



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at [wvOASIS.gov](http://wvOASIS.gov). As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at [WVPurchasing.gov](http://WVPurchasing.gov) with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

## Header 1

## General Information

[Contact](#)[Default Values](#)[Discount](#)[Document Information](#)

Procurement Folder: 582159

Procurement Type: Central Purchase Order

Vendor ID: VS0000017615

Legal Name: PURE AIR CONTROL SERVICES INC

Alias/DBA:

Total Bid: \$551,656.00

Response Date: 06/27/2019

Response Time: 9:24

SO Doc Code: CRFQ

SO Dept: 0211

SO Doc ID: GSD1900000034

Published Date: 6/25/19

Close Date: 6/27/19

Close Time: 13:30

Status: Closed

Solicitation Description: Addendum No.2 Air Handler Coil  
Cleaning and Testing Projec

Total of Header Attachments: 1

Total of All Attachments: 1



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia  
 Solicitation Response**

**Proc Folder :** 582159

**Solicitation Description :** Addendum No.2 Air Handler Coil Cleaning and Testing Projec

**Proc Type :** Central Purchase Order

| Date issued | Solicitation Closes    | Solicitation Response        | Version |
|-------------|------------------------|------------------------------|---------|
|             | 2019-06-27<br>13:30:00 | SR 0211 ESR06271900000006047 | 1       |

| <b>VENDOR</b>                                 |
|---|
| VS0000017615<br>PURE AIR CONTROL SERVICES INC |

**Solicitation Number:** CRFQ 0211 GSD1900000034

**Total Bid :** \$551,656.00      **Response Date:** 2019-06-27      **Response Time:** 09:24:50

**Comments:**

**FOR INFORMATION CONTACT THE BUYER**  
 Melissa Pettrey  
 (304) 558-0094  
 melissa.k.pettrey@wv.gov

|                          |               |             |
|--------------------------|---------------|-------------|
| <b>Signature on File</b> | <b>FEIN #</b> | <b>DATE</b> |
|--------------------------|---------------|-------------|

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

| Line | Comm Ln Desc                                  | Qty | Unit Issue | Unit Price | Ln Total Or Contract Amount |
|------|---|-----|------------|------------|-----------------------------|
| 1    | Air Handler Coil Cleaning and Testing Project |     |            |            | \$551,656.00                |

| Comm Code | Manufacturer | Specification | Model # |
|-----------|--------------|---------------|---------|
| 72151207  |              |               |         |

**Extended Description :** Air Handler Coil Cleaning and Testing Project, per attached specifications



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

State of West Virginia  
 Request for Quotation  
 09 - Construction

Proc Folder: 582159

Doc Description: Air Handler Coil Cleaning and Testing Project

Proc Type: Central Purchase Order

| Date Issued | Solicitation Closes    | Solicitation No         | Version |
|-------------|------------------------|-------------------------|---------|
| 2019-05-31  | 2019-06-26<br>13:30:00 | CRFQ 0211 GSD1900000034 | 1       |

**BID RECEIVING LOCATION**

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

**VENDOR**

Vendor Name, Address and Telephone Number:

**PURE AIR CONTROL SERVICES, INC.**

4911 CREEKSIDE DR. SUITE C, CLEARWATER, FL 33760  
 727-572-5859

**FOR INFORMATION CONTACT THE BUYER**

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

Signature X  FEIN # 59-2385498 DATE 06/26/2019

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

**ADDITIONAL INFORMATION:****Central Request for Quotation**

The West Virginia Purchasing Division is soliciting bids on behalf of the WV Department of Administration, General Services Division to establish a contract to provide HVAC steam cleaning, sterilization and restoration services of Air Handler Unit (AHU) coil sets in various locations throughout West Virginia per the bid requirements, specifications, terms and conditions attached to this solicitation.

| INVOICE TO  |  | SHIP TO  |  |
|---|--|--|--|
| DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION<br>112 CALIFORNIA AVENUE, 5TH FLOOR<br>CHARLESTON WV25305<br>US |  | DEPARTMENT OF ADMINISTRATION<br>GENERAL SERVICES DIVISION BLDG 3<br>1900 KANAWHA BLVD E<br>CHARLESTON WV 25305<br>US |  |

| Line | Comm Ln Desc                                  | Qty | Unit Issue | Unit Price | Total Price  |
|------|---|-----|------------|------------|--------------|
| 1    | Air Handler Coil Cleaning and Testing Project |     |            |            | \$551,656.00 |

| Comm Code | Manufacturer | Specification | Model # |
|-----------|--------------|---------------|---------|
| 72151207  |              |               |         |

**Extended Description :**

Air Handler Coil Cleaning and Testing Project, per attached specifications



## **Air Handler Coil Cleaning & Testing Project Solicitation No. CRFQ 0211 GSD1900000034**

### **Bid Receiving Location**

Bid Clerk

Department of Administration – Purchasing Division  
2019 Washington St. E Charleston, WV 25305

Melissa Pettrey, Sr. Buyer

### **Headquarters:**

**Pure Air Control Services, Inc.**  
4911 Creekside Dr. Suite C,  
Clearwater, FL 33760

### **Pure Air Control Services - NE**

630 Business Center Dr., 3rd Floor  
King of Prussia, PA 19406  
610-768-7716





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To whom it may concern:

Pure Air Control Services, Inc. (PACS) is a nationally recognized indoor air quality corporation with headquarters based in Clearwater, Florida. Since 1984, PACS has provided professional IAQ services and support to public and private organizations and government agencies, spanning the U.S. and other countries. PACS is a privately-owned company with established credentials and experience in all areas of indoor air quality (IAQ) and indoor environmental problem solving on an as-needed basis. Pure Air Control Services is certified by the State of Florida and FL State Minority Supplier Development Council as a qualified Minority Business Enterprise.

Pure Air Control Services, Inc. offers a full range of professional solutions to indoor air quality concerns. We provide turn-key solutions through environmental consulting and engineering, building diagnostics, laboratory services as well as building HVAC system remediation services.

Sincerely,



---

Alan Wozniak, President/CEO  
Pure Air Control Services, Inc.

**Pure Air Control Services, Inc.**

4911 Creekside Dr. Suite C,  
Clearwater, FL 33760

PHONE: 727-572-4550

TOLL FREE: 800-422-7873

**KEY CONTACTS:**

**Alan Wozniak, President/CEO:** ext. 802 [awozniak@pureaircontrols.com](mailto:awozniak@pureaircontrols.com)

**Cynthia Bailey, Operations Manager:** ext. 602 [cbailey@pureaircontrols.com](mailto:cbailey@pureaircontrols.com)

**Tanner Wozniak, Chief Estimator:** ext. 805 [twozniak@pureaircontrols.com](mailto:twozniak@pureaircontrols.com)

**Camille Wozniak, Executive Sales Asst.:** ext. 700 [cpedraza@pureaircontrols.com](mailto:cpedraza@pureaircontrols.com)



# INSURANCE / BOND





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

6/24/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

|  |   |  |   |
|--|---|--|---|
| <b>PRODUCER</b><br>Brown & Brown Insurance - Clearwater<br>83 Park Place Blvd., Suite 101<br>Clearwater FL 33759-3925                | <b>CONTACT NAME:</b> Keith Thompson<br><b>PHONE (A/C. No. Ext):</b> 727-461-6044<br><b>E-MAIL ADDRESS:</b> kthompson@bbpinellas.com |  | <b>FAX (A/C. No):</b> 727-442-7695  |
|  | <b>INSURER(S) AFFORDING COVERAGE</b>  |  |   |
| <b>INSURED</b><br>Pure Air Control Services, Inc.<br>Building Health Check, LLC<br>4911 Creekside Dr., Ste. C<br>Clearwater FL 33760 | PUREIA2   |  | <b>INSURER A:</b> American Interstate Insurance Company<br><b>NAIC #:</b> 31895 |
|  |   |  | <b>INSURER B:</b> Arch Specialty Insurance Company<br><b>NAIC #:</b> 21199      |
|  |   |  | <b>INSURER C:</b> Auto-Owners Insurance Company<br><b>NAIC #:</b> 18988         |
|  |   |  | <b>INSURER D:</b>   |
|  |   |  | <b>INSURER E:</b>   |
|  |   |  | <b>INSURER F:</b>   |

**COVERAGES**

CERTIFICATE NUMBER: 2072233088

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE   | ADDL INSD | SUBR WVD | POLICY NUMBER    | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS   |                             |              |
|----------|---|-----------|----------|------------------|-------------------------|-------------------------|--|-----------------------------|--------------|
| B        | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY<br><input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR<br>GEN'L AGGREGATE LIMIT APPLIES PER:<br><input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC<br><input checked="" type="checkbox"/> OTHER: Prof. Liab. *   |           |          | 12EMP7201507     | 2/25/2019               | 2/25/2020               | EACH OCCURRENCE  | \$ 3,000,000                |              |
|          |   |           |          |                  |                         |                         | DAMAGE TO RENTED PREMISES (Ea occurrence)  | \$ 300,000                  |              |
|          |   |           |          |                  |                         |                         | MED EXP (Any one person)   | \$ 5,000                    |              |
|          |   |           |          |                  |                         |                         | PERSONAL & ADV INJURY  | \$ 3,000,000                |              |
|          |   |           |          |                  |                         |                         | GENERAL AGGREGATE  | \$ 3,000,000                |              |
|          |   |           |          |                  |                         |                         | PRODUCTS - COMP/OP AGG   | \$ 3,000,000                |              |
|          |   |           |          |                  |                         |                         | Per Wrongful Act   | \$ 3,000,000                |              |
| C        | <input checked="" type="checkbox"/> AUTOMOBILE LIABILITY<br><input checked="" type="checkbox"/> ANY AUTO<br><input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS<br><input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY<br><input checked="" type="checkbox"/> PIP \$10,000 |           |          | 51-084-938-00    | 2/25/2019               | 2/25/2020               | COMBINED SINGLE LIMIT (Ea accident)  | \$ 1,000,000                |              |
|          |   |           |          |                  |                         |                         | BODILY INJURY (Per person)   | \$                          |              |
|          |   |           |          |                  |                         |                         | BODILY INJURY (Per accident)   | \$                          |              |
|          |   |           |          |                  |                         |                         | PROPERTY DAMAGE (Per accident)   | \$                          |              |
|          |   |           |          |                  |                         |                         |  | \$                          |              |
| B        | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR<br><input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE<br><input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0   |           |          | 12EMX1158502     | 2/25/2019               | 2/25/2020               | EACH OCCURRENCE  | \$ 2,000,000                |              |
|          |   |           |          |                  |                         |                         | AGGREGATE  | \$ 2,000,000                |              |
|          |   |           |          |                  |                         |                         |  | \$                          |              |
| A        | <b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b><br>ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)<br>If yes, describe under DESCRIPTION OF OPERATIONS below   | Y/N<br>N  | N/A      | AVWCFL2758222019 | 1/1/2019                | 1/1/2020                | <input checked="" type="checkbox"/> PER STATUTE<br><input type="checkbox"/> OTH-ER | E.L. EACH ACCIDENT          | \$ 1,000,000 |
|          |   |           |          |                  |                         |                         |  | E.L. DISEASE - EA EMPLOYEE  | \$ 1,000,000 |
|          |   |           |          |                  |                         |                         |  | E.L. DISEASE - POLICY LIMIT | \$ 1,000,000 |
| B        | Contractors Pollution Liability   |           |          | 12EMP7201507     | 2/25/2019               | 2/25/2020               | Per Event/Aggregate  | 3,000,000                   |              |
| B        | Professional Liability  |           |          | 12EMP7201507     | 2/25/2019               | 2/25/2020               | Per Wrongful Act Aggregate   | 3,000,000                   |              |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

State of West Virginia  
 2019 Washington St E  
 Charleston WV 25305

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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**Bonding and Insurance Specialists Agency, Inc.**

13841 Southwest Highway  
Orland Park, IL 60462-1354

Phone: (708) 598-5355 Fax: (708) 598-6686

**BID BOND RESULTS**

---

Contractor Name :  Accounting ID:   
Bond Number:  Bond Amount:  Bid Date:   
Obligee/Project Owner:   
Project Description

---

**Please fill in the firm name and the three lowest bid prices:**

Low Bid: Firm: \_\_\_\_\_ Price: \_\_\_\_\_  
Second Lowest: Firm: \_\_\_\_\_ Price: \_\_\_\_\_  
Third Lowest: Firm: \_\_\_\_\_ Price: \_\_\_\_\_

**General Comments on the Project:**

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Please provide bid results as soon as they become available. Bid spreads of more than 15% should/must be accompanied by a letter explaining why your big price will be profitable for your firm. Very large spreads may be subject to collateral or professional review; the cost of this review will be the responsibility of the contractor.

