

FAX COVER SHEET

To:	From: Domain Level Access
Company:	Date: 11/06/24 07:39:46 AM
Fax Number: 3045583970	Pages (Including cover): 134
Re: Bid Review - Chiller Plant Service Agreement	

Notes:

Good morning!

Please find the attached Bid Review for Chiller Plant Service Agreement from Tim Mill with Trane.

Thank you!

Amy Carter
Service Sales Coordinator
Southern Atlantic Region
(540)750-9542
Amy.Carter@trane.com

**TRANE****TRANE**
TECHNOLOGIES

RECEIVED

2024 NOV -6 AM 9:23

WV PURCHASING
DIVISION

Fax Cover Sheet

To: Melissa Pettrey

From: Tim Mills

Re: Bid Review/Chiller Plant Service Agreement

Fax # (304) 558-3970

Date: November 6, 2024

Pages: 133 including cover sheet



Virginia/West Virginia
Tel (304) 348-2800
www.trane.com

October 29, 2024

Mrs. Melissa Pettrey
Senior Purchasing Agent
2019 Washington St. E
Charleston, WV 25305

Dear Mrs. Pettrey,

Thank you for the opportunity for Trane to bid HVAC Maintenance and Repair Services for the main Capital chiller plant GSD Building 11. We have attended the site walkthrough on 10/15/24 and prepared the following scope of services to match your requested bid. If you need any references or examples of services within, such as our electronic field reports and vibration analysis, or monthly oil analysis, please let me know.

I look forward to working more closely with the chiller plant personnel should we win this bid. We are very familiar with the plant and believe we can also help optimize the operation of the plant in coordination with the Trane controls that operate it. If you have any questions, or would like to review further together, please let me know.

Kind Regards,

A handwritten signature in cursive script that reads "Tim Mills".

Tim Mills
Service Account Manager
Trane US Inc.

Nov 06 2024 07:40:30

->

384 558 3970 Ingersoll Rand Compa Page 004



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 60130
Charleston, WV 26306-0130

State of West Virginia
Centralized Request for Quote
Construction

Proc Folder: 1524853

Doc Description: Annual Chiller and Towers Maintenance

Reason for Modification:

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2024-09-30	2024-10-29 13:30	CRFQ 0211 GSD2500000007	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code:

Vendor Name :

Address :

Street :

City :

State :

Country :

Zip :

Principal Contact :

Vendor Contact Phone:

Extension:

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor
Signature X

FEIN#

DATE

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION**REQUEST FOR QUOTATION**

The West Virginia Purchasing Division is soliciting bids on behalf of the WV Department of Administration, General Services Division ("Agency"), to establish an open-end contract for HVAC Maintenance, specifically for the annual maintenance and cleaning of the HVACs and towers in Building 11 as specified by OEM (Original Equipment Manufacturer's) service schedules and manufacturers recommendations per the bid requirements, specifications and terms and conditions as attached hereto.

INVOICE TO

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION

103 MICHIGAN AVENUE
CHARLESTON
US

WV

SHIP TO

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT

218 CALIFORNIA AVE
CHARLESTON
US

WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Lump Sum Fee for Annual Preventive Maintenance	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Lump Sum Fee for Annual Preventive Maintenance - see specifications

INVOICE TO

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION

103 MICHIGAN AVENUE
CHARLESTON
US

WV

SHIP TO

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT

218 CALIFORNIA AVE
CHARLESTON
US

WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Hourly Labor Rate	200.00000	HOUR		

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Corrective Maintenance Hourly Labor Rate - see specifications

Nov 06 2024 07:41:18
INVOICE 16384 558 3970 Ingersoll Rand Compa Page 006
SHIP TODEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION103 MICHIGAN AVENUE
CHARLESTON
US

WW

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT218 CALIFORNIA AVE
CHARLESTON
US

WW

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Total Parts Cost				

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Corrective Maintenance Total Parts Cost - see specifications

SCHEDULE OF EVENTS

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
1	Mandatory Pre-bid meeting @ 10:00 AM	2024-10-15
2	Vendor question deadline @ 12: PM	2024-10-17

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

☐ A pre-bid meeting will not be held prior to bid opening

☒ A **MANDATORY PRE-BID** meeting will be held at the following place and time:

Building 11 - Second Floor Conference Room
218 California Avenue
Charleston, WV 25305

Tuesday October 15, 2024 @ 10:00am

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted emails should have the solicitation number in the subject line.

Question Submission Deadline: Thursday, October 17, 2024 @ 12:00pm

Submit Questions to: Melissa Pettrey, Senior Buyer
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-3970
Email: Melissa.K.Pettrey@wv.gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted on or before the date and time of the bid opening listed in section 7 below. Vendors can submit bids electronically through wvOASIS, in paper form delivered to the Purchasing Division at the address listed below either in person or by courier, or in facsimile form by faxing to the Purchasing Division at the number listed below. Notwithstanding the foregoing, the Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via email. Bids submitted in paper or facsimile form must contain a signature. Bids submitted in wvOASIS are deemed to be electronically signed.

Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason.

For Request for Proposal ("RFP") Responses Only: Submission of a response to a Request for Proposal is not permitted in wvOASIS. In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal prior to the bid opening date and time identified in Section 7 below, plus _____ convenience copies of each to the Purchasing Division at the address shown below. Additionally, the Vendor should clearly identify and segregate the cost proposal from the technical proposal in a separately sealed envelope.

Bid Delivery Address and Fax Number:

Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130
Fax: 304-558-3970

A bid submitted in paper or facsimile form should contain the information listed below on the face of the submission envelope or fax cover sheet. Otherwise, the bid may be rejected by the Purchasing Division.

VENDOR NAME:

BUYER: Melissa Pettrey, Senior Buyer
SOLICITATION NO.: CRFQ GSD2500000007
BID OPENING DATE: Tuesday, October 29, 2024
BID OPENING TIME: 1:30 pm
FAX NUMBER: 304-558-3970

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: Tuesday, October 29, 2024 @ 1:30 pm

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATE MODEL OR BRAND: Unless the box below is checked, any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

☐ This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at: www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: www.state.wv.us/admin/purchase/vrc/Venpref.pdf.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37 and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform or lacks the integrity and reliability to assure good-faith performance."

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b."

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

22. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

23. EMAIL NOTIFICATION OF AWARD: The Purchasing Division will attempt to provide bidders with e-mail notification of contract award when a solicitation that the bidder participated in has been awarded. For notification purposes, bidders must provide the Purchasing Division with a valid email address in the bid response. Bidders may also monitor wvOASIS or the Purchasing Division's website to determine when a contract has been awarded.

24. ISRAEL BOYCOTT CERTIFICATION: Vendor's act of submitting a bid in response to this solicitation shall be deemed a certification from bidder to the State that bidder is not currently engaged in, and will not for the duration of the contract, engage in a boycott of Israel. This certification is required by W. Va. Code § 5A-3-63.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of an Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance by the State of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid, or on the Contract if the Contract is not the result of a bid solicitation, signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☒ **Term Contract**

Initial Contract Term: The Initial Contract Term will be for a period of One-year from award. The Initial Contract Term becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as _____), and the Initial Contract Term ends on the effective end date also shown on the first page of this Contract.

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to three (3) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

☐ **Alternate Renewal Term** – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that:

☐ the contract will continue for _____ years;

☐ the contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's Office (Attorney General approval is as to form only).

☐ **One-Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Construction/Project Oversight:** This Contract becomes effective on the effective start date listed on the first page of this Contract, identified as the State of West Virginia contract cover page containing the signatures of the Purchasing Division, Attorney General, and Encumbrance clerk (or another page identified as _____), and continues until the project for which the vendor is providing oversight is complete.

☐ **Other:** Contract Term specified in _____

4. AUTHORITY TO PROCEED: Vendor is authorized to begin performance of this contract on the date of encumbrance listed on the front page of the Award Document unless either the box for "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked in Section 3 above. If either "Fixed Period Contract" or "Fixed Period Contract with Renewals" has been checked, Vendor must not begin work until it receives a separate notice to proceed from the State. The notice to proceed will then be incorporated into the Contract via change order to memorialize the official date that work commenced.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☒ **Open End Contract:** Quantities listed in this Solicitation/Award Document are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☒ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One-Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

☐ **Construction:** This Contract is for construction activity more fully defined in the specifications.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One-Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked in this section must be provided to the Purchasing Division by the Vendor as specified:

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

☒ Vendor shall provide "blanket" Performance, and Labor/Material bonds, in the amount of their bid to cover the life of the contract.

☐

☐

☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications regardless of whether or not that requirement is listed above.

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether that insurance requirement is listed in this section.

Vendor must maintain:

☒ **Commercial General Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

☒ **Automobile Liability Insurance** in at least an amount of: \$1,000,000.00 per occurrence.

☐ **Professional/Malpractice/Errors and Omission Insurance** in at least an amount of: _____ per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

☐ **Commercial Crime and Third Party Fidelity Insurance** in an amount of: _____ per occurrence.

☐ **Cyber Liability Insurance** in an amount of: _____ per occurrence.

☐ **Builders Risk Insurance** in an amount equal to 100% of the amount of the Contract.

☐ **Pollution Insurance** in an amount of: _____ per occurrence.

☐ **Aircraft Liability** in an amount of: _____ per occurrence.

☒ **Certificate of Insurance must indicated Additional Insured.**

☒ Certificate Holder must indicate:
General Services Division
1900 Kanawha Blvd. E.
Charleston, WV 25305

☐

☐

9. WORKERS' COMPENSATION INSURANCE: Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. VENUE: All legal actions for damages brought by Vendor against the State shall be brought in the West Virginia Claims Commission. Other causes of action must be brought in the West Virginia court authorized by statute to exercise jurisdiction over it.

11. LIQUIDATED DAMAGES: This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

☐ _____ for _____.

☐ Liquidated Damages Contained in the Specifications.

☒ Liquidated Damages Are Not Included in this Contract.

12. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

13. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: Payments for goods/services will be made in arrears only upon receipt of a proper invoice, detailing the goods/services provided or receipt of the goods/services, whichever is later. Notwithstanding the foregoing, payments for software maintenance, licenses, or subscriptions may be paid annually in advance.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

17. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia, included in the Contract, or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

18. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available. If that occurs, the State may notify the Vendor that an alternative source of funding has been obtained and thereby avoid the automatic termination. Non-appropriation or non-funding shall not be considered an event of default.

19. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

20. TIME: Time is of the essence regarding all matters of time and performance in this Contract.

21. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code, or West Virginia Code of State Rules is void and of no effect.

22. COMPLIANCE WITH LAWS: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

24. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

25. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

26. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

27. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments.

28. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

29. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in www.state.wv.us/admin/purchase/privacy.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR NON-CONFLICT: Neither Vendor nor its representatives are permitted to have any interest, nor shall they acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. NO DEBT CERTIFICATION: In accordance with West Virginia Code §§ 5A-3-10a and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State. By submitting a bid, or entering into a contract with the State, Vendor is affirming that (1) for construction contracts, the Vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, neither the Vendor nor any related party owe a debt as defined above, and neither the Vendor nor any related party are in employer default as defined in the statute cited above unless the debt or employer default is permitted under the statute.

38. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

39. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

- ☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.
- ☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.division@wv.gov.

40. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check. Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

41. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.
- c. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
 1. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
 2. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

42. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

43. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the Vendor must submit to the Agency a disclosure of interested parties prior to beginning work under this Contract. Additionally, the Vendor must submit a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-work interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

44. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

45. VOID CONTRACT CLAUSES: This Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law.

46. ISRAEL BOYCOTT: Bidder understands and agrees that, pursuant to W. Va. Code § 5A-3-63, it is prohibited from engaging in a boycott of Israel during the term of this contract.

ADDITIONAL TERMS AND CONDITIONS (Construction Contracts Only)

1. CONTRACTOR'S LICENSE: Until June 15, 2021, West Virginia Code § 21-11-2, and after that date, § 30-42-2, requires that all persons desiring to perform contracting work in this state be licensed. The West Virginia Contractors Licensing Board is empowered to issue the contractor's license. Applications for a contractor's license may be made by contacting the West Virginia Contractor Licensing Board.

The apparent successful Vendor must furnish a copy of its contractor's license prior to the issuance of a contract award document.

2. BONDS: The following bonds must be submitted:

- ☒ **BID BOND:** Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. **THE BID BOND MUST BE SUBMITTED WITH THE BID OR VENDOR'S BID WILL BE DISQUALIFIED.**
- ☒ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award. (Attorney General requires use of the State approved bond forms found at: www.state.wv.us/admin/purchase/forms2.html)
- ☒ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award. (Attorney General requires use of the State approved bond forms found at: www.state.wv.us/admin/purchase/forms2.html)
- ☒ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system if the work impacts an existing roof. The amount of the bond must be equal to the price associated with the percentage of the project impacting the roof. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award. (Attorney General requires use of the State approved bond forms found at: www.state.wv.us/admin/purchase/forms2.html)

At a minimum, all construction projects require a bid bond, performance bond, and labor/material payment bond. Failure on the part of the state of West Virginia to checkmark the required bonds above does not relieve the vendor from the legal requirement of providing these bonds.

In lieu of the Bid Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of the bid bond must be of the same amount required of the Bid Bond and delivered with the bid.

3. DRUG-FREE WORKPLACE AFFIDAVIT: W. Va. Code § 21-1D-5 provides that any solicitation for a public improvement contract requires each Vendor that submits a bid for the work to submit an affidavit that the Vendor has a written plan for a drug-free workplace policy. If the affidavit is not submitted with the bid submission, the Purchasing Division shall promptly request by telephone and electronic mail that the low bidder and second low bidder provide the affidavit within one business day of the request. Failure to submit the affidavit within one business day of receiving the request shall result in disqualification of the bid. To comply with this law, Vendor should complete the enclosed drug-free workplace affidavit and submit the same with its bid. Failure to submit the signed and notarized drugfree workplace affidavit or a similar affidavit that fully complies with the requirements of the applicable code, within one business day of being requested to do so shall result in disqualification of Vendor's bid. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

3.1. DRUG-FREE WORKPLACE POLICY: Pursuant to W. Va. Code § 21-1D-4, Vendor and its subcontractors must implement and maintain a written drug-free workplace policy that complies with said article. The awarding public authority shall cancel this contract if: (1) Vendor fails to implement and maintain a written drug-free workplace policy described in the preceding paragraph, (2) Vendor fails to provide information regarding implementation of its drug-free workplace policy at the request of the public authority; or (3) Vendor provides to the public authority false information regarding the contractor's drug-free workplace policy.

Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

4. DRUG FREE WORKPLACE REPORT: Pursuant to W. Va. Code § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. For contracts over \$25,000, the public authority shall be the West Virginia Purchasing Division. For contracts of \$25,000 or less, the public authority shall be the agency issuing the contract. The report shall include:

- (1) Information to show that the education and training service to the requirements of West Virginia Code § 21-1D-5 was provided;
- (2) The name of the laboratory certified by the United States Department of Health and Human Services or its successor that performs the drug tests;
- (3) The average number of employees in connection with the construction on the public improvement;
- (4) Drug test results for the following categories including the number of positive tests and the number of negative tests: (A) Pre-employment and new hires; (B) Reasonable suspicion; (C) Post-accident; and (D) Random.

Vendor should utilize the attached Certified Drug Free Workplace Report Coversheet when submitting the report required hereunder. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

5. AIA DOCUMENTS: All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the attached AIA documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein.

6. PROHIBITION AGAINST GENERAL CONDITIONS: Notwithstanding anything contained in the AIA Documents or the Supplementary Conditions, the State of West Virginia will not pay for general conditions, or winter conditions, or any other condition representing a delay in the contracts. The Vendor is expected to mitigate delay costs to the greatest extent possible and any costs associated with Delays must be specifically and concretely identified. The state will not consider an average daily rate multiplied by the number of days extended to be an acceptable charge.

7. GREEN BUILDINGS MINIMUM ENERGY STANDARDS: In accordance with § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July 1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007. Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

8. LOCAL LABOR MARKET HIRING REQUIREMENT: Pursuant to West Virginia Code §21-1C-1 et seq., Employers shall hire at least seventy-five percent of employees for public improvement construction projects from the local labor market, to be rounded off, with at least two employees from outside the local labor market permissible for each employer per project.

Any employer unable to employ the minimum number of employees from the local labor market shall inform the nearest office of Workforce West Virginia of the number of qualified employees needed and provide a job description of the positions to be filled.

If, within three business days following the placing of a job order, Workforce West Virginia is unable to refer any qualified job applicants to the employer or refers less qualified job applicants than the number requested, then Workforce West Virginia shall issue a waiver to the employer stating the unavailability of applicant and shall permit the employer to fill any positions covered by the waiver from outside the local labor market. The waiver shall be in writing and shall be issued within the prescribed three days. A waiver certificate shall be sent to both the employer for its permanent project records and to the public authority.

Any employer who violates this requirement is subject to a civil penalty of \$250 per each employee less than the required threshold of seventy-five percent per day of violation after receipt of a notice of violation.

Any employer that continues to violate any provision of this article more than fourteen calendar days after receipt of a notice of violation is subject to a civil penalty of \$500 per each employee less than the required threshold of seventy-five percent per day of violation.

The following terms used in this section have the meaning shown below.

(1) The term "construction project" means any construction, reconstruction, improvement, enlargement, painting, decorating or repair of any public improvement let to contract in an amount equal to or greater than \$500,000. The term "construction project" does not include temporary or emergency repairs;

(2) The term "employee" means any person hired or permitted to perform hourly work for wages by a person, firm or corporation in the construction industry; The term "employee" does not include:(i) Bona fide employees of a public authority or individuals engaged in making temporary or emergency repairs;(ii) Bona fide independent contractors; or(iii) Salaried supervisory personnel necessary to assure efficient execution of the employee's work;

(3) The term "employer" means any person, firm or corporation employing one or more employees on any public improvement and includes all contractors and subcontractors;

(4) The term "local labor market" means every county in West Virginia and any county outside of West Virginia if any portion of that county is within fifty miles of the border of West Virginia;

(5) The term "public improvement" includes the construction of all buildings, roads, highways, bridges, streets, alleys, sewers, ditches, sewage disposal plants, waterworks, airports and all other structures that may be let to contract by a public authority, excluding improvements funded, in whole or in part, by federal funds.

9. DAVIS-BACON AND RELATED ACT WAGE RATES:

☒ The work performed under this contract is federally funded in whole, or in part. Pursuant to _____, Vendors are required to pay applicable Davis-Bacon wage rates.

☒ The work performed under this contract is not subject to Davis-Bacon wage rates.

10. SUBCONTRACTOR LIST SUBMISSION: In accordance with W. Va. Code § 5-22-1, the apparent low bidder on a contract valued at more than \$250,000.00 for the construction, alteration, decoration, painting or improvement of a new or existing building or structure shall submit a list of all subcontractors who will perform more than \$25,000.00 of work on the project including labor and materials. (This section does not apply to any other construction projects, such as highway, mine reclamation, water or sewer projects.) The subcontractor list shall be provided to the Purchasing Division within one business day of the opening of bids for review.

If the apparent low bidder fails to submit the subcontractor list, the Purchasing Division shall promptly request by telephone and electronic mail that the low bidder and second low bidder provide the subcontractor list within one business day of the request. Failure to submit the subcontractor list within one business day of receiving the request shall result in disqualification of the bid.

If no subcontractors who will perform more than \$25,000.00 of work are to be used to complete the project, the apparent low bidder must make this clear on the subcontractor list, in the bid itself, or in response to the Purchasing Division's request for the subcontractor list.

a. Required Information. The subcontractor list must contain the following information:

i. Bidder's name

ii. Name of each subcontractor performing more than \$25,000 of work on the project.

iii. The license number of each subcontractor, as required by W. Va. Code § 21-11-1 et. seq.

iv. If applicable, a notation that no subcontractor will be used to perform more than \$25,000.00 of work. (This item iv. is not required if the vendor makes this clear in the bid itself or in documentation following the request for the subcontractor list.)

b. Subcontractor List Submission Form: The subcontractor list may be submitted in any form, including the attached form, as long as the required information noted above is included. If any information is missing from the bidder's subcontractor list submission, it may be obtained from other documents such as bids, emails, letters, etc. that accompany the subcontractor list submission.

c. Substitution of Subcontractor. Written approval must be obtained from the State Spending Unit before any subcontractor substitution is permitted. Substitutions are not permitted unless:

i. The subcontractor listed in the original bid has filed for bankruptcy;

ii. The subcontractor in the original bid has been debarred or suspended; or

iii. The contractor certifies in writing that the subcontractor listed in the original bid fails, is unable, or refuses to perform his subcontract.

Subcontractor List Submission (Construction Contracts Only)Bidder's Name: Trane U.S. Inc.☐ Check this box if no subcontractors will perform more than \$25,000.00 of work to complete the project.

Subcontractor Name	License Number if Required by W. Va. Code § 21-11-1 et. seq.
TAI Services (Eddy Current Testing)	

Attach additional pages if necessary

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) Tim Mills

(Address) 515 C Street, South Charleston, WV 25303

(Phone Number) / (Fax Number) 304-348-2800

(email address) tim.mills@trane.com

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Trane U.S. Inc.

(Company)

(Signature of Authorized Representative)

Tim Mills 10-29-2024

(Printed Name and Title of Authorized Representative) (Date)

(304)348-2800

(Phone Number) (Fax Number)

tim.mills@trane.com

(Email Address)

REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the WV Department of Administration, General Services Division ("Agency"), to establish an open-end contract for HVAC Maintenance, specifically for the annual maintenance and cleaning of the HVACs and towers in Building 11 as specified by OEM (Original Equipment Manufacturer's) service schedules and manufacturers recommendations. The Contractor shall also conduct testing to ensure the units are returned fully operational, including providing on-site technical support. In accordance with W. Va. Code § 5-22-1(a)(5), total payments under this contract will not exceed \$500,000. This includes all payments under the initial contract term, any renewal terms, all delivery orders, and any change orders.
2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1 **"HVAC Maintenance"** means Preventive Maintenance and Corrective Maintenance services provided by Vendor under this Contract and shall not include the addition of new HVAC equipment to increase the size or coverage area of the existing HVAC system.
 - 2.2 **"Preventive Maintenance"** means activities that have been specifically identified in Exhibits A, D and E. Preventive maintenance is intended to include regularly scheduled activities that are known and anticipated in advance rather than one-time repairs.
 - 2.3 **"Corrective Maintenance"** includes all work not identified as Preventive Maintenance in Exhibits A, D and E. Corrective Maintenance is intended to cover work performed on an as-needed basis to identify and correct a malfunction or failure in a HVAC system and testing to ensure that equipment is in proper working order after the repair. **Corrective Maintenance under this contract does not include an individual project that exceeds \$25,000 in total value (including both parts and labor).** Any project that exceeds \$25,000 in total value must be completed through the Purchasing Division's formal competitive bidding process.
 - 2.4 **"Pricing Pages"** means the schedule of prices, estimated quantity, and totals attached hereto as Exhibit C.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007**

- 3. PERFORMANCE REQUIREMENTS:** Vendor shall provide Agency with HVAC Maintenance on an open-end and continuing basis as outlined in this Contract.

3.1 HVAC Maintenance (Preventive and Corrective)

- 3.1.1** Vendor shall provide HVAC Maintenance in accordance with manufacturer's recommendations and specifications, as well as industry best practices, at all facilities listed on Exhibit B attached hereto and incorporated herein by reference.
- 3.1.2** Vendor shall furnish and install parts as necessary to keep the HVAC systems at each facility listed on Exhibit B in proper working order.
- 3.1.3** Vendor shall furnish all equipment, tools, and parts necessary for the performance of the HVAC Maintenance. Equipment and tools will be provided at no cost to the Agency.
- 3.1.4** Vendor shall provide expendable materials used in the scope of performing under this Contract at no cost to the Agency. Such items may include, but are not limited to, grease, cleaning supplies, rags, etc.
- 3.1.5** Vendor shall be responsible for replacement of ceiling grid and tiles should they become soiled or damaged by Vendor at no cost to the Agency. Agency will make final determination whether to clean or replace tiles on a case-by-case basis.
- 3.1.6** Vendor may only remove equipment from service for a period of 24 hours or more with written permission from the Agency. Any request to remove equipment for 24 hours or more must include a description of the work required and an estimate of the time the equipment will be out of service.
- 3.1.7** Vendor shall maintain a continuous 24-hour emergency telephone service where they can be reached every day of the week, including Sundays and Holidays.
- 3.1.8** Vendor shall not perform any HVAC Maintenance under this contract without prior approval from Agency.
- 3.1.9** Vendor shall furnish a warranty of 12 months for all labor performed under this contract.
- 3.1.10** Vendor shall make arrangements for the collection and disposal of their waste and construction related debris. Debris shall be removed on a daily basis.

REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007

3.2 Preventive Maintenance:

- 3.2.1 Vendor shall perform Preventive Maintenance on an annual basis in accordance with a schedule mutually agreed upon by the Vendor and Agency.
- 3.2.2 Vendor will be compensated for Preventive Maintenance activities through a lump sum fee following completion of the annual inspections, cleaning, and report (see Exhibit A). Vendor must provide parts necessary to perform Preventive Maintenance at no additional cost to Agency. Any cost for such parts must be included in the annual Preventive Maintenance fee.
 - 3.2.2.1 Vendor must perform a visual inspection of all pumps and motors, for both the Chillers and Towers.
 - 3.2.2.2 Vendor must grease all pumps and motors, for both the Chillers and Towers.
 - 3.2.2.3 Vendor must check for excessive vibration, for both the Chillers and Towers.
 - 3.2.2.4 Vendor must take amp draw readings on motors, for both the Chillers and Towers, and log information for annual comparison.
- 3.2.3 Vendor shall submit a proposed schedule of all Preventive Maintenance within 5 days of Vendor being awarded this contract for approval by Agency, at Agency's discretion.
- 3.2.4 Vendor shall take a **Monthly** oil sample for analysis. In addition, vendor shall provide an appropriately labeled portion of the oil sample taken to the Owner prior to submitting to laboratory for analysis.

3.3 Corrective Maintenance:

- 3.3.1 Vendor shall perform Corrective Maintenance as needed to restore the HVAC Systems to working order. Corrective Maintenance may include, but not be limited to, when the units, while in cool mode or standby mode, indicate an alarm in the Trane Tracer system or when the operator system indicates risk to equipment that may cause a failure of any unit operation. Vendor shall diagnose the cause of failure indicator and provide corrective action or repair, either mechanical or programming, to restore unit to normal operational mode and clear alarm trigger from the monitoring system. Vendor shall provide email address of contact person to whom technical services requests shall be sent.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD250000007**

Vendor shall report in with Agency representative immediately upon arrival, at which point Corrective Maintenance hours may be billed (no travel time may be billed). Vendor shall bill for Corrective Maintenance on an hourly basis. Parts for Corrective Maintenance may be billed using the multiplier bid as described below.

3.3.2 Vendor shall respond to Corrective Maintenance calls from Agency by phone or in person within two hours and must arrive on site to begin performance as soon as possible, but no later than four hours after Vendor is notified of the request. Vendor may only deviate from the required four-hour response time with written permission from the Agency.

3.3.3 Corrective Maintenance must be performed between the hours of 7:00 AM and 5:00 PM, Monday through Friday, excluding Holidays, unless the Agency approves work at another time.

3.3.3.1 Agency may request Corrective Maintenance on an emergency basis by notifying the Vendor of the emergency. Vendor must respond to all emergency requests within 30 minutes of being notified of the emergency request and arrive on site to begin performance no later than two hours after being notified of the emergency. Emergency requests can be authorized by Agency representative from GSD Operations and Maintenance Section or GSD Business Section.

3.3.4 Parts:

3.3.4.1 Vendor is responsible for procuring all necessary parts needed to perform HVAC Maintenance under this Contract within the required time frames established herein. Vendor must, however, obtain advanced approval from Agency prior to purchasing any part. Freight charges for parts are not permitted. See section 10.2.2. for more detail on freight charges.

3.3.4.2 Vendor shall maintain a supply or inventory of routinely used replacement parts for the HVAC equipment utilized by the Agency. All replacement parts shall be equal to or better than original manufacturer's parts. All parts used for replacement for normal wear or failed parts shall be new and obtained from authorized parts suppliers of the appropriate equipment manufacturer.

3.3.4.3 Parts Warranty: The Contractor shall provide a copy of the manufacturer's warranty on parts with the invoice.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007**

4. FACILITIES ACCESS: The facilities identified in this contract may require access cards and/or keys to gain entrance.

4.1 Vendor must identify principal service personnel which will be issued access cards and/or keys to perform service.

4.2 Vendor will be responsible for controlling cards and keys and will pay replacement fee if the cards or keys become lost or stolen.

4.3 Vendor shall notify Agency immediately of any lost, stolen, or missing card or key.

4.4 Anyone performing under this Contract will be subject to Agency's security protocol and procedures.

4.5 Vendor shall inform all staff of Agency's security protocol and procedures.

5. QUALIFICATIONS:

5.1 Experience: Vendor, or Vendor's employees that will be performing under this contract, must have successfully maintained HVAC equipment of the type, character and magnitude currently being utilized by Agency and included on the list of HVAC equipment, attached hereto as Exhibit B, on two or more occasions in the last five years. Vendor should provide information confirming its experience prior to contract award.

5.2 Training: Vendor, or Vendor's employees that will be performing under this contract, shall be trained and/or certified to provide HVAC Maintenance on the equipment located at the Agency's facilities as shown on Exhibit B. Vendor must provide Agency with documentation satisfactory to verify training and certification upon request.

Technicians performing work under this contract must have training and/or certification to provide HVAC maintenance on centrifugal chillers and towers. This training and/or certification may be from the manufacturers of the chillers and towers listed on Exhibit B (i.e. Trane and Marley), but may also be from manufacturers of similar equipment (chiller training and/or certification must be for centrifugal chillers). This documentation, for each technician, must be provided to the Agency prior to any technician performing any work.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
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5.3 Certifications: Vendor shall ensure that all HVAC Maintenance performed under this Contract is performed by an appropriately licensed individual. Required licenses may include, but are not limited to the following:

- 5.3.1** Electricians – WV Electricians License
- 5.3.2** Plumbers – WV Plumbers License
- 5.3.3** HVAC – EPA 608 Certification and Apprentice Certification or Completion of HVAC Vocational Program.
- 5.3.4** WV Contractor's License

5.4 Building Codes: At a minimum, the HVAC Maintenance shall comply with the current editions of the following standards and codes in effect at the time of performance.

