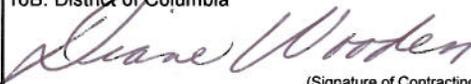


<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. Contract Number	Page of Pages 1 40
2. Amendment/Modification Number <b>DCAM-2011-B-0066-004</b>	3. Effective Date 23-Feb-11	4. Requisition/Purchase Request No.	5. Solicitation Caption <b>See Below</b>	
6. Issued By: Department of Real Estate Services Contract and Procurement Division 2000 14th Street N.W., Suite 500 Washington, D.C. 20009		Code 03B	7. Administered By (If other than line 6) Department of Real Estate Services Contract and Procurement Division 2000 14th Street N.W., Suite 500 Washington, D.C. 20009	
8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)			(X)	9A. Amendment of Solicitation No. <b>DCAM-2011-B-0066</b>
				9B. Dated (See Item 11) 4-Feb-11
				10A. Modification of Contract/Order No.
				10B. Dated (See Item 13)
Code	Facility			
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>				
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. Accounting and Appropriation Data (If Required)				
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14</b>				
(X)	A. This change order is issued pursuant to: (Specify Authority) The changes set forth in Item 14 are made in the contract/order no. in item 10A.			
	B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.			
	C. This supplemental agreement is entered into pursuant to authority of:			
	D. Other (Specify type of modification and authority)			
<b>E. IMPORTANT:</b> Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copy to the issuing office.				
14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)				
Cooling Tower Upgrades and Interconnections at the DC Department of Corrections The subject solicitation is hereby amended as follows: <ol style="list-style-type: none"> <li>1. Specification Section 232113-HYDRONIC PIPING is here by amended. (Attachment A)</li> <li>2. BD-1 has been added to drawing M-3 to describe ductwork and duct insulation. (Attachment B)</li> <li>3. Responses to questions from prospective bidders. (Attachment C)</li> <li>4. Photos of the cooling tower upgrades. (Attachment D)</li> </ol> <p style="text-align: center;">The opening date for receipt of bids, time and place remains the same.</p>				
Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect				
15A. Name and Title of Signer (Type or print)		16A. Name of Contracting Officer <b>Diane Wooden</b>		
15B. Name of Contractor	15C. Date Signed	16B. District of Columbia	16C. Date Signed	
(Signature of person authorized to sign)			2/23/11	
		(Signature of Contracting Officer)		

# ATTACHMENT A

## SECTION 232113 - HYDRONIC PIPING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes pipe and fitting materials, joining methods, special-duty valves, and specialties for the following:
  - 1. Condenser-water piping.
  - 2. Makeup-water piping.
- B. Related Sections include the following:
  - 1. Section 230553 "Identification for HVAC Piping and Equipment."
  - 2. Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."
  - 3. Section 230518 "Escutcheons for HVAC Piping."

#### 1.3 DEFINITIONS

- A. PTFE: Polytetrafluoroethylene.
- B. RTRF: Reinforced thermosetting resin (fiberglass) fittings.
- C. RTRP: Reinforced thermosetting resin (fiberglass) pipe.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Hydronic piping components and installation shall be capable of withstanding the following minimum working pressure and temperature:
  - 1. Condenser-Water Piping: 80 psig at 150 deg F.
  - 2. Makeup-Water Piping: 80 psig at 150 deg F.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following:

1. Valves. Include flow and pressure drop curves based on manufacturer's testing for calibrated-orifice balancing valves and automatic flow-control valves.
2. Air control devices.
3. Chemical treatment.
4. Hydronic specialties.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Welding certificates.
- C. Field quality-control test reports.
- D. Water Analysis: Submit a copy of the water analysis to illustrate water quality available at Project site.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For air control devices, hydronic specialties, and special-duty valves to include in emergency, operation, and maintenance manuals.

#### 1.8 MAINTENANCE MATERIAL SUBMITTALS

- A. Water-Treatment Chemicals: Furnish enough chemicals for initial system startup and for preventive maintenance for one year from date of Substantial Completion.

#### 1.9 QUALITY ASSURANCE

- A. Steel Support Welding: Qualify processes and operators according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX.
  1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
  2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
- C. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for materials, products, and installation. Safety valves and pressure vessels shall bear the appropriate ASME label. Fabricate and stamp air separators and expansion tanks to comply with ASME Boiler and Pressure Vessel Code: Section VIII, Division 1.