**Please Fax or Mail immediately to the above address**

Dated: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

ZA41911

Agency \_\_\_\_\_  
REQ.P.O.# \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, PURE AIR CONTROL SERVICES INC  
of CLEARWATER, FL, as Principal, and ARCH INSURANCE COMPANY  
of KANSAS CITY, MO, a corporation organized and existing under the laws of the State of MISSOURI  
with its principal office in the City of KANSAS CITY, as Surety, are held and firmly bound unto the State  
of West Virginia, as Obligees, in the penal sum of FIVE PERCENT OF BID AMT (\$ TBD) 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  
AIR HANDLER COIL CLEANING & TESTING PROJECT

**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 Obligees 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 24TH day of JUNE, 2019.

Principal Seal

PURE AIR CONTROL SERVICES INC  
(Name of Principal)  
By [Signature]  
(Must be President, Vice President, or  
Duly Authorized Agent)  
**President/CEO**  
(Title)

Surety Seal

ARCH INSURANCE COMPANY  
(Name of Surety)  
[Signature]  
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.**

**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON BLUE BACKGROUND.**

***This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.***

## POWER OF ATTORNEY

Know All Persons By These Presents:

That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Anne M. Barber, Dana M. Kuber, Maria A. Gonzalez, Michael J. Friedrich and William A. Ballay of Orland Park, IL (EACH)

its true and lawful Attorney(s) in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed:

Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars (\$90,000,000.00).

This authority does not permit the same obligation to be split into two or more bonds in order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on September 15, 2011, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on September 15, 2011:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on September 15, 2011, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company.

# EXPERIENCE



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## EXPERIENCE

- **Moffitt Cancer Center –**
  - **Contact:** Ken Kuse, Manager, Controls, Cx & Energy  
12902 Magnolia Dr. MCB-FACL, Tampa, FL 33612  
O: 813-745-5562  
Email: [ken.kuse@moffitt.org](mailto:ken.kuse@moffitt.org)  
Project location/description:
    - **MKE – McKinley East Bldg: 10901 N. McKinley Dr., Tampa, FL 33612**
    - Environmentally cleaned twenty-six (26) AHUs. Environmentally cleaned the coils and blowers utilizing PURE-Steam, the GREEN (no chemicals) Sterilization Steam Cleaning Process (Green Clean Institute Certified Coil Cleaning Process). Environmentally cleaned approximately (≈16,000 LF) of associated ductwork.
    - Contract amount: \$859,600.00
  
- **Royal Plus -**
  - **Contact:** Robert Perry, SE Regional Manager  
1150 Belle Ave, Casselberry, FL 32708  
O: 407-790-4883  
Email: [rperry@royalplus.com](mailto:rperry@royalplus.com)  
Project location/description:
    - **Tyndall AFB: 2580 Hwy 98, Tyndall AFB, FL 32403**
    - Environmentally cleaned the AHUs, coils and blowers utilizing PURE-Steam, the GREEN (no chemicals) Sterilization Steam Cleaning Process (Green Clean Institute Certified Coil Cleaning Process) & environmentally cleaned approximately of associated ductwork of 40-50 buildings
    - Contract amount: \$700,000 (and continues)
  
- **Collier County Government –**
  - **Contact:** Ralph Bosa, Facilities Mgmt.  
3335 Tamiami Trail East, Suite 101, Naples, FL 34112  
O: 239-252-8232  
Email: [ralph.bosa@colliercountyfl.gov](mailto:ralph.bosa@colliercountyfl.gov)  
Project location/description:
    - Due to Hurricane Irma in September of 2017, 30+ buildings had severe water damage and mold growth on ceilings, walls, etc. which made some environments unoccupiable. PACS went into **each** building CCG requested and tested for baseline IAQ conditions, remediated the problems recommended by the Building Health Check report and conducted Post Remediation Testing to ensure the buildings were occupiable.
    - Contract amount: \$1,000,000

- **Florida International University (FIU):**

- **Contact:** Danny Pann  
Modesto A. Maidique Campus, CSC 237  
University Park  
Miami FL 33199  
O: 757-510-7793  
Email: [paand@fiu.edu](mailto:paand@fiu.edu)

Project location/description:

- FIU was faced with reduced air flow issues, energy waste due to fouled evaporator coils, in-line heat coils as well as hygienic conditions of the air conveyance system. FIU decided to utilize the E & I Cooperative contract that Pure Air Control Services has. In over a two month period the teams at Pure Air successfully accomplished the environmental cleaning of the HVAC system creating a healthier learning environment. (see reference letter attached)
- Contract Amount: \$600,000.00

- **Harvard University:**

- **Contact:** Peter Stroup, PE  
25 Shattuck Street  
Boston, MA 02115  
Project Manager: Michael Kjølgaard, PE  
Kjølgaard Engineering  
O: 774-444-0250  
Email: [mkjølgaard@kellc.us](mailto:mkjølgaard@kellc.us)

Project location/description:

- Mr. Stroup and his team were faced with increasing energy costs, and aging infrastructure including HVAC equipment with air flow issues and resulting IAQ concerns. Harvard turned to Pure Air Control Services through Kjølgaard Engineering, LLC. Harvard and Kjølgaard Engineering had heard of the PURE-Steam Coil Cleaning process as a result of being one of the only green certified coil cleaning processes in the U.S. PURE-Steam Coil Cleaning operates at high temperatures and low pressures to safely disinfect and clean air handler units (AHU). PURE-Steam Coil Cleaning was initiated through the 4 million square foot Harvard Longwood campus covering 100 large AHU's during the winter/spring of 2016. All large AHU's were environmentally cleaned over a 5 month period. The average DELTA P improvement was 37% across the Harvard HVAC equipment heat and cooling coils. PACS used steam technology followed by high volume, low pressure (HVLP) technology for coil cleaning (see case study attached)
- Contract Amount: \$350,000.00



# PRICING PAGE





Exhibit A: Pricing Page



Capitol Complex, 1900 Kanawha Blvd E, Charleston, WV (Site Visit conducted following Mandatory Pre-Bid Meeting)

| BUILDING | MODEL                | UNIT #              | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE          | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|----------------------|---------------------|--------------------------------|--------------------|---------------------------|--------------------|
| 1        | 39ED10               | AH-10 (DOME UNIT)   | W 5'6", H 1'8", D 8"           | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | WF-RSA-DH38-E        | AH-1 (NORTH SENATE) | W 5'0",H 8'3"                  | CHILLED WATER COIL | UNKNOWN                   | \$5,278.00         |
| 1        | WF-RSA-DH38-E        | AH-1 (NORTH SENATE) | W 4'6", H 5'0", D 1"           | HEAT COIL          | UNKNOWN                   | \$2,984.00         |
| 1        | 39ED10               | AH-13 (DOME UNIT)   | W 5'6", H 1'8", D 8"           | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | WF-RSA-DH38-E        | AH-3 (NORTH HOUSE)  | W 5'0", H 8'3"                 | CHILLED WATER COIL | UNKNOWN                   | \$5,278.00         |
| 1        | WF-RSA-DH38-E        | AH-3 (NORTH HOUSE)  | W 4'6", H 5'0", D 1"           | HEAT COIL          | UNKNOWN                   | \$2,984.00         |
| 1        | 39ED10               | AH-11(DOME UNIT)    | W 5'6", H 1'8", D 8"           | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | WF-RSA-DH38-E        | AH-4(SOUTH HOUSE)   | W 5'0, H 8'3"                  | CHILLED WATER COIL | UNKNOWN                   | \$5,278.00         |
| 1        | WF-RSA-DH38-E        | AH-4(SOUTH HOUSE)   | W 4'6", H 5'0", D 1"           | HEAT COIL          | UNKNOWN                   | \$2,984.00         |
| 1        | 39ED10               | AHU-8(DOME UNIT)    | W 5'6", H 1'8", D 8"           | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | WF-RSA-DH38-E        | AH-2 (SOUTH HOUSE)  | W 5'0", H 8'3"                 | CHILLED WATER COIL | UNKNOWN                   | \$5,278.00         |
| 1        | WF-RSA-DH38-E        | AH-2 (SOUTH HOUSE)  | W 4'6", H 5'0", D 1"           | HEAT COIL          | UNKNOWN                   | \$2,984.00         |
| 1        | N/A                  | SUPREME COURT       | W 4'0", H 4'0", D7"            | CHILLED WATER COIL | UNKNOWN                   | \$4,704.50         |
| 1        | N/A                  | SUPREME COURT       | W 4'6", H 6'3", D16"           | PREHEAT COIL       | UNKNOWN                   | \$6,998.50         |
| 1        | VL-25-LPACYA         | FC-1E-BASEMENT      | W4'3", H 6'6",D 8"             | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | N/A                  | HOUSE AIR HANDLER   | W6'4", H 7'4", D 6"            | CHILLED WATER COIL | UNKNOWN                   | \$4,131.00         |
| 1        | N/A                  | HOUSE AIR HANDLER   | W 7'0", H 6'2", D 3"           | PREHEAT COIL       | UNKNOWN                   | \$2,984.00         |
| 1        | AVI                  | FC-5                | W 4'8", H2'0", D 8"            | CHILLED WATER COIL | UNKNOWN                   | \$4,631.00         |
| 1        | N/A                  | SENATE AIR HANDLER  | W 6'2", H 7'3", D 6"           | CHILLED WATER COIL | UNKNOWN                   | \$4,131.00         |
| 1        | N/A                  | SENATE AIR HANDLER  | W 6'10", H 6'10", D 3"         | PREHEAT COIL       | UNKNOWN                   | \$2,984.00         |
| 1        | XTI-048X075-DALA046A | B01-FC31            | W 5'3", H 3'3", D N/A          | CHILLED WATER COIL | UNKNOWN                   | \$4,131.00         |
| 1        | XTI-048X075-DALA046A | B01-FC31            | W 4'6", H 2'10", D 6"          | PREHEAT COIL       | UNKNOWN                   | \$4,131.00         |
| 1        | XTI-051X081-DAKA046A | B01-FC32            | W 5'9", H 3'6", D 7"           | CHILLED WATER COIL | UNKNOWN                   | \$4,131.00         |
| 1        | XTI-051X081-DAKA046A | B01-FC32            | H3'6"                          | PREHEAT COIL       | UNKNOWN                   | \$2,984.00         |
| 1        | (TYPE) L-21          | AHU-1 WB            | W 8'0", H 2'4", D 6"           | CHILLED WATER COIL | UNKNOWN                   | \$5,778.00         |
| 3        | 3 YEARS OLD          | 3 YEARS OLD         | 3 YEARS OLD                    | 3 YEARS OLD        | 3 YEARS OLD               | \$5,778.00         |
| 4        | ?                    | AHU 1&2             | 114"60"X12" EA                 | COLD/HOT DECK      | 68/?                      | \$12,513.00        |