- 5.4.1** National Electric Code (NEC)
- 5.4.2** International Building Code (IBC)
- 5.4.3** International Mechanical Code (IMC)
- 5.4.4** Underwriters Laboratories: Products shall be UL-916-PAZX listed.
- 5.4.5** ANSI/ASHRAE Standard 135-2004 (BACnet)
- 5.4.6** ANSI/EIA/CEA-709.1 (Lon Talk)
- 5.4.7** NFPA (National Fire Protection Association)

6. REPORTS: Vendor shall provide all the reports as outlined below.

6.1 Preventive Maintenance Log: Vendor shall provide and update a Preventive Maintenance log in the form of a chart posted in the vicinity of HVAC equipment. The Preventive Maintenance log must include a listing of all Preventive Maintenance performed, the name of the individual performing the Preventive Maintenance, the date it was performed, and the time spent performing the Preventive Maintenance. Vendor shall also maintain a duplicate maintenance log that Vendor must submit to Agency as requested.

Vendor shall develop, with Owner approval and acceptable report to provide such information as the Owner requests. Exhibit D Trane Manual contains an "Annual Inspection Check List and Report," which may be an acceptable report for annual inspections of the chillers (pending Owner approval).

6.2 Wiring Diagram: Vendor shall maintain updated wiring diagrams for the HVAC equipment. Vendor must permanently mount wiring diagrams on full-size display panels near the equipment controllers. These wiring diagrams are to remain the property of the Agency and will be surrendered upon termination of this contract.

**REQUEST FOR QUOTATION
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6.3 Corrective Maintenance Log: Vendor shall maintain a log of all Corrective Maintenance performed under this Contract. The log must include the name of the individual performing the Corrective Maintenance, a description of the work performed, a list of any parts that were repaired or replaced, the total time spent performing the Corrective Maintenance, and the date and time Corrective Maintenance was performed. Vendor shall submit a copy of this log to Agency upon Agency's request.

Vendor shall develop, with Owner approval and acceptable report to provide such information as the Owner requests.

6.4 Quarterly and Annual Reports: Vendor shall provide quarterly reports and annual summaries to the Agency, and to the Purchasing Division when requested, with a detailed listing of HVAC Maintenance performed under this Contract during that period. The quarterly and annual reports must include a listing of the hours worked per project, the cost of hours worked per project, the total of all hours worked and corresponding cost, a listing of parts utilized per project, the cost of parts utilized per project, the total parts used for the period, the cost of parts for the period, a grand total of all costs for the period, and any other information that the Agency or Purchasing Division may request.

Vendor shall develop, with Owner approval and acceptable report to provide such information as the Owner requests.

6.5 Oil Sample Report: Vendor shall provide a copy of each oil analysis report generated from oil sample analysis.

7. TRAVEL: Vendor shall be responsible for all mileage and travel costs, including travel time, associated with performance of this Contract. Such costs will not be paid by the Agency.

8. CONTRACT AWARD: This Contract will be awarded to the Vendor meeting the required specifications that provides the lowest Total Cost on the Pricing Pages.

8.1 Pricing Pages: Vendor should complete the Pricing Pages by inserting the requested information in the appropriate location and performing the calculations necessary to arrive at a total cost. The requested information includes: a Lump Sum Fee for Annual Preventive Maintenance, the Total Yearly Cost, an Hourly Labor Rate, the Total Labor Cost, and parts Multiplier, the Total Parts Cost, and the Total Cost. Vendor should complete the Pricing Pages in their entirety as failure to do so may result in Vendor's bid being disqualified.

**REQUEST FOR QUOTATION
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The Pricing Pages contain an estimated number of labor hours and an estimated cost for parts. The estimates for labor and parts represent an amount that will be utilized for evaluation purposes only. No future use of the Contract or any individual item is guaranteed or implied.

If responding in wvOASIS with an electronic bid:

Commodity Line 1: Insert the Lump Sum Fee for Annual Preventive Maintenance as the Unit Price.

Commodity Line 2: Insert the Hourly Labor Rate as the Unit Price.

Commodity Line 3: Insert the Total Parts Cost (in the example below, with a hypothetical bid of 20% markup on parts, one would enter \$12,000) as the Contract Amount.

Vendor should type or electronically enter the information into the Pricing Pages to prevent errors in the evaluation. Notwithstanding the foregoing, the Purchasing Division may correct errors at its discretion.

An example of a properly completed Pricing Page is shown below for reference purposes only:

Lump Sum Fee for Annual Preventive Maintenance

Annual Fee	x	1	=	Total Yearly Cost
<u>\$20,000.00</u>	x	<u>1</u>	=	<u>\$20,000</u>

Hourly Labor Rate	X	Est. Hrs.	=	Total Labor Cost
<u>\$ 50</u>	x	<u>200</u>	=	<u>\$ 10,000</u>

Est. Parts Cost	x	Multiplier	=	Total Parts Cost
<u>\$10,000.00</u>	x	<u>1.20</u>	=	<u>\$ 12,000</u>

Total Cost	<u>\$ 42,000</u>
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9. ORDERING:

9.1 Preventive Maintenance Ordering: After award of this Contract Agency and Vendor shall agree upon a Preventive Maintenance schedule. The Agency shall then issue a release order against this Contract covering the agreed upon Preventive Maintenance to be performed.

REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007

9.2 Corrective Maintenance Ordering: The Agency shall define the scope of each Corrective Maintenance project to be performed under this Contract and submit it to Vendor for a cost quote prior to Vendor's commencement of any work. The cost quote must detail the intended scope of work required to complete the project and contain an itemized listing of time and parts that will be required. If the Vendor's quote is satisfactory to the Agency, then Agency will issue a release order allowing Vendor to commence work. This release order shall have a unique number, reference the master contract number, and detail the scope of work for the project in question. Issuance of the release order to the Contractor shall be considered authorization to begin work. If the Agency determines that the cost quote is not satisfactory, then Agency and Vendor shall work to obtain a satisfactory cost quote by modifying the project, requesting different parts, performing labor with state employees, or other methods that Agency and Vendor deem appropriate. **Agency shall not issue a release order that allows Corrective Maintenance performed under this Contract to exceed \$25,000 per project in total cost.**

In preparing cost quotes prior for Corrective Maintenance work, vendor should propose a timeframe for completion, from issuance of the Agency's delivery order to final completion. Agency will note this timeframe on each delivery order, and vendor must comply with completing each Corrective Maintenance order within such timeframe, or must notify the Agency, in writing in advance of the completion date established in the delivery order, if the initial timeframe cannot be met. In this written notification, the vendor should provide the reason for the delay, and should specifically request the number of additional calendar days required to complete the work. If in agreement, the Agency will issue a revised delivery order to modify the completion date.

9.3 Vendor is not permitted to perform any work other than that specified on the release order issued under section 9.1 or 9.2 of this Contract.

9.4 Issuance of multiple release orders to circumvent the \$25,000 per project limitation on Corrective Maintenance is strictly prohibited.

9.5 Change orders that cause Corrective Maintenance to exceed \$25,000 per project will not be permitted.

10. BILLING / PAYMENT:

10.1 Preventive Maintenance: All labor and parts associated with the Preventative Maintenance activities must be included in the Lump Sum Fee for Annual Preventive Maintenance. Vendor may submit invoices to obtain payment for Preventive Maintenance only upon completion of the Annual Preventive Maintenance services (i.e., cleaning, inspections, reports) for the four (4) HVACs covered under this contract.

REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007

10.2 Corrective Maintenance:

10.2.1 Labor: Labor for Corrective Maintenance will be billed on a per hour basis using the number of hours worked and the **single** hourly rate bid by vendor (i.e., no overtime rates may be billed). Vendor must submit requests for payment of Corrective Maintenance on a separate invoice provided the work has been completed.

10.2.2 Parts: Parts for Corrective Maintenance will be billed on a cost plus basis with the multiplier designated by Vendor on the Pricing Page to serve as the markup. (Examples of how the multiplier should be used are shown below) For purposes of this Contract, Vendor's cost is the amount paid by Vendor to the manufacturer or supplier and does not include Vendor's overhead, stocking fees, delivery charges, or other fees that are not direct payment for parts. All charges not associated with direct payments to the manufacturer or supplier must be accounted for in the markup represented by the multiplier.

Multiplier <u>Example</u>	<u>Meaning</u>
0.5	Vendor sells parts to Agency at one-half of Vendor's cost
1.0	Vendor sells parts to Agency at Vendor's cost
1.25	Vendor sells parts to Agency at Vendor's cost plus a 25% markup.
1.5	Vendor sells parts to Agency at its cost plus a 50% markup.

Notwithstanding the foregoing, Vendor may invoice Agency for expedited or emergency delivery of parts provided that the expedited or emergency delivery was requested by the Agency in advance, the delivery charge is specifically listed on the billing invoice to the Agency, the Agency pays no more than the actual delivery charge, and the actual delivery charge documentation is included with the invoice. Agency reserves the right to request invoice verification to establish parts cost to Vendor.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
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10.3 Invoicing:

- 10.3.1** Invoice should be emailed to GSDinvoices@wv.gov, or mailed to the following address:

**General Services Division
112 California Ave.
Building 4, Fifth Floor
Charleston, WV 25305**

11. DEFAULT:

- 11.1** The following shall be considered a default under this Contract.

- 11.1.1** Failure to perform HVAC Maintenance in accordance with the requirements contained in herein.
- 11.1.2** Failure to comply with other specifications and requirements contained herein.
- 11.1.3** Failure to comply with any applicable law, rule, ordinance, or building code applicable to this Contract or HVAC Maintenance generally.
- 11.1.4** Failure to remedy deficient performance upon request.

- 11.2** The following remedies shall be available upon default.

- 11.2.1** Cancellation of the Contract.
- 11.2.2** Cancellation of one or more release orders issued under this Contract.
- 11.2.3** Any other remedies available in law or equity.

- 11.3** Agency reserves the right to inspect the HVAC Maintenance to ensure that Vendor's performance is in compliance with this Contract. If Agency determines that Vendor has failed to perform in accordance with this Contract, Agency may demand that the Vendor immediately remedy the failure or consider the failure to be a default. Vendor's failure to remedy the deficient performance, if given the opportunity to do so, shall be considered a default.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007**

12. MISCELLANEOUS:

12.1 Contract Manager: During its performance of this Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract manager and his or her contact information below.

Contract Manager:	<u>Tim Mills</u>
Telephone Number:	<u>(304)348-2800</u>
Fax Number:	<u></u>
Email Address:	<u>tim.mills@trane.com</u>

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
CRFQ GSD2500000007**

EXHIBIT A – PREVENTIVE MAINTENANCE

Preventive Maintenance Activities Include:

1. Annual maintenance and cleaning of the HVACs and towers in Building 11 as specified by OEM (Original Equipment Manufacturer's) service schedules and manufacturers recommendations. The Contractor shall also conduct testing to ensure the units are returned fully operational. There are 5 Trane HVACs and 5 Marley Towers (units), however **Chiller 2** will not be included in this contract.

HVAC Serial Number	Model Number
1. L99A00273	CVHF770
2. L99A00282	CVHF770
3. L99A00287	CVHF128
4. L99A00279	CVHF128
5. L99A00288	CVHF128

2. The vendor shall complete the annual comprehensive cleaning and inspection of the four (4) Trane HVACs and five (5) Marley Towers as specified in:

Exhibit D Trane –CVHE-SVU01E-EN – Periodic Maintenance; Oil Maintenance and Maintenance Sections of the HVACs, and

Exhibit E User Manual 02-1237 for the Marley Cooling Towers.

All maintenance recommendations and specifications in the manuals shall be followed and performed by the Vendor.

3. Inspect and clean the interior of the four (4) Trane HVACs and four (4) Marley Towers, included in this contract, as recommended, or required by OEM's for the units.
4. Check all safety devices on all units; repair or replace parts necessary to bring safety devices back to OEM operating range.
5. Inspect all electronic transmitting/receiving components on all units, repair or replace as necessary to bring units back into OEM operating range.
6. Inspect all water control valves on all units; repair or replace as required to bring HVACs and towers back into OEM operating range.
7. Inspect and flush all chambers on all units; repair or replace as required to bring unit back into OEM operating range.
8. Provide oil analysis reports on each HVAC and perform analysis of eddy current tube and submit report of findings to Agency project manager in writing.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
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9. Following the completion of the Preventive Maintenance for each unit, the Contractor shall furnish a written inspection report (i.e., one report per unit) indicating all deficiencies and necessary repairs, no longer than forty-five (45) calendar days after the effective date of the Contract. The report shall be emailed to the following:
Jeffrey.L.Gillenwater@wv.gov and Joseph.W.Belcher@wv.gov.
10. Report shall come in a format able to be edited (preferably a Microsoft Word document) and shall clearly be itemized and identifiable by HVAC and tower. It shall include estimates of both the quantity of labor hours and the materials costs for all repairs that are needed.

**REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
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EXHIBIT B – AGENCY FACILITIES AND UNITS

Facility Location: WV State Capitol Complex, Central HVAC Plant (Building 11)

**218 California Avenue
Charleston, WV 25305**

There are 5 Trane HVACs and 5 Marley Towers (units). Chiller 2 will not be included in this contract.

HVAC Serial Number	Model Number
1. L99A00273	CVHF770
2. L99A00282	CVHF770 (not included)
3. L99A00287	CVHF128
4. L99A00279	CVHF128
5. L99A00288	CVHF128

REQUEST FOR QUOTATION
Annual Chillers and Towers Maintenance
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EXHIBIT C - PRICING PAGES

Preventive Maintenance:

Lump Sum Fee for Annual
Preventive Maintenance

X 1 = Total Yearly Cost

\$ 190.00

X 184.75 hours = \$ 35,102.50

Corrective Maintenance:

Hourly Labor Rate

X Estimated Hours = Total Labor Cost

\$ 190.00

X 200 = \$ 38,000.00

Estimated Parts Cost

X Multiplier = Total Parts Cost

\$10,000.00

X 1.5 = \$ 15,000.00

Total Cost *

\$ 88,102.50

* Total Cost is calculated by adding the Total Yearly Cost, Total Labor Cost, and the Total Parts Cost.

Exhibit E: Towers



User Manual

Contents

△ Note

This manual contains vital information for the proper installation and operation of your cooling tower. Carefully read the manual before installation or operation of the tower and follow all instructions. Save this manual for future reference.

Tower Location	4
Tower Shipment	5
Receiving Tower	5
Hoisting Tower	5
Tower Installation	6
Tower Start-Up	9
Tower Operation	13
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Water Treatment and Blowdown	18
Cooling Tower Cleaning	19
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Seasonal Shutdown Instructions	25
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Additional Information	27
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The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels, or to important information concerning the life of the product.

△ Warning

Indicates presence of a hazard which can cause severe personal injury, death or substantial property damage if ignored.

△ Caution

Indicates presence of a hazard which will or can cause personal injury or property damage if ignored.

△ Note

Indicates special instructions on installation, operation or maintenance which are important but not related to personal injury hazards.

Preparation

The Marley NC cooling tower purchased for this installation represents the current state of the art in crossflow, induced draft cooling tower design. Thermally and operationally, it is the most efficient cooling tower of its class.

These instructions—as well as those offered separately on motors, fans, Geareducer®, couplings, drive shafts, fan shafts, float valves, etc.—are intended to assure that the tower serves you properly for the maximum possible time. Since product warrantability may well depend upon your actions, please read these instructions thoroughly prior to operation.

If you have questions about the operation and/or maintenance of this tower, and you don't find the answers in this manual, please contact your Marley sales representative. *When writing for information, or when ordering parts, please mention tower serial number shown on the nameplate located on the access door.*

Safety First

The location and orientation of the cooling tower can affect the safety of those responsible for installing, operating or maintaining the tower. However, since Marley does not determine the location or orientation of the tower, we cannot be responsible for addressing those safety issues that are affected by the tower's location or orientation.

△ Warning

The following safety issues should be considered by those responsible for designing the tower installation.

- ***access to hot water basins***
- ***access to and from maintenance access doors***
- ***the possible need for ladders (either portable or permanent) to gain access to the hot water basins or maintenance access doors***
- ***the possible need for external access platforms***
- ***potential access problems due to obstructions surrounding the tower***
- ***lockout of mechanical equipment***
- ***the possible need for safety cages around ladders***
- ***the need to avoid exposing maintenance personnel to the potentially unsafe environment inside the tower.***

Preparation

Those are only some of the safety issues that may arise in the design process. Marley strongly recommends that you consult a safety engineer to be sure that all safety considerations have been addressed.

Several options are available that may assist you in addressing some of these personnel safety concerns, including:

- distribution basin access platforms with ladder and handrail
- ladder extensions (used where the base of the tower is elevated)
- safety cages for fan deck ladders
- external lube lines
- fan cylinder extensions
- access door platform
- motor located outside the tower
- external motor access platform

Tower Location

Space available around the tower should be as generous as possible to promote ease of maintenance—and to permit freedom of airflow into and through the tower. If you have questions about the adequacy of the available space and the intended configuration of the tower, please contact your Marley sales representative for guidance.

Prepare a stable, level support foundation for the tower, utilizing weight, wind load, and dimensional information appearing on appropriate Marley submittal drawings. *Supports must be level to insure proper operation of the tower.*

△ Warning

The cooling tower must be located at such distance and direction to avoid the possibility of contaminated tower discharge air being drawn into building fresh air intake ducts. The purchaser should obtain the services of a Licensed Professional Engineer or Registered Architect to certify that the location of the tower is in compliance with applicable air pollution, fire, and clean air codes.

Receiving and Hoisting

Tower Shipment

Unless otherwise specified, NC towers ship by truck (on flat bed trailers), which lets you receive, hoist, and install the tower in one continuous operation. Most single-cell towers ship on one truck. Large modular towers may ship one cell on two trucks. Multicell towers, depending on their size, may require more than one truck.

Responsibility for the condition of the tower upon its arrival belongs to the trucker—as does the coordination of multiple shipments, if required.

Receiving Tower

Prior to unloading the tower from the delivering carrier, inspect the shipment for evidence of damage in transit. If damage is apparent, note the freight bill accordingly. This will support your future recovery claim.

Find and remove the installation instruction drawings and bills of material located in a plastic bag in the cold water basin. This information should be kept for future reference and maintenance purposes.

Hoisting Tower

NC80110, NC80111, and NC80112 models consist of two modules per cell. The upper module includes hoisting clips at the bottom of the module. The hoisting clips on the lower module are also located near the bottom on the sides of the cold water basin. All other models ship in a single module and include hoisting clips located near the bottom of the tower on the cold water basin sides. A **Hoisting-Installation** label which has hoisting dimensional information is located on the side casing near the tower centerline. Remove tower from the carrier and hoist into place according to the instructions on the label.

Warning

Hoisting clips are provided for ease of unloading and positioning tower. For overhead lifts or where additional safety is required, safety slings should also be placed under the tower. Under no circumstances should you combine the top and bottom modules of modular models and attempt to hoist them at the same time by utilizing the hoisting clips alone!

Installation

Tower Installation

△ Note

These installation instructions are intended to help you prepare before your tower arrives. If discrepancies exist between these instructions and those shipped with the tower, the instructions shipped with the tower will govern.

1. Prior to placement of the tower, confirm that the supporting platform is level, and that the anchor bolt holes are correctly located in accordance with Marley drawings.
2. Place tower (or bottom module of NC80110, NC0111 and NC50112 models) on your prepared supports, aligning anchor bolt holes with those in your supporting steel. Make sure that the orientation agrees with your intended piping arrangement. Attach tower to supporting steel with four 3/4" (19 mm) diameter bolts and flat washers (by others).
3. **NC80110, NC80111, and NC80112 models only.** Before setting top module in place on bottom module, clean any debris from the underside of the top module fill, skid and beams and from the top of the bottom module and remove shipping cover from bottom of top module—replace fasteners at side of module to prevent leaks. Place top module on the top peripheral bearing surface (factory-installed gasket) of bottom module, aligning mating holes as it is set in place. Make sure that the orientation of the top module agrees with your intended piping arrangement. Sections are 180° reversible with respect to each other. Attach top module to bottom module with fasteners provided, according to "NC Field Installation Manual" Assembly Instructions.
If tower purchased is one fan cell only, ignore steps 4 through 8.
4. If collection basins are to be equalized by the use of Marley standard flumes, unbolt the coverplate from the basin of the cell just installed. The coverplate is located in the center of the basin side.
5. Unbolt temporary coverplate from the basin of the second cell and set second cell (or bottom module of second cell) in place. Align anchor bolt holes and flume openings in basin sides.
6. Install flume according to *Field Installation Manual* instructions.

△ Note

It is important that the cells be firmly anchored before the flume is attached to the second cell.

Installation

7. Repeat steps 2 and 3 for second top section on NC80110, NC80111, and NC80112 models.
8. Repeat steps 4 through 7 for any remaining cells.
9. Attach your cold water supply piping to the cold water basin outlet connection in accordance with drawing instructions, and utilizing gaskets provided by Marley.

△ Caution

Do not support your pipe from the tower or outlet connection—support it externally.

Normally, one of the following three outlet arrangements is provided:

Side suction connection: This is a factory-installed, galvanized pipe nipple, extending horizontally from the side of the cold water basin. It is both beveled for welding—and grooved for a mechanical coupling. If a weld connection is used, it is recommended that the weld area be protected against corrosion. Cold galvanizing is suggested, applied according to the manufacturer's instructions.

Bottom outlet connection: This is a factory-installed, circular opening in the cold water basin floor of one or more cells. An appropriately-sized circular opening has been drilled to accept a 125# ANSI B16.1 flat-face flange connection.

Side outlet sump connection: Unless otherwise specified, sumps are manufactured of galvanized or stainless steel construction. Because of their size, they are attached upside down in the basin to prevent damage in shipment. They must be inserted into the square opening prepared in the floor of the cold water basin of one or more cells—sealed against leakage, and attached by machine bolts, according to the installation drawing included. An appropriately-sized circular opening in the vertical face of the sump has been drilled to accept a 125# ANSI B16.1 flat-face flange connection.

10. Attach makeup water supply piping to appropriately-sized float valve connection located in cold water basin side wall. Install the drain and overflow according to the "NC Field Installation Manual" *Assembly Instructions*. If you wish to pipe overflow and drain water to a remote discharge point, make those connections at this time also.
11. Install your warm water piping at the inlet location on the tower.

Installation

△ Note

Fasteners and components provided by others that are to be attached to the tower must be compatible with the cooling tower materials—i.e. fasteners in a stainless steel cold water basin must be stainless steel.

△ Caution

Except for the horizontal components of top-mounted piping, and as prescribed on Marley drawings, do not support your pipe from the tower or inlet connection—support it externally.

Normally, one of the following inlet arrangements is provided:

Standard distribution basin connections: These are circular hot-water inlet openings in the top deck of the tower. On NC80101, NC80103 and NC80104 models a single location is located near the centerline of the tower near the casing side. All other models have two inlet locations on the casing side. Piping inserts vertically into the opening.

Bottom inlet connection (option): An appropriately sized hole and bolt circle—one per cell—is provided in the floor of the cold water basin. Bolt circle is designed to accept a standard 125# flat-face flange.

12. Wire motor in accordance with wiring diagram.

13. Install distribution basin access port covers.

△ Warning

For maintenance/safety purposes, Marley recommends a lockout type disconnect switch for all mechanical equipment.

In addition to a disconnect switch, the motor should be wired to main power supply through short circuit protection, and a magnetic starter with overload protection.

Operation

Tower Start-Up

△ Warning

Among other sources, outbreaks of Legionnaires' Disease have reportedly been traced to cooling towers. Maintenance and water treatment procedures that prevent amplification and dissemination of Legionella and other airborne bacteria should be formulated and implemented BEFORE systems are operated and continued regularly thereafter to avoid the risk of sickness or death.

Water System:

1. New installations should be cleaned and treated with biocides by a water treatment expert before startup.
2. Remove any and all accumulated debris from tower. Pay particular attention to inside areas of cold water basin, hot water basins, louvers and drift eliminators. Make sure that cold water suction screens are clear and properly installed.
3. For models NC80101, NC80102 and NC80103, fill the water system to an approximate depth of 7" (178 mm) in the depressed area of the cold water basin at the center of the tower. For all other models, fill the water system to an approximate depth of 8" (203 mm). This is the recommended operating water level. Adjust the float valve so that it is 75% open at that level. Continue filling the system until the water reaches a level approximately 1/8" (3 mm) below the lip of the overflow.

△ Note

If tower is equipped with a standard side-suction connection, vent accumulated air from the top of the suction hood by removing one or both tap screws provided at that location. Replace these tap screws when venting is complete. (On certain models, the top of the suction hood for 14" (356 mm) diameter side suction is 1 1/4" (32 mm) above the top of the overflow. In those situations, it is necessary to block the overflow and continue filling the basin to the level where the aforementioned tap screws are submerged before venting.)

4. Start pump(s) and observe system operation. Since the water system external to the tower will have been filled only to the level achieved in the cold water basin, a certain amount of "pump-down" of the basin water level will occur before water completes the circuit and begins to

Operation

fall from the fill. The amount of initial pump-down may be insufficient to cause the float valve to open. However, you can check its operation by pressing down on the operating lever to which the stem of the float valve is attached.

Some trial and error adjustment of the float valve may be required to balance the makeup water with tower operation. Ideally, the float valve setting will be such that no water is wasted through the overflow at pump shutdown. However, the water level after pump start-up must be deep enough to assure positive pump suction.

5. Check the water level with the UniBasin top deck. Uniform distribution basin depth of 3" to 5 1/2" (76 mm to 140 mm) is essential to efficient tower operation. Contact your Marley sales engineer if you are considering a permanent change in circulating water flow rate that would prevent operation within these limits.
6. Continue pump operation for about 15 minutes, after which it is recommended that the water system be drained, flushed, and refilled.
7. While operating the condensing water pump(s) and prior to operating the cooling tower fan, execute one of the two alternative biocidal treatment programs described in the following:
 - Resume treatment with the biocide which had been used prior to shutdown. Utilize the services of the water treatment supplier. Maintain the maximum recommended biocide residual (for the specific biocide) for a sufficient period of time (residual and time will vary with the biocide) to bring the system under good biological control
 - or*
 - Treat the system with sodium hypochlorite to a level of 4 to 5 mg/L (ppm) free chlorine residual at a pH of 7.0 to 7.6. The chlorine residual must be held at 4 to 5 mg/L (ppm) for six hours, measurable with standard commercial water test kits.

If the cooling tower has been in operation and then shut down for a duration of time and not drained, perform one of the two previous biocidal treatment programs directly to the cooling water storage vessel (cooling tower sump, drain down tank, etc.) without circulating stagnant water over the cooling tower fill or operating the cooling tower fan.

After biocidal pretreatment has been successfully completed, cooling water may be circulated over the tower fill with the fan off.



Operation

When biocidal treatment has been maintained at a satisfactory level for at least six hours, the fan may be turned on and the system returned to service. Resume the standard water treatment program, including biocidal treatment.

Mechanical Equipment:

△ Warning

Always shut off electrical power to the tower fan motor prior to performing any maintenance on the tower. Any electrical switches should be locked out and tagged out to prevent others from turning the power back on.

1. If equipped, check oil level in accordance with the *Geareducer User Manual* for the Geareducer. (Although the Geareducer was filled to the proper level at the factory, tipping during shipment and hoisting may have caused some loss of oil.) If oil is required, fill Geareducer to the proper level with approved lubricant. (See *Geareducer User Manual*) Check oil level at the Geareducer or dipstick (standpipe located on fan deck, if so equipped) to confirm that the proper level is indicated.
2. Install top fan ring and fan guard according to the installation drawing shipped with the tower. NC80101 and NC80102 models include a single-piece fan guard. All other models include a two-piece fan guard. Models with extended velocity-recovery cylinders do not have fan guards.

△ Warning

Improper installation of the fan cylinder and fan guard will destroy the structural integrity of the fan guard. Failure of the fan guard could allow operating or maintenance personnel to fall into the rotating fan.

3. Spin the fan manually to assure that all fan blades properly clear the inside of the fan cylinder. If equipped observe the action of the coupling (or drive shaft couplings) to be sure that the motor and Geareducer are properly aligned. If necessary, correct the alignment in accordance with the included manual.

For Power Belt Drive equipped models observe the action of the sheaves and belts to be sure that the motor is properly aligned with the fan sheave. See Belt Tensioning and Sheave Alignment on page 20.

Operation

△ Caution

It is essential that the fan cylinder and fan guard be installed in accordance with the Field Installation Manual shipped with the tower. Do not force the fan cylinder out of round.

4. Momentarily bump (energize) the motor and observe rotation of the fan. The fan should rotate in a counterclockwise direction when viewed from below. If rotation is backwards, shut off the fan and reverse two of the three primary leads supplying power to the motor.

△ Caution

If tower is equipped with a two-speed motor, check for proper rotation at both speeds. Check also to see that starter is equipped with a 20 second time delay which prevents direct switching from high speed to low speed. If the fan is intended to be reversed for deicing purposes, make sure that the starter is equipped with a 2 minute time delay between changes of direction. These delays will prevent abnormal stress from being applied to the mechanical equipment and the electrical circuit components.

5. Run the motor and observe the operation of the mechanical equipment. Operation should be stable, and if equipped, there should be no evidence of oil leakage from the Geareducer or oil lines.
6. If equipped with belt drive check the torque on the fan and motor sheave after 10 to 60 hours of operation. See Bushing Fastener Torque Values on page 21.

△ Note

If the water supply system is not being operated—or if there is no heat load on the system—motor amps read at this time may indicate an apparent overload of as much as 10–20%. This is because of the increased density of unheated air flowing through the fan. Determination of an accurate motor load should await the application of the design heat load.

Operation

Tower Operation

General:

The cold water temperature obtained from an operating cooling tower will vary with the following influences:

1. **Heat load:** With the fan in full operation, if the heat load increases, the cold water temperature will rise. If the heat load reduces, the cold water temperature will reduce.

Note that the number of degrees ("range") through which the tower cools the water is established by the system heat load and the amount of water being circulated, in accordance with the following formula:

$$\text{Range} - ^\circ\text{F} = \frac{\text{Heat Load (Btu/hr)}}{\text{GPM} \times 500}$$

or — in SI units

$$\text{Range} - ^\circ\text{C} = \frac{\text{Heat Load (kilowatts)}}{\text{Liters/sec} \times 4.187}$$

The cooling tower establishes *only* the cold water temperature attainable under any operating circumstance.