## PART 2 - PRODUCTS

### 2.1 STEEL PIPE AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel with plain ends; type, grade, and wall thickness as indicated in Part 3 "Piping Applications" Article.
- B. Cast-Iron Threaded Fittings: ASME B16.4; Classes 125 and 250 as indicated in Part 3 "Piping Applications" Article.
- C. Malleable-Iron Threaded Fittings: ASME B16.3, Classes 150 and 300 as indicated in Part 3 "Piping Applications" Article.
- D. Malleable-Iron Unions: ASME B16.39; Classes 150, 250, and 300 as indicated in Part 3 "Piping Applications" Article.
- E. Cast-Iron Pipe Flanges and Flanged Fittings: ASME B16.1, Classes 25, 125, and 250; raised ground face, and bolt holes spot faced as indicated in Part 3 "Piping Applications" Article.
- F. Wrought-Steel Fittings: ASTM A 234/A 234M, wall thickness to match adjoining pipe.
- G. Wrought Cast- and Forged-Steel Flanges and Flanged Fittings: ASME B16.5, including bolts, nuts, and gaskets of the following material group, end connections, and facings:
  - 1. Material Group: 1.1.
  - 2. End Connections: Butt welding.
  - 3. Facings: Raised face.
- H. Steel Pipe Nipples: ASTM A 733, made of same materials and wall thicknesses as pipe in which they are installed.

### 2.2 JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
  - 1. ASME B16.21, nonmetallic, flat, asbestos free, 1/8-inch maximum thickness unless thickness or specific material is indicated.
    - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges.
    - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges.
- B. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.
- C. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

- D. Gasket Material: Thickness, material, and type suitable for fluid to be handled and working temperatures and pressures.

### 2.3 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Capitol Manufacturing Company.
- b. Central Plastics Company.
- c. Hart Industries International, Inc.
- d. Jomar International Ltd.
- e. Matco-Norca, Inc.
- f. McDonald, A. Y. Mfg. Co.
- g. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
- h. Wilkins; a Zurn company.

2. Description:

- a. Standard: ASSE 1079.
- b. Pressure Rating: 125 psig minimum at 180 deg F.
- c. End Connections: Solder-joint copper alloy and threaded ferrous.

C. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Capitol Manufacturing Company.
- b. Central Plastics Company.
- c. Matco-Norca, Inc.
- d. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
- e. Wilkins; a Zurn company.

2. Description:

- a. Standard: ASSE 1079.
- b. Factory-fabricated, bolted, companion-flange assembly.
- c. Pressure Rating: 125 psig minimum at 180 deg F.
- d. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

D. Dielectric-Flange Insulating Kits:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Advance Products & Systems, Inc.
  - b. Calpico, Inc.
  - c. Central Plastics Company.
  - d. Pipeline Seal and Insulator, Inc.
2. Description:
  - a. Nonconducting materials for field assembly of companion flanges.
  - b. Pressure Rating: 150 psig.
  - c. Gasket: Neoprene or phenolic.
  - d. Bolt Sleeves: Phenolic or polyethylene.
  - e. Washers: Phenolic with steel backing washers.

E. Dielectric Nipples:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Elster Perfection.
  - b. Grinnell Mechanical Products.
  - c. Matco-Norca, Inc.
  - d. Precision Plumbing Products, Inc.
  - e. Victaulic Company.
2. Description:
  - a. Standard: IAPMO PS 66
  - b. Electroplated steel nipple. complying with ASTM F 1545.
  - c. Pressure Rating: 300 psig at 225 deg F
  - d. End Connections: Male threaded or grooved.
  - e. Lining: Inert and noncorrosive, propylene.

2.4 HYDRONIC PIPING SPECIALTIES

A. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40- mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

B. Basket Strainers:

1. Body: ASTM A 126, Class B, high-tensile cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig.

C. Stainless-Steel Bellow, Flexible Connectors:

1. Body: Stainless-steel bellows with woven, flexible, bronze, wire-reinforcing protective jacket.
2. End Connections: Threaded or flanged to match equipment connected.
3. Performance: Capable of 3/4-inch misalignment.
4. CWP Rating: 150 psig.
5. Maximum Operating Temperature: 250 deg F.

D. Spherical, Rubber, Flexible Connectors:

1. Body: Fiber-reinforced rubber body.
2. End Connections: Steel flanges drilled to align with Classes 150 and 300 steel flanges.
3. Performance: Capable of misalignment.
4. CWP Rating: 150 psig.
5. Maximum Operating Temperature: 250 deg F.

## PART 3 - EXECUTION

### 3.1 PIPING APPLICATIONS

A. Condenser-water piping, aboveground, NPS 2 and smaller, shall be any of the following:

1. Schedule 40 steel pipe; Class 150, malleable-iron fittings; cast-iron flanges and flange fittings; and threaded joints.
- 2.

