REQUIREMENTS

Insurance required

PAYMENT DISCOUNTS

- ☐ 1% 20, net 30
☐ 2% 10, net 30
☐ Other _____
☐ None Offered

Description of Services	TOTAL BID PRICE
Total Bid Price for Work as described in this Solicitation	\$ _____

☐ **I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

BIDDER CERTIFICATION

By submitting this Bid, the Bidder certifies that it has read and reviewed all of the documents pertaining to this Solicitation, that the person signing below is an authorized representative of the Bidding Company, that the Company is legally authorized to do business in the State of Florida, and that the Company maintains in active status an appropriate contractor's license for the work (if applicable). The Bidder also certifies that it complies with all sections (including but not limited to Conflict Of Interest and Ethics) of this Solicitation.

We have received addenda

_____ through _____

Handwritten Signature of Authorized Officer of Company or Agent _____ Date _____

Printed Name and Title _____