2. **Air wet-bulb temperature:** Cold water temperature will also vary with the wet-bulb temperature of the air entering the louvered faces of the tower. Reduced wet-bulb temperatures will result in colder water temperatures. However, the cold water temperature will not vary to the same extent as the wet-bulb. For example, a 20°F (11 °C) reduction in wet-bulb may result in only a 15°F (8°C) reduction in cold water temperature.
3. **Water flow rate:** Increasing the water flow rate (GPM or L/s) will cause a slight elevation in cold water temperature, while reducing the water flow rate will cause the cold water temperature to decrease slightly. However, at a given heat load (see formula above), water flow reductions *also* cause an increase in the incoming hot water temperature. Use care to prevent the hot water from exceeding 125°F, (52°C) in order to prevent damage to the tower components.

Operation

4. **Air flow rate:** Reducing air flow through the tower causes the cold water temperature to rise. *This is the approved method by which to control leaving water temperature.*

If your tower is equipped with a single-speed motor, the motor may be shut off when the water temperature becomes too cold. This will cause the water temperature to rise. When the water temperature then becomes too warm for your process, the motor can be restarted.

△ Caution

When operating in this mode care must be taken not to exceed a total acceleration time of 30 seconds per hour.

Fan cycling limits: From a dead stop, determine the number of seconds it takes the fan to arrive at full speed. Divide this number into 30 to determine the allowable number of starts per hour. Considering the normal fan and motor sizes utilized on NC Class towers, anticipate that approximately 4 to 5 starts per hour are allowable.

If your tower is equipped with a two-speed motor, you will enjoy greater opportunity for temperature control. When the water temperature becomes too cold, switching the fan to half-speed will cause the cold water temperature to rise—*stabilizing* at a temperature a few degrees higher than before. With a further reduction in water temperature, the fan may be cycled alternately from half-speed to off—subject to the same constraint of *30 seconds of allowable acceleration time per hour* as outlined above.

If your tower consists of two or more cells, cycling of motors may be shared between cells, increasing your steps of operation accordingly.

Multicell towers equipped with two-speed motors will maximize energy savings and minimize sound levels if fans are staged so that all fans are brought up to low speed before any fan goes to high speed.

For greater insight on cold water temperature control, please read **"Cooling Tower Energy and its Management"**, *Technical Report #H-001-A*, available from your Marley sales representative.

Operation

Wintertime Operation:

The Marley fill system used in NC cooling towers has air entrance louvers that are molded as an integral part of the fill. This feature makes these towers very forgiving of cold weather operation, even at the low temperature and reduced load conditions encountered in free cooling and other low temperature applications. Nevertheless, during operation in subfreezing weather the opportunity exists for ice to form in the colder regions of the tower.

Note

Slushy, transitory ice forms routinely in the colder regions of the fill of low temperature towers, and is visible through the tower louvers. Such ice normally has no adverse effect on tower operation, but its appearance should be a signal to the operator to undertake ice control procedures.

It is the operator's responsibility to prevent the formation of destructive (hard) ice on the cooling tower fill. Certain guidelines should be followed:

1. *Do not allow the tower's leaving water temperature to drop below a minimum allowable level—say 36°F to 40°F (2°C to 4.5°C). If such low temperature operation is necessary or beneficial to your process, establish the minimum allowable level as follows:*

During the coldest days of the first winter of operation, observe whether any ice is forming on the louver face, particularly near the bottom part of the louver face. If hard ice is present on the louvers, you must increase the allowable cold water temperature. If the coldest possible water is beneficial to your process, ice of a mushy consistency can be tolerated—but routine periodic observation is advisable.

Caution

If the minimum allowable cold water temperature is established at or near maximum heat load, it should be safe for all operating conditions. However, if established at reduced load, increased heat loads may reintroduce the potential for icing.

Having established the minimum allowable cold water temperature, maintaining that temperature can be accomplished by fan manipulation, as outlined in Item 4 under Tower Operation. However, in towers of

Operation

more than one cell, where fans are manipulated sequentially, please realize that the water temperature will be significantly lower in the cell or cells operating at the highest fan speed than the net cold water temperature produced by the entire tower would indicate. Wintertime operation of multicell towers at low cold water temperature levels requires that the operator be especially watchful.

2. As cold air enters the louvers, it causes the water flowing over the fill to be drawn inward toward the center of the tower. Thus, under fan operation, the louvers and lower periphery of the tower structure remain partly dry, seeing only random splashing from within the tower—plus normal atmospheric moisture from the entering air. Such lightly wetted areas are most subject to freezing.

Therefore, if excessive ice forms on the louvers, stop the fan for a few minutes. With the fan off, the water flow will increase in the vicinity of the louvers and reduce the ice buildup.

3. Under extended extreme cold conditions, it may be necessary to operate the fan in reverse. This forces warm air out through the louvers, melting any accumulated ice—adequate heat load must be available. Reversal may be at either full or half speed; however, Marley recommends reversal at half speed. Reverse operation of the fan should be used sparingly and should only be used to control ice, not to prevent it. *Reverse fan operation should not need to exceed 1 or 2 minutes.* Monitoring is required to determine the time required to melt accumulated ice.

Warning

Reverse operation of fans for prolonged periods during subfreezing weather can cause severe damage to fans and fan cylinders. Ice can accumulate inside fan cylinders at fan blade plane of rotation and fan blade tips will eventually strike this ring of ice, damaging the fan blades or cylinder. Ice can also accumulate on fan blades and be thrown off, damaging fan cylinder or blades. Allow a minimum of 10 minute delay between reverse operation and forward operation during subfreezing weather to permit ice to dissipate from fan blades and fan cylinders. See Fan Drive Caution note on page 12 for fan speed change and reversing precautions.



Operation

4. With no heat load on the circulating water, icing cannot be controlled effectively by air control during freezing weather. ***Towers must not be operated with reduced water rate and/or no heat load during freezing weather.*** If the circulating water system cannot be shut down, water returning from the process should be made to bypass the tower. If a bypass is used, all water must be bypassed without modulation. If the water bypass is directly into the tower's cold water basin, its design must be approved by Marley Engineers.

Intermittent Wintertime Operation:

If periods of shutdown (nights, weekends, etc.) occur during freezing weather, measures must be taken to prevent the water in the cold water basin—and all exposed pipework—from freezing. Several methods are used to combat this, including automatic basin heater systems available from Marley.

Caution

Unless some means of freeze prevention is incorporated into your system, the tower basin and exposed pipework should be drained at the beginning of each wintertime shutdown period.

It is recommended that you discuss your freeze prevention options with your local Marley sales representative.

Maintenance

Water Treatment and Blowdown

Maintaining Water Quality:

The steel used in NC towers has been galvanized with a heavy zinc coating averaging 2.0 mils in thickness. NC towers are also available in stainless steel. Other materials used (polyethylene basins, PVC fill, drift eliminators, and louvers, aluminum fans and sheaves, cast iron Geareducer, etc.) are selected to offer maximum service life in a "normal" cooling tower environment, defined as follows:

- Circulating water with a pH between 6.5 and 8; a chloride content (as NaCl) below 500 ppm; a sulfate content (SO₄) below 250 ppm; total alkalinity (as CaCO₃) below 500 ppm; calcium hardness (as CaCO₃) above 50 ppm; a maximum inlet water temperature not to exceed 125°F (51.7°C); no significant contamination with unusual chemicals or foreign substances; and adequate water treatment to minimize scaling.
- Chlorine (if used) shall be added intermittently, with a free residual not to exceed 1 ppm—maintained for short periods. Excessive chlorine levels may deteriorate sealants and other materials of construction.
- An atmosphere surrounding the tower no worse than "moderate industrial", where rainfall and fog are no more than slightly acid, and they do not contain significant chlorides or hydrogen sulfide (H₂S).
- Many proprietary chemicals exist for control of scale, corrosion, and biological growth and should be used prudently. Also, combinations of chemicals may cause reactions which reduce treatment effectiveness, and certain chemicals such as surfactants, biocides and antifoams may increase drift rate.

For complete water treatment recommendations and services contact Marley Water Resources, toll free, at 877 800 0929 or contact our local Marley sales representative.

Note

Unless you purchased the stainless steel structure, your NC tower consists primarily of galvanized steel, therefore your water treatment program must be compatible with zinc. In working with your water treatment supplier, it is important that you recognize the potential effects on zinc of the specific treatment program you choose.

Maintenance

Cooling Tower Cleaning:

△ Warning

Any evaporative-type cooling tower must be thoroughly cleaned on a regular basis to minimize the growth of bacteria, including Legionella Pneumophila, to avoid the risk of sickness or death. Service personnel must wear proper personal protective equipment during decontamination. Do NOT attempt any service unless the fan motor is locked out.

Operators of evaporative cooling equipment, such as water cooling towers, should follow maintenance programs which will reduce to an absolute minimum the opportunity for bacteriological contamination. Public Health Service officials have recommended that "good housekeeping" procedures be followed, such as: regular inspections for concentrations of dirt, scale, and algae; periodic flushing and cleaning; and the following of a complete water treatment program including biocidal treatment.

The visual inspection should take place at least once a week during the operating season. The periodic flushing and cleaning should be done before and after each cooling season, but in any event at least twice a year. The louvers, drift eliminators, and easily accessible fill surfaces should be flushed by use of a moderate-pressure water nozzle, being careful not to cause physical damage. A reliable water treatment program should be installed and maintained. Filtration devices may be employed to reduce the suspended solids concentrations, thus increasing the effectiveness of the water treatment program. See Tower Startup instructions on page 9.

Blowdown:

A cooling tower cools water by continuously causing a portion of it to evaporate. Although the water lost by evaporation is replenished by the makeup system, it exits the tower as pure water—leaving behind its burden of dissolved solids to concentrate in the remaining water. Given no means of control, this increasing concentration of contaminants can reach a very high level.

In order to achieve water quality which is acceptable to the cooling tower (as well as the remainder of your circulating water system), the selected water treatment company must work from a relatively constant level of concentrations. This stabilization of contaminant concentrations is usually accomplished by *blowdown*, which is the constant discharge of a portion of the circulating water to waste. As a rule, acceptable levels on which to base a treatment schedule will be in the range of 2-4 concentrations. The

Maintenance

following table shows the minimum amount of blowdown (percent of flow) required to maintain different concentrations with various cooling ranges*:

Cooling Range	Number of Concentrations						
	1.5X	2.0X	2.5X	3.0X	4.0X	6.0X	8.0X
5° F (2.78° C)	.78	.38	.25	.18	.11	.08	.06
10° F (5.56° C)	1.58	.78	.51	.38	.25	.18	.14
15° F (8.33° C)	2.38	1.18	.78	.58	.38	.28	.22
20° F (11.11° C)	3.18	1.58	1.05	.78	.51	.38	.30
25° F (13.89° C)	3.98	1.98	1.32	.98	.64	.48	.38

Multipliers are based on drift of 0.02% of the circulating water rate.

* Range = Difference between hot water temperature coming to tower and cold water temperature leaving tower.

EXAMPLE: 700 GPM (44.2 L/s) circulating rate, 18°F (10°C) cooling range. To maintain 4 concentrations, the required blowdown is 0.458% or .00458 times 700 GPM (44.2 L/s), which is 3.2 GPM (0.2 L/s).

If tower is operated at 4 concentrations, circulating water will contain four times as much dissolved solid as the makeup water, assuming none of the solids form scale or are otherwise removed from the system.

△ Note

When water treatment chemicals are added, they should not be introduced into the circulating water system via the cold water basin of the cooling tower. Water velocities are lowest at that point, which results in inadequate mixing.

Belt Tensioning

The belts are adjusted by turning the jacking screw at the motor support. Ideal tension is the lowest tension at which the belt will not slip under peak load conditions. Check tension frequently during the first 24-48 hours of run-in operation. Overtensioning shortens belt and bearing life. Keep belts free from foreign material which may cause slip. Never apply belt dressing as this

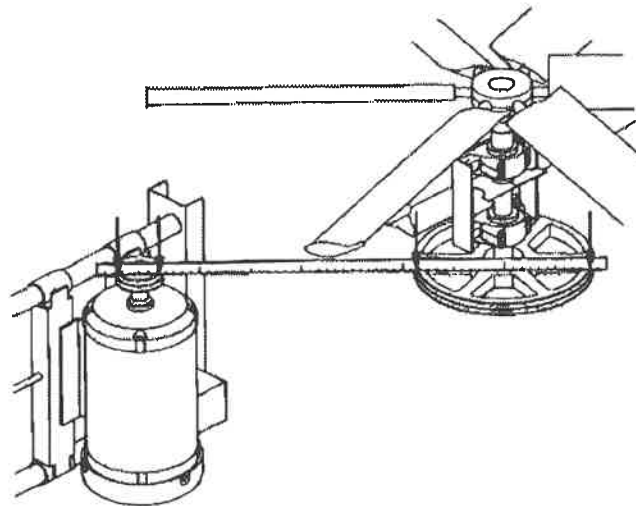


Maintenance

will damage the belt and cause early failure. A Dodge® V-Belt Tension Tester is an alternate method for tensioning V-belts. Check with you local belt supplier.

Sheave Alignment

- The motor sheave is to be positioned as close as possible to the motor in order to minimize torque on the motor bushings.
- The motor and fan sheaves may have grooves that are not used. The bottom surface of the motor and fan sheaves must be aligned within $\frac{1}{8}$ " of each other and level within $\frac{1}{2}^\circ$ ($\frac{1}{8}$ " in 12) in order to not adversely affect belt and sheave life.
- Alignment can be achieved by placing a straight edge across the top of the sheaves making sure that it is level and measuring down to the bottom surface of both sheaves at four points.
- The belt is to be located in the lowest set of grooves.



Bushing Fastener Torque Values

Bushing	Fastener Size	Torque	
		ft- lb _f	N- m
SH	$\frac{1}{4}$ - 20	8	8
SDS	$\frac{1}{4}$ - 20	6	8
SD	$\frac{1}{4}$ - 20	6	8
SK	$\frac{5}{16}$ - 18	13	18
SF	$\frac{3}{8}$ - 16	22	30
E	$\frac{1}{2}$ - 13	35	48
F	$\frac{5}{8}$ - 12	66	88

Maintenance

Schedule of Tower Maintenance

Some maintenance procedures may require maintenance personnel to enter the tower. Each cased face of the tower has a door for access to the interior of the tower.

△ Warning

The purchaser or owner is responsible for providing a safe method for entering or exiting the access door.

Included with this instruction packet are separate Manuals on each major operating component of the tower, and it is recommended that you read them thoroughly. *Where discrepancies may exist, the separate component User Manuals will take precedence.*

The following is recommended as a minimum routine of scheduled maintenance:

△ Warning

Always shut off electrical power to the tower fan motor prior to performing any inspections that may involve physical contact with the mechanical or electrical equipment in or on the tower. Lock out and tag out any electrical switches to prevent others from turning the power back on. Service personnel must wear proper personal protective clothing and equipment.

Weekly: Inspect for bacterial growth and general operation conditions. Bacterial growth should be reported to your water treatment expert for immediate attention.

Monthly (Weekly at start up): Observe, touch, and listen to the tower. Become accustomed to its normal appearance, sound, and level of vibration. Abnormal aspects relating to the rotating equipment should be considered reason to shut down the tower until the problem can be located and corrected. Observe the operation of the motor, drive train and fan. Become familiar with the normal operating temperature of the motor, as well as the sight and sound of all components as a whole.

If equipped, check for Geareducer oil leaks. Check the Geareducer as well as any optional oil lines to external oil dipstick/sight glass.

Inspect louvers, drift eliminators and basin trash screens and remove any debris or scale which may have accumulated. Replace any damaged or worn out components. Use of high-pressure water may damage the eliminator and louver material.

▶▶▶

Maintenance

Observe operation of the float valve. Depress the operating lever to make sure that the valve is operating freely. Inspect the suction screen for plugging. Remove any debris that may have accumulated.

Check for any buildup of silt on the floor of the cold water basin. Make note of the amount. If any, so future inspections will enable you to determine the rate at which it is forming.

Every 3 month: If equipped, lubricate fan shaft bearings. While rotating equipment by hand, grease the bearings until a bead forms around the seals—a maximum charge of 0.55 ounces is recommended. Chevron SRI-2 grease is recommended.

Semi-Annually: Relubricate motor according to the manufacturer's instructions. See instructions on this page for towers with the motor located outside the plenum option.

If equipped, check the belt tension and condition.

If equipped, check Geareducer oil level. Shut down the unit and allow 5 minutes for the oil level to stabilize. Add oil if required.

Check to see that all bolts are tight in the fan and mechanical equipment region, including the fan cylinder and fan guard. Refer to component User Manuals for torque values.

Clean and disinfect cooling tower with biocides. Systems with biofouling, high general bacterial counts, or positive cultures of legionella may require additional cleaning. Refer to "Cooling Tower Cleaning" section—page 20. Consult your water treatment expert as to prudent biological evaluation testing.

△ Note

Geareducer models used on NC cooling towers are designed for 5-year oil change intervals. To maintain five-year change intervals, use only oil designed specifically for these Geareducers. If, after five years, turbine-type mineral oil is used, the oil must be changed semiannually. Refer to the Geareducer Manual for oil recommendations and further instructions.

Annually: Inspect the tower thoroughly, making maximum use of instructions given in the separate service manuals. Check structural bolted connections and tighten as required. Make preventive maintenance repairs as necessary.

Every 5 Years: If equipped, change Geareducer oil. Refer to the Geareducer User Manual for instructions.

Maintenance

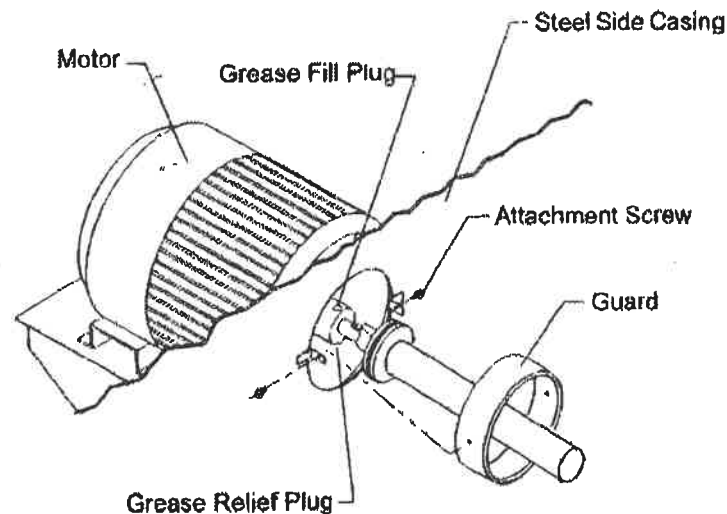
Motor Relubrication Instructions

Motor located outside plenum option

△ Note

Open and lock out disconnect switch to make certain motor cannot be started.

1. Remove guard as shown on the next page. Opposite end motor bearing is accessible from outside the tower.



2. Remove grease fill and relief plugs at both shaft extension end and opposite end bearings and remove hardened grease, using clean wire.
3. Insert grease fittings in grease fill openings and add grease until grease is forced out through relief openings.
4. Replace fill plugs and operate mechanical equipment 30 minutes to one hour to purge excess grease at grease relief opening.
5. Reinstall grease relief plugs and reinstall guard.
6. Resume normal tower operation.

Maintenance

Seasonal Shutdown Instructions

When the system is to be shut down for an extended period of time, it is recommended that the entire system (cooling tower, system piping, heat exchangers, etc.) be drained. Leave the basin drains open.

During shutdown, clean the tower (see Warning, page 19) and make any necessary repairs. Pay particular attention to mechanical equipment supports and coupling (or drive shafts).

Following each year's shutdown and cleaning, inspect the tower's metal surfaces for evidence of the need to apply a protective coating. Do not misinterpret grime—and transient rust from the piping system—as a need to have the tower painted. If relatively bright metal can be exposed by cleaning, consider that the galvanizing has remained effective. Unless there is evidence of a generalized failure of the galvanizing, localized touch-up should be all that is required.

△ Note

To the extent that the galvanizing (zinc coating) still exists, paint will not adhere to it readily. Contact the manufacturer of the coating you intend to use for instructions.

Tower framework: Check structural bolted connections and tighten as required.

Fans: Check fan assembly bolting and tighten as required. Use torque values prescribed in the Fan User Manual.

Fan shaft bearings: If equipped, lubricate fan shaft bearings at close of each operating season—see page 23.

Electric motors: Clean and lubricate motor at close of each operating season (refer to motor manufacturer's recommendations.) Check motor anchor bolts and tighten as required. See Page 24 for towers with motor located outside the plenum option.

△ Caution

Do not start motor before determining that there will be no interference with free rotation of the fan drive.

The motor should be operated for three hours at least once a month. This serves to dry out windings and re-lubricate bearing surfaces (refer to Marley "Electric Motor User Manual" Manual 92-1475).

Maintenance

At start of new operating season, make sure bearings are adequately lubricated before returning motor to service.

Prolonged Shutdown

If shutdown period is longer than seasonal, contact your Marley sales engineer for additional information.

Marley Services

Marley's interest in your NC cooling tower *does not* end with the sale. Having conceived, designed, and manufactured the most reliable and longest-lasting cooling tower of its class, we want to make sure that you gain the maximum possible benefit from its purchase.

Therefore, the following services are available which are intended to: assure the maximum possible service life under your operating conditions; tailor the operating characteristics to your specific needs; and maintain consistently optimum thermal performance capability. They are available by contacting your Marley sales representative.

Replacement parts: A complete stock of parts and components is maintained at one or more of the various Marley plants. In cases of emergency, they can normally be shipped within 24 hours—by air freight if necessary. However, you would obviously benefit from anticipating your need in advance, thus avoiding the cost of special handling.

Be sure to mention your tower serial number (from the tower nameplate) when ordering parts.

Periodic maintenance: You may wish to contract with Marley for regularly scheduled visits—for the purpose of inspecting and reporting your tower's condition—to make recommendations intended to prevent emergencies—and to perform maintenance considered outside the norm.

This service is not intended to replace the important function performed by your maintenance staff. Their attention assures the tower's routine operating performance, and is invaluable. However, Marley recognizes that the unusual manner in which a cooling tower performs its function—as well as the unique forces which act upon it—may be considerations which occasionally require the services of an expert technician.

Additional Information

Increased load requirements: NC towers are designed so that cells of either equal or unequal capacity can be added in the future. This allows you to compensate for the load increases that normally occur with the replacement or addition of production equipment—and still retain continuity with respect to your cooling tower system.

Tower rebuilding: Marley routinely rebuilds and upgrades cooling towers of *all* materials and manufacture. If your tower ever reaches the limit of its service life, we recommend that you investigate the cost of rebuilding before you routinely order a new replacement tower.

Each NC tower includes a document package containing general orientation drawings, "**NC Field Installation Manual**" *Assembly Instructions*, and tower component manuals. ***These documents contain important information relating to safe installation and operation of the cooling tower.*** Field installation is always required for fan guards, piping inlets and piping outlets. Some optional accessories, such as valves, handrails, ladders and safety cages may also require field installation. If installation details are not covered in the "**NC Field Installation Manual**" a separate installation drawing or manual for each purchased option is included in the document package along with bills of material. If you have purchased an option and can't find the appropriate installation drawing, contact your local Marley office or representative before proceeding.

In addition to these specific documents, Marley publishes numerous technical reports including more detailed information on a variety of cooling tower operation and service topics. Your Marley office or representative will be happy to give you copies of these reports at no charge.

For complete parts and service assistance, contact the Marley sales or representative office in your area. If you need help locating the office nearest you, please phone 800 462 7539 or check the internet at www.marleyct.com.

Troubleshooting

Trouble	Cause	Remedy
Motor Will Not Start	Power not available at motor terminals	<ul style="list-style-type: none"> Check power at starter. Correct any bad connections between the control apparatus and the motor. Check starter contacts and control circuit. Reset overloads, close contacts, reset tripped switches or replace failed control switches. If power is not on all leads at starter, make sure overload and short circuit devices are in proper condition.
	Wrong connections	Check motor and control connections against wiring diagrams.
	Low voltage	Check nameplate voltage against power supply. Check voltage at motor terminals.
	Open circuit in motor winding	Check stator windings for open circuits.
	Motor or fan drive stuck	Disconnect motor from load and check motor and Gearreducer for cause of problem.
Unusual Motor Noise	Rotor defective	Look for broken bars or rings.
	Motor running single-phase	Stop motor and attempt to start it. Motor will not start if single-phased. Check wiring, controls, and motor.
	Motor leads connected incorrectly	Check motor connections against wiring diagram on motor.
	Bad bearings	Check lubrication. Replace bad bearings.
	Electrical unbalance	Check voltages and currents of all three lines. Correct if required.
	Air gap not uniform	Check and correct bracket fits or bearing.
	Rotor unbalance	Rebalance.
Motor Runs Hot	Cooling fan hitting end bell guard	Reinstall or replace fan.
	Wrong voltage or unbalanced voltage	Check voltage and current of all three lines against nameplate values.
	Overload	Check fan blade pitch. See Fan Service Manual. Check for drag in fan drive train as from damaged bearings.
	Wrong motor RPM	Check nameplate against power supply. Check RPM of motor and gear ratio.
	Bearings overgreased	Remove grease reliefs. Run motor up to speed to purge excessive grease.
	Wrong lubricant in bearings	Change to proper lubricant. See motor manufacturer's instructions.
	One phase open	Stop motor and attempt to start it. Motor will not start if single-phased. Check wiring, controls, and motor.
	Poor ventilation	Clean motor and check ventilation openings. Allow ample ventilation around motor.
	Winding fault	Check with Ohmmeter.
	Bent motor shaft	Straighten or replace shaft.
Motor Does Not Come Up To Speed	Insufficient grease	Remove plugs and regrease bearings.
	Too frequent starting or speed changes	Limit cumulative acceleration time to a total of 30 seconds/hr. Set on/off or speed change set points farther apart. Consider installing a Marley VFD drive for fine temperature control.
	Deterioration of grease, or foreign material in grease	Flush bearings and relubricate.
	Bearings damaged	Replace bearings.
	Voltage too low at motor terminals because of line drop	Check transformer and setting of taps. Use higher voltage on transformer terminals or reduce loads. Increase wire size or reduce inertia.
Wrong Rotation (Motor)	Broken Rotor bars	Look for cracks near the rings. A new rotor may be required. Have motor service person check motor.
	Wrong sequence of phases	Switch any two of the three motor leads.

Troubleshooting

Trouble	Cause	Remedy
Geareducer Noise	Geareducer bearings	If new, see if noise disappears after one week of operation. Drain, flush, and refill Geareducer. See Geareducer Service Manual. If still noisy, replace.
	Gears	Correct tooth engagement. Replace badly worn gears. Replace gears with broken or damaged teeth.
Unusual Fan Drive Vibration	Loose bolts and cap screws	Tighten all bolts and cap screws on all mechanical equipment and supports.
	Unbalanced drive shaft or worn couplings	Make sure motor and Geareducer shafts are in proper alignment and "match marks" properly matched. Repair or replace worn couplings. Rebalance drive shaft by adding or removing weights from balancing cap screws. See Drive Shaft Service Manual.
	Fan	Make certain all blades are as far from center of fan as safety devices permit. All blades must be pitched the same. See Fan Service Manual. Clean off deposit build-up on blades.
	Worn Geareducer bearings	Check fan and pinion shaft endplay. Replace bearings as necessary.
	Worn fan shaft bearings—belt drive	Check fan shaft endplay. Replace bearings as necessary.
	Unbalanced motor	Disconnect load and operate motor. If motor still vibrates, rebalance motor.
	Bent Geareducer shaft	Check fan and pinion shaft with dial indicator. Replace if necessary.
Fan Noise	Blade rubbing inside of fan cylinder	Adjust cylinder to provide blade tip clearance.
	Loose bolts in blade clamps	Check and tighten if necessary.
	Fan shaft bearings—belt drive	Grease bearings
Scale or foreign substance in circulating water system	Insufficient blowdown	See "Water Treatment" section of this manual
	Water treatment deficiency	Consult competent water treating specialist. See "Water Treatment" section of this manual
Cold Water Temperature Too Warm (See "Tower Operation")	Entering wet bulb temp. is above design	Check to see if local heat sources are affecting tower. See if surrounding structures are causing recirculation of tower discharge air. Discuss remedy with Marley representative.
	Design wet bulb temp. was too low	May have to increase tower size. Discuss remedy with Marley representative.
	Actual process load greater than design	May have to increase tower size. Discuss remedy with Marley representative.
	Overpumping	Reduce water flow rate over tower to design conditions.
	Tower starved for air	Check motor current and voltage to be sure of correct contract horsepower. Re-pitch fan blades if necessary. Clean louvers, fill and eliminators. Check to see if nearby structures or enclosing walls are obstructing normal airflow to tower. Discuss remedy with Marley representative.
Excessive Drift Exiting Tower	Distribution basins overflowing	Reduce water flow rate over tower to design conditions. Be sure hot water basin nozzles are in place and not plugged.
	Faulty drift elimination	Check to see that integral fill, louvers, and eliminators are clean, free of debris, and installed correctly. If drift eliminators are separate from fill, make sure they are correctly installed in place. Clean if necessary. Replace damaged or worn out components.

Maintenance Schedule

Service	Monthly	Startup	Shutdown	Semi-annually
Inspect General Condition and Operation	x	x		
Observe Operation of:				
Motor, Coupling, Geareducer and Fan	x	x		
Makeup Valve	x	x		
Inspect and Clean as Necessary:				
PVC Air Inlet Louvers	x	x		
PVC Drift Eliminators	x	x		
Cold Water Basin and Outlet	x	x	x	x
Hot Water Basins	x	x		
Fan Motor Exterior	x	x		
Check:				
Cold Water Basin Level	x	x		
Blowdown-adjust as required	x	x		
Check Geareducer for:				
Oil Leaks	x	x		
Proper Oil Level	x	x		
Loose Bolts or Oil Plug		x		x
Plugged Oil Lines or Vent		x		x
Change Geareducer Oil			5-years	
Thoroughly Inspect Mechanical Couplings		x	x	x
Check Belt Drive System for:				
Belt Tension and Condition		x		x
Sheave Bushing Fastener Torque		x		x
Fan Shaft Bearing Lubrication (every 3 mo)		x		x
Check and Tighten as Required:				
Mechanical Equipment Bolts		x	x	x
Motor Anchor Bolts		x	x	x
Tower Framework Structural Bolts		x	x	x
Fan Assembly Bolts			x	x
Inspect Metal Surfaces and Touchup			x	
Motor Operation Required (minimum)			3 hrs/month	



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Maintenance Schedule

↓ use
This
Schedule

Service	Monthly	Startup	Shutdown	Semi-annually
Inspect General Condition and Operation	x	x		
Observe Operation of:				
Motor, Coupling, Geareducer and Fan	x	x		
Makeup Valve	x	x		
Inspect and Clean as Necessary:				
PVC Air Inlet Louvers	x	x		
PVC Drift Eliminators	x	x		
Cold Water Basin and Outlet	x	x	x	x
Hot Water Basins	x	x		
Fan Motor Exterior	x	x		
Check:				
Cold Water Basin Level	x	x		
Blowdown-adjust as required	x	x		
Check Geareducer for:				
Oil Leaks	x	x		
Proper Oil Level	x	x		
Loose Bolts or Oil Plug		x		x
Plugged Oil Lines or Vent		x		x
Change Geareducer Oil			5-years	
Thoroughly Inspect Mechanical Couplings		x	x	x
Check Belt Drive System for:				
Belt Tension and Condition		x		x
Sheave Bushing Fastener Torque		x		x
Fan Shaft Bearing Lubrication (every 3 mo)		x		x
Check and Tighten as Required:				
Mechanical Equipment Bolts		x	x	x
Motor Anchor Bolts		x	x	x
Tower Framework Structural Bolts		x	x	x
Fan Assembly Bolts		x	x	x
Inspect Metal Surfaces and Touchup		x	x	
Motor Operation Required (minimum)		x	3 hrs/month	



Periodic Maintenance

Overview

This section describes the basic chiller preventive maintenance procedures, and recommends the intervals at which these procedures should be performed. Use of a periodic maintenance program is important to ensure the best possible performance and efficiency from a CenTraVac® chiller.