B. Condenser-water piping, aboveground, NPS 2-1/2 and larger, shall be any of the following:

1. Schedule 40 steel pipe, wrought-steel fittings and wrought-cast or forged-steel flanges and flange fittings, and welded and flanged joints.

C. Makeup-water piping installed aboveground shall be either of the following:

1. Type L, drawn-temper copper tubing, wrought-copper fittings, and soldered or brazed joints.

### 3.2 VALVE APPLICATIONS

- A. Install shutoff-duty valves at each branch connection to supply mains, and at supply connection to each piece of equipment.
- B. Install check valves at each pump discharge and elsewhere as required to control flow direction.
- C. Install pressure-reducing valves at makeup-water connection to regulate system fill pressure.

### 3.3 PIPING INSTALLATIONS

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicate piping locations and arrangements if such were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- B. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping to permit valve servicing.
- E. Install piping at indicated slopes.
- F. Install piping free of sags and bends.
- G. Install fittings for changes in direction and branch connections.
- H. Install piping to allow application of insulation.
- I. Select system components with pressure rating equal to or greater than system operating pressure.
- J. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.
- K. Install drains, consisting of a tee fitting, NPS 3/4 ball valve, and short NPS 3/4 threaded nipple with cap, at low points in piping system mains and elsewhere as required for system drainage.
- L. Reduce pipe sizes using eccentric reducer fitting installed with level side up.
- M. Install branch connections to mains using mechanically formed tee fittings in main pipe, with the branch connected to the bottom of the main pipe. For up-feed risers, connect the branch to the top of the main pipe.
- N. Install valves according to Section 230523 "General-Duty Valves for HVAC Piping."

- O. Install unions in piping, NPS 2 and smaller, adjacent to valves, at final connections of equipment, and elsewhere as indicated.
- P. Install flanges in piping, NPS 2-1/2 and larger, at final connections of equipment and elsewhere as indicated.
- Q. Install strainers on inlet side of each control valve, pressure-reducing valve, solenoid valve, in-line pump, and elsewhere as indicated. Install NPS 3/4 nipple and ball valve in blowdown connection of strainers NPS 2 and larger. Match size of strainer blowoff connection for strainers smaller than NPS 2.
- R. Install expansion loops, expansion joints, anchors, and pipe alignment guides as specified in Section 230516 "Expansion Fittings and Loops for HVAC Piping."
- S. Identify piping as specified in Section 230553 "Identification for HVAC Piping and Equipment."
- T. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."
- U. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 230517 "Sleeves and Sleeve Seals for HVAC Piping."
- V. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 230518 "Escutcheons for HVAC Piping."

### 3.4 PIPE JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
- D. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.
- E. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
  - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.

2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- F. Welded Joints: Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- G. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

### 3.5 TERMINAL EQUIPMENT CONNECTIONS

- A. Sizes for supply and return piping connections shall be the same as or larger than equipment connections.
- B. Install ports for pressure gages and thermometers at coil inlet and outlet connections.

### 3.6 FIELD QUALITY CONTROL

- A. Prepare hydronic piping according to ASME B31.9 and as follows:
  1. Leave joints, including welds, uninsulated and exposed for examination during test.
  2. Provide temporary restraints for expansion joints that cannot sustain reactions due to test pressure. If temporary restraints are impractical, isolate expansion joints from testing.
  3. Flush hydronic piping systems with clean water; then remove and clean or replace strainer screens.
  4. Isolate equipment from piping. If a valve is used to isolate equipment, its closure shall be capable of sealing against test pressure without damage to valve. Install blinds in flanged joints to isolate equipment.
- B. Perform the following tests on hydronic piping:
  1. Use ambient temperature water as a testing medium unless there is risk of damage due to freezing. Another liquid that is safe for workers and compatible with piping may be used.
  2. While filling system, use vents installed at high points of system to release air. Use drains installed at low points for complete draining of test liquid.
  3. Subject piping system to hydrostatic test pressure that is not less than 1.5 times the system's working pressure. Test pressure shall not exceed maximum pressure for any vessel, pump, valve, or other component in system under test. Verify that stress due to pressure at bottom of vertical runs does not exceed 90 percent of specified minimum yield strength or 1.7 times "SE" value in Appendix A in ASME B31.9, "Building Services Piping."
  4. After hydrostatic test pressure has been applied for at least 10 minutes, examine piping, joints, and connections for leakage. Eliminate leaks by tightening, repairing, or replacing components and repeat hydrostatic test until there are no leaks.
  5. Prepare written report of testing.