|   |                |         |                |               |      |             |
|---|----------------|---------|----------------|---------------|------|-------------|
| 4 | ?              | AHU 4&5 | 69" 116"x7" EA | COLD/HOT DECK | 68/? | \$12,513.00 |
| 5 | MCCB017UA0D0UA | AHU-1A  | 32"X65"X4"     | PREHEAT       | 9    | \$2,984.00  |
| 5 | MCCB017UA0D0UA | AHU-1A  | 37"X65"X8"     | HD            | 9    | \$4,131.00  |
| 5 | MCCB017UA0D0UA | AHU-1A  | 37"X65"10      | CD            | 9    | \$4,131.00  |
| 5 | 147-1          | AHU-1   | 143"X80"6"     | CD            | 50   | \$4,131.00  |
| 5 | 147-1          | AHU-1   | 143"X48"X6"    | HD            | 50   | \$4,131.00  |
| 5 | MCCB017UA0D0UA | AHU-2A  | 32"X65"X4"     | PREHEAT       | 9    | \$2,984.00  |
| 5 | MCCB017UA0D0UA | AHU-2A  | 37"X65"X8"     | HD            | 9    | \$4,131.00  |
| 5 | MCCB017UA0D0UA | AHU-2A  | 37"X65"10      | CD            | 9    | \$4,131.00  |
| 5 | 147-2          | AHU-2   | 67"X66"X8"     | HD            | 1968 | \$4,131.00  |
| 5 | 147-2          | AHU-2   | 67"X84"X12"    | CD            |      | \$5,278.00  |
| 5 | 147-2          | AHU-2   | 67"X66"X8"     | PREHEAT       |      | \$4,131.00  |
| 5 | 147-3          | AHU-3   | 67"X66"X8"     | PREHEAT       |      | \$4,131.00  |
| 5 | 147-3          | AHU-3   | 67"X84"X12"    | CD            |      | \$5,278.00  |
| 5 | 147-3          | AHU-3   | 67"X66"X8"     | HD            |      | \$4,131.00  |
| 5 | 147-4          | AHU-4   | 143"X80"6"     | CD            |      | \$5,278.00  |
| 5 | 147-4          | AHU-4   | 143"X48"X6"    | HD            |      | \$5,278.00  |
| 5 | 147-5          | AHU-5   | 122"72"X10"    | CD            |      | \$4,131.00  |
| 5 | 147-5          | AHU-5   | 122"X34"X10"   | HD            |      | \$4,131.00  |
| 6 | 147-7          | AHU-7   | 143"X80"6"     | HD            | 1970 | \$5,278.00  |
| 6 | 147-7          | AHU-7   | 143"X80"6"     | CD            |      | \$5,278.00  |
| 6 | 147-8          | AHU-8   | 33"X60"X6      | PREHEAT       |      | \$2,984.00  |
| 6 | 147-8          | AHU-8   | 60"X68"X8"     | CD            |      | \$4,131.00  |
| 6 | 147-8          | AHU-8   | 60"X48"X8"     | HD            |      | \$4,131.00  |
| 6 | 147-9          | AHU-9   | 33"X60"X6      | PREHEAT       |      | \$2,984.00  |
| 6 | 147-9          | AHU-9   | 60"X68"X8"     | CD            |      | \$4,131.00  |
| 6 | 147-9          | AHU-9   | 60"X48"X8"     | HD            |      | \$4,131.00  |
| 6 | 147-10         | AHU-10  | 143"X80"6"     | HD            |      | \$5,278.00  |
| 6 | 147-10         | AHU-10  | 143"X80"6"     | CD            |      | \$5,278.00  |
| 7 | 147-6          | AHU-6   | 146"X34X10     | HD            |      | \$5,278.00  |
| 7 | 147-6          | AHU-6   | 146"X70"X10"   | CD            | 1972 | \$5,278.00  |

**1001 Lee Street, Charleston, WV 25301 (Site Visit: June 5, 2019 at 10:00am-11:00am)**

| BUILDING | MODEL | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE     | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|-------|--------|--------------------------------|---------------|---------------------------|--------------------|
| 22       | ?     | AHU-1  | 70X32X10 EA                    | HOT/COLD DECK | 1986                      | \$8,072.00         |
| 22       | ?     | AHU-M  | 82X32X10 EA                    | HOT/COLD DECK | 1986                      | \$8,072.00         |
| 22       | ?     | AHU-2  | 110X32X10 EA                   | HOT/COLD DECK | 1986                      | \$9,219.00         |
| 22       | ?     | AHU-3  | 110X32X10 EA                   | HOT/COLD DECK | 1986                      | \$9,219.00         |
| 22       | ?     | AHU-4  | 110X32X10 EA                   | HOT/COLD DECK | 1986                      | \$9,219.00         |
| 22       | ?     | AHU-B  | 62X32X10 EA                    | HOT/COLD DECK | 1986                      | \$8,072.00         |

**Fifth & Avery Streets, Parkersburg, WV (Site Visit: June 6, 2019 at 10:00am-11:00am)**

| BUILDING | MODEL | UNIT #              | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|-------|---------------------|--------------------------------|-----------|---------------------------|--------------------|
| 25       |       | 32 Water Heat Pumps |                                |           |                           | \$69,466.00        |

**Capitol and Washington Streets ("One Davis Square"), Charleston, WV 25301 (Site Visit: June 5, 2019 at 1:00pm-2:00pm)**

| BUILDING | MODEL | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE     | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|-------|--------|--------------------------------|---------------|---------------------------|--------------------|
| 36       | ?     | AHU-1  | 80X54X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |
| 36       | ?     | AHU-2  | 80X54X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |
| 36       | ?     | AHU-3  | 80X54X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |
| 36       | ?     | AHU-4  | 80X54X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |
| 36       | ?     | AHU-5  | 60X40X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |
| 36       | ?     | AHU-6  | 80X66X10 EA                    | HOT/COLD DECK | 1988                      | \$9,219.00         |

**610 57th Street ("DEP Building"), Charleston, WV 25304 (Site Visit: June 7, 2019 at 1:00pm-2:00pm)**

| BUILDING | MODEL | UNIT #         | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|-------|----------------|--------------------------------|-----------|---------------------------|--------------------|
| 37       | ?     | MAMMOUTH NORTH | 9'X16'X6"                      | DX        | 2004                      | \$4,631.00         |
| 37       | ?     | MAMMOUTH SOUTH | 9'X16'X6"                      | DX        | 2004                      | \$4,631.00         |
| 37       | ?     | MAMMOUTH NORTH | 9'X18'X14"                     | COND.     | 2004                      | \$2,984.00         |
| 37       | ?     | MAMMOUTH SOUTH | 9'X18'X14"                     | COND.     | 2004                      | \$2,984.00         |

**153 W Main Street, Clarksburg, WV (Site Visit: June 10, 2019 at 10:00am-11:00am)**

| BUILDING | MODEL              | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE     | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|--------------------|--------|--------------------------------|---------------|---------------------------|--------------------|
| 53       | XTI108X1385AMA046A | #1     | 100x127x12                     | HOT WATER     | 2016                      | \$4,131.00         |
| 53       | XTI108X1385AMA046A | #1     | 100x127x12                     | CHILLED WATER | 2016                      | \$4,131.00         |
| 53       | XTI108X138SQMK046A | #2     | 100x127x12                     | HOT WATER     | 2016                      | \$4,131.00         |
| 53       | XTI108X138SQMK046A | #2     | 100x127x12                     | CHILLED WATER | 2016                      | \$4,131.00         |

400 Adams Street, Fairmont, WV (Site Visit: June 10, 2019 at 1:00pm-2:00pm)

| BUILDING | MODEL           | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE     | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|-----------------|--------|--------------------------------|---------------|---------------------------|--------------------|
| 54       | RN06530OWOMEHJB | RTU    | 8'6"x4'x8"                     | HOT WATER     | 2015                      | \$4,131.00         |
| 54       | RN06530OWOMEHJB | RTU    | 8'6"x4'x8"                     | CHILLED WATER | 2015                      | \$4,131.00         |
| 54       | M2H018R3AAOCO   | #1     | 6'x3'4"x6                      | HOT WATER     | 2015                      | \$4,131.00         |
| 54       | M2H018R3AAOCO   | #1     | 6'x3'4"x6                      | CHILLED WATER | 2015                      | \$4,131.00         |
| 54       | M2H032L3AAOCO   | #2     | 7'x5'x10"                      | HOT WATER     | 2015                      | \$4,131.00         |
| 54       | M2H032L3AAOCO   | #2     | 7x5x5                          | CHILLED WATER | 2015                      | \$4,131.00         |

130 Stratton Street, Logan, WV (Site Visit: June 11, 2019 at 10:00am-11:00am)

| BUILDING | MODEL        | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE     | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|--------------|--------|--------------------------------|---------------|---------------------------|--------------------|
| 55       | CSAA017UACOO | #1     | 66X40X4                        | HOT WATER     | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #1     | 66X40X8                        | CHILLED WATER | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #2     | 66X40X4                        | HOT WATER     | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #2     | 66X40X8                        | CHILLED WATER | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #3     | 66X40X4                        | HOT WATER     | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #3     | 66X40X8                        | CHILLED WATER | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #4     | 66X40X4                        | HOT WATER     | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #4     | 66X40X8                        | CHILLED WATER | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #5     | 66X40X4                        | HOT WATER     | 2013                      | \$4,131.00         |
| 55       | CSAA017UACOO | #5     | 66X40X8                        | CHILLED WATER | 2013                      | \$4,131.00         |

203 E Third Avenue, Williamson, WV (Site Visit: June 11, 2019 at 1:00pm-2:00pm)

| BUILDING | MODEL                | UNIT # | SIZE (WIDTH,HEIGHT, THICKNESS) | COIL TYPE  | Est. Age/Manufacture Year | COST PER LINE ITEM |
|----------|----------------------|--------|--------------------------------|------------|---------------------------|--------------------|
| 97       | SFHFC40EJ846A6AD9001 | RTU    | 80X64X5                        | EVAPORATOR | 2006                      | \$4,631.00         |
| 97       | SFHFC40EJ846A6AD9001 | RTU    | 72X37X3.25X2                   | CONDENSER  | 2006                      | \$2,984.00         |

**TOTAL BID**      \$      551,656.00

# REQUIRED DOCS



# State of West Virginia



## Certificate

*I, Mac Warner, Secretary of State of the State of West Virginia, hereby certify that*

**PURE AIR CONTROL SERVICES, INC.**

a corporation formed under the laws of Florida filed an application to be registered as a foreign corporation authorizing it to transact business in West Virginia. The application was found to conform to law and a "Certificate of Authority" was issued by the West Virginia Secretary of State on November 25, 2018.