Recommended purge maintenance procedures for the Purifier Purge unit are covered by PRGD-SVU01A-EN or the latest revision which can be obtained at the nearest Trane office.

Record Keeping Forms

An important aspect of the chiller maintenance program is the regular completion of records. Provided at the end of this manual are copies of the "Annual Inspection Check List and Report", "CenTraVac with UCP Commissioning Checklist and "Start-Up Test Log", a "Start-Up Test Log

for Water Cooled CenTraVacs with UCP Control Panels" and "UCP "Settings Group" Menu Record".

When filled out accurately by the machine operator, the completed logs can be reviewed to identify any developing trends in the chiller's operating conditions.

For example, if the machine operator notices a gradual increase in condensing pressure during a month's time, he can systematically check, then correct the possible cause(s) of this condition (fouled condenser tubes, noncondensable in the system, etcetera)

Daily Maintenance and Checks

[] Check the chiller's evaporator and condenser pressures, oil tank pressure, differential oil pressure and discharge oil pressure. Compare the readings with the values provided in the Normal Chiller Operating Characteristics table.

IMPORTANT: IT IS HIGHLY RECOMMENDED THAT THE OPERATING LOG BE COMPLETED ON A DAILY BASIS.

CAUTION

Moisture Contamination!

IF FREQUENT PURGING IS REQUIRED, MONITOR PURGE PUMPOUT RATE, IDENTIFY AND CORRECT SOURCE OF AIR OR WATER LEAK AS SOON AS POSSIBLE. Failure to do so can shorten chiller life expectancy, due to moisture contamination caused by leakage.

[] Check the oil level in the chiller oil sump using the two sight glasses provided in the oil sump head. When the unit is operating, the oil level should be visible in the lower sight glass.



Periodic Maintenance

⚠ WARNING

Hazardous Voltage w/ Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

Note: For additional information regarding the safe discharge of capacitors, see PROD-SVB06A-EN or PROD-SVB06A-FR

Weekly Maintenance

[] Complete all recommended daily maintenance procedures and checks. Complete logs on a daily basis.

Every 3 Months

[] Complete all recommended weekly maintenance procedures. Refer to the previous sections for details.

[] Clean all water strainers in the CenTraVac water piping system.

Every 6 Months

Normal Chiller Operating Characteristics

Operating Characteristic	Normal Reading
Approx. Evaporator Pressure	(6 to 9 PSIA) (-9 to -6 PSIG)
Approx. Condenser Pressure	(17 TO 27 PSIA) 2 to 12 PSIG (Standard Condensers)
Oil Sump Temperature:	
Unit Not Running	140°F to 145°F (60°C to 63°C)
Unit Running	80°F to 162°F (26.6°C to 72°C)
Differential Oil Pressure	18 to 22 psid

Notes:

1. Condenser pressure is dependent on condenser water temperature, and should equal the saturation pressure of HCFC-123 at a temperature above that of leaving condenser water at full load.
2. Normal pressure readings for ASME condensers exceed 12 PSIG.
3. Oil Tank Pressure 12" to 18" HG Discharge Oil Pressure 7 to 15 PSIG.



Periodic Maintenance

[] Complete all recommended quarterly maintenance procedures.

[] Lubricate the vane control linkage bearings, ball joints, and pivot points; as needed a few drops of light machine oil (SAE-20) is sufficient.

[] Lubricate vane operator tang o-rings as described in the maintenance section.

[] Lubricate the oil filter shutoff valve o-rings by removing the pipe plug and adding several drops of Trane OIL00022. Replace plug.

[] Drain the contents of the rupture disc and purge discharge ventline drip-leg, into an evacuated waste container minimally and more often if the purge is operated excessively.

Also, apply one or two drops of oil on the vane operator shaft and

spread it into a very light film; this will protect the shaft from moisture and rust.

Off-Season Maintenance

During those periods of time when the chiller is not operated, be sure the control panel is energized. This is to keep the purge operational, the oil heater warm and will also keep air out of the machine.

Annual Maintenance

Shut down the chiller once each year to check the items listed; a more detailed inspection checklist is provided on the "Model CVHE, CVHF and CVHG CenTraVac Annual

Inspection Checklist and Report" illustrated in this manual.

[] Perform the annual maintenance procedures referred to in the Maintenance Section of the purge manual.

[] Use an ice water bath to verify that the accuracy of the evaporator refrigerant temperature sensor (4R10) is still within tolerance (+ or - 2.0° at 32°F (1° at 0°C)). If the evaporator refrigerant temperature displayed on the UCP's read-out is outside this 4-degree tolerance range, replace the sensor.

Note: If the sensor is exposed to temperature extremes outside its normal operating range (0°F to 90°F) (-18°C to 32°C), check its accuracy at six-month intervals.



Oil Maintenance

Compressor Oil Change on CVHE, CVHF, CVHG

Recommendations are to subscribe to an annual oil analysis program rather than automatically change the oil as part of scheduled maintenance. Change the oil only if indicated by the oil analysis. Use of an oil analysis program will reduce the chillers overall lifetime waste oil generation and minimize refrigerant emissions. The oil analysis should be performed by a qualified laboratory that is experienced in refrigerant and oil chemistry and in the servicing of Trane centrifugal chillers.

In conjunction with other diagnostics performed by a qualified service technician, oil analyses can provide valuable information on the performance of the chiller to help minimize operating and maintenance

costs and maximize it's operating life. A drain fitting is installed in the oil filter top, after the oil filter, for obtaining oil samples.

Note: Use only Trane OIL00022. A full oil change is 9 gallons of OIL00022.

Oil Change Procedure

When oil analysis indicates the need to change compressor oil, use the following procedure for removing oil.

CAUTION

Heater Damage!

The oil sump heater must be deenergized before draining the sump. Failure to do so could possibly burn out the oil sump heater.

[] Draw the oil from the chiller through the oil charging valve on the chiller oil sump into an approved, evacuated tank; or,

[] Pump the oil from the chiller through the oil charging valve into an airtight resealable container, using a magnetically-driven auxiliary pump.

Forcing the oil from the oil sump by pressurizing the chiller (by raising chiller temperature or adding nitrogen) is not recommended.

Refrigerant dissolved in the oil can be removed and returned to the chiller by using an appropriate deep-vacuum recovery unit and heating and agitating the oil container. Follow all Federal, State and Local regulations with regard to disposal of waste oil.



Oil Maintenance

Replacing Oil Filter

Replace oil filter: (1) annually, (2) at each oil change, (3) or if erratic oil pressure is experienced during chiller operation.

Oil Filter Replacement

Use the following procedure to service the oil filter. Refer to Figure 34.

1. Run the oil pump for two to three minutes to insure that the oil filter is warmed up to the oil sump temperature.
2. Turn the oil pump motor off.
3. Pull the "D" handle on the rotary valve locking pin out of its detent and rotate the valve to the "DRAIN" position. An offset pointer is located on top of the valve with wrench flats to allow turning. The spring force on the locking pin should allow the pin to drop into a detent at this position.
4. Allow at least 15 minutes for the oil to drain from the filter back into the oil sump.
5. Pull the "D" handle to unlock the pin and rotate the valve to the "Change Filter" position. This isolates the filter from the unit. The locking pin should drop into a detent in this position.
6. Remove and replace the filter as quickly as possible. Tighten filter 2/3 to 3/4 turn per instructions written on the filter. Place the used filter in a reusable container. Follow all local, state and federal regulations to dispose of the filter. Pull the "D" handle to unlock the pin and rotate the valve to the "RUN" position. The locking pin should drop into a detent in this position. The chiller is now ready for operation.
7. Purge unit.
8. Check oil pressure 18-27 psi.



Maintenance

Other Maintenance Requirements

Compressors using new seal technology will not use O-rings. The O-ring has been replaced by Loctite 515 applied at a minimum film thickness of .010 applied across the width of the flange. The current jack bolt holes remain for disassembly.

CAUTION

Oil Supply System Problems!

Plugging of oil supply system could lead to bearing failure. Failure to use care could result in Loctite getting into the chiller which may cause problems with the Oil supply system and eductor system.

[] Inspect the condenser tubes for fouling; clean if necessary.

⚠ WARNING

Hazardous Voltage w/ Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury. Note: For additional information regarding the safe discharge of capacitors, see PROD-SVB06A-EN or PROD-SVB06A-FR

[] Measure the compressor motor winding resistance to ground; a qualified service technician should conduct this check to ensure that the findings are properly interpreted.

Contact a qualified service organization to leak-test the chiller; this procedure is especially important if the system requires frequent purging.

[] Use a nondestructive tube test to inspect the condenser and evaporator tubes at 3-year intervals.

Note: It may be desirable to perform tube tests on these components at more frequent intervals, depending upon chiller application. This is especially true of critical process equipment.

[] Depending on chiller duty, contact a qualified service organization to determine when to conduct a complete examination of the unit to discern the condition of the compressor and internal components.

Note: (a) Chronic air leaks, which can cause acidic conditions in the compressor oil and result in premature bearing wear; and, (b) Evaporator or condenser water tube leaks. Water mixed with the compressor oil can result in bearing pitting, corrosion, or excessive wear.

[] Submit a sample of the compressor oil to a Trane qualified laboratory for comprehensive analysis on an annual basis; this analysis determines system moisture content, acid level and wear metal content of the oil, and can be used as a diagnostic tool.

Lubrication

The only CVHE, CVHF and CVHG chiller component that requires periodic lubrication is the external vane linkage assembly and Rotary oil valve.

Lubricate the vane linkage shaft bearings and rod end bearings as needed with a few drops of light-weight machine oil.

The CenTraVac Inlet guide vane tang operators should be serviced annually with R123 compatible grease. Use only Rheolube 734A, available from Trane as LUB00033 (16oz. standard grease gun cartridge) or LUB00063 (3oz. mini grease gun cartridge)

To service the 1st stage tang operator of all units except CVHF extended capacity chillers with 1470 or 1720 compressors.

1. The chiller must be off.
2. Carefully remove any insulation that may have been placed over the two lubrication ports of the tang operator base. This insulation will need to be replaced after the service is complete.
3. Note the position of the tang operator arm, note the placement of spacing washers etc., then disconnect the linkage rod from the tang operator arm. Manually move the tang operator arm and note the amount of effort required to operate the assembly.
4. Loosen but DO NOT REMOVE the 1/16" NPT lubrication port plug that is highest on the assembly.
5. Loosen and remove the remaining lower 1/16" NPT plug.
6. Using a grease gun with an appropriate fitting, insert ONLY Rheolube grease into the open port until clean grease is seen to appear around the threads of the plug in the opposite port.
7. Tighten the plug that was loosened in step 4. Tighten the plug to hand tight plus 1/4 to 1/2 turn.
8. Remove the grease fitting, if used.



Maintenance

DO NOT LEAVE GREASE FITTINGS INSTALLED.

If grease fittings have been used for this procedure then they **MUST BE REMOVED** before returning the unit to service. Grease fittings are not vacuum-tight and will become a leak path.

9. Using a clean wooden dowel or other similar tool, remove excess grease from the remaining open lubrication port.
10. Clean and then lightly coat the threads of the plug with Rheolube grease and re-install it into the lubrication port. Tighten the plug to hand tight plus 1/4 to 1/2 turn.
11. Before reconnecting the vane linkage, grasp the tang operator arm and manually operate the vane assembly. If it is now difficult to move, then the tang operator may have become "hydraulically locked" because of excess grease in the assembly. This situation could cause damage to the o-rings of the assembly. If this occurs then remove one of the lubrication plugs, remove some of the grease, then re-install the plug.
12. Reconnect the linkage to the tang operator arm. Ensure the spacer washers between the linkage and the arm are properly placed and that the assembly does not bind. Re-install any insulation that was cut or removed. The unit may be restarted.

To service the 1st and 2nd stage tang operators on CVHF and CDHF extended capacity chillers with 1470 or 1720 compressors.

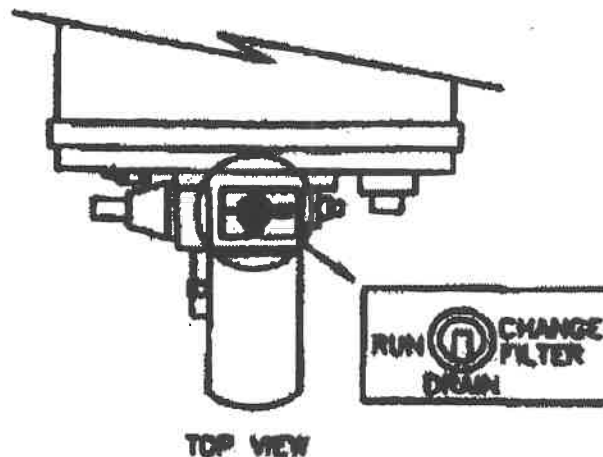
The 1st and 2nd stage rotary inlet guide vane tang operators of the extended capacity chillers also require periodic lubrication, at least annually, with R123 compatible Rheolube grease. These actuators have two 1/8" NPT plugs located 180 degrees apart, with one on the top

and the other on the bottom of the operator base. Use the same procedure as described above, except that it will be necessary to temporarily disconnect the vane actuators from the tang operator arms in order to test for a "hydraulically locked" condition.

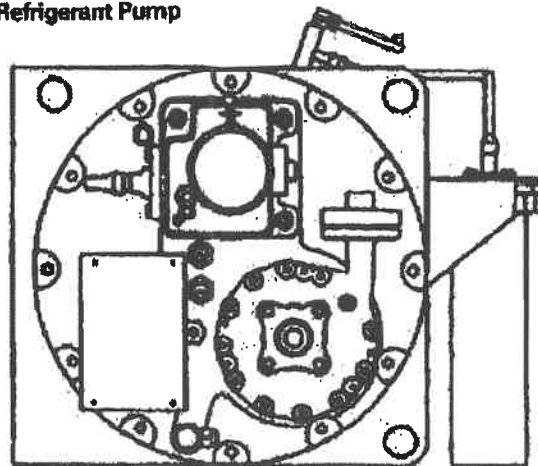
The oil valve block rotary valve uses dual O-Rings to seal to atmosphere. These should be manually lubricated by removing the pipe plug at the valve lubrication port and placing a few drops of Trane OIL00022 in the cavity. Be sure to reinstall the pipe plug when lubrication is completed.

Figure 33. Rotary valve in drain position

NOTE: ROTARY VALVE SHOWN IN DRAIN POSITION.



Front View with Refrigerant Pump





Maintenance

Refrigerant Charge

⚠ WARNING

Contains Refrigerant!

System contains oil and refrigerant and may be under positive pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

Failure to follow proper procedures or the use of non-approved refrigerants, refrigerant substitutes, or refrigerant additives could result in death or serious injury or equipment damage.

The refrigerant charging procedure for Trane centrifugal chillers is:

1. If water is present in the tubes, break machine vacuum with refrigerant vapor, or circulate water, to avoid tube damage.
2. Always use refrigerant compatible hoses or copper tubing with self-sealing connections or shut-off valves.

3. Transfer the refrigerant using one of the following (listed in order of preference):

- a. An approved Trane low-pressure refrigerant recovery and recycle unit.
 - b. The available pressure differential.
 - c. Gravity. (Use a return vent line to refrigerant drums to equalize pressure.)
5. Do not use dry nitrogen to push refrigerant into the chiller as was common practice in the past. This will contaminate the charge and require excessive purging, which will result in unnecessary release of refrigerant.
6. Weigh in the proper charge.
7. Use recovery and recycle unit or vacuum pump to evacuate hoses; discharge outdoors.
8. If refrigerant is supplied in new returnable cylinders, be sure and refer to General Service Bulletin CVHE-SB-48B for information on returning cylinders. This service bulletin is available at the nearest Trane office.

Depending on the chiller duty, contact a qualified service organization to determine when to conduct a complete examination of the unit to discern the condition of the compressor and internal components.

Note: If your chiller is covered by a Trane extended warranty, the terms of that warranty may require that the procedures listed in the Periodic Maintenance section of this manual be followed for your extended warranty to remain in force. The terms may also require that the chiller be inspected by a Trane authorized warranty agent every 4-years or 40,000 operating hours, whichever occurs first. This inspection will include, at a minimum, a review of the annual inspection checklists and the daily operating logs, as well as performance of a leak test and a general inspection of the chiller. The owner is then required to follow the recommendations made as a result of this inspection at the owners expense.



Maintenance

Recovery and Recycle Connections

To facilitate refrigerant removal and replacement, newer-design CVHE, CVHF and CVHG units are provided with a 3/4-inch vapor fitting with shutoff valve on the chiller suction and with a 3/4-inch liquid connection with shutoff valve at the bottom of the evaporator shell. (Refer to Refrigerant Handling Guidelines.)

Leak Testing

To leak-test a chiller containing full refrigerant charge, raise chiller pressure using a controlled hot water or electric-resistance system to a maximum of 8 psig. Do not use nitrogen, which will cause excessive refrigerant discharge by the purge system.

Cleaning the Condenser

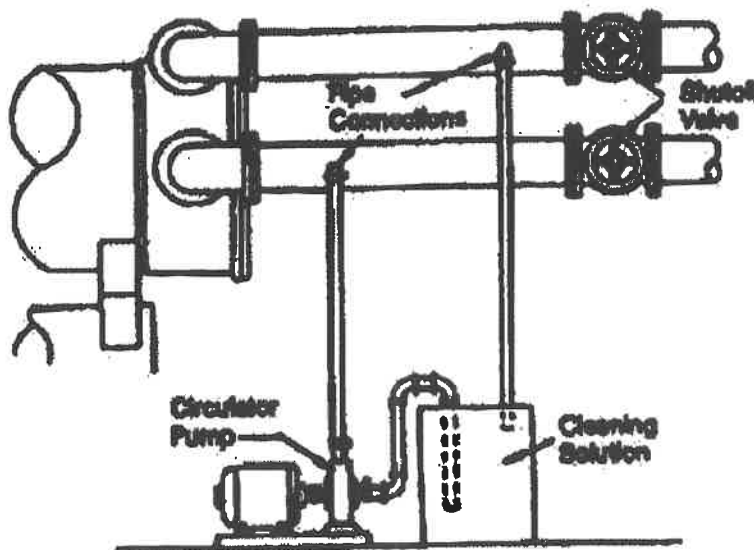
CAUTION

Proper Water Treatment!

The use of untreated or improperly treated water in a CenTraVac may result in scaling, erosion, corrosion, algae or slime. It is recommended that the services of a qualified water treatment specialist be engaged to determine what water treatment, if any, is required. Trane assumes no responsibility for equipment failures which result from untreated or improperly treated water, or saline or brackish water.

See Figure 34 which shows a Typical Chemical Cleaning Setup.

Figure 34 - Typical Chemical Cleaning Setup




TRANE

Maintenance

Condenser tube fouling is indicated when the approach temperature (the difference between the condensing refrigerant temperature and the leaving condenser water temperature) is higher than predicted.

If the annual condenser tube inspection indicates that the tubes are fouled, two cleaning methods, mechanical and chemical, can be used to rid the tubes of contaminants.

Use the mechanical cleaning method to remove sludge and loose material from smooth-bore tubes.

To clean other types of tubes including internally-enhanced types, consult a qualified service organization for recommendations.

1. Remove the retaining nuts and bolts from the water box covers at each end of the condenser. Use a hoist to lift the covers off the water box. (A threaded connection is provided on each water box cover to allow insertion of an eyebolt).
2. Work a round nylon or brass bristled brush (attached to a rod) in and out of each of the condenser water tubes to loosen the sludge.
3. Thoroughly flush the condenser water tubes with clean water.

Scale deposits may be best removed by chemical means. Be sure to consult a qualified chemical house in the area (one familiar with the local water supply's chemical mineral content) for a recommended cleaning solution suitable for the job. Remember, a standard condenser water circuit is composed solely of copper, cast iron and steel.

CAUTION

Unit Corrosion Damage!

Proper procedures must be followed when using corrosive chemicals to clean water side of unit. It is recommended that the services of a qualified chemical cleaning firm be used. Proper personal protective equipment as recommended by the chemical manufacturer should be used. Refer to the chemicals MSDS sheet for proper safety procedures. Failure to follow proper procedures could result in corrosion damage to the unit and tubes.

IMPORTANT: ALL OF THE MATERIALS USED IN THE EXTERNAL CIRCULATION SYSTEM, THE QUANTITY OF THE SOLUTION, THE DURATION OF THE CLEANING PERIOD, AND ANY REQUIRED SAFETY PRECAUTIONS SHOULD BE APPROVED BY THE COMPANY FURNISHING THE MATERIALS OR PERFORMING THE CLEANING.

REMEMBER, HOWEVER, THAT WHENEVER THE CHEMICAL TUBE CLEANING METHOD IS USED, IT MUST BE FOLLOWED UP WITH MECHANICAL TUBE CLEANING, FLUSHING AND INSPECTION.

Cleaning the Evaporator

Since the evaporator is typically part of a closed circuit, it does not accumulate appreciable amounts of scale or sludge. Normally, cleaning every 3 years is sufficient. However, on open CVHE, CVHF and CVHG systems, such as air washers, periodic inspection and cleaning is recommended.

Control Settings and Adjustments

Time delays and safety control cutout settings need to be checked annually. For control calibration and check-out, contact a Trane qualified service organization.



Maintenance

Purge System

Because some sections of the chiller's refrigeration system operate at less-than-atmospheric pressure, the possibility exists that air and moisture may leak into the system. If allowed to accumulate, these noncondensables become trapped in the condenser; this increases condensing pressure and compressor power requirements, and reduces the chiller's efficiency and cooling capacity.

The Trane EarthWise Purge is the only purge system available for the CVHE, CVHF and CVHG chiller. The purge is designed to remove noncondensable gases and water from the refrigeration system. EarthWise Purge unit operation, maintenance and trouble shooting is covered by a separate operation and maintenance manual, which may be obtained from the nearest Trane office.

Overview

This section describes extended storage requirements for UCP installed CVHE, CVHF and CVHG chillers to be removed from service for an undetermined length of time.

Unit Preparation

The following steps are necessary in order to properly prepare a unit for storage.

1. Remove all liquid refrigerant if the unit is charged.

WARNING

Contains Refrigerant!

System contains oil and refrigerant and may be under positive pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

Failure to follow proper procedures or the use of non-approved refrigerants, refrigerant substitutes, or refrigerant additives could result in death or serious injury or equipment damage.

2. After the liquid refrigerant is removed, using a recovery or recycle unit or vacuum pump, pull a vacuum to remove remaining refrigerant vapor from the unit.

3. After all traces of refrigerant are out of the unit, a positive nitrogen charge should be put into the unit (6 to 8 psig). This positive pressure must be checked monthly to insure no noncondensables get into the unit. Use a pressure gage on the evaporator shell to verify that the 6 to 8 psig dry nitrogen holding charge is still in the chiller. If this charge has escaped, contact a qualified service organization and the Trane sales engineer that handled the order.
4. The refrigerant charge should be stored in proper refrigerant containers. Due to possible leakage, do not store in used drums.
5. Maintain control power to the control panel. This will maintain oil temperature in the oil sump and the capability of the control panel to present report information. The Chiller Reports should be viewed once a week for normal readings. Any abnormal observation must be reported to the Trane Sales Engineer that handled the order.



Maintenance

⚠ WARNING

Hazardous Voltage w/ Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

Note: For additional information regarding the safe discharge of capacitors, see PROD-SVB06A-EN or PROD-SVB06A-FR

6. Remove the factory installed jumper or the field installed wiring on terminals in the unit control panel. This will prevent unwanted chiller operation.
7. Set the purge operating mode to OFF on UCP chillers.

8. The oil can be left in the unit.

9. The water side should not cause a problem if shut down and drained. There may be slight scaling inside the tubes, but not enough to cause a problem. The customer should inspect and clean tubes before the unit is returned to service.

IMPORTANT: DO NOT USE UNTREATED OR IMPROPERLY TREATED WATER, OR EQUIPMENT DAMAGE MAY OCCUR.

IMPORTANT: SCALE DEPOSITS ARE BEST REMOVED BY CHEMICAL MEANS. BE SURE TO CONSULT ANY QUALIFIED CHEMICAL HOUSE IN THE AREA (ONE FAMILIAR WITH THE LOCAL WATER SUPPLY'S CHEMICAL MINERAL CONTENT) FOR A RECOMMENDED CLEANING SOLUTION SUITABLE FOR THE JOB.

10. Motor bearings: If the motor sits for a long time the bearings could take a set and cause bearing problems or replacement later. Once every six months the chiller oil pump must be started and the compressor motor bump started to rotate the shaft. Contact

a qualified service organization to perform this task. If the compressor motor cannot be bump started, then the shaft must be rotated manually by a qualified service organization.

11. Obtain an oil analysis initially after six months of storage, and once each succeeding year. If no oil breakdown is evident do not change the oil. If breakdown is evident, the oil must be replaced.
12. If the unit is stored for more than five years, and the storage is expected to be indefinite, the unit should be examined for leaks every five years from the initial storage date.
13. When the unit is to be returned to service, the services of a qualified service organization should be obtained to conduct all activities associated with the startup of a new chiller.



CentraVac®
Annual Inspection Check List and Report:

Compressor Motor

- ☐ Motor Continuity check
Good ☐ Open ☐
- ☐ Check and tighten motor terminals
- ☐ Meg Motor
Phase 1 ☐ Phase 2 ☐ Phase 3 ☐
- ☐ Check nameplate rating
Amps ☐

Starter

- ☐ Check condition of starter contacts
Good ☐ Fair ☐ Replace ☐
- ☐ Check, tighten if necessary all connections
per manufactures specs

Oil Sump

- ☐ Change oil
If oil analysis, refer to program procedure
- ☐ Gallons (9) required
- ☐ Refrigerant/Oil pump motor ground check
Good ☐ Open ☐
- ☐ Check motor terminal
- ☐ Change oil filter

Condenser

- ☐ Visually inspect for scaling in tubes;
not findings and make recommendations

Control Circuits

- ☐ Low refrigerant temperature sensor check
____°F set point ____°F trip point (ice water)
- ☐ Leaving Evaporator water temperature
sensor check-out
____°F set point ____°F trip point (ice water)
- ☐ Condenser High Pressure Switch check-out
____psig set point
____psig trip point
- ☐ Check Net Oil Pressure
- ☐ Check adjustment and operation of inlet
guide vane actuator stepper motor
(Note: each machine is unique and must have
the full open position number of steps input.)

Leak Test Chiller

- ☐ Refrigerant and oil analysis for acid content
- ☐ Sample refrigerant and oil for laboratory
analysis (attach a copy of analysis to next
monthly inspection report)

Purge Unit

- ☐ Review the purge operation maintenance
manual and follow maintenance and/or
inspection items identified.

Comments:

Recommendations:



State of West Virginia

PURCHASING DIVISION

Construction Bid Submission Review Form

This list has been provided for informational purposes only and is not to be construed as a complete list of request for quotation or bidding requirements for any individual construction project. This list does not and cannot include every item, mistake or oversight that could cause a contractor's bid to be disqualified. Rather, this list is intended to draw attention to some of the most common problems that the Purchasing Division encounters in the bidding process for construction projects. All potential bidders must read the request for quotation, all additional documents, and all instructions relating thereto ("Bid Documents") in their entirety to identify the actual request for quotation and bidding requirements. Failure to read the Bid Documents in their entirety and comply with the stated requirements contained therein may result in bid disqualification.

Errors That Shall Be Reason for Immediate Bid Disqualification

1. Failure to attend a mandatory pre-bid meeting
2. Failure to sign the bid
3. Failure to supply a valid bid bond or other surety approved by the state of West Virginia
4. Failure to meet any mandatory requirement of the solicitation
5. Failure to submit bid prior to the bid opening date and time
6. Federal debarment
7. State of West Virginia debarment or suspension

Errors that May Be Reason for Bid Disqualification Before Contract Award

1. Failure to acknowledge receipt of Addenda (only if stipulated as mandatory)
2. Debt to the state or political subdivision (must be cured prior to award)
3. Workers' Compensation or Unemployment Compensation delinquency (must be cured prior to award)
4. Not registered as a vendor with the state of West Virginia (must be cured prior to award)
5. Failure to obtain required bonds and/or insurance
6. Failure to provide the sub-contractor listing within one business day of bid opening or one business day of the request to do so by the Purchasing Division
7. Failure to supply West Virginia contractor's license number with bid or within one day of Purchasing Division request to do so
8. Failure to supply a signed drug-free workplace affidavit with bid or within one day of Purchasing Division request to do so
9. Failure to use the provided solicitation form (only if stipulated as mandatory)

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WV-73

Approved / April 30, 2020



State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5

I, Tim Mills, after being first duly sworn, depose and state as follows:

1. I am an employee of Trane U.S. Inc.; and,
 (Company Name)

2. I do hereby attest that Trane U.S. Inc.
 (Company Name)

maintains a written plan for a drug-free workplace policy and that such plan and policy are in compliance with **West Virginia Code §21-1D**.

The above statements are sworn to under the penalty of perjury.

Printed Name: Tim Mills

Signature: Tim Mills

Title: Account Manager

Company Name: Trane U.S. Inc.