- C. Perform the following before operating the system:
1. Open manual valves fully.
  2. Inspect pumps for proper rotation.
  3. Inspect and set operating temperatures of hydronic equipment, such as, chillers and cooling towers, to specified values.
  4. Verify lubrication of motors and bearings.

END OF SECTION 232113

# ATTACHMENT B

- DUCT WORK:**
- A. **SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS:** General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
  - B. **SHEET METAL MATERIALS:** Galvanized Sheet Steel: Comply with ASTM A 653, Galvanized Coating Designation: G60, Finishes for Surfaces Exposed to View: Mill phosphatized.
  - C. Provide Tie Rods, Insulation Pins and Washers as required:
  - D. Provide sealant, gaskets, as required.
  - E. Coordinate duct layout and duct accessory arrangement with Drawings.
  - F. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated. Protect duct interiors from moisture, construction debris and dust, and other foreign materials. Protect ducts exposed in finished spaces from being dented, scratched, or damaged. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports." Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections. Clean new and existing duct system.

**DUCT INSULATION:**

- G. **Mineral-Fiber Blanket Insulation:** Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290, Type II with factory-applied vinyl jacket. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.
- H. **Mineral-Fiber Adhesive:** Comply with MIL-A-3316C, Class 2, Grade A.
- I. **ASJ Adhesive, and FSK Jacket Adhesive:** Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.
- J. **MASTICS, LAGGING ADHESIVES and SEALANTS:** Materials shall be compatible with insulation materials, jackets, and substrates.
- K. **FIELD-APPLIED CLOTHS:** Woven Glass-Fiber Fabric: Comply with MIL-C-20079H, Type I, plain weave, and prestized a minimum of 8 oz./sq. yd.
- J. **SECUREMENTS:** Bands shall be stainless steel with ends flat and slotted to accept metal bands. Spring size determined by manufacturer for application. Staples shall be outward-clinching insulation staples, nominal 3/4-inch- wide, stainless steel or Monel. Wire shall be 0.080-inch nickel-copper alloy
- K. **PREPARATION:** Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of ducts and fittings. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state. Keep insulation materials dry during application and finishing.

THIS APPLIES DRAWING M-3

SCALE: NONE

DESIGNED BY	TR				
DRAWN BY	TR				
CHECKED BY	ED				
APPROVED BY	JH				
REVISION NO.		DATE	DESCRIPTION	BY	APPROVED
			DEPARTMENT OF CONNECTIONS CENTRAL REGIONAL FACILITY (D.C. M4) WASHINGTON, D.C. 20003		
			<b>AECOM</b> 1000 PENNSYLVANIA AVE., SUITE 900 WASHINGTON, DC 20004 F: 202-462-4000 www.aecom.com		
			DEPARTMENT OF REAL ESTATE SERVICES OF THE DISTRICT OF COLUMBIA	PROJECT NO. 07090 SCALE: NONE	
				DATE: 02-17-2011	SHEET 1 OF 1

# ATTACHMENT C

**Question and Answers from Prospective Bidders  
DCAM-2011-B-0066**

**Cooling Tower Upgrades and Interconnections at the DC Department of Corrections.**

- Q. Please advise if there will be any requirement for roof warranty.
- A. No new roof work is required. Any part of existing roof that is damaged should be repaired to match existing.
- Q. Please advise if existing 52: x 52 return air duct shown to be removed and replaced is to be new duct or if existing duct is to be reused.
- A. Provide new ductwork. See Amendment DCAM-2011-B-0066-004.
- Q. Please advise if 52 x 52 return air duct is to be insulated. If so, please provide specification for the insulation.
- A. See Amendment DCAM-2011-B-0066-004 for duct insulation.
- Q. Note 19 on M-1 states to provide new starter/disconnects for P-15, P-16 & P-17. Note 4 on ED-1 states to provide new combination VFD's for P-15, P-16 & P-17. Please advise which device will be required.
- A. Provide new starter and disconnect for pumps P-15, P-16 & P-17 as noted on drawing M-1.
- Q. Will there be a need for a temporary system during the 20-day cooling tower change over period?
- A. Yes. The project did not have temporary services since the work was to be done in the "off times" of the system. The CD's don't have any temporary systems, just coordination with the owner/user.
- Q. Is there an estimated project start date?
- A. The project start date is estimated to be the fourth week of March (week of March 21<sup>st</sup>)
- Q. Please advise if we are to reuse existing make-up water and what size make-up water is existing. Please advise of tie in point locations if we are to install new make-up water as well as heat trace and insulation requirements.
- A. Reuse existing make-up water lines to CT-1 & CT-2, CT-3 & CT-4. Make-up water line to CT-1 & CT-2 is 3" and to CT-3 & CT-4 is 3". Extend make up water to cooling towers as required.