I further certify that the corporation has not been revoked by the State of West Virginia nor has a Certificate of Withdrawal been issued to the corporation by the West Virginia Secretary of State.

Accordingly, I hereby issue this Certificate of Authorization

## CERTIFICATE OF AUTHORIZATION

Validation ID:4WV0C\_MH24K



*Given under my hand and the  
Great Seal of the State of  
West Virginia on this day of*

*June 24, 2019*

*Mac Warner*

*Secretary of State*

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**CONSTRUCTION CONTRACTS:** Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

**ALL CONTRACTS:** Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**DEFINITIONS:**

**"Debt"** means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

**"Employer default"** means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

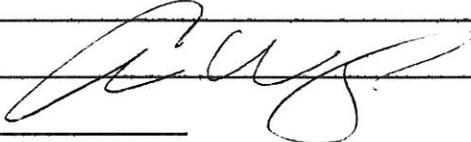
**"Related party"** means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) 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, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

PURE AIR CONTROL SERVICES, INC.

Vendor's Name: \_\_\_\_\_

Authorized Signature:  Date: 06/27/2019

State of FLORIDA

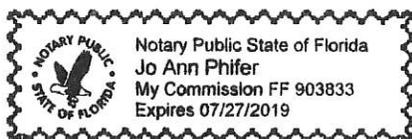
County of PINELLAS, to-wit:

Taken, subscribed, and sworn to before me this 27 day of JUNE, 2019

My Commission expires July 27<sup>th</sup>, 2019

AFFIX SEAL HERE

NOTARY PUBLIC 



Purchasing Affidavit (Revised 01/19/2018)



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

**STATE OF WEST VIRGINIA,**

**COUNTY OF \_\_\_\_\_, TO-WIT:**

I, ALAN WOZNIAK, after being first duly sworn, depose and state as follows:

1. I am an employee of PURE AIR CONTROL SERVICES, INC.; and,  
(Company Name)
2. I do hereby attest that PURE AIR CONTROL SERVICES, 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.

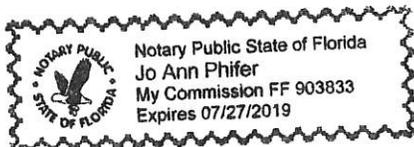
Printed Name: ALAN WOZNIAK  
 Signature:   
 Title: PRESIDENT/CEO  
 Company Name: PURE AIR CONTROL SERVICES, INC.  
 Date: 06/25/2019

Taken, subscribed and sworn to before me this 27th day of JUNE, 2019.

By Commission expires July 27<sup>th</sup> 2019

(Seal)

(Notary Public)



**Subcontractor List Submission (Construction Contracts Only)**

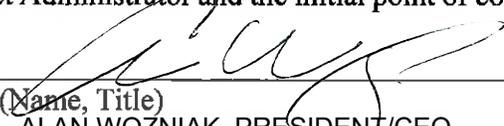
**Bidder's Name:** PURE AIR CONTROL SERVICES, INC.

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. |
|------------------------------------|--|
|                                    |  |
| NO SUBCONTRACTORS WILL BE UTILIZED |  |
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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.

  
\_\_\_\_\_  
(Name, Title)

ALAN WOZNIAK, PRESIDENT/CEO

\_\_\_\_\_  
(Printed Name and Title)

4911 CREEKSIDE DR. SUITE C, CLEARWATER, FL 33760

\_\_\_\_\_  
(Address)

727-572-4550

\_\_\_\_\_  
(Phone Number) / (Fax Number)

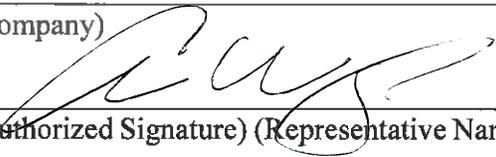
AWOZNIAK@PUREAIRCONTROLS.COM

\_\_\_\_\_  
(email address)

**CERTIFICATION AND SIGNATURE:** By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation 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 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 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.

PURE AIR CONTROL SERVICES, INC.

\_\_\_\_\_  
(Company)

  
\_\_\_\_\_  
(Authorized Signature) (Representative Name, Title)

ALAN WOZNIAK, PRESIDENT/CEO

\_\_\_\_\_  
(Printed Name and Title of Authorized Representative)

06/24/2019

\_\_\_\_\_  
(Date)

727-572-4550 / 727-572-5859

\_\_\_\_\_  
(Phone Number) (Fax Number)

REQUEST FOR QUOTATION  
**Air Handler Coil Cleaning and Testing Project**

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

**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:** ALAN WOZNIAK PRESIDENT/CEO \_\_\_\_\_

**Telephone Number:** 727-572-4550 \_\_\_\_\_

**Fax Number:** 727-572-5859 \_\_\_\_\_

**Email Address:** AWOZNIAK@PUREAIRCONTROLS.COM \_\_\_\_\_

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: GSD1900000034**

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)*

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> 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.

PURE AIR CONTROL SERVICES, INC.

Company

Authorized Signature

06/25/2019

Date

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



## Warranty on Workmanship

At **Pure Air Control Services (PACS)**, long-term customer satisfaction means more than just doing the job right the first time. It also means providing our customers with our promise of professional workmanship during and after your project and responding quickly and effectively to your concerns and needs. In order to provide you with the service you need, Pure Air Control Services provides you a one-year warranty on our workmanship.

The one-year warranty covers workmanship issues only and is subject to the terms and conditions as outlined in the contract documents.

Our PURE-Coat and PURE-Liner products carry up to a 5 year manufacturer's warranty.

Please note, conditions elsewhere in the subject premises may alter the effectiveness of remediation in the areas treated and such unknown conditions may change over time. PACS will not be responsible for contamination of the system treated resulting from contaminants introduced into the system from other areas of the premises or the outdoors.

Warranty will be voided should the customer fail to maintain the system by replacing filters and performing regular HVAC maintenance according to the manufacturer's recommendations or lack of building maintenance.

# CERTIFICATIONS



## GREEN SERVICE CERTIFICATION

# Green Clean Institute

Upon review and audit of the PURE-Steam air conditioning processes offered by Pure Air Control Services, Inc., we are pleased to award this Green Clean Institute certification for this service. This certificate recognizes the factual Green benefits of this service in energy consumption, improvement of Indoor Air Quality, and impact on long-term health issues. We certify this service as a Green Clean service after diligent review of the project.

This certificate is awarded for:

PURE Steam by Pure Air Control Services, Inc.



*Candace L. Richmond*

---

Candace L. Richmond, President

Dated: 06/07/2015 Expires 06/07/2020



# NATIONAL AIR DUCT CLEANERS ASSOCIATION

*Certifies*

*Barrington Green*

*With*

*Pure Air Control Services DBA Building Remediation Sciences*

*as an*

## **Air Systems Cleaning Specialist (ASCS)**

This certificate holder is qualified to serve as a project manager for residential and commercial HVAC cleaning and restoration projects, including remediation of microbial contaminants within HVAC systems.

***This certificate holder also qualifies as a Ventilation System Mold Remediator (VSMR).***

This certificate is valid until the expiration date shown below and is renewable.

06/30/2019  
Expiration Date



12770873  
Certification Number  
5/2/2014  
Certified Since



# NATIONAL AIR DUCT CLEANERS ASSOCIATION

*Certifies*

***Dennis Tenkotte***

*With*

***Pure Air Control Services DBA Building Remediation Sciences***

*as an*

**Air Systems Cleaning Specialist (ASCS)**

This certificate holder is qualified to serve as a project manager for residential and commercial HVAC cleaning and restoration projects, including remediation of microbial contaminants within HVAC systems.

***This certificate holder also qualifies as a Ventilation System Mold Remediator (VSMR).***

This certificate is valid until the expiration date shown below and is renewable.

06/30/2019  
Expiration Date



12770908  
Certification Number

5/23/2014  
Certified Since



# NATIONAL AIR DUCT CLEANERS ASSOCIATION

*Certifies*

***Geoff Stone***

*With*

***Pure Air Control Services DBA Building Remediation Sciences***

*as an*

***Air Systems Cleaning Specialist (ASCS)***

This certificate holder is qualified to serve as a project manager for residential and commercial HVAC cleaning and restoration projects, including remediation of microbial contaminants within HVAC systems.

***This certificate holder also qualifies as a Ventilation System Mold Remediator (VSMR).***

This certificate is valid until the expiration date shown below and is renewable.

06/30/2019  
Expiration Date



12771012  
Certification Number  
8/15/2014  
Certified Since



# NATIONAL AIR DUCT CLEANERS ASSOCIATION

*Certifies*

*Christopher Burns*

*With*

*Pure Air Control Services DBA Building Remediation Sciences*

*as an*

**Air Systems Cleaning Specialist (ASCS)**

This certificate holder is qualified to serve as a project manager for residential and commercial HVAC cleaning and restoration projects, including remediation of microbial contaminants within HVAC systems.

***This certificate holder also qualifies as a Ventilation System Mold Remediator (VSMR).***

This certificate is valid until the expiration date shown below and is renewable.

6/30/2019  
Expiration Date



12772615  
Certification Number  
11/30/2018  
Certified Since



PINELLAS COUNTY CONSTRUCTION  
LICENSING BOARD

THIS CERTIFIES THAT **Francisco T Aguirre**  
DBA **Pure Air Control Services**

STATE CERT # [REDACTED]  
HAS FILED HIS/HER LICENSE AND PROOF OF REQUIRED  
LIABILITY AND WORKERS' COMPENSATION  
INSURANCE WITH THIS BOARD.

IN GOOD STANDING UNTIL **September 30, 2019**  
DATE OF ISSUANCE **07/16/2018**

[REDACTED]  
*Aguirre, Francisco T*  
*4911 Creekside Drive Ste C*  
*Clearwater, FL 33760*

**\* Please cut out license along lines**



RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY



**STATE OF FLORIDA**  
**DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**

**MOLD-RELATED SERVICES LICENSING PROGRAM**

THE MOLD ASSESSOR HEREIN IS CERTIFIED UNDER THE  
PROVISIONS OF CHAPTER 468, FLORIDA STATUTES

**WOZNIAK, ALAN L**

4911 CREEKSIDE DR SUITE C  
CLEARWATER FL 33760

**LICENSE NUMBER:** [REDACTED]

**EXPIRATION DATE: JULY 31, 2020**

Always verify licenses online at [MyFloridaLicense.com](http://MyFloridaLicense.com)



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RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY



**STATE OF FLORIDA**  
**DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**  
**CONSTRUCTION INDUSTRY LICENSING BOARD**

THE CLASS A AIR CONDITIONING CONTRACTOR HEREIN IS CERTIFIED UNDER THE  
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

**AGUIRRE, FRANCISCO TAMEZ**

PURE AIR CONTROL SERVICES  
4911 CREEKSIDE DR SUITE C  
CLEARWATER FL 33760

LICENSE NUMBER: [REDACTED]

EXPIRATION DATE: **AUGUST 31, 2020**

Always verify licenses online at [MyFloridaLicense.com](http://MyFloridaLicense.com)



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hereby certifies that

**Alan L. Wozniak**

has met all the specific standards and qualifications of the re-certification process,  
including continued professional development, and is hereby re-certified as a

**CIEC**

**Council-certified  
Indoor Environmental Consultant**

This certificate expires on June 30, 2020.