Date: 10/28/2024

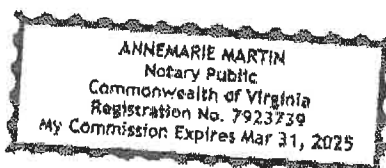
STATE OF WEST VIRGINIA,

COUNTY OF Charleston, TO-WIT:

Taken, subscribed and sworn to before me this 28th day of Oct, 2024.

By Commission expires March 31, 2025

(Seal)



Annemarie Martin
 (Notary Public)

Rev. July 7, 2017

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WV-72

Approved / Revised 08/01/15

State of West Virginia
Purchasing Division

CERTIFIED DRUG-FREE WORKPLACE REPORT COVERSHEET

In accordance with **West Virginia Code** § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. That report must include each of the items identified below in the Required Report Content section.

Instructions: Vendor should complete this coversheet, attach it to the required report, and submit it to the appropriate location as follows: For contracts more than \$25,000, the report should be mailed to the West Virginia Purchasing Division at 2019 Washington Street East, Charleston, WV 25305. For contracts of \$25,000 or less, the vendor should mail the report to the public authority issuing the contract.

Contract Identification:Contract Number: CRFQ 0211 GSD2500000007Contract Purpose: Chiller/Tower Maintenance Building 11Agency Requesting Work: Dept of Admin Purchasing Division

Required Report Content: The attached report must include each of the items listed below. The vendor should check each box as an indication that the required information has been included in the attached report.

- ☐ Information indicating the education and training service to the requirements of **West Virginia Code** § 21-1D-5 was provided;
- ☒ Name of the laboratory certified by the United States Department of Health and Human Services or its successor that performs the drug tests;
- ☐ Average number of employees in connection with the construction on the public improvement;
- ☐ Drug test results for the following categories including the number of positive tests and the number of negative tests: (A) Pre-employment and new hires; (B) Reasonable suspicion; (C) Post-accident; and (D) Random.

Vendor Contact Information:Vendor Name: Trane U.S. Inc.Vendor Telephone: (304) 348-2800Vendor Address: Tim Mills

Vendor Fax: _____

515 C StreetVendor E-Mail: tim.mills@trane.comSouth Charleston, WV 25303

BID BOND PREPARATION INSTRUCTIONS

 AGENCY (A) _____
 RFQ/RFP# (B) _____
Bid Bond

- (A) WV State Agency
(Stated on Page 1 "Spending Unit")
- (B) Request for Quotation Number (upper right corner of page #1)
- (C) Your Business Entity Name (or Individual Name if Sole Proprietor)
- (D) City, Location of your Company
- (E) State, Location of your Company
- (F) Surety Corporate Name
- (G) City, Location of Surety
- (H) State, Location of Surety
- (I) State of Surety Incorporation
- (J) City of Surety's Principal Office
- (K) Minimum amount of acceptable bid bond is 5% of total bid. You may state "5% of bid" or a specific amount on this line in words.
- (L) Amount of bond in numbers
- (M) Brief Description of scope of work
- (N) Day of the month
- (O) Month
- (P) Year
- (Q) Name of Business Entity (or Individual Name if Sole Proprietor)
- (R) Seal of Principal
- (S) Signature of President, Vice President, or Authorized Agent
- (T) Title of Person Signing for Principal
- (U) Seal of Surety
- (V) Name of Surety
- (W) Signature of Attorney in Fact of the Surety

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, _____ of _____ of _____ as Principal and _____ of _____ a corporation organized and existing under the laws of the State of _____ with its principal office in the City of _____ as Surety, are held and firmly bound unto The State of West Virginia, as Obligor, in the penal sum of _____ (\$ _____) for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the Department of Administration a certain bid or proposal, attached hereto and made a part hereof to enter into a contract in writing for _____

(M)

NOW THEREFORE

(a) If said bid shall be rejected, or
 (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the agreement created by the acceptance of said bid then this obligation shall be null and void, otherwise this obligation shall remain in full force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of time within which the Obligor may accept such bid; and said Surety does hereby waive notice of any such extension.

WITNESS, the following signatures and seals of Principal and Surety, executed and sealed by a proper officer of Principal and Surety, or by Principal individually if Principal is an individual, the _____ day of _____, 20____.

Principal Seal

(R)

 (Name of Principal)

 By _____
 (Must be President, Vice President, or
 Duly Authorized Agent)

 Title

Surety Seal

(U)

 (Name of Surety)

 Attorney-in-Fact

NOTE 1: Dated Power of Attorney with Surety Seal must accompany this bid bond.

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance, must affix its seal, and must attach a power of attorney with its seal affixed.

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Agency Dept. of Administration

REQ.P.O# Solicitation No.

CRFQ 0211 GSD2500000007

BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, Trane U.S. Inc.
 of 2303 Trane Drive, Roanoke, VA 24017, as Principal, and Travelers Casualty and Surety
 Company of America, of One Tower Square, Hartford, CT 06183, a corporation organized and existing under the laws of the State of
Connecticut with its principal office in the City of Hartford, CT as Surety, are held and firmly bound unto the State
 of West Virginia, as Oblgee, in the penal sum of Five Percent of Amount Bid (\$ 5% of Amount Bid) for the payment of which,
 well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the
 Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for
Annual Chiller and Towers Maintenance - Solicitation No. CRFQ 0211 GSD2500000007

NOW THEREFORE,

(a) If said bid shall be rejected, or
 (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal
 attached hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform
 the agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in
 full force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no
 event, exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no
 way impaired or affected by any extension of the time within which the Oblgee may accept such bid, and said Surety does hereby
 waive notice of any such extension.

WITNESS, the following signatures and seals of Principal and Surety, executed and sealed by a proper officer of Principal and
 Surety, or by Principal individually if Principal is an individual, this 25th day of October, 2024

Principal Seal

Trane U.S. Inc.

(Name of Principal)

By Theodore L. Mutzner(Must be President, Vice President, or
Duly Authorized Agent)

Theodore L. Mutzner, Asst. Secretary
 (Title)

Surety Seal

Travelers Casualty and Surety Company of America

(Name of Surety)

Jessica Iannotta
 Attorney-in-Fact

IMPORTANT - Surety executing bonds must be licensed in West Virginia to transact surety insurance, must affix its seal, and
 must attach a power of attorney with its seal affixed.

Nov 06 2024 08:02:13

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TRAVELERS
Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint Jessica Iannotta of Morrisstown, New Jersey, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 21st day of April, 2021.



State of Connecticut

City of Hartford ss.

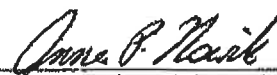
On this the 21st day of April, 2021, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the 30th day of June, 2026

By: 

Robert L. Raney, Senior Vice President



Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 25th day of October, 2024



 Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.

Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

Nov 06 2024 08:02:38

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TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2023

CAPITAL STOCK \$ 8,480,000

ASSETS		LIABILITIES & SURPLUS	
BONDS	\$ 5,104,395,801	LOSSES	\$ 1,495,025,900
STOCKS	119,333,643	LOSS ADJUSTMENT EXPENSES	149,791,770
CASH AND INVESTED CASH	30,541,808	COMMISSIONS	55,734,579
OTHER INVESTED ASSETS	8,565,939	OTHER EXPENSES	35,548,499
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	13,350,613	TAXES, LICENSES AND FEES	15,857,431
INVESTMENT INCOME DUE AND ACCRUED	43,617,243	CURRENT FEDERAL AND FOREIGN INCOME TAXES	5,300,839
PREMIUM BALANCES	325,304,877	UNEARNED PREMIUM	1,515,112,089
REINSURANCE RECOVERABLE	27,987,884	ADVANCE PREMIUM	4,091,249
NET DEFERRED TAX ASSET	72,421,341	POLICYHOLDER DIVIDENDS	21,388,522
GUARANTY FUNDS RECEIVABLE OR ON DEPOSIT	1,798,901	CEDED REINSURANCE NET PREMIUMS PAYABLE	62,914,516
OTHER ASSETS	818,309	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	21,072,838
		REMITTANCES AND ITEMS NOT ALLOCATED	7,201,721
		PROVISION FOR REINSURANCE	9,891,783
		PAYABLE FOR SECURITIES LENDING	13,350,613
		OTHER ACCRUED EXPENSES AND LIABILITIES	408,380
		TOTAL LIABILITIES	\$ 3,428,701,342
		CAPITAL STOCK	\$ 8,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,877,850,956
		TOTAL SURPLUS TO POLICYHOLDERS	\$ 2,318,234,716
TOTAL ASSETS	\$ 8,747,936,056	TOTAL LIABILITIES & SURPLUS	\$ 8,747,936,056

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) SS.
CITY OF HARTFORD)

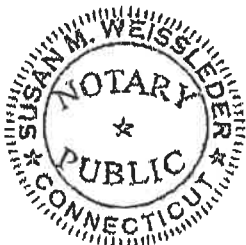
MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS VICE PRESIDENT - FINANCE, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA,
AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID
COMPANY AS OF THE 31ST DAY OF DECEMBER, 2023.

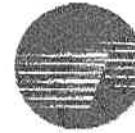
Michael J. Doody
VICE PRESIDENT - FINANCE

SUBSCRIBED AND SWORN TO BEFORE ME THIS
18TH DAY OF MARCH, 2024

Susan M. Weissleder
NOTARY PUBLIC

SUSAN M. WEISSELER
Notary Public
My Commission Expires November 30, 2027



**TRANE**[®]

SCHEDULED SERVICE AGREEMENT

Trane Office

Trane U.S. Inc.
5001 MacCorkle Avenue SW
Charleston, WV 25309

Trane Representative

Tim Mills
Cell: (540) 580-9118
Office: (304) 348-2800

Proposal ID

7920555

Service Contract Number

NEW

Company Name

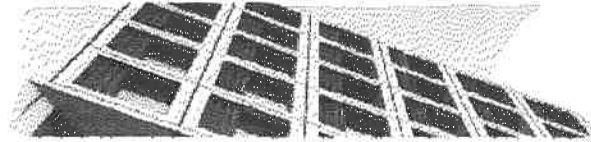
Mr. Jeff Gillenwater, Mrs. Melissa Pettrey
WV Dept. of Administration GSD

Site Address

WV Dept of Admin GSD BLDG 11
218 California Ave
Charleston, WV 25305

October 24, 2024

TRANE
TECHNOLOGIES

**TRANE®**

EXECUTIVE SUMMARY

This **Scheduled Service Agreement** from Trane offers an exclusive approach to planned maintenance: It is grounded in worldwide expertise. Delivered locally by our own factory trained technicians. And provided according to *your* needs.

Under this service agreement, Trane will schedule and manage preventative maintenance and provide repair coverage to help you minimize unplanned downtime and avoid unexpected expenses.

As an HVAC service provider, Trane offers many advantages:

- Confidence that your HVAC equipment is being serviced according to OEM best practices.
- Priority service available 24-hours a day
- Advanced diagnostic technologies allow our technicians to analyze system performance comprehensively

Protect your bottom line. Proper maintenance can save an estimated 12 to 18 percent of your budget compared to a run-to-fail approach. This service agreement will help you capture those savings. (*FEMP O&M Guide 2010*)

ADDITIONAL SUPPORT

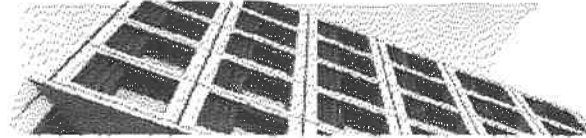
Environmental Practices	Consistent Processes	Safety	Assigned Team
Trane procedures for handling refrigerant are compliant with federal and state regulations.	All Trane technicians follow documented processes ensuring uniform service delivery.	Trane incident rates (OSHA) are consistently 50 to 70 percent below industry averages.	You will have a consistent group of Trane employees dedicated to your account.



WHY TRANE? WE FOCUS ON BETTER BUILDINGS.

When it comes to service effectiveness, experience matters. No other provider has more experience than Trane.

- 100+ years of system and equipment experience
- 35+ years in building automation systems (BAS)
- 20+ years in energy services



SCOPE OF SERVICES — STANDARD INCLUSIONS

ANY HVAC SYSTEM IS ONLY AS STRONG AS ITS INDIVIDUAL MECHANICAL COMPONENTS

This service agreement with Trane protects and enhances full system functionality by ensuring that components are well maintained and functioning to OEM standards, and that the system is tailored to your needs. The following are the standard inclusions of your service agreement:

ON-SITE SCHEDULED MAINTENANCE

Factory authorized Trane service technicians perform all periodic maintenance, following OEM standards, to keep HVAC and BAS equipment running optimally and prevent unplanned downtime. Trane assumes all responsibilities for planning, scheduling and managing routine maintenance on Trane HVAC equipment and other brands.

Implementation:

- Technician visits are scheduled in advance through one assigned maintenance team for all HVAC equipment brands
- On-site service is completed during normal business hours
- Receive consistent service outcomes through proprietary maintenance procedures

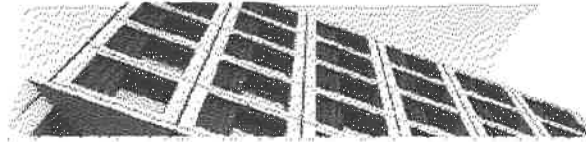


TRANE LABORATORY ANALYSIS

Trane Laboratory Analysis tests system fluids for contaminants and other physical characteristics and trends. Conditions indicating sub-optimal HVAC system performance are identified before issues become critical.

Implementation:

- Samples collected by Trane technicians during maintenance as stated in this agreement
- Laboratory analysis of oil, absorption solutions and refrigerants
- Identify long-term equipment performance trends and avoid equipment failures


TRANE


REFRIGERANT MANAGEMENT

The US Environmental Protection Agency (EPA) has placed in effect more stringent regulations on refrigerant management and reporting in 2020 in addition to mandated leak inspections on certain appliances that exceed the leak rate threshold. Section 608 of the Clean Air Act prohibits the knowing release/venting of refrigerant during the maintenance, service, repair, or disposal of air-conditioning and refrigeration equipment. The EPA requires proper refrigerant management practices and documentation by owners and operators of refrigeration and air-conditioning systems, all servicing technicians, and others. ***The Clean Air Act requires owners to maintain records of refrigerant usage and leak rates for each air-conditioning or refrigeration appliance with refrigerant charge greater than 50 lbs. With recent definition changes from the EPA, each independent circuit is considered a separate appliance. These records must be maintained for 3 years and be directly accessible if audited by the EPA.***



All Trane Technicians are Universally certified (the highest level possible) to service, manage, and document your refrigerant and are knowledgeable of applicable law and time constraints to repair leaks. Trane Technicians track all refrigerant in all equipment serviced regardless of appliance size (supports accurate fugitive emissions reporting where applicable).

When a customer has all their refrigerant work performed by a Trane technician - Trane Refrigerant Management software maintains complete record of refrigerant transactions and appliance leak rates. Refrigerant reports provided by Trane will contain the information to satisfy EPA record keeping requirements.

Advantages:

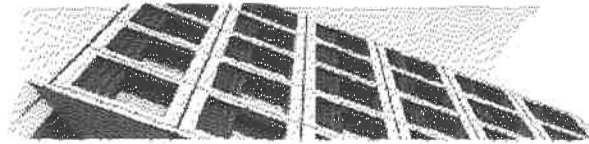
- Real time reporting of refrigerant leak rate informs proactive decisions
- Stay in compliance with state and federal regulations
- Provide acceptable and comprehensive documentation to authorities during audits
- Maintain company environmental standards and provides data for managing any reporting needs
- Detect potential refrigerant leaks before equipment damage occurs
- Technicians are trained to report all refrigerant handling which can aid in fugitive emissions reporting, not just for 50 lbs.+ appliances

Implementation:

- Technicians collect refrigerant information for covered equipment during onsite visits
- Refrigerant data and technician activity are entered into the Trane Refrigerant Management System
- Refrigerant Usage Reports are generated according to your needs

Tiered Service Offerings to better support your needs:

1. Trane's Standard EP Compliant S/A
 - a. Trane Technicians will provide applicable EPA documentation when required by the service activity performed
2. Trane's EPA Compliant Reporting S/A
 - a. In addition to the Standard Offering, the local Trane office will run quarterly reports that will be extended to the customer to help inform them of EPA mandated leak inspections that may be required on their equipment and the corresponding anniversary date(s) that those inspection(s) need to be completed.
3. Trane's Premium EPA Compliance S/A
 - a. In addition to the Standard and Reporting Offerings, labor to perform those leak inspections is also included.
 - b. Customer will have access to form letters and information assistance for reporting situations encountered during coverage.



HVAC EQUIPMENT COVERAGE

WV Dept of Admin. GSD BLDG 11

The following "Covered Equipment" will be serviced at WV Dept of Admn GSD BL 11:

Equipment	Qty	Manufacturer	Model Number	Serial Number	Asset Tag
Centrifugal Chiller	1	Trane	CVHF077NA1	L99A00273	CH-1
Centrifugal Chiller	1	Trane	CVHF128NA1	L99A00279	CH-5
Centrifugal Chiller	1	Trane	CVHF128NA1	L99A00288	CH-4
Centrifugal Chiller	1	Trane	CVHF128ND0	L19K04812	CH-3

Service Description

Service 1: Oil Sample-Centravac

Description (Monthly)

- Mobilization to Jobsite and Check in with Customer
- Prepare Equipment and Take Offline
- Take Oil Sample CenTraVac (Unit Not Running)
- Provide Trane Factory Chem-lab Oil Analysis Results

Quantity Per Term

48

Service 2: Centrifugal Annual Inspection

Description (Annually)

- Customer Notification
- Initial Site Inspection
- Review Diagnostics
- Review Purge Report
- Oil Level and Temperature Check
- Lock Out Tag Out Unit Electrical with High or Medium Voltage Starters
- Complete Purge Maintenance and Operation
- Vane Linkage and Oil Valve Lubrication
- Centrifugal Oil Filter Change
- Open Starter Panel Door(s)
- Compressor Starter Inspection - Centrifugal
- Meg Compressor Motor
- Close Starter Panel Door(s)
- Control Panel Electrical Inspection - Centrifugal
- Control Panel Calibration Check
- Low Temperature Sensor Calibration
- Drain Rupture Disc Vent Line
- Remove Lock Out Tag Out and Restore Power for Units with High or Medium Voltage Starters
- Pre-Start Chiller Check
- Start Chiller
- Complete and Provide Manual Operating Log with Electronic Device
- Provide Digital Field Report, Pictures, Documented System Recommendations
- Perform Vibration Analysis and Provide Digital Results

4

Service 3: Condenser Tube Brushing

Description (Annually)

- Perform Condenser Tube Brushing Including Head Removal

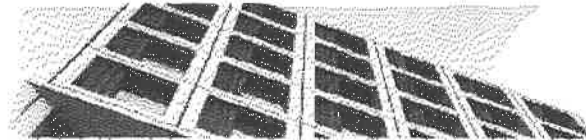
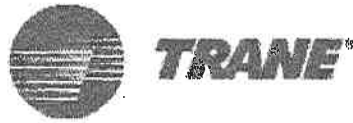
4

Service 4: Evaporator Tube Brushing

Description (Annually)

- Perform Evaporator Tube Brushing Including Head Removal

4

Quantity Per Term
1**Service Description****Service 6: Eddy Current Test - Evaporator****Description**

- Assist with TAI Subcontractor Eddy Current Testing
- Provide Digital Report of Results
- Provide Deficiency Report and Recommendations

Service 7: Eddy Current Test - Condenser

1

Description

- Assist with TAI Subcontractor Eddy Current Testing
- Provide Digital Report of Results
- Provide Deficiency Report and Recommendations

Equipment	Qty	Manufacturer	Model Number	Serial Number	Asset Tag
Mechanical-Draft Towers	1	Marley Cooling Technologies	NC Model	NOS-4072448	COOLING TOWER 1
Mechanical-Draft Towers	1	Marley Cooling Technologies	NC Model	NOS-4072449	COOLING TOWER 2
Mechanical-Draft Towers	1	Marley Cooling Technologies	NC Model	NOS-4072450	COOLING TOWER 3
Mechanical-Draft Towers	1	Marley Cooling Technologies	NC Model	NOS-4072451	COOLING TOWER 4
Mechanical-Draft Towers	1	Marley Cooling Technologies	NC Model	NOS-4072452	COOLING TOWER 5

Service Description

Quantity Per Term

Service 5: Annual Mechanical-Draft Cooling Tower Inspect and Clean (1 Cell)

4

Description (Annually)

- Inspect External Condition of Tower
- Visual Inspection of Mechanical Operating Unit
- Verify Water Level
- Tower Upper and Lower Basin Inspection and Clean
- Check Condition of Gear Box
- Change Oil in Cooling Tower Gear Box
- Fan Check for Cooling Tower
- Cooling Tower Motor Check and Lube
- Basin Heater Inspection on Cooling Tower
- Perform Vibration Analysis on Tower Fan Motor
- Provide Digital Field Report, Pictures, Summary, and Vibration Analysis Results

Equipment	Qty	Manufacturer	Model Number	Serial Number	Asset Tag
Condenser and Chilled Water Circulating Pumps	12	Marathon	284TTDBD6026	WX20002736-14038	Pumps 1-12

Service Description

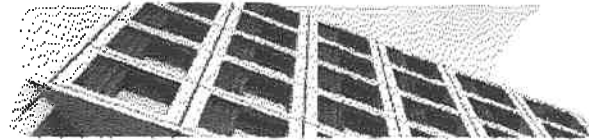
Quantity Per Term

Service 5: Annual Chilled Water Pump Inspection

4

Description (Annually)

- Visual Inspection of Pumps and Associated Variable Frequency Drives
- Remove Guard, and Inspect Pump Couplings
- Electrical Inspection of Starters and VFD's
- Perform Vibration Analysis on Each Pump Motor
- Provide Digital Field Report, Pictures, Summary, and Vibration Analysis Results


TRANE


PRICING AND ACCEPTANCE

WV Dept of Administration GSD Bldg. 11
Mr. Jeff Gillenwater, Mrs. Melissa Pettrey

Site Address:
WV Dept of Admin GSD BL 11
218 California Ave
Charleston, WV 25305

Trane Service Agreement

This Service Agreement consists of the pages beginning with the title page entitled "Scheduled Service Agreement," the consecutively numbered pages immediately following such title page, and includes and ends with the Trane Terms and Conditions (Service) (collectively, the "Service Agreement" or "Agreement"). Trane agrees to inspect and maintain the Covered Equipment according to the terms of this Service Agreement, including the "Terms and Conditions," and "Scope of Services" sections. Trane agrees to give preferential service to Service Agreement Customer over non-contract customers.

Service Fee

As the fee(s) (the "Service Fee(s)") for the inspection and maintenance services described in the Scope of Services section with respect to the Covered Equipment, Customer agrees to pay to Trane the following amounts, plus applicable tax, as and when due.

Contract Year	Annual Amount USD	Payment USD	Payment Term
Year 1	58,775.54	14,693.88	Quarterly
Year 2	61,126.56	15,281.64	Quarterly
Year 3	63,571.62	15,892.90	Quarterly
Year 4	66,116.60	16,529.15	Quarterly

In addition to any other amounts then due hereunder, if this Agreement is terminated or cancelled prior to its scheduled expiration, Customer shall pay to Company the balance of any amounts billed to but unpaid by Customer and, if a "Service Project" is included in the Agreement, the Cancellation Fee set forth in "Exhibit A" Cancellation Schedule attached hereto and incorporated herein, which Cancellation Fee represents unbilled labor, non-labor expenses and parts materials and components. Subject only to a prior written agreement signed by Trane, payment is due upon receipt of invoice in accordance with Section 4 of the attached Terms and Conditions.

Term

The Initial Term of this Service Agreement is 4 years, beginning December 1, 2024. However, Trane's obligation under this Agreement will not begin until authorized representatives of Trane and Customer have both signed this Agreement in the spaces provided below.

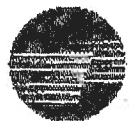
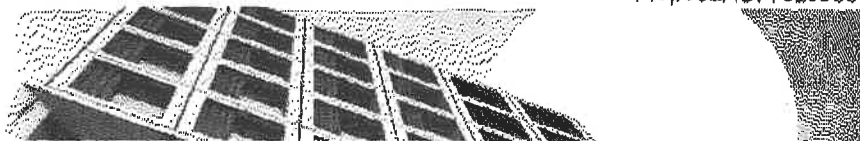
Following expiration of the initial term on November 30, 2028, this Agreement shall renew automatically for successive periods of 4 years (the "Renewal Term") until terminated as provided herein. If you do not want to renew this Agreement for the Renewal Term, please notify Trane by telephone or by U.S. mail prior to the expiration date set forth in the preceding sentence. If any questions arise regarding this Service Agreement or how to cancel this Agreement, Trane can be reached either by telephone at or by direct mail addressed to: 5001 MacCorkle Avenue SW, Charleston, WV 25309.

Renewal Pricing Adjustment

The Service Fees for an impending Renewal Term shall be the current Service Fees (defined as the Service Fees for the initial Term or Renewal Term immediately preceding the impending Renewal Term) annually adjusted based on changes to the cost of service. The Service Fees for an impending Renewal Term shall be set forth in the service renewal letter furnished to Customer.

Cancellation by Customer Prior to Services; Refund

If Customer cancels this Agreement within (a) thirty (30) days of the date this Agreement was mailed to Customer or (b) twenty (20) days of the date this Agreement was delivered to Customer, if it was delivered at the time of sale, and if no Services have been provided by Company under this Agreement, the Agreement will be void and Company will refund to Customer, or credit Customer's account, the full Service Fee of this Agreement that Customer paid to Company, if any. A ten percent (10%) penalty per month will be added to a refund that is due but is not paid or credited within forty-five (45) days after return of this Agreement to Company. Customer's right to cancel this Agreement only applies to the original owner of

**TRANE**

this Agreement and only if no Services have been provided by Company under this Agreement prior to its return to Company.

Cancellation by Company

This Agreement may be cancelled during the Initial Term or, if applicable, a Renewal Term for any reason or no reason, upon written notice from Company to Customer no later than 30 days prior to the scheduled expiration date and Company will refund to Customer, or credit Customer's account, that part of the Service Fee attributable to Services not performed by Company. Customer shall remain liable for and shall pay to Company all amounts due for Services provided by Company and not yet paid.

This agreement is subject to Customer's acceptance of the attached Trane Terms and Conditions (Service).

CUSTOMER ACCEPTANCE**TRANE ACCEPTANCE**

Trane U.S. Inc.

Authorized Representative

Submitted By: Tim Mills

Printed Name

Proposal Date: October 24, 2024

Cell: (540) 580-9118

Office: (304) 348-2800

License Number:

Title

Purchase Order

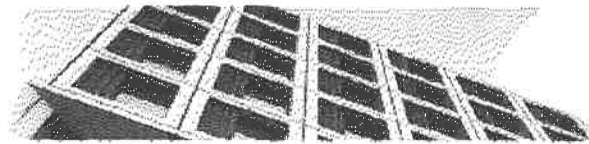
Authorized Representative

Title

Acceptance Date

Signature Date

The Initial Term of this Service Agreement is 4 years, beginning December 1, 2024.
Total Contract Amount: \$249,590.32 USD.


TRANE

TERMS AND CONDITIONS - SERVICE

"Company" shall mean Trane U.S. Inc. dba Trane for Company performance in the United States and Trane Canada ULC for Company performance in Canada.

1. **Agreement.** These terms and conditions ("Terms") are an integral part of Company's offer and form the basis of any agreement (the "Agreement") resulting from Company's proposal (the "Proposal") for the following commercial services as stated in the Proposal (collectively, the "Services"): inspection, maintenance and repair (the "Maintenance Services") on equipment (the "Covered Equipment"), specified Additional Work (if any), and, if included in the Proposal, Intelligent Services, Energy Assessment, and any other services using remote connectivity (collectively and individually referred to in these Terms as "Trane Digital Services"). **COMPANY'S TERMS ARE SUBJECT TO PERIODIC CHANGE OR AMENDMENT.**

2. **Connected Services.** In addition to these terms and conditions, the Connected Services Terms of Service ("Connected Services Terms"), available at <https://www.trane.com/TraneConnectedServicesTerms>, as updated from time to time, are incorporated herein by reference and shall apply to the extent that Company provides Customer with Connected Services, as defined in the Connected Services Terms.

3. **Acceptance.** The Proposal is subject to acceptance in writing by the party to whom this offer is made or an authorized agent ("Customer") delivered to Company within 30 days from the date of the Proposal. If Customer accepts the Proposal by placing an order, without the addition of any other terms and conditions of sale or any other modification, Customer's order shall be deemed acceptance of the Proposal subject to these Terms and Conditions. If Customer's order is expressly conditioned upon Company's acceptance or assent to terms and/or conditions other than those expressed herein, return of such order by Company with Company's Terms and Conditions attached or referenced serves as Company's notice of objection to Customer's terms and as Company's counteroffer to perform in accordance with the Proposal and Company Terms and Conditions. If Customer does not reject or object in writing to Company within 10 days, Company's counteroffer will be deemed accepted. Customer's acceptance of performance by Company will in any event constitute an acceptance by Customer of Company's Terms and Conditions. This Agreement is subject to credit approval by Company. Upon disapproval of credit, Company may delay or suspend performance or, at its option, renegotiate prices and/or Terms and Conditions with Customer. If Company and Customer are unable to agree on such revisions, this Agreement shall be cancelled without any liability, other than Customer's obligation to pay for Services provided by Company to the date of cancellation.

4. **Fees and Taxes.** Fees for the Services (the "Service Fees") are as set forth in the Proposal. Except as otherwise stated in the Proposal, Service Fees are based on performance during regular business hours. Charges for performance outside Company's normal business hours shall be billed separately according to the then prevailing overtime or emergency labor/labour rates. In addition to the stated Service Fees, Customer shall pay all taxes not legally required to be paid by Company or, alternatively, shall provide Company with an acceptable tax exemption certificate.

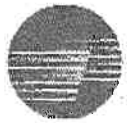
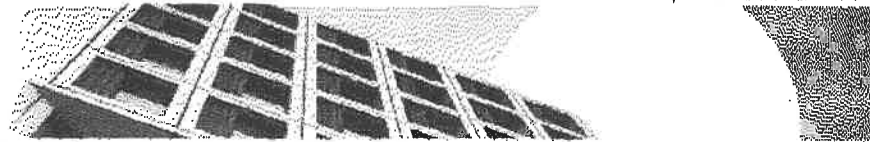
5. **Payment.** Payment is due upon receipt of Company's invoice. Service Fees shall be paid no less frequently than quarterly and in advance of performance of the Services. Company reserves the right to add to any account outstanding for more than 30 days a service charge equal to the lesser of the maximum allowable legal interest rate or 1.5% of the principal amount due at the end of each month. Without liability to Customer, Company may discontinue performance whenever payment is overdue. Customer shall pay all costs (including attorneys' fees) incurred by Company in attempting to collect amounts due or otherwise enforcing this Agreement.