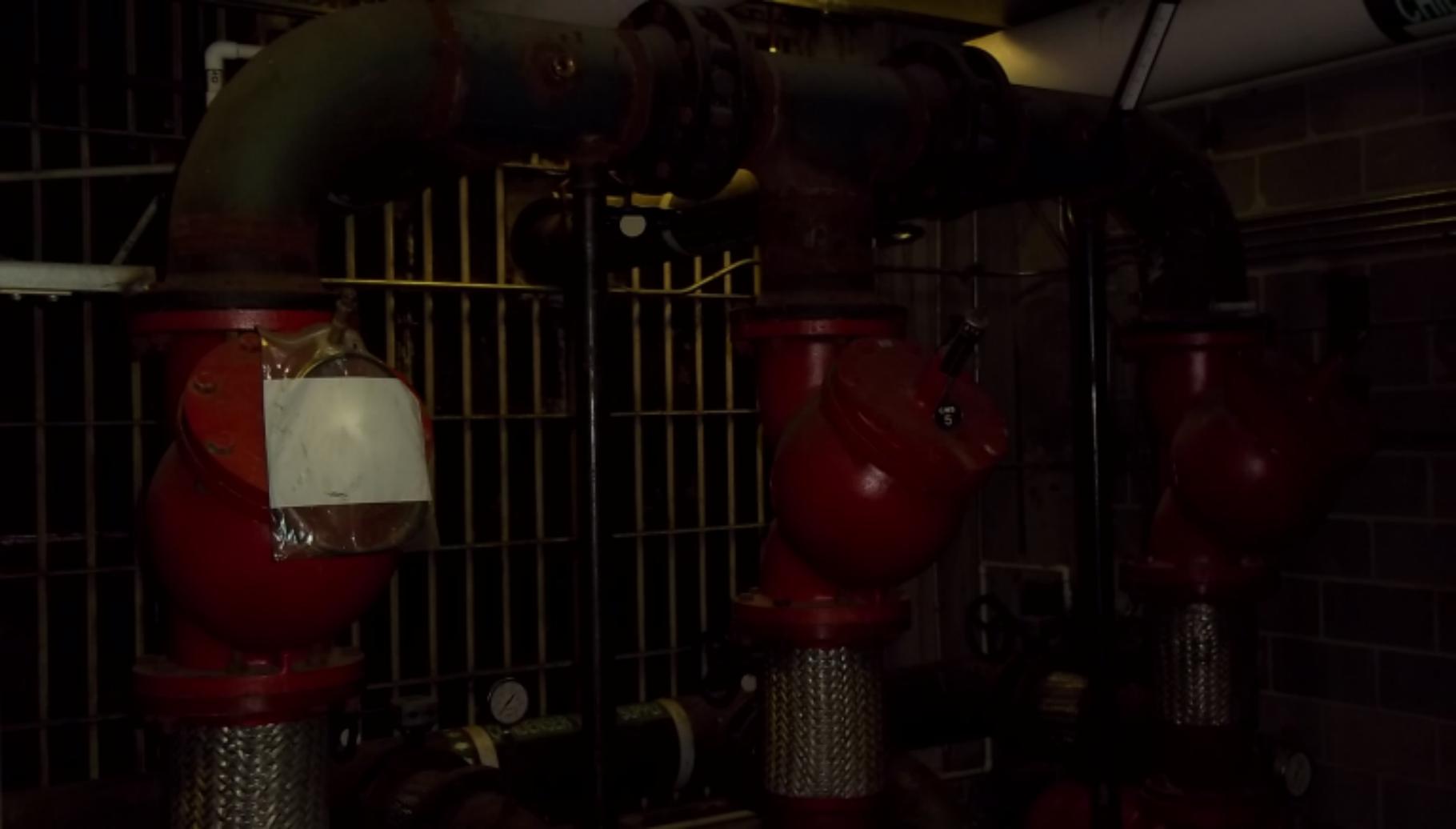
Insulate extended new piping from existing piping. Existing piping with insulation and heat trace should be left in-tact.

- Q. Please advise if new insulation and new heat trace on existing to remain Condenser Water Supply to CT-3 & CT-4 will be required as part of this project. The piping is shown to not be demolished.
- A. All exposed piping- new and existing to remain for condenser water to cooling towers CT-1, CT-2, CT-3 & CT-4 shall be insulated and heat traced as called for in specifications.