---

Charles F. Wiles, Executive Director



---

Certificate Number

This certificate remains the property of the American Council for Accredited Certification.

hereby certifies that

**Francisco T. Aguirre**

has met all the specific standards and qualifications of the re-certification process,  
including continued professional development, and is hereby re-certified as a

**CIEC**

**Council-certified  
Indoor Environmental Consultant**

This certificate expires on June 30, 2020.



---

Charles F. Wiles, Executive Director



---

Certificate Number

This certificate remains the property of the American Council for Accredited Certification.

hereby certifies that

**Karl W. Stefan**

has met all the specific standards and qualifications of the certification process  
and is hereby certified as a

**CIEC**

**Council-certified  
Indoor Environmental Consultant**

This certificate expires on February 28, 2021.



---

Charles F. Wiles, Executive Director



---

Certificate Number

This certificate remains the property of the American Council for Accredited Certification.

# State of Florida

## Minority Business Certification

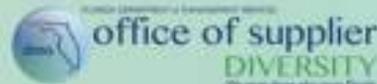
### Pure Air Control Services, Inc.

Is certified under the provisions of  
287 and 295.187, Florida Statutes, for a period from:

10/26/2017 to 10/26/2019



Erin Rock, Secretary  
Florida Department of Management Services



# REFERENCES





Collier County  
Administrative Services Department  
Facilities Management Division

January 26, 2017

Mr. Alan L. Wozniak, President  
Pure Air Control Services, Inc  
4911 Creekside Dr.  
Clearwater, FL 33760

RE: Commendation for services provided at Building C-2

Dear Mr. Wozniak:

I wanted to express my satisfaction with, and commend the way your company continues to, after over 20 years, provide a high quality of IAQ services to the County. Your staff's work at C-2 was no different.

Geoff, Aaron, and Francisco always responded to my scientific inquiries and concerns with competence and honesty. Barrington, Theron, Chris, Jim and Fred expeditiously performed the work and patiently answered questions regarding the green certified, PURE Steam Coil cleaning process.

All your staff was professional, informative, and empathetic to our concerns. They were responsive to changes and accommodating when we interrupted. Please thank them on my behalf.

Thank you,

CHNesbitt

Claude Nesbitt  
Project Manager  
Facilities Management Division  
O 239-252-8380  
M 239-877-8274





# City of Casselberry

## Public Works Department – Construction & Permitting Manager

95 Triplet Lake Drive, Casselberry, Florida 32707 • Telephone (407) 262-7725, Ext. 1237  
Fax (407) 262-7767 • Email [bmuckel@casselberry.org](mailto:bmuckel@casselberry.org)

**DATE:** January 16, 2017  
**TO:** Alan Wozniac, President/CEO – Pure Air Control Services, Inc.  
**FROM:** Bradley Muckel, City of Casselberry Construction & Permitting Manager  
**SUBJECT:** City of Casselberry Police Station

Dear Mr. Wozniac,

The City of Casselberry Public Works Department would like to take this opportunity to thank you and your team for your efforts to remediate the indoor air quality issues at our police station. As the most competent and qualified among the pool of bidders, your team completed the project on time with very little disruption during the process. We are already receiving positive feedback from the employees in this facility because of your PURE-Steam coil cleaning process. Their previous respiratory issues have already begun to dissipate as a result of the increased indoor air quality.

Barrington and his crew paid attention to every detail of the project, completing the scope thoroughly with a “leave no trace” approach. I also wanted to thank you for your tremendous patience and flexibility while going through the extensive background screening process. I realize this was a big strain on your schedule.

Should you have any questions regarding this information, please feel free to call me at 407-262-7725 x1237.

Thank you.

Cc: File – util\$/Permits and Reviews/2016/Projects/MiscProjects/PoliceStationRepairs (scanned electronic copy)

May 17, 2019

Geoff Stone  
Project Manager  
Pure Air Control Services, Inc.  
4911 Creeksude Drive, Suite C  
Clearwater, FL 33760

Dear Mr. Stone:

I would like to express my gratitude and pleasure in working with Pure Air Control Services for the remediation of the ductwork in our Academic Health Center 1 and Academic Health Center 2 buildings. Pure Air Control Services has proven to be an extremely responsive, professional, and knowledgeable company and partner.

I would also like to specifically commend the field crews and most importantly, Barrington Green, who consistently performed as an outstanding Supervisor. Barrington provided daily updates and communicated issues and resolutions. He was very responsive and listened to our needs including those of the building occupants. His ability to keep an open mind and formulate work arounds or solutions are an important factor in the success of both of the projects he has led. He clearly demonstrated the leadership skills needed to interface with various personalities on his crew and with the client.

I sincerely hope that any future work contracted with Pure Air Control Services will maintain the same team. Although they say there is always room for improvement, I believe having Barrington leading a project with the support of your company will always result in a successful project.

Should you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,



Daniel Paán, P.E.  
Director – Utilities / Operations  
Facilities Management – Operations Division  
Florida International University



Doug,

6/1/11

I want to thank you for the truly wonderful service provided by Pure Air Controls at Florida State University. It has been a true pleasure working with your organization. In particular Brock, Dennis, and led by Barrington. These 3 gentlemen have performed above and beyond the terms of our contract the entire time on campus. They have represented Pure Air Controls wonderfully! I would define these men as true professionals. They do not just show up for work. They truly do take pride in their work and always look beyond the task at hand to add value to their job.

As the person escorting this crew here at FSU, I'm most impressed with Barrington's work ethics and leadership style. Put plainly here, I don't babysit these guys, I get out of the way so as to not slow their roll. I'm impressed that when they get to the work area they have already decided what is to be done and who will do it. There are no group discussions, Brock and Dennis are doing prep work, and if there are any questions, Barrington already has them prepared. So time has been spent preparing for work, before their arrival is very obvious. The truly impressive part here is that this is every single time, no exception. The attention to detail these guys put on every single job is amazing. So it's very easy to take all this for granted, because the work is excellent. I don't want that to happen here. These three guys worked their tails off the entire time up here and did a truly great job at cleaning coils, plus truly being a service to Florida State University, at every opportunity.

I hope that when our work continues that you'll send me this same 3 man crew. Realizing that both Dennis, and Brock probably should be running their own crews by now. Selfishly I want the same three back. As the FSU guy that is responsible for the job being done and done right. Well, these guys have spoiled me rotten. I simply don't have to worry about them working on campus anywhere at all.

Every place these guys have worked, the FSU tenants have been also impressed with them. Since the tenants are like my customers, these guys represent both our interest just right. While they don't stray from the task at hand, they are friendly and helpful as possible with any and every person they come in contact with. Just true professionals!

I truly do hope that you'll recognize all three of them individually for their hard work done on this campus. They have all three represented Pure Air Controls the absolute best it could be done. It is these guys work that will be in my mind as I attempt to help Pure Air Controls continue on with this work and gain new business here at Florida State University. Thank you very much for the great service.

Eric Perkins, Controls & Alarms Tech

Florida State University, Tallahassee Florida



## The Florida Bar

651 East Jefferson Street  
Tallahassee, FL 32399-2300

Joshua E. Doyle  
Executive Director

850/561-5600  
[www.FLORIDABAR.org](http://www.FLORIDABAR.org)

February 12, 2018

Mr. Alan L. Wozniak  
President/CEO  
Pure Aire Control Services, Inc.  
4911 Creekside Drive  
Clearwater, Florida 33760

Subject: The Florida Bar – HVAC Contract Work

Dear Mr. Wozniak:

Recently Pure Air Control Services was contracted to clean 12 Air Handling Units, associated ducts and VAV's in our headquarters facility. While your company's bid for the work was considered competitive, a deciding factor was also based on the positive reference we received from our HVAC contractor, Engineered Cooling Services here in Tallahassee.

Prior to engagement, your Project Manager Geoff Stone conducted an on-site meeting to provide information on the process, timing of project milestones as well as information concerning the staff to be deployed to work on our project.

Normally a company only hears about their staff when something goes wrong, but nothing could be further from that in working with Barrington. To be honest when Geoff told us how great Barrington was to work with... we thought he was overstating things a bit much, however Barrington has exceeded the positive reference that Geoff gave. Barrington is a great representative for Pure Air and we thoroughly enjoyed working with him. Additionally, the staff deployed with Barrington: Lamaise Dawkins; Travis Leon; Jonathan Dawkins; and Alex Kern were also exceptional in their engagement activities and respected the leadership provided by Barrington.

Respectfully,

G. Rhett Frisbie  
Director, Administrative Operations



July 11, 2014

Alan,

I would like at this time to pass along to you our complete satisfaction on all the work PureAir Control Services has been providing us here at USF Housing and Residential Education. Over the course of the past two years since we brought you and your company on board we have experienced nothing less than positive results in all the buildings HVAC systems which you have pure-steamed. It has greatly improved and extended the operation of the equipment and systems, enhanced the air quality for all of our residential students and cut back on maintenance work requests. You and your staff have shown time and time again their best qualities in flexibility, meeting critical timeline's/deadlines and following up with specific requests which are important in our daily work environment in the residential setting.

We look forward to working with you and PureAir in the future preventive maintenance projects in our residential buildings on campus.

Thank you again,

A handwritten signature in blue ink that reads "Mark D. Hauser". The signature is written in a cursive style with a large, stylized initial "M".

Mark D. Hauser  
University of South Florida  
Associate Director Housing & Residential Education  
Facilities Maintenance

GSA Contract # GS-10F-0448R  
1-800-422-7873 ext 802  
[www.pureaircontrols.com](http://www.pureaircontrols.com)

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**From:** Shewan, Thomas F [mailto:TShewan@admin.fsu.edu]  
**Sent:** Wednesday, March 02, 2011 9:38 AM  
**To:** Alan Wozniak - Pure Air Control Services; faguirre@pureaircontrols.com; rejuvinair\_; Greg Schulman  
**Cc:** Blakeslee, Dale; Perkins, Eric; Lewis, BJ  
**Subject:** Steam Coil cleaning at FSU

All,

Florida State University has been using steam coil cleaning for almost 2 years and this process has proven more effective than I would ever have imagined. I would like to thank everyone from Rejuvinair and Pure Air who has been involved with the program. In fiscal year 2009 (2009-2010) FSU saved over \$4 million in utilities and some portion of this was attributable to the coil cleaning process. So far in Fiscal Year 2010 (2010-2011) FSU has managed an additional \$750,000 ( 7 months) in utility savings, again with some of this being attributable to coil cleaning. While peak performance of our HVAC equipment is the goal of this program, enhanced indoor air quality and energy savings are benefits we will not overlook. With the advent of extreme night set-backs dictated by our significantly reduced energy budget this program has become critical in preventing mold growth while allowing us to save energy. As we approach the end of FY 10 my plans are to work both companies to the end of April and take off the months of May and June. We will start back hard at it in July with our new budget. So far I believe we have cleaned HVAC equipment serving approximately 2.8 million square feet of space at FSU. There is equipment serving approximately 3.4 million square feet that has yet to be cleaned.