6. **Customer Breach.** Each of the following constitutes a breach by Customer and shall give Company the right, without an election of remedies, to suspend performance or terminate this Agreement by delivery of written notice declaring termination. Upon termination, Customer shall be liable to the Company for all Services furnished to date and all damages sustained by Company (including lost profit and overhead): (a) Any failure by Customer to pay amounts when due; (b) any general assignment by Customer for the benefit of its creditors, Customer's bankruptcy, insolvency, or receivership; (c) Any representation or warranty furnished by Customer in connection with this Agreement is false or misleading in any material respect when made; or (d) Any failure by Customer to perform or comply with any material provision of this Agreement.

7. **Performance.** Company shall perform the Services in accordance with industry standards generally applicable in the state or province where the Services are performed under similar circumstances when Company performs the Services. Company may refuse to perform where working conditions could endanger property or put people at risk. Unless otherwise agreed by Customer and Company, at Customer's expense and before the Services begin, Customer will provide any necessary access platforms, catwalks to safely perform the Services in compliance with OSHA, state, or provincial industrial safety regulations or any other applicable industrial safety standards or guidelines. This Agreement presupposes that all major pieces of Covered Equipment are in proper operating condition as of the date hereof. Services furnished are premised on the Covered Equipment being in a maintainable condition. In no event shall Company have any obligation to replace Covered Equipment that is no longer maintainable. During the first 30 days of this Agreement, or upon initial inspection, and/or upon seasonal start-up (if included in the Services), if an inspection by Company of Covered Equipment indicates repairs or replacement is required, Company will provide a written quotation for such repairs or replacement. If Customer does not authorize such repairs or replacement, Company may remove the unacceptable equipment from the Covered Equipment and adjust the Service Fees accordingly. Customer authorizes Company to utilize Customer's telephone line or network infrastructure to connect to controls, systems and/or equipment provided or serviced by Company and to provide Services contracted for or otherwise requested by Customer, including remote diagnostic and repair service. Customer acknowledges that Company is not responsible for any adverse impact to Customer's communications and network infrastructure. Company may elect to install/attach to Customer equipment or provide portable devices (hardware and/or software) for execution of control or diagnostic procedures. Such devices shall remain the personal proprietary property of Company and in no event shall become a fixture of Customer locations. Customer shall not acquire any interest, title or equity in any hardware, software, processes, and other intellectual or proprietary rights to devices used in connection with the Services on Customer equipment. Company may remove such devices at its discretion. Parts used for any repairs made will be those selected by Company as suitable for the repair and may be parts not manufactured by Company.

8. **Customer Obligations.** Customer shall: (a) Provide Company reasonable and safe access to the Covered Equipment and areas where Company is to work; (b) Follow manufacturer recommendations concerning teardown and internal inspection, major overhaul, restoration or refurbishing of the Covered Equipment; unless expressly stated in the Scope of Services statement, Company is not performing any manufacturer recommended teardown and internal inspection, major overhaul, restoration or refurbishing of the Covered Equipment; and (c) Where applicable, unless water treatment is expressly included in the Services, provide professional cooling tower water treatment in accordance with any reasonable recommendations provided by Company.

9. **Exclusions.** Unless expressly included in the Covered Equipment or the Services, the Services do not include, and Company shall not be responsible for or liable to the Customer for any claims, losses, damages or expenses suffered by the Customer in any way connected with, relating to or arising from, any of the following: (a) Any guarantee of room conditions or system performance; (b) Inspection, maintenance, repair, replacement of or services for: chilled water and condenser water pumps and piping; electrical disconnect switches or circuit breakers; motor starting equipment that is not factory mounted and interconnecting power wiring; recording or portable instruments, gauges or thermometers; non-moving parts or non-maintainable parts of the system, including, but not limited to, storage tanks, pressure vessels, shells, coils, tubes, housings, castings, casings, drain pans, panels, duct work; piping: hydraulic, hydronic, pneumatic, gas, or refrigerant; insulation; pipe covering; refractory material; fuses, unit cabinets; electrical wiring; ductwork or conduit; electrical distribution system; hydronic structural supports and similar items; the appearance of decorative casing or cabinets; damage sustained by other equipment or systems; and/or any failure, misadjustment or design deficiencies in other equipment or systems; (c) Damage, repairs or replacement of parts made necessary as a result of electrical power failure, low voltage, burned out main or branch fuses, low water pressure, vandalism, misuse or abuse, wear and tear, end of life failure, water damage, improper operation, unauthorized alteration of equipment, accident, acts or omissions of Customer or others, damage due to freezing weather, calamity, malicious act, or any Event of Force Majeure; (d) Any damage or malfunction resulting from vibration, electrolytic action, freezing, contamination, corrosion, erosion, or caused by scale or sludge on internal tubes except where water treatment protection services are provided by Company as part of this Agreement; (e) Furnishing any items of equipment, material, or labor/labour, or performing special tests recommended or required by insurance companies or federal, state, or local governments; (f) Failure or inadequacy of any structure or foundation supporting or surrounding the equipment to be worked on or any portion thereof; (g) Building access or alterations that might be necessary to repair or replace Customer's existing equipment; (h) The normal function of starting and stopping equipment or the opening and closing of valves, dampers or regulators normally installed to protect equipment against damage; (i) Valves that are not factory mounted: balance, stop, control, and other valves external to the device unless specifically included in the Agreement; (j) Any responsibility for design or redesign of the system or the Covered Equipment, obsolescence, safety tests, or removal or reinstallation of valve bodies and dampers; (k) Any services, claims, or damages arising out of Customer's failure to comply with its obligations under this Agreement; (l) Failure of Customer to follow manufacturer recommendations concerning teardown and internal inspection, overhaul and refurbishing of equipment; (m) Any claims, damages, losses, or expenses, arising from or related to conditions that existed in,


TRANE


on, or upon the premises before the effective date of this Agreement ("Pre-Existing Conditions"), including, without limitation, damages, losses, or expenses involving pre-existing building envelope issues, mechanical issues, plumbing issues, and/or indoor air quality issues involving mold/mould and/or fungi: (n) Replacement of refrigerant is excluded, unless replacement of refrigerant is expressly stated as included within the Services, in which case replacement shall in no event exceed the stated percentage of rated system charge per year expressly stated in the Services; (o) crane or rigging costs; (p) Any Services, claims, or damages arising out of refrigerant not supplied by Company. Customer shall be responsible for: (i) The cost of any additional replacement refrigerant; (ii) Operation of any equipment; and (iii) Any claims, damages, losses, or expenses, arising from or related to work done by or services provided by individuals or entities that are not employed by or hired by Company.

10. Limited Warranty. Company warrants that: (a) the material manufactured by Company and provided to Customer in performance of the Services is free from defects in material and manufacture for a period of 12 months from the earlier of the date of equipment start-up or replacement; and (b) the labor/labour portion of the Maintenance Services and Additional Work has been properly performed for a period of 90 days from date of completion (the "Limited Warranty"). Company obligations of equipment start-up, if any are stated in the Proposal, are contemporaneous with the Limited Warranty period. Defects must be reported to Company within the Limited Warranty period. Company's obligation under the Limited Warranty is limited to repairing or replacing the defective part at its option and to correcting any labor/labour improperly performed by Company. No liability whatsoever shall attach to Company until the Maintenance Services and Additional Work have been paid for in full. Exclusions from this Warranty include claims, losses, damages and expenses in any way connected with, related to or arising from failure or malfunction of equipment due to the following: wear and tear; and of the failure, corrosion, erosion, deterioration; Customer's failure to follow the Company-provided maintenance plan; unauthorized or improper maintenance; unauthorized or improper parts or material; refrigerant not supplied by Company; and modifications made by others to equipment. Company shall not be obligated to pay for the cost of lost refrigerant or lost product. Some components of equipment manufactured by Company may be warranted directly from the component supplier, in which case this Limited Warranty shall not apply to those components and any warranty of such components shall be the warranty given by such component supplier. Notwithstanding the foregoing, all warranties provided herein terminate upon termination or cancellation of this Agreement. Equipment, material and/or parts that are not manufactured by Company ("Third-Party Product(s)") are not warranted by Company and have such warranties as may be extended by the respective manufacturer. **CUSTOMER UNDERSTANDS THAT COMPANY IS NOT THE MANUFACTURER OF ANY THIRD-PARTY PRODUCT(S) AND ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS ARE THOSE OF THE THIRD-PARTY MANUFACTURER, NOT COMPANY AND CUSTOMER IS NOT RELYING ON ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS REGARDING THE THIRD-PARTY PRODUCT THAT MAY BE PROVIDED BY COMPANY OR ITS AFFILIATES, WHETHER ORAL OR WRITTEN. THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY ARE THE SOLE AND EXCLUSIVE REMEDIES FOR WARRANTY CLAIMS PROVIDED BY COMPANY TO CUSTOMER UNDER THIS AGREEMENT AND ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, LIABILITIES, CONDITIONS AND REMEDIES, WHETHER IN CONTRACT, WARRANTY, STATUTE OR TORT (INCLUDING NEGLIGENCE), EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHERS ARISING FROM COURSE OF DEALING OR TRADE. COMPANY EXPRESSLY DISCLAIMS ANY REPRESENTATIONS OR WARRANTIES, ENDORSEMENTS OR CONDITIONS OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF QUALITY, FITNESS, MERCHANTABILITY, DURABILITY AND/OR OTHERS ARISING FROM COURSE OF DEALING OR TRADE OR REGARDING PREVENTION BY THE SCOPE OF SERVICES, OR ANY COMPONENT THEREOF. NO REPRESENTATION OR WARRANTY OF ANY KIND, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, REGARDING PREVENTING, ELIMINATING, REDUCING OR INHIBITING ANY MOLD, FUNGUS, BACTERIA, VIRUS, MICROBIAL GROWTH, OR ANY OTHER CONTAMINANTS (INCLUDING COVID-19 OR ANY SIMILAR VIRUS) (COLLECTIVELY, "CONTAMINANTS"), WHETHER INVOLVING OR IN CONNECTION WITH EQUIPMENT, ANY COMPONENT THEREOF, SERVICES OR OTHERWISE, IN NO EVENT SHALL COMPANY HAVE ANY LIABILITY FOR THE PREVENTION, ELIMINATION, REDUCTION OR INHIBITION OF THE GROWTH OR SPREAD OF SUCH CONTAMINANTS INVOLVING OR IN CONNECTION WITH ANY EQUIPMENT, THIRD-PARTY PRODUCT, OR ANY COMPONENT THEREOF. SERVICES OR OTHERWISE AND CUSTOMER HEREBY SPECIFICALLY ACKNOWLEDGES AND AGREES THERETO.**

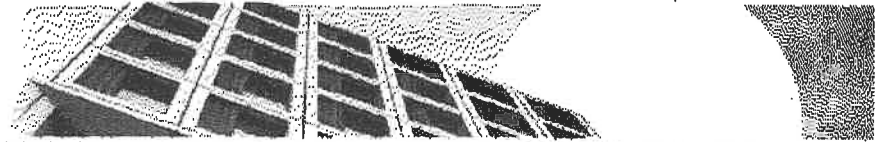
11. Indemnity. To the maximum extent permitted by law, Company and Customer shall indemnify and hold harmless each other from any and all claims, actions, costs, expenses, damages and liabilities, including reasonable attorneys' fees, resulting from death or bodily injury or damage to real or personal property, to the extent caused by the negligence or misconduct of the indemnifying party, and/or its respective employees or other authorized agents in connection with their activities within the scope of this Agreement. Neither party shall indemnify the other against claims, damages, expenses, or liabilities to the extent attributable to the acts or omissions of the other party or third parties. If the parties are both at fault, the obligation to indemnify shall be proportional to their relative fault. The duty to indemnify and hold harmless will continue in full force and effect, notwithstanding the expiration or early termination of this Agreement, with respect to any claims based on facts or conditions that occurred prior to expiration or termination of this Agreement.

12. Limitation of Liability. NOTWITHSTANDING ANYTHING TO THE CONTRARY, NEITHER PARTY SHALL BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSSES OR DAMAGES OF ANY KIND (INCLUDING WITHOUT LIMITATION REFRIGERANT LOSS, PRODUCT LOSS, LOST REVENUE OR PROFITS, OR LIABILITY TO THIRD PARTIES), OR CONTAMINANTS LIABILITIES, OR PUNITIVE DAMAGES WHETHER BASED IN CONTRACT, WARRANTY, STATUTE, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY OR FACTS. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, THE TOTAL AND AGGREGATE LIABILITY OF THE COMPANY TO THE CUSTOMER WITH RESPECT TO ANY AND ALL CLAIMS CONNECTED WITH, RELATED TO OR ARISING FROM THE PERFORMANCE OR NON-PERFORMANCE OF THIS AGREEMENT, WHETHER BASED IN CONTRACT, WARRANTY, STATUTE, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY OR FACTS, SHALL NOT EXCEED THE COMPENSATION RECEIVED BY COMPANY OVER THE 12 MONTH PERIOD PRECEDING THE DATE OF OCCURRENCE FOR THE SERVICES AND ADDITIONAL WORK FOR THE LOCATION WHERE THE LOSS OCCURRED. IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY DAMAGES (WHETHER DIRECT OR INDIRECT) RESULTING FROM MOLD/MOULD, FUNGUS, BACTERIA, MICROBIAL GROWTH, OR OTHER CONTAMINANTS OR AIRBORNE BIOLOGICAL AGENTS. TO THE MAXIMUM EXTENT ALLOWED BY LAW, COMPANY SHALL NOT BE LIABLE FOR ANY OF THE FOLLOWING IN CONNECTION WITH PROVIDING TRANE DIGITAL SERVICES: INTERRUPTION, DELETION, DEFECT, DELAY IN OPERATION OR TRANSMISSION; CUSTOMER'S NETWORK SECURITY; COMPUTER VIRUS; COMMUNICATION FAILURE; THEFT OR DESTRUCTION OF DATA; GAPS IN DATA COLLECTED; AND UNAUTHORIZED ACCESS TO CUSTOMER'S DATA OR COMMUNICATIONS NETWORK.

13. CONTAMINANTS LIABILITY

The transmission of COVID-19 may occur in a variety of ways and circumstances, many of the aspects of which are currently not known. HVAC systems, products, services and other offerings have not been tested for their effectiveness in reducing the spread of COVID-19, including through the air in closed environments. **IN NO EVENT WILL COMPANY BE LIABLE UNDER THIS AGREEMENT OR OTHERWISE FOR ANY INDEMNIFICATION, ACTION OR CLAIM, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR OTHERWISE, FOR ANY BODILY INJURY (INCLUDING DEATH) DAMAGE TO PROPERTY, OR ANY OTHER LIABILITIES, DAMAGES OR COSTS RELATED TO CONTAMINANTS (INCLUDING THE SPREAD, TRANSMISSION OR CONTAMINATION THEREOF) (COLLECTIVELY, "CONTAMINANTS LIABILITIES") AND CUSTOMER HEREBY EXPRESSLY RELEASES COMPANY FROM ANY SUCH CONTAMINANTS LIABILITIES.**

14. Asbestos and Hazardous Materials. The Services expressly exclude any identification, abatement, cleanup, control, disposal, removal or other work connected with asbestos polychlorinated biphenyl ("PCB"), or other hazardous materials (collectively, "Hazardous Materials"). Customer warrants and represents that there are no Hazardous Materials on the premises that will in any way affect Company's performance, except as set forth in a writing signed by Company disclosing the existence and location of any Hazardous Materials in all areas within which Company will be performing. Should Company become aware of or suspect the presence of Hazardous Materials, Company may immediately stop work in the affected area and notify Customer. Customer will be responsible for correcting the condition in accordance with all applicable laws and regulations. Customer shall be exclusively responsible for and shall indemnify and hold harmless Company (including its employees, agents and subcontractors) from and against any loss, claim, liability, fees, penalties, injury (including death) or liability of any nature, and the payment thereof, arising out of or relating to any Hazardous Materials on or about the premises, not brought onto the premises by Company. Company shall be required to resume performance only in the absence of Hazardous Materials or when the affected area has been rendered harmless. In no event shall Company be obligated to transport or handle Hazardous Materials, provide any notices to any governmental agency, or examine the premises site for the presence of Hazardous Materials.


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15. Insurance. Company agrees to maintain the following Insurance during the term of this Agreement with limits not less than shown below and will, upon request from Customer, provide a Certificate of evidencing the following coverage:

Commercial General Liability	\$2,000,000 per occurrence
Automobile Liability	\$2,000,000 CSL
Workers Compensation	Statutory Limits

If Customer has requested to be named as an additional insured under Company's insurance policy, Company will do so but only subject to Company's manuscript additional insured endorsement under its primary Commercial General Liability policies. In no event does Company or its insurer waive rights of subrogation.

16. Force Majeure. Company's duty to perform under this Agreement is contingent upon the non-occurrence of an Event of Force Majeure. If Company is unable to carry out any material obligation under this Agreement due to an Event of Force Majeure, this Agreement shall at Company's election (i) remain in effect but Company's obligations shall be suspended until the uncontrollable event terminates or (ii) be terminated upon 10 days' notice to Customer, in which event Customer shall pay Company for all parts of the Services furnished to the date of termination. An "Event of Force Majeure" shall mean any cause or event beyond the control of Company. Without limiting the foregoing, "Event of Force Majeure" includes: acts of God; acts of terrorism; war or the public enemy; flood; earthquake; lightning; tornado; storm; fire; civil disobedience; pandemic; insurrection; riots; labor/labour disputes; labor/labour or material shortages from the usual sources of supply; sabotage; restraint by court order or public authority (whether valid or invalid), and action or non-action by or inability to obtain or keep in force the necessary governmental authorizations, permits, licenses, certificates or approvals if not caused by Company; and the requirements of any applicable government in any manner that diverts either the material or the finished product to the direct or indirect benefit of the government.

17. Maintenance Services Other Than Solely Scheduled Service. If Company's Maintenance Services hereunder are not limited solely to Scheduled Service, the following provisions shall also apply: (a) Required restoration shall be performed by Customer at its cost prior to Company being obligated to perform hereunder; (b) any changes, adjustments, service or repairs made to the Equipment by any party other than Company, unless approved by Company in writing, may, at Company's option, terminate Company's obligation to render further service to the Equipment so affected; in such case no refund of any portion of the Service Fees shall be made; and (c) Customer shall (i) promptly notify Company of any unusual performance of Equipment; (ii) permit only Company personnel to repair or adjust Equipment and/or controls during the Term or a Renewal Term; and (iii) utilize qualified personnel to properly operate the Equipment in accordance with the applicable operating manuals and recommended procedures.

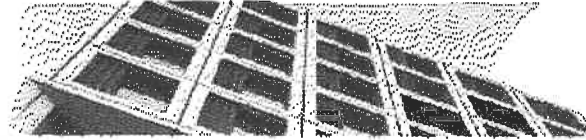
18. General. Except as provided below, to the maximum extent provided by law, this Agreement is made and shall be interpreted and enforced in accordance with the laws of the state or province in which Company performs the Services. Any dispute arising under or relating to this Agreement shall be decided by litigation in a court of competent jurisdiction located in the state or province in which the Services are performed. To the extent the premises are owned and/or operated by any agency of the United States Federal Government, determination of any substantive issue of law shall be according to the United States Federal common law of Government contracts as enunciated and applied by United States Federal judicial bodies and boards of contract appeals of the United States Federal Government. This Agreement contains all of the agreements, representations and understandings of the parties and supersedes all previous understandings, commitments or agreements, oral or written, related to the Services. If any term or condition of this Agreement is invalid, illegal or incapable of being enforced by any rule of law, all other Terms of this Agreement will nevertheless remain in full force and effect as long as the economic or legal substance of the transaction contemplated hereby is not affected in a manner adverse to any party hereto. Customer may not assign, transfer, or convey this Agreement, or any part hereof, without the written consent of Company. Subject to the foregoing, this Agreement shall bind and inure to the benefit of the parties hereto and their permitted successors and assigns. This Agreement may be executed in several counterparts, each of which when executed shall be deemed to be an original, but all together shall constitute but one and the same Agreement. A fully executed facsimile copy hereof or the several counterparts shall suffice as an original. Customer may not assign, transfer, or convey this Agreement, or any part hereof, or its right, title or interest herein, without the written consent of Company. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the parties' respective successors and assigns. No failure or delay by the Company in enforcing any right or exercising any remedy under this Agreement shall be deemed to be a waiver by the Company of any right or remedy.

19. Equal Employment Opportunity/Affirmative Action Clause. Company is a federal contractor that complies fully with Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60, 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-74.1, and 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 Executive Order 13496 and Section 29 CFR 471, appendix A to subpart A, regarding the notice of employee rights in the United States and with Canadian Charter of Rights and Freedoms Schedule B to the Canada Act 1982 (U.K.) 1982, c. 11 and applicable Provincial Human Rights Codes and employment law in Canada.

20. U.S. Government Services. The following provision applies only to direct sales by Company to the US Government. The Parties acknowledge that all items or services ordered and delivered under this Agreement are Commercial Items as defined under Part 12 of the Federal Acquisition Regulation (FAR). In particular, Company agrees to be bound only by those Federal contracting clauses that apply to "commercial" suppliers and that are contained in FAR 52.212-5(a)(1). Company complies with 52.219-8 or 52.219-9 in its service and installation contracting business. The following provision applies only to indirect sales by Company to the US Government. As a Commercial Item Subcontractor, Company accepts only the following mandatory flow down provisions: 52.219-8; 52.222-26; 52.222-35; 52.222-36; 52.222-39; 52.247-64. If the Services are in connection with a U.S. Government contract, Customer certifies that it has provided and will provide current, accurate, and complete information, representations, and certifications to all government officials, including but not limited to the contracting officer and officials of the Small Business Administration, on all matters related to the prime contract, including but not limited to all aspects of its ownership, eligibility, and performance. Anything herein notwithstanding, Company will have no obligations to Customer unless and until Customer provides Company with a true, correct and complete executed copy of the prime contract. Upon request, Customer will provide copies to Company of all requested written communications with any government official related to the prime contract prior to or concurrent with the execution thereof, including but not limited to any communications related to Customer's ownership, eligibility, or performance of the prime contract. Customer will obtain written authorization and approval from Company prior to providing any government official any information about Company's performance of the Services that are the subject of the Proposal or this Agreement, other than the Proposal or this Agreement.

21. Limited Waiver of Sovereign Immunity. If Customer is an Indian Tribe (in the U.S.) or a First Nation or Band Council (in Canada), Customer, whether acting in its capacity as a government, governmental entity, a duly organized corporate entity or otherwise, for itself and for its agents, successors, and assigns: (1) hereby provides this limited waiver of its sovereign immunity as to any damages, claims, lawsuit, or cause of action (herein "Action") brought against Customer by Company and arising or alleged to arise out of the furnishing by Company of any product or service under this Agreement, whether such Action is based in contract, tort, strict liability, civil liability or any other legal theory; (2) agrees that jurisdiction and venue for any such Action shall be proper and valid (a) if Customer is in the U.S., in any state or United States court located in the state in which Company is performing this Agreement or (b) if Customer is in Canada, in the superior court of the province or territory in which the work was performed; (3) expressly consents to such Action, and waives any objection to jurisdiction or venue; (4) waives any requirement of exhaustion of tribal court or administrative remedies for any Action arising out of or related to this Agreement; and (5) expressly acknowledges and agrees that Company is not subject to the jurisdiction of Customer's tribal court or any similar tribal forum, that Customer will not bring any action against Company in tribal court, and that Customer will not avail itself of any ruling or direction of the tribal court permitting or directing it to suspend its payment or other obligations under this Agreement. The individual signing on behalf of Customer warrants and represents that such individual is duly authorized to provide this waiver and enter into this Agreement and that this Agreement constitutes the valid and legally binding obligation of Customer, enforceable in accordance with its terms.

1-26.130-7 (0724)
Supersedes 1-26.130-7 (0821)


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TERMES ET CONDITIONS GÉNÉRALES – SERVICE

« Entreprise » désigne Trane U.S. Inc. pour les activités de l'Entreprise aux États-Unis et Trane Canada ULC pour les activités de l'Entreprise au Canada.

1. **Entente.** Ces termes et conditions (les « Termes et Conditions ») font partie intégrante de l'offre de l'Entreprise et forment la base de toute entente (« Entente ») découlant d'une proposition de l'Entreprise (la « Proposition ») pour les services commerciaux suivants, tel que déclarés dans la Proposition (collectivement, les « Services ») : inspection, entretien et réparation (les « Services d'entretien ») des équipements (« Équipement couvert » ou « Équipement »), le travail supplémentaire spécifié (le cas échéant) (le « Travail Supplémentaire »), et, si inclus dans la Proposition, des Services Intelligents, d'Évaluation d'Énergie, de Solutions de Performance Énergétique, ainsi que tout autre service utilisant une connectivité à distance (collectivement et individuellement dénommés dans les présentes Conditions « Services de performance énergétique et du bâtiment »). **LES TERMES ET CONDITIONS DE L'ENTREPRISE SONT SOUS RÉSERVES D'AMENDEMENTS OU DE MODIFICATIONS PÉRIODIQUES.**

2. **Services connectés.** En plus des présents termes et conditions, les Conditions d'utilisation des Services connectés (« Conditions des Services connectés »), disponibles sur <https://www.trane.com/TraneConnectedServicesTerms>, mises à jour de temps à autre, sont incorporées ici par référence et s'appliquent dans la mesure où la Compagnie fournit au Client des Services Connectés, tels que définis dans les Conditions des Services Connectés.

3. **Acceptation.** La Proposition est sous réserve de l'acceptation écrite de la partie à laquelle cette offre est faite ou d'un agent autorisé (le « Client ») transmis à l'Entreprise dans les 30 jours à compter de la date de la Proposition. Si le Client accepte la Proposition en plaçant une commande, sans l'ajout de tout autre terme et condition de vente ou de toute autre modification, la commande du Client vaudra acceptation de la Proposition soumise aux présents Termes et Conditions. Si la commande du Client est expressément conditionnelle à l'acceptation ou au consentement de l'Entreprise quant aux termes et (ou) conditions autres que celles incluses dans les présentes, le retour de cette commande par l'Entreprise avec les Termes et Conditions joints ou en y faisant références constitue un avis de refus de l'Entreprise des termes et conditions du Client et une contre-proposition de l'Entreprise d'exécuter la Proposition conformément aux Termes et Conditions et à la Proposition de l'Entreprise. Si le Client ne rejette pas ou ne s'oppose pas par écrit à l'Entreprise dans les 10 jours, la contre-proposition de l'Entreprise est réputée acceptée. L'acceptation du Client de la prestation de l'Entreprise vaudra, dans tous les cas, acceptation par le Client des Termes et Conditions de l'Entreprise. La présente Entente est soumise à l'approbation de crédit par l'Entreprise. Dans le cas où le crédit est refusé, l'Entreprise peut retarder ou suspendre la prestation ou, à son gré, renégocier les prix et (ou) les Termes et Conditions avec le Client. Si l'Entreprise et le Client ne parviennent pas à s'entendre sur de telles révisions, la présente Entente sera résiliée, sans obligation autre que l'obligation du Client de payer les Services déjà fournis par l'Entreprise à la date de l'annulation.

4. **Frais et taxes.** Les Frais pour les Services (les « Frais de Services ») sont les mêmes qu'énoncés dans la Proposition. Sauf indication contraire dans la Proposition, les Frais de Services sont basés sur la prestation pendant les heures normales d'ouverture de l'Entreprise. Les frais pour des prestations en dehors des heures normales d'ouverture de l'Entreprise doivent être facturés séparément selon les taux des heures supplémentaires ou des interventions d'urgence alors en vigueur. Outre les Frais de Services susmentionnés, le Client doit payer toutes les taxes qui n'ont pas à être payées par l'Entreprise selon la loi ou, sinon, le Client doit fournir à l'Entreprise des certificats d'exemption de taxes acceptables.

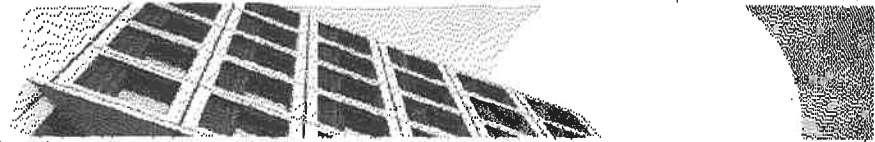
5. **Paiement.** Le paiement doit être effectué dès réception de la facture de l'Entreprise. Les Frais de Services seront payés à une fréquence trimestrielle ou à un intervalle plus court et avant la prestation des Services. L'Entreprise se réserve le droit d'ajouter à tout compte en souffrance pendant plus de 30 jours des frais équivalents au moins des montants suivants : le taux d'intérêt maximal permis par la loi ou 1,5 % du montant principal dû à la fin de chaque mois. Sans aucune responsabilité pour l'Entreprise, l'Entreprise peut interrompre la prestation des Services lorsqu'un paiement est en souffrance. Le Client doit payer tous les frais (y compris les honoraires d'avocat) engagés par l'Entreprise pour tenter de recouvrer les sommes dues ou pour faire respecter la présente Entente.

6. **Défaut par le Client.** Chacun des éléments ci-dessous constitue un défaut par le Client et donne droit à l'Entreprise, sous réserves de ses autres recours, de suspendre la prestation des Services ou de résilier la présente Entente en faisant parvenir un avis écrit de résiliation ou de suspension. En cas de résiliation, le Client sera responsable envers l'Entreprise pour tous les Services qui ont été fournis jusqu'à la résiliation et pour tous les dommages subis par l'Entreprise (incluant les frais généraux et perte de profit) : (a) tout manquement du Client à payer les montants à la date d'échéance; (b) toute cession générale par le Client au bénéfice de ses créanciers ou la faillite, insolvabilité ou liquidation judiciaire du Client; (c) toute représentation ou garantie fournie par le Client dans le cadre de la présente Entente qui serait fautive ou trompeuse sur un élément essentiel lorsqu'elle est faite; ou (d) tout défaut par le Client d'exécuter ou se conformer à toute disposition importante de la présente Entente.