**Enclosed are photos of the cooling tower upgrades.**

The height of the facility is approximately 60 ft from the sidewalk in front of visitors control to the roof, and the Contractor will need to add approximately 20 ft to the top of the tower. The Contractor will need to take under consideration the distance of where the crane must sit and the towers that are on the roof for this lift.

# ATTACHMENT D

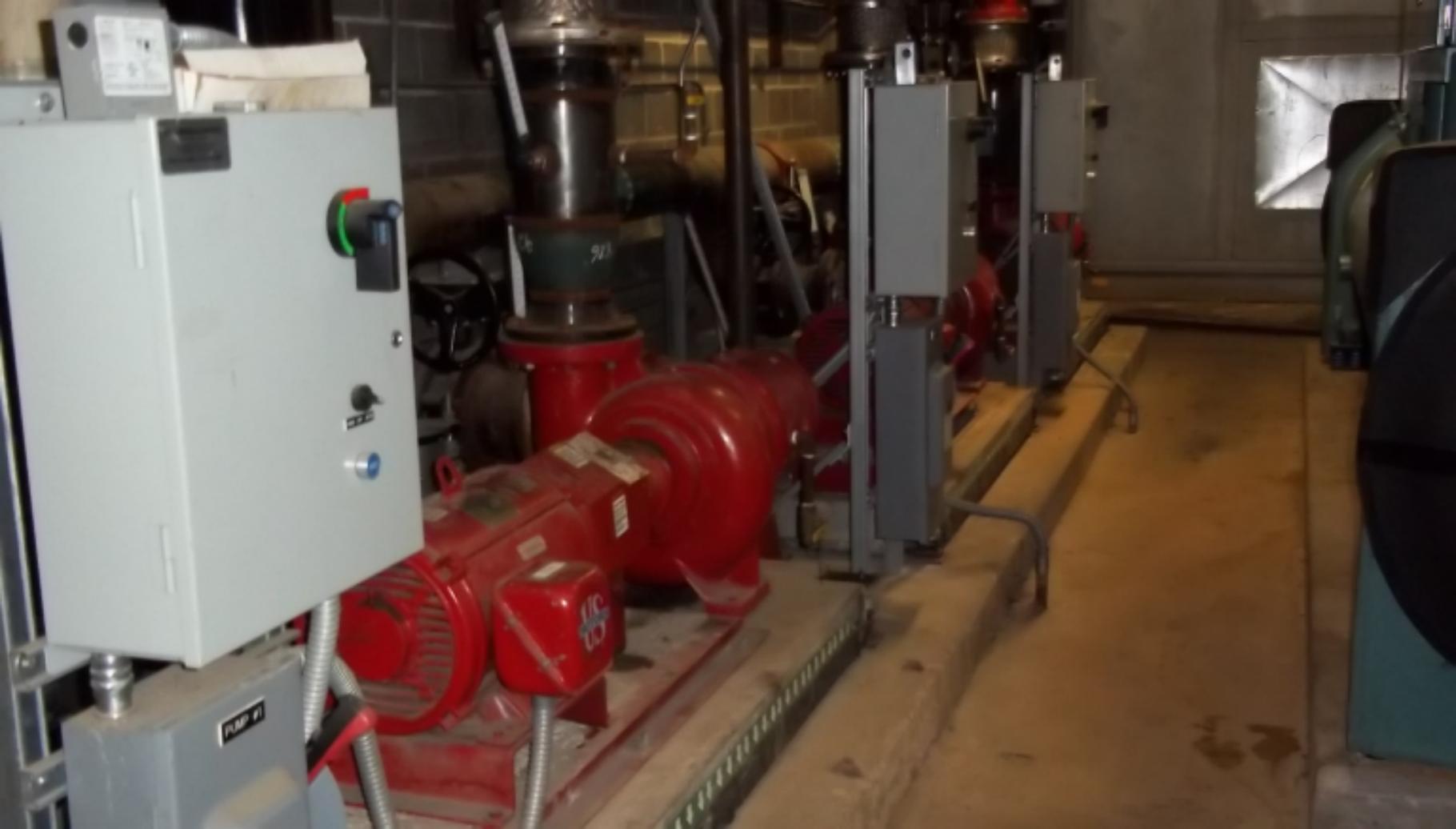






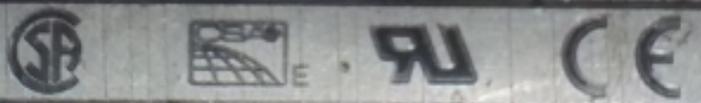
-040302-  
DC 3/11





ALUMINUM MODEL # 22-230  
 TYPE F ENCL 088  
 NEMA CLASS F DUTY 01 WT 23 BAL

HZ 60	HP 25	RPM 1725	HZ 60	HP 25	RPM 1725
SF 5	DESIGN 5	CODE 5	SF 5	DESIGN 5	CODE 5
GUARANTEED EFFICIENCY 90.2	MAX KVA 7.5		GUARANTEED EFFICIENCY 90.2	MAX KVA 7.5	
NEMA NOM EFFICIENCY 91.7	NOM PT 65		NEMA NOM EFFICIENCY 91.7	NOM PT 65	
VOLTS 208-230/460			VOLTS 190/330		
FL AMPS 66.0-60.0/30.0			FL AMPS 74.0/37.0		
SF AMPS 69.0/35.0			SF AMPS 0		