Again, thank you for the great work and I look forward to a long and successful relationship with both Rejuvinair and Pure Air. FY 2011 (2011 – 2012) should be a banner year for steam coil cleaning at FSU.

Tom Shewan  
Director of Maintenance  
Florida State University  
(850) 645-6466

## Alan Wozniak - Pure Air Control Services

---

**From:** Shewan, Thomas F [TShewan@admin.fsu.edu]  
**Sent:** Thursday, March 03, 2011 10:50 AM  
**To:** Alan Wozniak - Pure Air Control Services  
**Cc:** faguirre@pureaircontrols.com; Cynthia Bailey - Pure Air Control Services, Inc.; Doug Randall; Lewis, BJ  
**Subject:** RE: Steam Coil cleaning at FSU  
**Follow Up Flag:** Follow up  
**Flag Status:** Red

Alan,

Quantifying the energy reductions from the coil cleaning is not as straight forward as we would hope. In isolated cases like all DX buildings (Pure Air just cleaned Fine Arts Annex which is all DX equipment) or single AHU's we have measured 20-23% energy reduction which is in line with a Progress Energy study performed on a DX building. With the chilled water equipment much depends on the condition of the coils. We have had a few that were completely stopped. On these units we are using more energy, however, the occupants are now comfortable. In general as a WAG I would estimate we are saving 7-10% on the chilled water equipment. Some of this is from reduced fan energy and the rest is from an increased delta T across the coil which reduces pumping energy and increases chiller efficiency. As an estimate 35-40% of our utility bills are for HVAC so just keeping our coils clean should shave between \$600K to \$800K off our utility bills annually at the low end.

The contract Pure Air has with FSU can be used by any Florida State Agency or any other State, County, or Municipal - School/Agency in Florida. All that is necessary for the School or Agency to use the contract is for them to contact Ms. B.J. Lewis and get her permission in writing. I am coping her on this response to ensure I am not telling you a story. We have piggybacked on other state contracts and I am confident others can piggyback on our contracts. So should you approach USF, ST. Pete College, or New College you can indicate you have a contract with FSU that may be available to them.

As for ROI if you use the most conservative numbers we have paid approximately \$0.14 per square foot for coil cleaning to date. We have saved about \$0.22 per square foot annually. So the payback is less than 8 months and the ROI 157% annually. A couple of caveats to this. We re-swabbed the coils on some of our early buildings approximately 10 months after their initial cleaning. One buildings coils were almost as cleaned 10 months later. The other building was almost as dirty 10 months after its initial cleaning. The building that was dirty is a 1982 library that was poorly constructed without insulation and it has a leaky envelope. So we decided to install UV lights in the 3 AHUs in that building. We will still steam clean these coils but now probably once every 2-3 years rather than every six months. So what I am trying to say is your ROI depends significantly on the quality of your facility. For leaky envelopes or high outside air buildings the ROI will be much higher. For well sealed, well insulated, low outside air buildings the ROI will likely be a bit less (FSU does not have any of these types of buildings).

I agree 100% with cleaning of the interior of the coils also. In fact this is even more critical than sterilizing the outside of the coils. We have aggressively pursued water treatment and filtration of our chilled and hot water systems to keep the large equipment and AHU coils clean and functioning at or near design. As we see it a holistic program for our HVAC systems includes; water treatment, water filtration, steam coil cleaning and MERV 13 or better air filtration along with preventative and predictive maintenance.

I am very excited about FSU's future with Pure Air and I look forward to continued good work.

Thank you

Tom

---

**From:** Alan Wozniak - Pure Air Control Services [mailto:awozniak@pureaircontrols.com]  
**Sent:** Thursday, March 03, 2011 8:58 AM  
**To:** Shewan, Thomas F  
**Cc:** faguirre@pureaircontrols.com; 'Cynthia Bailey - Pure Air Control Services, Inc.'; 'Doug Randall'  
**Subject:** RE: Steam Coil cleaning at FSU

Tom –

As always, we appreciate the opportunity to work with you, you're staff and FSU on these important projects and look forward to many years of successful steam cleaning and IAQ improvements on campus.

It's exciting to hear about the energy savings that FSU has been able to accomplish. This is remarkable. Is this part of the Florida State University System (FSUS) asking universities for a reduction goal in energy by 10%? If so, I've heard of the program and realize that FSU along with only 3 other state universities were able to reach the goal. We have worked with other governments and clients and they have indicated an approximate 10% energy saving directly from the work (AHU rehab) we've performed in the past.

Of the \$750K energy savings this year what percentage of savings are you able to attribute to the steam sterilization coil cleaning process and what would you would you consider your return on investment (ROI)? We are working with many city, county, state and federal governments and other university systems and would like to be able to share with them of the potential savings as well. Let me know was soon as you can.

Do you have any other facilities management contacts at other universities that you could refer to us to contact and share the program with them?

Additionally, as a mechanical contractor we are also working with clients to not only clean the exterior of the evaporator coils, but the interior (chiller coil systems) as well as a result of sediment buildup restricting water flow and latent moisture removal ability. This is another huge potential energy savings area without having to replace the coils.

Let me know your thoughts.

Sincerely,

Alan Wozniak, CIAQP, CIEC, NBI  
President/CEO  
Pure Air Control Services (SOQ)  
Building Remediation Sciences (SOQ)  
Environmental Diagnostics Laboratory (EDLab) (SOQ)  
AIHA Accredited Microbiology Lab EMLAP # 102795  
8(a) Certified MBE,

# MARKETING MATERIALS



# Capability Statement



**Alan Wozniak, CIAQP, CIEC**  
President/CEO

awozniak@pureaircontrols.com  
1-800-422-7873 ext 802

4911 Creekside Drive  
Clearwater, FL 33760

## Corporate Overview:

**Pure Air Control Services, Inc. (PACS)** is a nationally recognized indoor air quality firm offering a full range of professional IAQ solutions. With over 30 years and 600 million square feet of industry expertise working in government buildings, hospitals, schools, and private commercial facilities; we are the trusted turn-key solution provider for all of your environmental consulting, testing, evaluation, building diagnostic, laboratory services and building HVAC engineered solutions.

PACS is committed to excellence in design, execution, and management. We deliver quality services on time, within budget with an emphasis on reducing energy consumption and promoting a healthy indoor environment.

## Corporate Snapshot:

**Primary NAICS:** 562910,  
541330, 561790, 541350,  
561720, 541380, 561210,  
541620, 611430

**DUNS** #175078799

**CAGE Code:** 1QKG9



## Certifications & Licenses:

Class A – A/C Contractor  
– License # CACO57992

State Licensed Mold  
Assessor & Remediator

NADCA Certified

Small Disadvantaged  
Business (SDB)

MBE Certified

NY ELAP #12086

CDC ELITE Program

## Past Performance/Clients Supported



## Key Business Areas:

### Environmental Project Management

- Indoor Environmental Testing
- Laboratory Analysis
- Building & HVAC Engineered Solutions



### Building Sciences

- Indoor Environmental Evaluations
- Building Envelope Testing
- HVAC Hygiene & Performance Assessments



### Environmental Diagnostics Laboratory

- Microbiological Identification & Quantification
- Bacteriology & Mycology (Mold) Analysis
- CDC Elite Program Legionella Testing



### Building Remediation Sciences

- Hygienic HVAC & Duct Cleaning
- Hygienic HVAC Restoration
- Building & Room Decontamination



## Procurement Options:



# STANDARD OPERATING PROCEDURES



## AHU/Coil Cleaning

- ☑ Perform pre PURE-Stream process measurements with Coil Cleanliness Verification (CCV) Delta P
- ☑ Tag coils with RED | YELLOW | GREEN demarcation flags to discern level of fouling
- ☑ Perform pre PURE-Stream process Static Pressure Measurement & Verification (M&V)
- ☑ Multi Enzyme Cleaner – treat coil surface area with a patented antimicrobial multi enzyme cleaner (non-toxic, non-acid enzyme technology) to breakdown biofilm and contaminants
- ☑ Environmentally clean AHU, cooling coils, blower assemblies and drain pans utilizing PURE-Stream (no chemicals) rated at 350 degrees F at 300-350 PSI through a 2 inch nozzle, this eco-friendly steam sterilization method is a Green Clean Institute Certified process
- ☑ Perform PURE-Air | PURE-Stream process a combination of compressed air and steam (if necessary)
- ☑ Vacuum the interior of AHU cabinets using a combination of wet and dry HEPA filtered vacuums
- ☑ Encapsulate any degraded fiberglass insulation with antimicrobial performance coating
- ☑ Disinfect AHU interior with antimicrobial solution
- ☑ Perform high volume/low pressure coil flushing post PURE-Stream (if necessary)
- ☑ Environmentally treat AHU interior with antimicrobial solution
- ☑ Bioactive Coil Treatment - treat the coil surface area to provide a biostatic coating that lasts up to up to 12 month residual protection
- ☑ Perform post PURE-Stream process measurements with CCV Delta P
- ☑ Perform post PURE-Stream process Static Pressure M&V
- ☑ Provide comprehensive report with additional photo log of before and after remediation

For more info on PURE-Stream please call

**1-800-422-7873**

or visit: [PureAirControls.com](http://PureAirControls.com)

NOTE: Not all units will qualify for the full set of SOP





# PURE-*Steam*<sup>TM</sup>

HVAC Hygienic Cleaning

- Saves Energy
- Improves Indoor Air Quality
- Adds Comfort
- Extends Equipment Life

**PURE-Stream™** HVAC coil cleaning is an innovative method to restore not only the evaporator coils, but the entire interior of an air handling unit (AHU) to near factory specification from both a performance and cleanliness perspective.

The PURE-Stream service excels beyond where other conventional and steam methods stop. It is a chemical-free process that uses only water and is the only Green Clean Institute certified HVAC cleaning process in North America.



**PURE-Stream** is a comprehensive indoor air quality and energy efficiency forward solution. It operates at temperatures up to 350°F to disinfect the coils and AHU, effectively killing bacteria and fungi(mold) to remove allergen triggers and musty odors.

PURE-Stream also deeply cleanses at up to 350 psi pushing dust and debris completely through the coil to improve airflow and Delta P (pressure) for real operational savings. The recommended PM is generally performed on an annual or bi-annual basis.



### HVAC Training Lab

**Pure Air Control Services Inc.** is a licensed mechanical contractor. All of our service techs receive highly specialized practical training in our state-of-the-art HVAC Lab (one of few in the U.S.) in conjunction with classroom curriculum through our IAQ Learning Institute located at our headquarters in Clearwater, FL. Since PURE-Stream and HVAC New Life™ restoration are proprietary processes, it is essential that our crews effectively learn the PURE-Stream procedures techniques and safety precautions before working in the field.