7. **Prestation des services.** L'Entreprise exécute les Services conformément aux normes de l'industrie généralement applicables dans ce domaine et dans des circonstances similaires dans l'État ou la province où les Services sont exécutés au moment où l'Entreprise exécute ses Services. L'Entreprise peut refuser d'exécuter ses Services ou tout travail quand les conditions de travail sont susceptibles de mettre en danger la propriété ou la sécurité des personnes. Sauf entente contraire entre le Client et l'Entreprise, aux frais du Client et avant que les Services commencent, le Client fournira toutes plateformes d'accès ou passerelles nécessaires pour effectuer les Services en toute sécurité conformément aux règlements de santé et sécurité industrielle de l'OSHA ou de l'État ou province ou à toutes règles, standards, normes et directives en santé et sécurité applicables. La présente Entente présuppose que toutes les pièces importantes de l'Équipement couvert fonctionnent correctement en date des présentes. Les Services sont fournis à la condition que l'Équipement couvert soit dans un état permettant son entretien. En aucun cas, l'Entreprise ne sera sous l'obligation de remplacer l'Équipement couvert qui n'est plus dans un état permettant son entretien. Au cours des 30 premiers jours de la présente Entente, ou lors de l'inspection initiale, et (ou) au moment du démarrage saisonnier (si inclus dans les Services), si une inspection par l'Entreprise de l'Équipement couvert révèle que des réparations ou remplacements sont nécessaires, l'Entreprise fournira une proposition pour ces réparations ou remplacements. Dans le cas où le Client n'autorise pas ces réparations ou remplacements, l'Entreprise peut retirer l'équipement défectueux de l'Équipement couvert et ajuster les Frais de Services en conséquence. Le Client autorise l'Entreprise à utiliser la ligne téléphonique ou l'infrastructure réseau du Client pour se connecter aux contrôles, commandes, systèmes et équipements fournis ou entretenus par l'Entreprise et pour fournir les Services pour lesquels les Services de l'Entreprise ont été retenus ou qui lui ont été demandés par le Client, incluant le diagnostic à distance et les services de réparation. Le Client reconnaît que l'Entreprise n'est pas responsable des éventuelles répercussions néfastes sur les communications et l'infrastructure réseau du Client. L'Entreprise peut choisir d'installer ou de fixer des équipements ou fournir des appareils portatifs (matériel ou logiciel) pour l'exécution des procédures de contrôle ou de diagnostic. De tels appareils demeureront la propriété de l'Entreprise et en aucun cas ne deviendront un accessoire fixe des installations du Client. Le Client n'acquerra aucun droit, titre ou équilibre sur aucun matériel, logiciel, processus ou tout autre droit de propriété ou de propriété intellectuelle sur les appareils utilisés pour les Services et fournis sur l'équipement du Client. L'Entreprise peut, à sa discrétion, retirer ces dispositifs. Les pièces utilisées pour les réparations exécutées seront celles choisies par l'Entreprise et nécessaires aux réparations et peut être des pièces qui ne sont pas fabriquées par l'Entreprise.

8. **Obligations du Client.** Le Client doit : (a) fournir à l'Entreprise un accès raisonnable et sécuritaire à l'Équipement couvert et aux endroits où l'Entreprise est tenue de travailler; (b) suivre les recommandations du fabricant concernant le démontage et l'inspection interne, la révision générale, la restauration ou remise à neuf de l'Équipement couvert; sauf si expressément mentionné dans la description de l'étendue des Services, l'Entreprise n'exécute pas de démontage et d'inspection interne, de révision générale, de restauration ou de remise en état de l'Équipement couvert recommandés par le fabricant; et (c) lorsqu'applicable, à moins que le traitement des eaux soit expressément inclus dans les Services, fournir un traitement des eaux professionnel pour tout de refroidissement, en conformité avec toutes recommandations raisonnables fournies par l'Entreprise.

9. **Exclusions.** Sauf si expressément inclus dans l'Équipement couvert ou les Services, les Services n'incluent pas et l'Entreprise ne sera pas tenue responsable envers le Client pour toutes réclamations, pertes, dommages ou dépenses encourus par le Client, de quelques manières que ce soit, en lien avec ou résultant des éléments suivants : (a) toute garantie de conditions ambiantes ou de performance du système; (b) l'inspection, l'entretien, la réparation, le remplacement ou des services pour : les pompes à eau réfrigérée et du condenseur et la tuyauterie, interrupteurs électriques généraux ou disjoncteurs, équipement de démarrage de moteur qui n'est pas monté en usine et câblage d'alimentation en interconnexion, instruments d'enregistrement ou instruments portables, jauge ou thermomètres, pièces du système non amovibles (fixes) ou qu'il est impossible d'entretenir et de réparer, incluant sans être limitatif, les réservoirs de stockage, appareils et réceptacles sous pression, calendriers, serpents, lubes, joints d'étanchéité, roulements, carters, moulages, logements, bases de récupération, coquilles, bobines, conduites, enveloppes, pièces moulées, boîtiers, cuvettes de dégivrage, panneaux, canalisations et conduits, tuyauterie : hydraulique, hydronique, pneumatique, gaz ou réfrigérant, isolation, revêtement de tuyaux, matériau réfractaire, fusibles, armoires d'unité, câblage électrique, réseau de gaines ou conduites, réseau de distribution d'électricité, supports de structure hydroniques et éléments similaires, l'apparence des pièces décoratifs ou des armoires, les dommages subis par d'autres équipements, appareils ou systèmes, ou toute détérioration, mauvais réglage ou vice de conception de d'autres

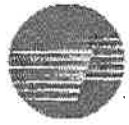
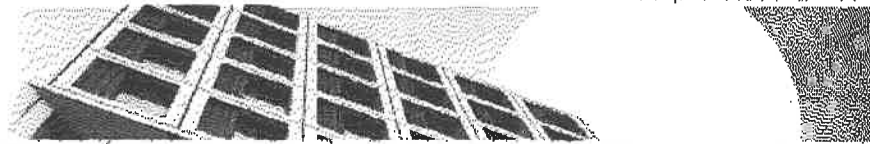

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équipements ou systèmes; (c) les dommages, les réparations ou le remplacement de pièces rendus nécessaires à la suite d'une panne d'électricité, d'une basse tension, de fusibles des circuits principaux et dérivés grillés, d'une faible pression de l'eau, de vandalisme, d'une utilisation fautive ou abusive, l'usure normale, de défaillance dû à la fin de vie, d'un dégât d'eaux, d'un mauvais fonctionnement, d'une modification non autorisée du matériel, d'un accident, des actes ou des omissions du Client ou d'autres personnes, des dommages dus à un temps de gel, à un cataclysme, à un acte de malveillance ou tout événement de Force majeure; (d) tout dommage ou détérioration résultant de vibrations, d'action électrolytique, de congélation, de contamination, de corrosion, d'érosion, ou causées par le terre ou les boues à l'intérieur des tuyaux, sauf lorsque les services de protection du traitement des eaux sont fournis par l'Entreprise dans le cadre de la présente Entente; (e) la fourniture de tout équipement, matériel ou main d'œuvre, la réalisation de tests spéciaux recommandés ou exigés par des compagnies d'assurances des administrations fédérales, provinciales ou locales; (f) la défaillance ou l'insuffisance de toute structure ou fondation en dessous ou autour de l'équipement ou de toute partie de celui-ci entravant l'exécution du travail; (g) l'accès au bâtiment ou des modifications qui pourraient être nécessaires pour réparer ou remplacer l'équipement existant du Client; (h) la fonction normale de démarrage et d'arrêt de l'équipement ou l'ouverture et la fermeture des vannes, clapets ou régulateurs normalement installés pour protéger l'équipement contre les dommages; (i) les vannes qui ne sont pas montées en usine : les vannes d'équilibrage, d'arrêt, de contrôle et les autres vannes externes au dispositif, sauf si spécifiquement incluses dans la présente Entente; (j) toute responsabilité pour la conception ou la reprise de conception du système ou de l'équipement couvert, l'obsolescence, les tests de sécurité ou l'enlèvement ou la réinstallation de corps de vanne, d'amortisseurs et de clapets; (k) des services, des réclamations ou des dommages découlant du défaut du Client à se conformer à ses obligations en vertu de la présente Entente; (l) le défaut du Client à suivre les recommandations du fabricant concernant le démontage et l'inspection interne, la révision générale et la remise en état de l'équipement; (m) les réclamations, dommages, pertes ou dépenses, résultant de ou liés à des conditions existantes dans les installations avant l'entrée en vigueur de la présente Entente (« Conditions préexistantes »), y compris, mais sans être limitatif, les dommages, pertes ou dépenses impliquant des problèmes préexistants tels que les problèmes d'enveloppe de bâtiment, mécaniques, de plomberie ou de qualité de l'air intérieur comprenant notamment les moisissures et (ou) les champignons; (n) le remplacement du réfrigérant est exclu, à moins que le remplacement du réfrigérant soit expressément inclus dans les Services, auquel cas le remplacement ne doit en aucun cas dépasser le pourcentage convenu de capacité nominale du système par an, expressément indiqué dans les Services; (o) coûts de grue ou de levage et (p) tous services, réclamations ou dommages découlant de réfrigérant qui n'est fourni par l'Entreprise. Le Client sera responsable : (i) du coût de tout réfrigérant supplémentaire remplacé; (ii) de l'opération de tout équipement; et (iii) des réclamations, dommages, pertes, ou dépenses découlant ou en lien avec le travail ou services exécutés ou fournis par des personnes ou des entités qui ne sont pas employées ou embauchées par l'Entreprise.

10. Garantie limitée. L'Entreprise garantit que : (a) le matériel fabriqué par l'Entreprise et fourni au Client pour la prestation de Services est exempt de tout défaut de matériel et de fabrication pour une période de 12 mois de la date la plus rapprochée entre le démarrage de l'équipement ou de son remplacement; et (b) la partie main-d'œuvre des Services d'entretien et du Travail supplémentaire est correctement exécutée pendant une période de 90 jours à compter de la date d'achèvement (la « Garantie limitée »). Les obligations de l'Entreprise quant au démarrage de l'équipement, si précisées dans la Proposition, sont concomitantes avec la période de Garantie limitée. Les défauts doivent être signalés à l'Entreprise pendant la période de Garantie limitée. L'obligation de l'Entreprise en vertu de la Garantie limitée se limite, au choix de l'Entreprise, à la réparation ou au remplacement de la pièce défectueuse, et à la reprise de tout travail mal exécuté par l'Entreprise. Aucune responsabilité, quelle qu'elle soit, n'incombe à l'Entreprise tant que les Services d'entretien et le Travail supplémentaire n'ont pas été intégralement payés. Sont exclus de cette Garantie, les réclamations, pertes, dommages et dépenses découlant ou reliés, de quelques manières, à une défaillance ou au malfonctionnement de l'équipement, dus : à l'usure normale, la fin de vie, la corrosion, l'érosion, la détérioration; au manquement du Client à suivre le plan d'entretien fourni par l'Entreprise; un entretien déficient ou non autorisé, des pièces ou matériaux défectueux ou non autorisés, à du réfrigérant non fourni par l'Entreprise, et aux modifications apportées par d'autres à l'équipement. L'Entreprise ne pourra être tenue de payer les coûts de réfrigérant ou de produit perdus. Certains composants de l'équipement fabriqué par l'Entreprise peuvent être garantis directement par le fournisseur de composants, auquel cas cette Garantie limitée ne s'appliquera pas à ces composants et toute garantie de ces composants sera la garantie offerte par ce fournisseur de composants. Nonobstant ce qui précède, toutes les garanties stipulées dans la présente se terminent à l'expiration ou la résiliation de cette Entente. L'équipement, le matériel ou les pièces qui ne sont pas fabriqués par l'Entreprise (« Produits tiers ») ne sont pas garantis par l'Entreprise et bénéficient des garanties offertes par leur fabricant respectif. LE CLIENT COMPREND QUE L'ENTREPRISE N'EST PAS LE FABRICANT D'AUCUN(S) PRODUITS TIERS ET TOUTES LES GARANTIES, RÉCLAMATIONS, DÉCLARATIONS, REPRÉSENTATIONS OU SPÉCIFICATIONS SONT CELLES DU FABRICANT DES PRODUITS TIERS ET NON DE L'ENTREPRISE ET LE CLIENT NE PEUT SE FIER, S'APPUYER, SE SERVIR D'AUCUNE GARANTIE, RÉCLAMATION, DÉCLARATION, REPRÉSENTATION OU SPÉCIFICATION CONTRE L'ENTREPRISE POUR AUCUNE RÉCLAMATION, DÉCLARATION, REPRÉSENTATION OU SPÉCIFICATION CONCERNANT LES PRODUITS TIERS QUI PEUVENT ÊTRE FOURNIES PAR L'ENTREPRISE OU SES FILIALES, QU'ELLES SOIENT ORALES OU ÉCRITES. LES DROITS ET RECOURS STIPULÉS DANS LA PRÉSENTE GARANTIE LIMITÉE SONT LES SEULS ET UNIQUES DROITS ET RECOURS CONCERNANT LES RÉCLAMATIONS EN VERTU DE LA GARANTIE FOURNIE PAR L'ENTREPRISE AU CLIENT DANS LA PRÉSENTE ENTENTE ET ANNULENT ET REMPLACENT TOUTES LES AUTRES GARANTIES ET RESPONSABILITÉS, CONDITIONS ET RECOURS, QU'ILS SOIENT CONTRACTUELS, STATUTAIRES, DÉLICTUELS OU EN RESPONSABILITÉ CIVILE, IMPLICITES OU EXPLICITES, EN DROIT OU EN FAIT, Y COMPRIS TOUTES LES GARANTIES IMPLICITES DE QUALITÉ MARCHANDE ET DE COMPATIBILITÉ À UN USAGE PARTICULIER ET (OU) TOUTE AUTRE GARANTIE DÉCOULANT D'ACTIVITÉS COMMERCIALES OU DE NÉGOCIATIONS. L'ENTREPRISE NE FAIT, ET REJETTE, EXPRESSÉMENT QUELQUES REPRÉSENTATIONS, GARANTIES, APPROBATIONS OU CONDITIONS DE TOUTES SORTES, EXPRESSES OU TACITES, INCLUANT TOUTE GARANTIE IMPLICITE DE QUALITÉ, DE COMPATIBILITÉ À UN USAGE PARTICULIER, DE VALEUR MARCHANDE, DURABILITÉ ET (OU) AUTRES, DÉCOULANT D'ACTIVITÉS COMMERCIALES OU DE NÉGOCIATIONS, QUI CONCERNE, DANS L'ÉTENDUE DES SERVICES, LA PRÉVENTION, OU QUELQUES COMPOSANTES DE CELLE-CI, DES MOISSISSURES, CHAMPIGNONS, BACTÉRIES, PROLIFÉRATION MICROBIENNE, OU DE TOUTE AUTRE CONTAMINATION. L'ENTREPRISE NE FAIT AUCUNE REPRÉSENTATION OU NE GARANTIT DE QUELQUE MANIÈRE, INCLUANT LA GARANTIE DE QUALITÉ MARCHANDE OU LA COMPATIBILITÉ À UN USAGE PARTICULIER CONCERNANT LA PRÉVENTION, L'ÉLIMINATION, LA RÉDUCTION OU LE FAIT D'EMPÊCHER DES MOISSISSURES, DES CHAMPIGNONS, DES BACTÉRIES, DES VIRUS, DES CROISSANCES MICROBIENNES OU DE TOUT AUTRE CONTAMINANT (INCLUANT LE COVID-19 OU AUTRE VIRUS SIMILAIRE) (COLLECTIVEMENT « CONTAMINANTS ») IMPLIQUANT OU EN RELATION AVEC L'ÉQUIPEMENT, TOUT COMPOSANT DE CELUI-CI, TOUT SERVICE OU AUTRE, EN AUCUN CAS, L'ENTREPRISE NE SAURA RESPONSABLE DE LA PRÉVENTION, DE L'ÉLIMINATION, DE LA RÉDUCTION OU D'EMPÊCHER LA CROISSANCE OU DE LA PROPAGATION DE CES CONTAMINANTS IMPLIQUANT OU EN RELATION AVEC TOUT ÉQUIPEMENT, TOUT PRODUITS TIERS OU TOUT COMPOSANT, TOUT SERVICE OU AUTRE ET LE CLIENT PAR LE PRÉSENTE RECONNAÎT ET ACCEPTE SPÉCIFIQUEMENT CETTE CONDITION.

11. Indemnité. Dans les limites permises par la loi, l'Entreprise et le Client doivent s'indemniser et se tenir à couvert de toutes réclamations, actions, coûts dépenses, dommages et responsabilités, incluant les frais raisonnables d'avocats, résultant d'un décès ou d'une blessure corporelle ou de dommages à des propriétés réelles ou personnelles, dans la mesure où ces dommages sont causés par la négligence ou la mauvaise conduite de la partie indemnitaire, et (ou) de ses employés ou agents autorisés respectifs, dans le cadre de leurs activités faisant suite à la présente Entente. Aucune des deux parties n'est tenue d'indemniser l'autre pour les réclamations, dommages, dépenses ou responsabilités dans la mesure où ils sont imputable aux actes ou aux omissions de l'autre partie ou de tiers parties. Si la faute est imputable aux deux parties, l'obligation d'indemnisation sera proportionnelle à leur faute respective. L'obligation d'indemnisation et de tenir indemne continuera d'être en vigueur et applicable, nonobstant l'expiration ou la résiliation anticipée de la présente Entente, à l'égard de toute réclamation fondée sur des faits ou des conditions survenus préalablement à l'expiration ou la résiliation de la présente.

12. Limitation de responsabilité. NONOBTANT TOUTE DISPOSITION OU AVIS CONTRAIRE, AUCUNE DES PARTIES N'EST RESPONSABLE DE DOMMAGES PARTICULIERS, SPÉCIAUX, ACCESSOIRES INDIRECTS OU DES PERTES ACCESSOIRES OU DOMMAGES ACCESSOIRES DE QUELQUES NATURES QUE CE SOIT, (INCLUANT MAIS SANS ÊTRE LIMITATIF, LA PERTE DE RÉFRIGÉRANT, LA PERTE DE PRODUIT, LA PERTE DE REVENUS OU DE PROFITS OU LA RESPONSABILITÉ ENVERS TIERCE PARTIE), OU LA RESPONSABILITÉ LIÉE À DES CONTAMINANTS, OU DES DOMMAGES PUNITIFS, QU'ILS SOIENT RÉCLAMÉS EN VERTU DE CONTRAT, D'UNE GARANTIE, DE LA LOI, DE LA RESPONSABILITÉ DÉLICTUELLE, RESPONSABILITÉ CIVILE (INCLUANT LA NÉGLIGENCE) EXTRA-CONTRACTUELLE ET CONTRACTUELLE, DE LA STRICTE RESPONSABILITÉ, COMME INDEMNITÉ OU DE TOUTE AUTRE THÉORIE DE DROIT OU DE FAITS, NONOBTANT TOUTES AUTRES DISPOSITIONS DE LA PRÉSENTE ENTENTE, LA RESPONSABILITÉ TOTALE ET ENTIÈRE DE L'ENTREPRISE ENVERS LE CLIENT POUR TOUTES RÉCLAMATIONS EN LIEN OU DÉCOULANT DE L'EXÉCUTION OU NON EXÉCUTION DE L'ENTENTE QUELLE DÉCOULE DE CONTRAT, GARANTIE, DE LA LOI, DE RESPONSABILITÉ DÉLICTUELLE,


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DE LA STRICTE RESPONSABILITÉ, DE LA RESPONSABILITÉ CIVILE (INCLUANT LA NÉGLIGENCE) EXTRACONTRACTUELLE ET CONTRACTUELLE, COMME INDEMNITÉ OU DE TOUTE AUTRE THÉORIE DE DROIT OU DE FAITS, NE PEUT DÉPASSER LA COMPENSATION REÇUE PAR L'ENTREPRISE POUR SES SERVICES ET TRAVAUX SUPPLÉMENTAIRES DURANT LA PÉRIODE DE 12 MOIS PRÉCÉDENT LA DATE OÙ LA PERTE EST SURVENUE À L'ENDROIT OÙ LA PERTE EST SURVENUE. EN AUCUN CAS L'ENTREPRISE NE SERA TENUE RESPONSABLE DE QUELCONQUES DOMMAGES (QU'ILS SOIENT DIRECTS OU INDIRECTS) RÉSULTANT DE MOISSISSURES, DE CHAMPIGNONS, DE BACTÉRIES, D'UNE PROLIFÉRATION MICROBIENNE OU DE TOUTE AUTRE CONTAMINATION, OU D'AGENTS BIOLOGIQUES PROPAGÉS PAR L'AIR. DANS LES LIMITES PERMISES PAR LA LOI, L'ENTREPRISE NE SERA PAS RESPONSABLE D'AUCUN DES ÉLÉMENTS SUIVANTS EN LIEN AVEC LA PRESTATION DE SERVICES DE PERFORMANCES ÉNERGÉTIQUES ET DU BÂTIMENT : INTERRUPTION, SUPPRESSION, DÉFAUT, RETARD DE FONCTIONNEMENT OU DE TRANSMISSION, SÉCURITÉ DU RÉSEAU DU CLIENT, VIRUS INFORMATIQUE, DÉFAILLANCE DE LA COMMUNICATION, VOL OU DESTRUCTION DE DONNÉES, LACUNES DANS LES DONNÉES RECUEILLIES, ET ACCÈS NON AUTORISÉ AUX DONNÉES OU AUX COMMUNICATIONS RÉSEAU DU CLIENT.

13. Responsabilité liée à des contaminants. La transmission de COVID-19 peut se produire de diverses manières et circonstances, dont de nombreux aspects sont actuellement inconnus. Les systèmes CVAC, produits, services et autres offres n'ont pas été testés pour leur efficacité à réduire la propagation du COVID-19, y compris par voie aérienne dans des environnements fermés. EN AUCUN CAS, L'ENTREPRISE NE SERA RESPONSABLE EN VERTU DE LA PRÉSENTE ENTENTE OU AUTREMENT DE TOUTE INDEMNISATION, ACTION OU DEMANDE, QUELLE SOIT BASÉE SUR UNE GARANTIE, UN CONTRAT, LA RESPONSABILITÉ EXTRACONTRACTUELLE, CONTRACTUELLE, DÉLICTUELLE OU AUTREMENT, POUR TOUTS DOMMAGES CORPORELS (INCLUANT LA MORT), TOUTS DOMMAGES CAUSÉS À UNE PROPRIÉTÉ RÉELLE OU PERSONNELLE OU TOUTE AUTRE RESPONSABILITÉ, DOMMAGES OU COÛTS LIÉS À DES CONTAMINANTS (INCLUANT LA PROPAGATION, LA TRANSMISSION, L'ATTÉNUATION, L'ÉLIMINATION OU LA CONTAMINATION DE OU PAR CEUX-CI) (COLLECTIVEMENT, « RESPONSABILITÉ LIÉE À DES CONTAMINANTS ») ET LE CLIENT LIBÈRE EXPRESSÉMENT L'ENTREPRISE DE TOUTES RESPONSABILITÉS LIÉES À DES CONTAMINANTS.

14. Amiante et Matières dangereuses. Les Services excluent expressément toute identification, toute réduction, tout nettoyage, tout contrôle, toute élimination, retrait, enlèvement ou tout autre travail afférent à l'amiante, au biphenyle polychloré (« BPC ») ou toute autre matière dangereuse (collectivement appelées, les « Matières dangereuses »). Le Client garantit et déclare qu'il n'y a aucune Matière dangereuse dans les installations susceptibles d'être affectées de quelque façon que ce soit les prestations de l'Entreprise, sauf celles indiquées par écrit et signées par le Client et divulguant l'existence et la localisation de toute Matière dangereuse dans tous les endroits où l'Entreprise exécutera les Services. Si l'Entreprise apprend ou soupçonne la présence de Matières dangereuses dans un endroit, l'Entreprise peut immédiatement arrêter tout travail dans cet endroit et en aviser le Client. Le Client est tenu de corriger la situation en conformité avec les lois et règlements en vigueur. Le Client sera exclusivement responsable d'indemniser et tenir indemne l'Entreprise (incluant ses employés, agents et sous-traitants) pour toutes pertes, toutes réclamations, toutes responsabilités, tous honoraires, toutes pénalités, tous dommages, toutes blessures (incluant la mort) ou toute responsabilité de quelque nature qu'elle soit, et au paiement y étant liés, découlant ou résultant de la présence de toute Matière dangereuse dans les endroits ou dans leurs environs où l'Entreprise exécute ses Services et qui n'a pas été apportées par l'Entreprise dans ces endroits. L'Entreprise sera tenue de reprendre la prestation de ses Services uniquement en l'absence de Matières dangereuses, ou lorsque lorsque les endroits affectés auront été rendus sécuritaires. En aucun cas l'Entreprise ne sera tenue de transporter ou de manipuler des Matières Dangereuses, de fournir tout avis à tout organisme gouvernemental ou d'inspecter des installations pour relever la présence de Matières dangereuses.

15. Assurance. L'Entreprise s'engage à maintenir les assurances suivantes pendant la durée de la présente Entente avec des limites au moins égales à celles indiquées ci-dessous et fournira, sur demande du Client, un Certificat attestant des garanties suivantes :

Responsabilité civile générale commerciale : 2 000 000 \$ par occurrence
Responsabilité automobile : 2 000 000 \$ CSL

Indemnisation des accidents du travail : limites prévues par la loi.

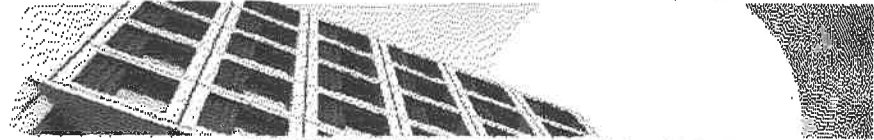
Si le Client a demandé à être désigné comme assuré additionnel en vertu de la police d'assurance de l'Entreprise, l'Entreprise le fera, mais seulement sous réserve de l'événement pour assuré additionnel de l'Entreprise, émis en vertu de sa police en responsabilité civile générale commerciale. En aucun cas l'Entreprise ou ses assureurs ne renoncera à ses droits de subrogation.

16. Force majeure. L'obligation de l'Entreprise d'exécuter ses obligations en vertu de la présente Entente dépend du fait qu'il n'y ait aucun Événement de Force majeure. Si l'Entreprise est incapable d'exécuter toute obligation matérielle en vertu de la présente Entente en raison d'un Événement de Force majeure, l'Entente doit, au choix de l'Entreprise, (i) demeurer en vigueur, mais les obligations de l'Entreprise seront suspendues jusqu'à ce que l'événement incontrôlable soit terminé, ou (ii) être résiliée sur avis de 10 jours envoyé au Client, auquel cas le Client devra payer l'Entreprise pour toutes parties de Services fournies à la date de résiliation. Un « Événement de Force majeure » signifie toute cause ou tout événement indépendant de la volonté de l'Entreprise. Sans être limitatif, un « Événement de Force majeure » inclut les situations suivantes : catastrophe naturelle, acte de terrorisme, de guerre ou d'un ennemi public, inondation, tremblement de terre, séisme, foudre, tornade, tempête, incendie, désobéissance civile, pandémie, insurrections, émeutes, conflits du travail, pénurie de main-d'œuvre ou de matériel provenant des sources habituelles d'approvisionnement, sabotage, restriction par ordonnance du tribunal ou d'une autorité publique (valable ou non) et action ou inaction ou incapacité à obtenir ou à maintenir en vigueur les autorisations gouvernementales nécessaires, permis, licences, certificats ou approbations si non imputables à l'Entreprise, et les exigences de tout gouvernement ayant autorité, quel de quelconque manière détourne soit le matériel ou le produit fini pour son bénéfice direct ou indirect.

17. Services d'entretien autres que les Services planifiés. Si les services d'entretien de l'Entreprise décrits dans la présente ne se limitent pas seulement aux Services planifiés, les dispositions suivantes s'appliqueront également : (a) la restauration requise doit être effectuée par le Client, à ses frais, avant que l'Entreprise n'ait l'obligation de réaliser quelques services; (b) tous changements, ajustements, réglages, entretiens ou réparations effectués sur l'équipement par toute autre partie que l'Entreprise, sauf si approuvé par écrit par l'Entreprise, peut, à la discrétion de l'Entreprise, mettre fin à toute obligation de l'Entreprise d'effectuer l'entretien de l'équipement en question; le cas échéant, aucun remboursement de quelconque partie des Frais de Services ne sera émis, d'aucune; et (c) le Client doit (i) notifier rapidement l'Entreprise de toute performance inhabituelle de l'équipement; (ii) ne permettre qu'au personnel de l'Entreprise de réparer ou ajuster l'équipement et (ou) les contrôles pendant la durée de l'Entente ou à la suite d'un renouvellement; et (iii) faire appel à un personnel qualifié pour opérer l'équipement conformément aux manuels d'opération applicables et aux procédures recommandées.

18. Généralités. Sous réserve des dispositions ci-dessous, jusqu'à la limite prévue par la loi, cette Entente est conclue et sera interprétée et appliquée conformément aux lois de l'État ou la province dans laquelle l'Entreprise exécute les Services. Tout litige découlant de cette Entente ou y afférent est décidé par le tribunal compétent situé dans l'État ou la province dans laquelle les Services sont exécutés. Dans la mesure où les installations sont détenues ou exploitées par un organisme du gouvernement fédéral des États-Unis, le règlement de toute question juridique de fond doit être conforme au droit commun du gouvernement fédéral des États-Unis en matière de marchés publics, tel qu'énoncé et appliqué les cours fédérales des États-Unis et les cours d'appel liés aux contrats du gouvernement fédéral des États-Unis. La présente Entente inclut toutes les ententes, conventions, représentations et accords entre les parties et remplace toutes les ententes, conventions, représentations, accords, compréhensions ou engagements, verbaux ou écrits, relativement aux Services. Si quelque terme et condition de la présente Entente est invalide, illégale ou inapplicable suite à toute règle de droit, tous les autres Termes et Conditions de la présente Entente resteront néanmoins pleinement en vigueur tant que l'intention économique ou légale de la transaction envisagée par les présentes n'est pas affectée de manière à être préjudiciable pour toute partie aux présentes. Le Client ne peut affecter, transférer ou céder cette Entente, ou toute partie de celle-ci, ou ses droits, titres ou intérêts dans l'Entente, sans le consentement écrit de l'Entreprise. Sous réserve de qui précède, cette Entente oblige et avantage les parties aux présentes et leurs successeurs et ayant droit. Chacune des deux parties peut signer un exemplaire différent de la présente Entente qui sera considéré comme un original, mais les deux exemplaires signés constituent une seule et même entente. Une télécopie dûment signée de la présente ou différents exemplaires seront considérées comme un original. Aucun défaut ou délai par l'Entreprise d'exercer quelque droit ou exercer un recours en vertu de l'Entente ne doit être considéré comme une renonciation par l'Entreprise à ce droit ou recours.