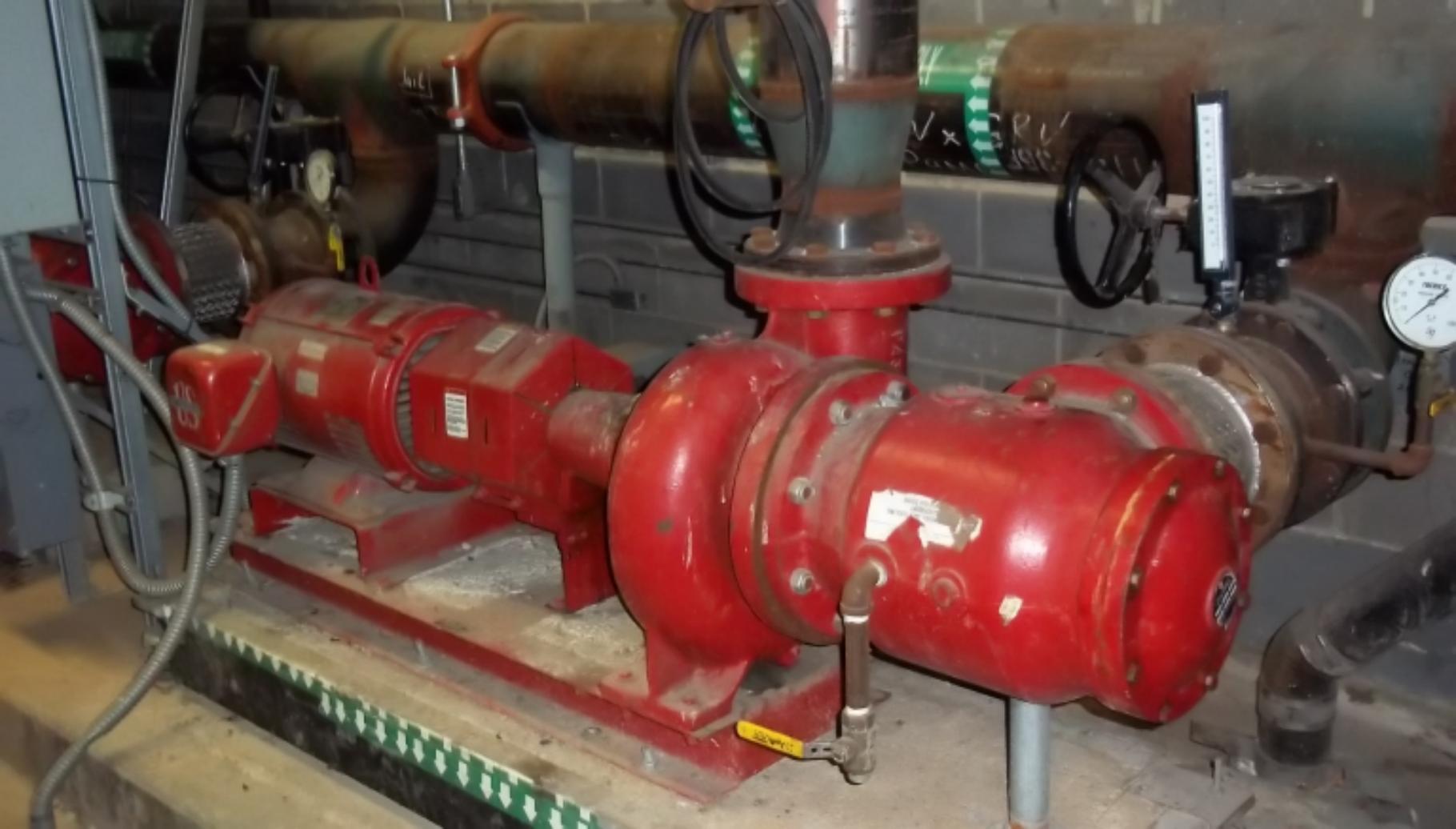


MADE IN KOREA



U.S. ELECTRICAL MOTORS  
 DIVISION OF EMERSON ELECTRIC CO.  
 ST. LOUIS, MO 63103  