## Here's how it works

### Preparation



Depending on where the AHU is located we choose and deploy the specific equipment required for job. Then, as a licensed mechanical contractor we shut down the unit following all lockout and tag-out procedures. If the AHU is located in a Mechanical Room a containment area is established to prevent steam and moisture from affecting the indoor environment. Next, all electrical components and ducts are masked to keep them dry.

### Testing



Pure Air Control Services Inc. performs their own proprietary Coil Cleanliness Verification Test (CCVT). This test is repeated across the span of the coils measuring the Delta P ( $\Delta P$ ) to determine which zones of the coil are most fouled. This is helpful to report the before state of the coil, as well as letting the tech know which areas of the coil will require the most attention. The data is logged and then cleaning commences.

### Cleaning



The entire interior of the AHU is first HEPA vacuumed, then steam cleaned top to bottom. Next, the coils are worked with a precise method that ensures all debris is dislodged until steam eventually comes through to the opposite side. During the PURE-Stream service, water extraction is maintained. After the coil has been thoroughly steamed it's completely flushed with clean water at 50 gallons a minute (if necessary). Finally, another CCVT is performed to see the results. If an area still show signs of fouling it is reworked until clear.

### M&V Reporting



After the job is completed a detailed Measurement & Verification (M&V) Report is provided for each AHU that was cleaned with PURE-Stream. This report not only contains before and after performance data recorded with the CCVT, but also includes a QA checklist of the job specification, a complete photo log, and recommendations for any additional issues that might still need to be addressed. This valuable, proprietary, report is a useful archive to track historical data on the equipment.



### Conventional HVAC Coil Cleaning

- Not a "Green" or Eco-Friendly Process
- Chemicals can Corrode the Interior of Coils
- Chemicals Rinse to the Water System or Roof
- Only Cleans the Surface of the Coils (60 psi)
- Marginally Improves System Performance
- Very Little to no Measurable Energy Savings
- Minimal IAQ Improvements
- Pressure washing uses up to 3000 psi



### IAQ Benefits of PURE-Stream

- Chemical Free Process
- Disinfects Coils at 280-350° F
- Destroys Bacteria & Fungi
- Eliminates Musty Odors
- Improves Fresh Air Exchange
- Low pressure up to 350 psi



### Institutional Benefits of PURE-Stream

- Optimized System Performance
- Estimated Energy Savings of 17-22¢ per foot
- Improved Cooling Capacity
- Reduced Work Orders
- Extended Equipment Life

For more information or to request a complimentary consultation

Please call the Indoor Air Quality Experts at

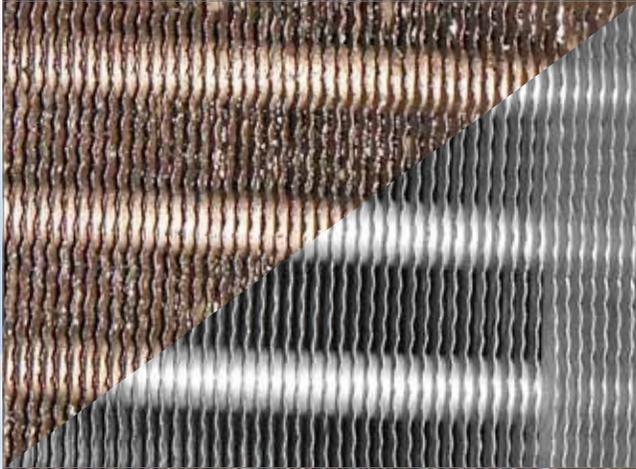
**1-800-422-7873**

or visit [PureAirControls.com](http://PureAirControls.com)



# PURE-Steam™ is the Natural, Green Certified & Economical Choice for HVAC Air Handling Unit & Coil Cleaning.

**Coils Before**



**Coils After** **PURE-Steam™**  
HVAC Hygienic Cleaning

**Blower Fan Before**



**Blower Fan After** **PURE-Steam™**  
HVAC Hygienic Cleaning



Ask about HVAC New Life™ and find how you can restore aging equipment for 1/10<sup>th</sup> the cost of new replacement!

**Before**



**After** **HVAC NEW LIFE**



**1-800-422-7873**

**PureAirControls.com**





# CASE STUDY

## Georgia Institute of Technology



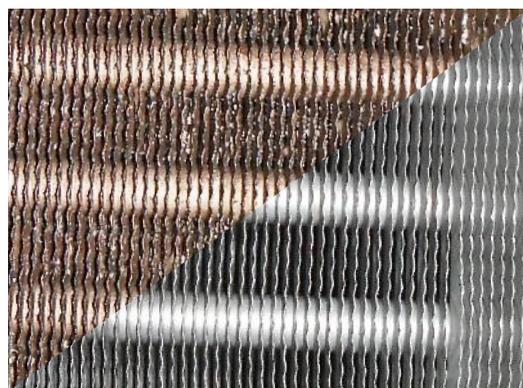
### PURE-Stream Coil Cleaning Helps Georgia Tech Facilities Save Energy and Improve IAQ

#### The Project:

Georgia Institute of Technology is a leading technology and science university renowned for their deeply-held commitment to improving the human condition. The faculty and students are solving some of the world's most pressing challenges: clean and sustainable energy; disease diagnosis and treatment; and national defense and security, among others. The campus of GT participates in the GREEN BUZZ and Leadership in Energy and Environmental Design (LEED) a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance green buildings.

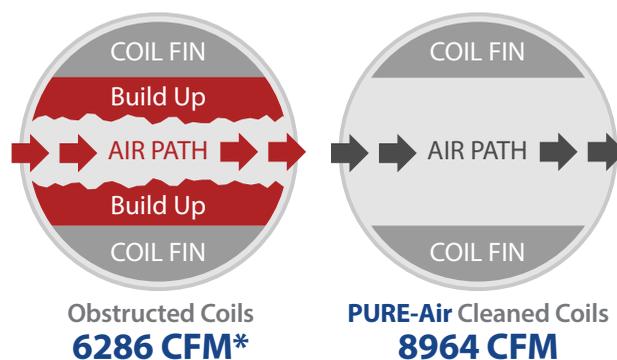
To that end, the GT team wanted to test the performance gains that could be realized through the innovative HVAC cleaning process PURE-Stream. They decided to test the method on a working air handling unit in the Guggenheim Aeronautics Building on campus.

**Before**



**After PURE-Stream**

#### Georgia Institute of Technology Revealed Significant Air Flow Improvement



**Net Improvement  
2678 CFM or 42.6%**

\*Cubic Feet Per Minute



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# The Concern:

The Georgia Institute of Technology (GT) has always been at the forefront of research and academic excellence. In their ongoing efforts toward sustainability they decided to evaluate the viability of the PURE-Steam HVAC cleaning method as way to improve system performance and save energy over their traditionally utilized maintenance processes. They understood that the foam/rinse method conventional coil cleaning only affected the surface of the coils and did not provide performance gains in air flow or pressure. They were also concerned that the chemicals used in that process would deteriorate the HVAC equipment and have a negative impact on the environment.

The facility and research teams intuitively knew that there was energy efficiency to be obtained within their HVAC Air Handling Units. So, they commenced testing and analysis of the PURE-Steam method through their own NEBB certified Testing and Balancing report as well as, reconciling their data with Pure Air Control Services Inc. Coil Cleanliness Verification Test (CCVT).

# The Solution:

Due to Georgia Techs desire for going green, saving energy and providing a healthy learning environment for staff, guests and students. They turned to the scientists at Pure Air Control Services and the PURE-Steam Coil Cleaning process. PURE-Steam is a totally GREEN process (uses no chemicals) that utilizes a proprietary 280-350 degree steam to deep clean coils. PURE- Steam is certified by the Green Clean Institute and has a proven track record for saving energy, improving indoor air quality and improving comfort. GT has recognized a 42.6% improvement in air flow and added 7 tons of cooling capacity overnight after utilizing PURE-Steam.

## Benefits of the PURE-Steam Coil Cleaning Process

- Sanitizes the coils/ blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment



## Georgia Institute of Technology PURE-Steam Coil Cleaning Results

| Units | Before PURE-Steam | After PURE-Steam | Improvement Net |
|-------|-------------------|------------------|-----------------|
| CFM*  | 6286              | 8964             | 2678 or 42.6%   |
| WC*   | 0.16              | 0.126            | .034 or 22%     |
| Pa    | 39.9              | 31.4             | 8.40 or 22%     |
| BTU   | 180,000           | 270,000          | 90,000 or 50%   |
| Tons  | 15                | 22               | 7 or 46%        |

**CFM:** Cubic Feet per Minute **WC:** Inches in Water Column  
**Pa:** Pascal **BTU:** British Thermal Unit

\*NEBB certified third party report

## Air Handling Unit Testing and Balancing Report

**Before**
**After**

The diagrams show a comparison of an Air Handling Unit (AHU) before and after a PURE-Steam coil cleaning process. The 'Before' diagram shows a lower air flow rate of 6286 CFM, while the 'After' diagram shows an improved air flow rate of 8964 CFM. Both diagrams include tables for Motor/Fan Data, Miscellaneous Data, and Static Pressure Profile Data.



**NATIONAL ENVIRONMENTAL BALANCING BUREAU**  
We deliver high performance buildings

Certified third party report



# CASE STUDY

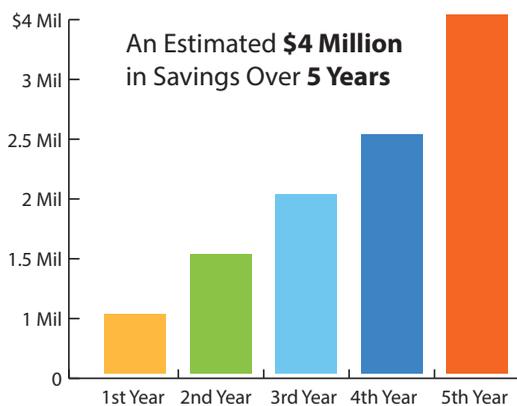
## Florida State University

### Steam Coil Cleaning Saves \$800k Energy Consumption Annually for Florida State University

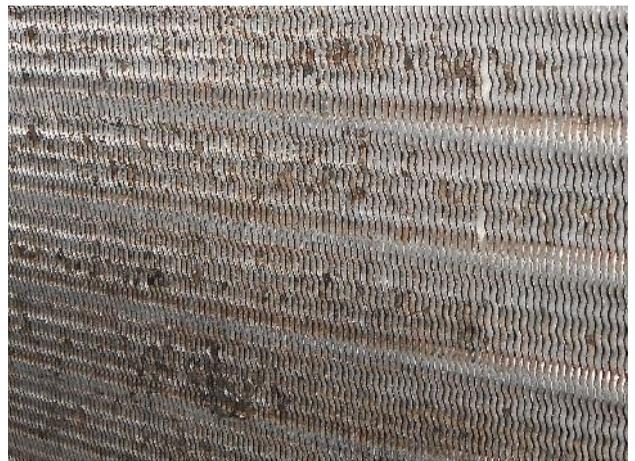
#### The Project:

Tallahassee, FL — Pure Air Control Services, an industry leader in mechanical and environmental cleaning technologies, tackled head-on, Florida State’s (FSU’s) dirty coils to provide the students and teachers a healthier learning environment.