19. Égalité d'accès à l'emploi et clause d'intégration active. L'Entreprise est un entrepreneur fédéral qui se conforme entièrement avec l'Arrêté Exécutif 11246, tel qu'amendé, et avec la réglementation applicable incluse dans le Code de réglementation fédéral (C.F.R.) 41, parties 60-1 à 60-60, le Code des États-Unis (U.S.C.) 29, section 793, et la réglementation applicable incluse dans le C.F.R. 41, partie 60-741; et dans l'U.S.C. 38, section 4212 et la réglementation applicable incluse dans le C.F.R. 41, partie 60-250, décret-loi 13486 et la section 29, C.F.R. 471, appendice A à la sous-partie A, concernant la


TRANE


notification des droits des employés aux États-Unis et avec la Charte canadienne des droits et libertés de la Loi de la loi constitutionnelle de 1982 et les codes provinciaux des droits de la personne et du droit du travail applicables au Canada.

20. Contrats du gouvernement des États-Unis.

La disposition suivante ne s'applique qu'aux ventes directes par l'Entreprise au gouvernement des États-Unis. Les parties reconnaissent que tous les éléments ou Services commandés et fournis dans le cadre de cette Entente sont des éléments commerciaux tels que définis dans la partie 12 de la FAR (Federal Acquisition Regulation (FAR)). Notamment, l'Entreprise n'accepte d'être liée que par les clauses contractuelles fédérales s'appliquant aux fournisseurs « commerciaux » et figurant dans la FAR 52.212-5(e)(1). L'Entreprise est conforme aux articles 52.219-8 ou au 52.219-9 dans le cadre de ses contrats de services et d'entretien et d'installation.

La disposition suivante ne s'applique qu'aux ventes indirectes par l'Entreprise au gouvernement des États-Unis. En tant que sous-traitant d'éléments commerciaux, l'Entreprise n'accepte que les dispositions obligatoires suivantes transférant des obligations: 52.219-8; 52.222-26; 52.222-35; 52.222-36; 52.222-39; 52.247-64. Si les Services sont en lien avec un contrat du gouvernement des États-Unis, le Client atteste qu'il a fourni et fournira des renseignements, déclarations et attestations en vigueur, précis et complets à tous les représentants du gouvernement, incluant mais sans être limitatif, l'officier cocontractant et les représentants de la *Small Business Administration*, sur tous les sujets en lien avec le contrat principal, y compris, sans s'y limiter, tous les aspects concernant la propriété, d'admissibilité et d'exécution. Nonobstant toute disposition contraire, l'Entreprise n'a aucune obligation envers le Client jusqu'à ce que le Client fournisse à l'Entreprise une copie exécutée complète, vérifiée et conforme du contrat principal. Sur demande, le Client fournira des exemplaires à l'Entreprise de toutes les communications écrites avec tout représentant du gouvernement relativement au contrat principal, avant ou pendant l'exécution de celui-ci, incluant mais sans être limitatif toute communication relative à la propriété, à l'admissibilité et à la mise en application du contrat principal du Client. Le Client doit obtenir l'autorisation et l'approbation écrite de l'Entreprise avant de fournir à tout représentant du gouvernement, tout renseignement relatif à l'exécution des Services par l'Entreprise, autre que ceux de la Proposition ou l'Entente.

21. Exonération limitée de l'immunité de l'état souverain. Si le Client est une tribu indienne (aux États-Unis) ou un Conseil des Premières Nations ou un Conseil de Bande (au Canada), le Client, qu'il agisse en sa qualité de gouvernement, d'entité gouvernementale, de personne morale dûment organisée ou autrement, pour lui-même et pour ses mandataires, successeurs et ayants droit : (1) fournit par les présentes, cette exonération limitée de l'immunité de l'état souverain quant à tous dommages, réclamations, procès, recours, ou cause d'action (« Action ») portés contre le Client par l'Entreprise et découlant ou étant allégué découlé de la fourniture par l'Entreprise de tout produit ou service en vertu de l'Entente, que cette Action soit fondée sur un contrat, un délit, la responsabilité stricte, la responsabilité civile, contractuelle, délictuelle ou toute autre théorie de droit; (2) accepte que la compétence, juridiction et le lieu d'une telle Action doivent être appropriés et valides (a) si le client est aux États-Unis, dans tout tribunal d'État ou tribunal fédéral situé dans l'État dans lequel l'Entreprise exécute l'Entente, ou (b) si le client est au Canada, devant la Cour supérieure ou la Cour compétente en la matière de la province ou le territoire dans lequel les travaux ont été effectués; (3) consent expressément à une telle Action et renonce à toute objection relative à la compétence, juridiction ou au lieu; (4) renonce à toute exigence d'épuisement des recours administratifs ou l'audition devant une Cour tribale pour toute Action découlant de la présente Entente ou y étant liée; et (5) reconnaît et accepte expressément que l'Entreprise n'est pas soumise à la compétence de la Cour tribale du Client ou de tout autre rassemblement tribal similaire, que le Client n'exercera pas d'Action contre l'Entreprise en Cour tribale, et que le Client ne pourra pas invoquer toute décision, directive ou injonction de la Cour tribale l'autorisant ou l'enjoignant à suspendre ses paiements ou d'autres obligations en vertu de cette Entente. La personne signant au nom du Client déclare et affirme que cette personne est dûment autorisée à fournir cette renonciation et à conclure cette Entente et que cette Entente constitue l'obligation valide et juridiquement contraignante du Client, exécutoire conformément à ses conditions.

1-26.130-7 FRC (0821)
Succède 1-26.130-7 FRC (0720)


TRANE


SECURITY ADDENDUM

This Addendum shall be applicable to the sale, installation and use of Trane equipment and the sale and provision of Trane services. "Trane" shall mean Trane U.S. Inc. for sales and services in the United States, or Trane Canada ULC for sales and services in Canada.

1. **Definitions.** All terms used in this Addendum shall have the meaning specified in the Agreement unless otherwise defined herein. For the purposes of this Addendum, the following terms are defined as follows:

"Customer Data" means Customer account information as related to the Services only and does not include HVAC Machine Data or personal data. Trane does not require, nor shall Customer provide personal data to Trane under the Agreement. Such data is not required for Trane to provide its Equipment and/or Services to the Customer.

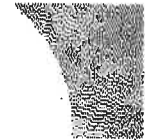
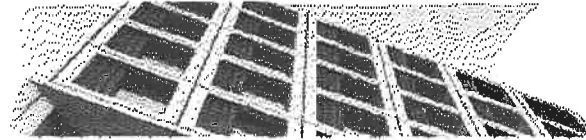
"Equipment" shall have the meaning set forth in the Agreement.

"HVAC Machine Data" means data generated and collected from the product or furnished service without manual entry. HVAC Machine Data is data relating to the physical measurements and operating conditions of a HVAC system, such as but not limited to, temperatures, humidity, pressure, HVAC equipment status. HVAC Machine Data does not include Personal Data and, for the purposes of this agreement, the names of users of Trane's controls products or hosted applications shall not be Personal Data, if any such user chooses to use his/her name(s) in the created accounts within the controls product (e.g., firstname.lastname@address.com). HVAC Machine Data may be used by Trane: (a) to provide better support services and/or products to users of its products and services; (b) to assess compliance with Trane terms and conditions; (c) for statistical or other analysis of the collective characteristics and behaviors of product and services users; (d) to backup user and other data or information and/or provide remote support and/or restoration; (e) to provide or undertake; engineering analysis; failure analysis; warranty analysis; energy analysis; predictive analysis; service analysis; product usage analysis; and/or other desirable analysis, including, but not limited to, histories or trends of any of the foregoing; and (f) to otherwise understand and respond to the needs of users of the product or furnished service. "Personal Data" means data and/or information that is owned or controlled by Customer, and that names or identifies, or is about a natural person, such as: (i) data that is explicitly defined as a regulated category of data under any data privacy laws applicable to Customer; (ii) non-public personal information ("NPI") or personal information ("PI"), such as national identification number, passport number, social security number, social insurance number, or driver's license number; (iii) health or medical information, such as insurance information, medical prognosis, diagnosis information, or genetic information; (iv) financial information, such as a policy number, credit card number, and/or bank account number; (v) personally identifying technical information (whether transmitted or stored in cookies, devices, or otherwise), such as IP address, MAC address, device identifier, International Mobile Equipment Identifier ("IMEI"), or advertising identifier; (vi) biometric information; and/or (vii) sensitive personal data, such as, race, religion, marital status, disability, gender, sexual orientation, geolocation, or mother's maiden name.

"Security Incident" shall refer to (i) a compromise of any network, system, application or data in which Customer Data has been accessed or acquired by an unauthorized third party; (ii) any situation where Trane reasonably suspects that such compromise may have occurred; or (iii) any actual or reasonably suspected unauthorized or illegal Processing, loss, use, disclosure or acquisition of or access to any Customer Data.

"Services" shall have the meaning set forth in the Agreement.

2. **HVAC Machine Data; Access to Customer Extranet and Third Party Systems.** If Customer grants Trane access to HVAC Machine Data via web portals or other non-public websites or extranet services on Customer's or a third party's website or system (each, an "Extranet"), Trane will comply with the following:
 - a. **Accounts.** Trane will ensure that Trane's personnel use only the Extranet account(s) designated by Customer and will require Trane personnel to keep their access credentials confidential.
 - b. **Systems.** Trane will access the Extranet only through computing or processing systems or applications running operating systems managed by Trane that include: (i) system network firewalls; (ii) centralized patch management; (iii) operating system appropriate anti-malware software; and (iv) for portable devices, full disk encryption.
 - c. **Restrictions.** Unless otherwise approved by Customer in writing, Trane will not download, mirror or permanently store any HVAC Machine Data from any Extranet on any medium, including any machines, devices or servers.
 - d. **Account Termination.** Trane will terminate the account of each of Trane's personnel in accordance with Trane's standard practices after any specific Trane personnel who has been authorized to access any Extranet (1) no


TRANE


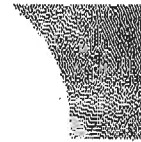
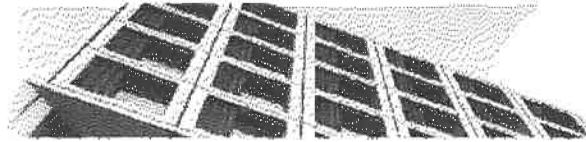
longer needs access to HVAC Machine Data or (2) no longer qualifies as Trane personnel (e.g., the individual leaves Trane's employment).

- e. Third Party Systems. Trane will provide Customer prior notice before it uses any third party system that stores or may otherwise have access to HVAC Machine Data, unless (1) the data is encrypted and (2) the third party system will not have access to the decryption key or unencrypted "plain text" versions of the HVAC Machine Data.
3. Customer Data: Confidentiality. Trane shall keep confidential, and shall not access or use any Customer Data and information that is marked confidential or by its nature is considered confidential ("Customer Confidential Information") other than for the purpose of providing the Equipment and Services, and will disclose Customer Confidential Information only: (i) to Trane's employees and agents who have a need to know to perform the Services, (ii) as expressly permitted or instructed by Customer, or (iii) to the minimum extent required to comply with applicable law, provided that Trane (1) provides Customer with prompt written notice prior to any such disclosure, and (2) reasonably cooperate with Customer to limit or prevent such disclosure.
4. Customer Data: Compliance with Laws. Trane agrees to comply with laws, regulations governmental requirements and industry standards and practices relating to Trane's processing of Customer Confidential Information (collectively, "**Laws**").
5. Customer Data: Information Security Management. Trane agrees to establish and maintain an information security and privacy program, consistent with applicable HVAC equipment industry practices that complies with this Addendum and applicable Laws ("**Information Security Program**"). The Information Security Program shall include appropriate physical, technical and administrative safeguards, including any safeguards and controls agreed by the Parties in writing, sufficient to protect Customer systems, and Customer's Confidential Information from unauthorized access, destruction, use, modification or disclosure. The Information Security Program shall include appropriate, ongoing training and awareness programs designed to ensure that Trane's employees and agents, and others acting on Trane's, behalf are aware of and comply with the Information Security Program's policies, procedures, and protocols.
6. Monitoring. Trane shall monitor and, at regular intervals consistent with HVAC equipment industry practices, test and evaluate the effectiveness of its Information Security Program. Trane shall evaluate and promptly adjust its Information Security Program in light of the results of the testing and monitoring, any material changes to its operations or business arrangements, or any other facts or circumstances that Trane knows or reasonably should know may have a material impact on the security of Customer Confidential Information, Customer systems and Customer property.
7. Audits. Customer acknowledges and agrees that the Trane SOC2 audit report will be used to satisfy any and all audit/inspection requests/requirements by or on behalf of Customer. Trane will make its SOC2 audit report available to Customer upon request and with a signed nondisclosure agreement.
8. Information Security Contact. Trane's information security contact is Local Sales Office.
9. Security Incident Management. Trane shall notify Customer after the confirmation of a Security Incident that affects Customer Confidential Information, Customer systems and Customer property. The written notice shall summarize the nature and scope of the Security Incident and the corrective action already taken or planned.
10. Threat and Vulnerability Management. Trane regularly performs vulnerability scans and addresses detected vulnerabilities on a risk basis. Periodically, Trane engages third-parties to perform network vulnerability assessments and penetration testing. Vulnerabilities will be reported in accordance with Trane's cybersecurity vulnerability reported process. Trane periodically provides security updates and software upgrades.
11. Security Training and Awareness. New employees are required to complete security training as part of the new hire process and receive annual and targeted training (as needed and appropriate to their role) thereafter to help maintain compliance with Security Policies, as well as other corporate policies, such as the Trane Code of Conduct. This includes requiring Trane employees to annually re-acknowledge the Code of Conduct and other Trane policies as appropriate. Trane conducts periodic security awareness campaigns to educate personnel about their responsibilities and provide guidance to create and maintain a secure workplace.
12. Secure Disposal Policies. Policies, processes, and procedures regarding the disposal of tangible and intangible property containing Customer Confidential Information so that wherever possible, Customer Confidential Information cannot be practicably read or reconstructed.

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13. Logical Access Controls. Trane employs internal monitoring and logging technology to help detect and prevent unauthorized access attempts to Trane's corporate networks and production systems. Trane's monitoring includes a review of changes affecting systems' handling authentication, authorization, and auditing, and privileged access to Trane production systems. Trane uses the principle of "least privilege" (meaning access denied unless specifically granted) for access to customer data.
14. Contingency Planning/Disaster Recovery. Trane will implement policies and procedures required to respond to an emergency or other occurrence (i.e. fire, vandalism, system failure, natural disaster) that could damage Customer Data or any system that contains Customer Data. Procedures include the following
 - (i) data backups; and
 - (ii) formal disaster recovery plan. Such disaster recovery plan is tested at least annually.
15. Return of Customer Data. If Trane is responsible for storing or receiving Customer Data, Trane shall, at Customer's sole discretion, deliver Customer Data to Customer in its preferred format within a commercially reasonable period of time following the expiration or earlier termination of the Agreement or, such earlier time as Customer requests, securely destroy or render unreadable or undecipherable each and every original and copy in every media of all Customer's Data in Trane's possession, custody or control no later than [90 days] after receipt of Customer's written instructions directing Trane to delete the Customer Data.
16. Background checks Trane shall take reasonable steps to ensure the reliability of its employees or other personnel having access to the Customer Data, including the conducting of appropriate background and/or verification checks in accordance with Trane policies.
17. DISCLAIMER OF WARRANTIES. EXCEPT FOR ANY APPLICABLE WARRANTIES IN THE AGREEMENT, THE SERVICES ARE PROVIDED "AS IS", WITH ALL FAULTS, AND THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY AND EFFORT AS TO SUCH SERVICES SHALL BE WITH CUSTOMER. TRANE DISCLAIMS ANY AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES WITH RESPECT TO THE SERVICES AND THE SERVICES PROVIDED HEREUNDER, INCLUDING ANY EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE SERVICES WILL OPERATE ERROR-FREE OR UNINTERRUPTED OR RETURN/RESPONSE TO INQUIRIES WITHIN ANY SPECIFIC PERIOD OF TIME.

November 2023



APPENDIX

SERVICE BEST PRACTICES

Trane is completely dedicated to making buildings better. The ongoing pursuit of better buildings, using our long-term domain expertise to push new technologies into everyday use, keeps us at the forefront of the industry.

In addition to the services details in the agreement above, we take practical steps every day to ensure our approach is safe and efficient.

SAFETY

Since 2003, U.S. Bureau of Labor Statistics records have consistently shown the Total Recordable Incident Rate (TRIR) and Days Away From Work (DAFW) for Trane have been significantly lower than those for HVAC repair and maintenance contractors and specialty trade contractors (construction). The company's safety culture in America is unparalleled in the building service industry, with proven results in the continuous reduction of injury rates. Trane incident rates (OSHA) are consistently 50 to 70 percent below the industry average.

A wide range of safety training and resources are available to Trane technicians, including:

- Safety training—20 hours per year
- Electrical safety—NFPA 70E compliant, electrical PPE
- Fall protection
- Ergonomics
- USDOT compliance
- Refrigerant management training

ENVIRONMENTAL PRACTICES

Trane policies and procedures are compliant with all federal and state regulations. Refrigerant (and substitutes) handling, storage and leak repair processes are compliant with Environmental Protection Agency regulation 40 CFR Part 82. Service technicians are Universal-certified and use only certified recovery equipment.

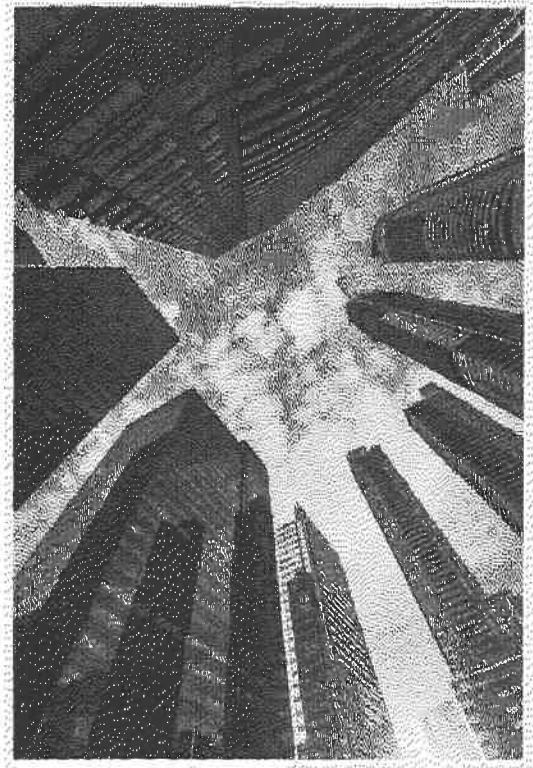
Refrigerant Management Software (RMS) captures, manages and reports all refrigerant activity at your site. Annually, Trane will send you a report documenting all refrigerant activity that we performed for each piece of equipment during the past 12 months.

Trane adheres to all environmental regulations when removing used oil from refrigeration units.

CONSISTENCY

Nationwide, Trane technicians follow documented, formal processes that ensure uniform service delivery. As an OEM, Trane has developed exclusive service procedures which provide the most reliable outcomes, and extended equipment longevity, at the most cost-effective price.

- Exclusive service work flow processes provide detailed steps and information encompassing parts, materials, tools and sequence of execution
- Additional steps addressing safety, quality control, work validation and environmental compliance
- Technicians must consistently reference documented processes to ensure no critical steps are skipped or omitted
- Applicable service processes meet or exceed ASHRAE 180-2008 Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems



Addendum 1**State of West Virginia ("State") - Trane U.S. Inc. ("Vendor")**

The General Terms and Conditions which accompany this Addendum, are subject to the following conditions, which all parties agree supersede any conflicting terms in the General Terms and Conditions and related contract documents. Notwithstanding any provision to the contrary:

1. Any indemnity, defense, or hold harmless obligation of Vendor shall be limited to damages resulting from bodily injury (including death) or damage to real or personal property to the extent caused by the negligent acts or omissions of Vendor, its employees, agents or subcontractors.
2. Performance dates are estimates only. While Vendor shall use commercially reasonable efforts to meet estimated performance dates, Vendor shall not be responsible for any damages for its failure to do so.
3. The policies and limits of insurance are hereby limited to Trane's standard insurance coverage.
4. IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR CONSEQUENTIAL DAMAGES.

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	Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	State of West Virginia Centralized Request for Quote Construction
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Proc Folder: 1524853			Reason for Modification: Addendum No. 1
Doc Description: Annual Chiller and Towers Maintenance			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2024-10-15	2024-10-29 13:30	CRFQ 0211 GSD2500000007	2

BID RECEIVING LOCATION
BID CLERK DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION 2019 WASHINGTON ST E CHARLESTON WV 25305 US

VENDOR		
Vendor Customer Code:		
Vendor Name :		
Address :		
Street :		
City :		
State :	Country :	Zip :
Principal Contact :		
Vendor Contact Phone:	Extension:	

FOR INFORMATION CONTACT THE BUYER Melissa Pettrey (304) 558-0094 melissa.k.pettrey@wv.gov		
Vendor Signature X	FEIN#	DATE

All offers subject to all terms and conditions contained in this solicitation

Nov 06 2024 08:14:41

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ADDITIONAL INFORMATION

Addendum No. 1 - issued to publish pre-bid sign-in sheet from the mandatory pre-bid meeting held on 10/15/2024 at 10:00 am.

See attachments.

No other changes.

INVOICE TO**SHIP TO**DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION103 MICHIGAN AVENUE
CHARLESTON WV
USDEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT218 CALIFORNIA AVE
CHARLESTON WV
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Lump Sum Fee for Annual Preventive Maintenance	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Lump Sum Fee for Annual Preventive Maintenance - see specifications

INVOICE TO**SHIP TO**DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION103 MICHIGAN AVENUE
CHARLESTON WV
USDEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT218 CALIFORNIA AVE
CHARLESTON WV
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Hourly Labor Rate	200.00000	HOUR		

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Corrective Maintenance Hourly Labor Rate - see specifications

Nov 06 2024 08:15:00

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INVOICE TO			SHIP TO		
DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION 103 MICHIGAN AVENUE CHARLESTON WV US			DEPARTMENT OF ADMINISTRATION GENERAL SERVICES DIVISION BLDG 11 - CHILLER PLANT 218 CALIFORNIA AVE CHARLESTON WV US		

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Total Parts Cost				

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Corrective Maintenance Total Parts Cost - see specifications

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Mandatory Pre-bid meeting @ 10:00 AM	2024-10-15
2	Vendor question deadline @ 12: PM	2024-10-17

SOLICITATION NUMBER: CRFQ GSD2500000007

Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☐ Modify bid opening date and time
- ☐ Modify specifications of product or service being sought
- ☐ Attachment of vendor questions and responses
- ☒ Attachment of pre-bid sign-in sheet
- ☐ Correction of error
- ☐ Other

Description of Modification to Solicitation:

Addendum is issued to publish and distribute the following information to the Vendor community.

1. To publish the pre-bid sign-in sheet. See attached.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

Pre-Bid Sign-In Sheet

Solicitation Number: CRFQ GSD 25*007

Date of Pre-Bid Meeting: 10/15/2024

Location of Prebid Meeting: Bldg 11

Please Note:

Vendors must sign-in on this sheet to verify attendance at the Pre-Bid meeting.
Failure to legibly sign in may be grounds for declaring a vendor ineligible to bid.
For further verification, please also provide a business card if possible.

<u>Firm Represented:</u> *	<u>Rep Name (Printed):</u>	<u>Firm Address:</u>	<u>Telephone #:</u>	<u>Fax #:</u>	<u>Email:</u>
CASTO TECH	BEN LANCASTER	540 LEON SULLIVAN WAY CHARLESTON WV 25301	304-807-0327		Blancaster@ castotech.com
DSO mechanical	Bos Harless	515 3rd Ave. South Charleston, WV 25303	304-744-8477		bharless@dsomech. com
Alpha Mechanical	John Jennings	401 24th Street Dunbar, WV 25064	(304) 556-5289		john.jennings@ aamservice.com
Nitro Construction Services	Chad McLaughlin	4300 15th Avenue Nitro, WV 25143	304-204-1555		cmclaughlin@ nitrocs.com
Trane Inc.	Tim Mills	515 C Street South Charleston WV 25303	(304) 348-2800		tim.mills@ trane.com

***One Vendor Per Representative** - No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: CRFQ GSD2500000007

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- ☒ Addendum No. 1
- ☐ Addendum No. 2
- ☐ Addendum No. 3
- ☐ Addendum No. 4
- ☐ Addendum No. 5

- ☐ Addendum No. 6
- ☐ Addendum No. 7
- ☐ Addendum No. 8
- ☐ Addendum No. 9
- ☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Trane U.S. Inc.

Company

Authorized Signature

10/29/2024

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

Nov 06 2024 08:15:57

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304 558 3970 Ingersoll Rand Compa Page 127



Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 60130
Charleston, WV 25306-0130

State of West Virginia
Centralized Request for Quote
Construction

Proc Folder: 1524853**Doc Description:** Annual Chiller and Towers Maintenance**Reason for Modification:**

Addendum No. 2

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2024-10-28	2024-11-06 13:30	CRFQ 0211 GSD2500000007	3

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON WV 25305

US

VENDOR**Vendor Customer Code:****Vendor Name :****Address :****Street :****City :****State :****Country :****Zip :****Principal Contact :****Vendor Contact Phone:****Extension:****FOR INFORMATION CONTACT THE BUYER**

Melissa Pettrey

(304) 558-0094

melissa.k.pettrey@wv.gov

**Vendor
Signature X****FEIN#****DATE****All offers subject to all terms and conditions contained in this solicitation**

ADDITIONAL INFORMATION

Addendum No. 2 - issued to publish the agency responses to vendor questions and move the bid opening date to 11/06/2024 @ 1:30 PM.

See attachments.

No other changes.

INVOICE TO**SHIP TO**

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION

103 MICHIGAN AVENUE
CHARLESTON
US

WV

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT

218 CALIFORNIA AVE
CHARLESTON
US

WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Lump Sum Fee for Annual Preventive Maintenance	1.00000	LS		

Comm Code**Manufacturer****Specification****Model #**

73161517

Extended Description:

Lump Sum Fee for Annual Preventive Maintenance - see specifications

INVOICE TO**SHIP TO**

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION

103 MICHIGAN AVENUE
CHARLESTON
US

WV

DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT

218 CALIFORNIA AVE
CHARLESTON
US

WV

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Hourly Labor Rate	200.00000	HOUR		

Comm Code**Manufacturer****Specification****Model #**

73161517

Extended Description:

Corrective Maintenance Hourly Labor Rate - see specifications

Nov 06 2024 08:16:46

784 558 3978 Ingersoll Rand Compa Page 129

INVOICE TO
DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION

103 MICHIGAN AVENUE
CHARLESTON WV
US

SHIP TO
DEPARTMENT OF
ADMINISTRATION
GENERAL SERVICES
DIVISION BLDG 11 - CHILLER
PLANT

218 CALIFORNIA AVE
CHARLESTON WV
US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Total Parts Cost				

Comm Code	Manufacturer	Specification	Model #
73161517			

Extended Description:

Corrective Maintenance Total Parts Cost - see specifications

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Mandatory Pre-bid meeting @ 10:00 AM	2024-10-15
2	Vendor question deadline @ 12: PM	2024-10-17

SOLICITATION NUMBER: CRFQ GSD2500000007

Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- ☒ | Modify bid opening date and time
- ☐ | Modify specifications of product or service being sought
- ☒ | Attachment of vendor questions and responses
- ☐ | Attachment of pre-bid sign-in sheet
- ☐ | Correction of error
- ☐ | Other

Description of Modification to Solicitation:

Addendum is issued to publish and distribute the following information to the Vendor community.

1. To publish the Vendor Technical Questions and Responses, per Attachment A.
2. To move bid opening date to Wednesday, November 6, 2024 @ 1:30 PM

No other changes.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

Annual Chillers and Towers Maintenance
Vendor Technical Questions and Responses

- Q 1.** 3.1.1 states that tools and equipment will be provided at no cost, does this include when a crane or similar items are required to complete work?
- A 1.** 3.1.1 requires work to be performed in accordance with manufacturer's recommendations and specifications. 3.1.3 deals with the Vendor furnishing equipment, tools, etc. This details the typical equipment and tools required to perform preventive maintenance. In the instance that Vendor would need to rent equipment, this would be covered under the "parts" portion of the contract for corrective maintenance.
- Q 2.** 3.2.2.3 states that vendor must check for excessive vibration for both chillers and towers, is this to be checked by "feel" and sound? Or are real vibration readings from vibration monitoring equipment expected?
- A 2.** Vibration monitoring equipment will be required.
- Q 3.** 3.2.4 For clarity, is each of the (4) chillers required to have an oil analysis ran each month for 12 months under this contract?
- A 3.** Oil analysis is to be performed on a monthly basis for the 4 chillers covered for the life of the contract.
- Q 4.** 10.2.1 states that no overtime rates may be billed for corrective maintenance. 3.3.3.1 states that there may be requests for emergency service. Will emergency service requests only be placed on weekdays during normal working hours?
- A 4.** Vendors are to provide an all-inclusive hourly labor rate to cover work to be performed at any time during the life of this contract.
- Q 5.** Exhibit A#8 states that eddy current testing is to be done on tubes, is this to be performed on both condenser and evaporator tubes? Also, how many chillers are to be tested during the duration of one year?
- A 5.** Yes, all four in a calendar year, but will likely not be needed until the third year of the contract.

**Annual Chillers and Towers Maintenance
Vendor Technical Questions and Responses**

Q 6. Are any of the chillers covered by a warranty for any work recently performed, and if so which chiller or chillers and for how long?

A 6. Chiller # 2 has recently been overhauled and will be covered by warranty during the life of this contract.

ADDENDUM ACKNOWLEDGEMENT FORM

SOLICITATION NO.: CRFQ GSD2500000007

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- ☐ Addendum No. 3
- ☐ Addendum No. 4
- ☐ Addendum No. 5

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- ☐ Addendum No. 7
- ☐ Addendum No. 8
- ☐ Addendum No. 9
- ☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Trane U.S. Inc.

Company

Authorized Signature

10/29/2024

Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.