 EMERSON

422697-002

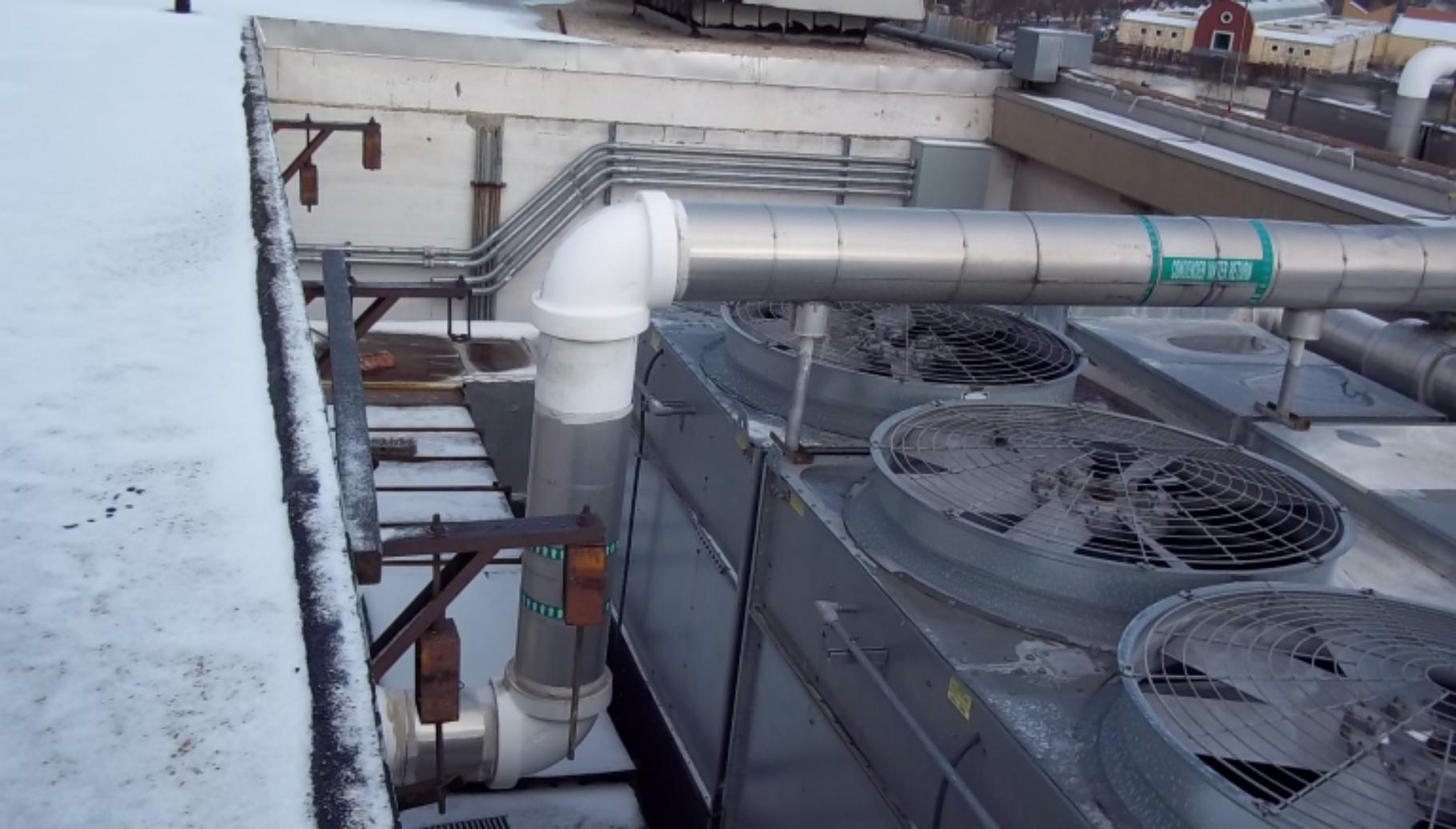


























FACE B

CONDENSED WATER SUPPLY





← R3