Cleaning the coil with the environmentally friendly, and proven PURE-Stream method from the foam/rinse method that only superficially cleaned the surface of the coil and pushed small debris along with residue, further into the coil causing decreased airflow, a musty odor and decreased temperature and humidity control and decreased the quality of the indoor air.



Before



After



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## The Concern:

With rising energy costs, Florida State University (FSU) had to take a closer look at HVAC maintenance, including the total operating cost of its HVAC systems. They found that the conventional coil cleaning foam/rinse method only superficially cleaned the surface and pushed small debris further into the coil. This resulted decreased air flow, temperature and humidity control as well as lingering musty odors that affected indoor air quality. In addition, FSU was concerned about the thousands of gallons of chemicals that would be flushed down the drain and had the potential to affect the ecosystem.

The forward-thinking facilities staff at FSU knew that there were energy efficiency and cost savings to be found in the right method of maintaining their HVAC systems. They were right. PURE-Steam provided substantial energy savings, through improved performance, while optimizing indoor air quality for their students, faculty and staff.

## The Solution:

A chemical free steam coil cleaning process so efficient and safe for the environment that in the first year of its implementation alone saved the university over \$800,000 of their power bills and were able to provide the students and teachers a healthier learning environment. Over the next five years FSU will have saved over \$4 Million from their energy budget. The estimated payback in less than eight (8) months was 157% return on investment (ROI).

### Benefits of the PURE-Steam Coil Cleaning Process

- Sanitizes the coils/blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment

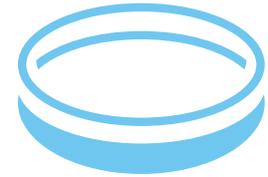
## Environmental Diagnostics Laboratory Analysis

**Before**



**34,000 CFU/Per Gram**

**After**



**0 CFU/Per Gram**

**100% Reduction**  
in Colony Forming Units



"I would estimate we are saving 7-10% on the chilled water equipment. Some of this is from reduced fan energy and the rest is from an increased delta T across the coil which reduces pumping energy and increases chiller efficiency. As an estimate 35-40% of our utility bills are for HVAC so just keeping our coils clean should save between \$600K to \$800K off our utility bills annually at the low end. As for ROI if you use the most conservative numbers we have paid approximately \$0.14 per square foot for coil cleaning to date. We have saved about \$0.22 per square foot annually. So the payback is less than 8 months and the ROI 157% annually."

Tom Shewan, PE Facilities Manager with Florida State University (FSU) discusses the energy savings from our steam coil cleaning process:



# CASE STUDY

## University of South Florida

### USF Housing Saves Energy while improving Indoor Air Quality

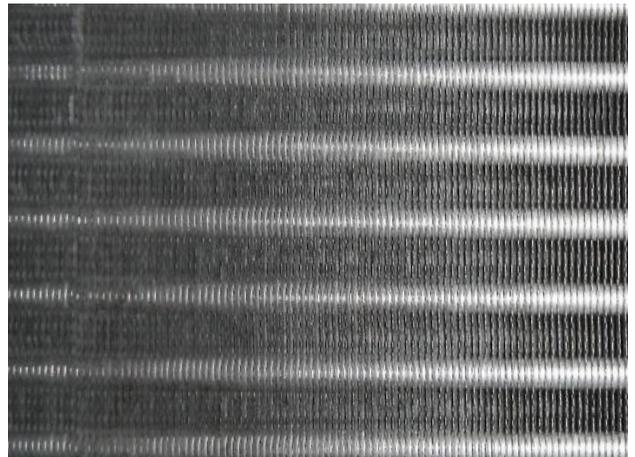
#### The Project:

The University of South Florida (USF) founded in 1956, covers over 1900 acres, 250 buildings, 10 million square feet, 34 residence halls occupy over 5,000 on campus beds, with an enrollment of over 48,000 students, making USF the 4th largest university in Florida. USF is classified by the Carnegie Foundation for Advancement of Teaching in the top tier of research universities and is among three other universities in Florida to hold this highest level of classification. The campus of USF participate in the leadership in Energy and Environmental Design (LEED) a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance, green buildings.

Before



After



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## The Concern:

USF Housing had received a few comfort and odor complaints from their students and decided to take a proactive approach to solving the issues. Indoor air quality (IAQ) testing and visual inspection found that the culprit was their HVAC systems, including the ductwork. Even though they had been cleaning the HVAC coils themselves utilizing the conventional chemical rinse method, odor and performance concerns still existed. They sought a more thorough method of cleaning the coils to ensure optimal IAQ and operational benefits.

PURE-Steam total HVAC coil and air handling unit (AHU) cleaning, along with hygienic duct cleaning from Pure Air Control Services, Inc. was the ideal solution. This powerful combination not only improved the health and comfort of USF student housing, it also led to operational savings through lower energy costs and reduced HVAC maintenance calls.

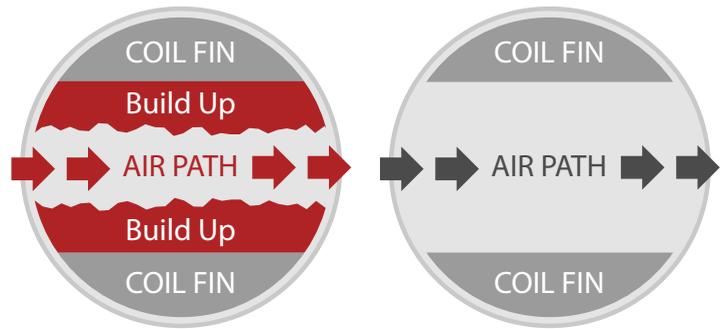
## The Solution:

Due to USF Housing's desire for going green, saving energy and providing a healthy learning environment for staff, guests and students, they turned to the scientists at Pure Air Control Services and the PURE-Steam Coil Cleaning process. PURE-Steam is a totally GREEN process (uses no chemicals) that utilizes a proprietary 280-350 degree steam to deep clean coils. PURE-Steam is certified by the Green Clean Institute and has a proven track record for saving energy, improving indoor air quality and improving comfort. To date, Pure Air Control Services has environmentally cleaned over 500 AHU systems at USF Housing with PURE-Steam Coil Cleaning.

### Benefits of the PURE-Steam Coil Cleaning Process

- Sanitizes the coils/blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment

## Magnolia Hall Revealed Significant Air Flow Improvement



**Obstructed Coils**  
Airflow 40 -50% or  
**463**  
Cubic Feet Per Minute (CFM)

**PURE-Air Cleaned Coils**  
Airflow 95 -100% or  
**640**  
Cubic Feet Per Minute (CFM)

**Net Difference**  
**177 CFM or 38.7%**





# CASE STUDY

## Harvard Medical School



**PURE-Steam is a valuable service to ensure optimal IAQ and HVAC performance for improved building health and energy savings!**

### The Project:

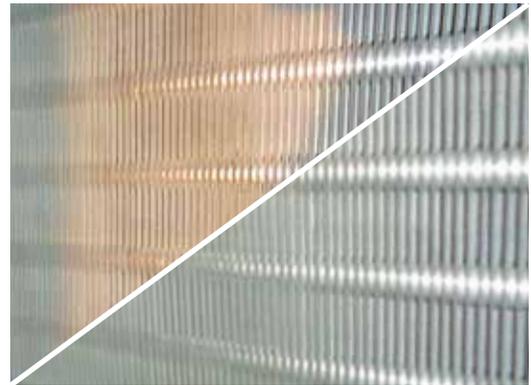
The Harvard Medical School community, located in the historic Mission Hill neighborhood of Boston, is dedicated to excellence and leadership in medicine, education, research and clinical care. Since the School was established in 1782, faculty members have improved human health by innovating in their roles as physicians, mentors and scholars. Harvard Longwood is a large campus that encompasses over 4 million square feet of building environments covering approximately 14 buildings.

### The Issue:

Peter Stroup, PE as Director of Facilities oversees all aspects of maintenance and operations, including energy procurement and use for the school's Longwood Campus. Mr. Stroup and his team was faced with increasing energy costs, and aging infrastructure including HVAC equipment with air flow issues and resulting IAQ concerns. At this point they turned to Pure Air Control Services through Kjelgaard Engineering, LLC. Harvard and Kjelgaard Engineering had heard of the PURE-Steam Coil Cleaning process as a result of being one of the only green certified coil cleaning processes in the U.S. PURE-Steam Coil Cleaning operates at high temperatures and low pressures to safely disinfect and clean air handler units (AHU).



*Coils Before*



*Coils After PURE-Steam*

*Blower Motor Before*

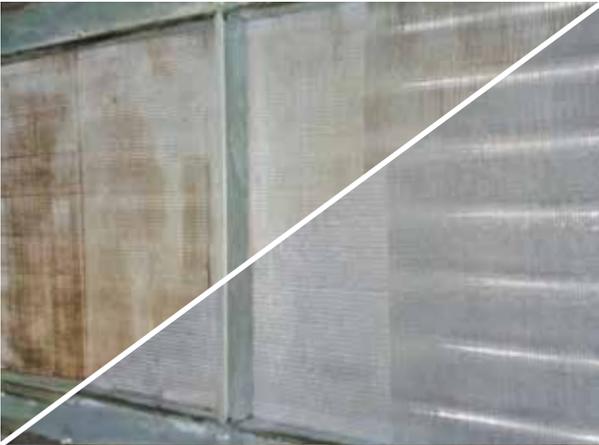


*Blower Motor After PURE-Steam*

## Benefits of the PURE-Steam Coil Cleaning Process

- Sanitizes the coils/blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment

Coils Before



Coils After **PURE-Stream**

Drain Pan Before



Drain Pan After **PURE-Stream**

## The Solution:

PURE-Steam Coil Cleaning was initiated through the 4 million square foot Harvard Longwood campus covering 100 large AHU's during the winter/spring of 2016. All large AHU's were environmentally cleaned over a 5 month period. **Peter Stroup, PE, Director of Facilities** presented at the **2017 NFMT Conference** on *Double Digit Energy Reduction, a Harvard Medical School Case Study*. Mr. Stroup's presentation included the **PURE-Steam Coil Cleaning** work performed for Harvard stating...

“We saw dramatic results, as much as 30% change in pressure over the coils and that hadn't been cleaned that well in some time... and very happy with the investment.”

### Average Improvement



**BRS**  
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## Resort Fan Coil Units Evaluated For Energy Savings—Achieved 50% ROI

Results Show Estimated Annual Savings of **\$62,543** Across 650 Guest Rooms for Resort Hotel

### Benefits:

- **6,566,369** BTU/year savings
- Annual energy savings of **\$96.22** per Fan Coil Unit
- **\$62,543** annual savings for 650 guest rooms from steam cleaning the coils
- Simple payback of **1.97 years**
- **Return On Investment (ROI) 50%**

### The Project:

A prominent, AAA Four-Diamond, resort hotel built in the 70's reported declines in HVAC capacity across the chilled water fan coil units in its 650 rooms. In addition to performance degradation, increased maintenance call back requests and musty odors were impacting guest experience. Both corporate and facility management weighed the costs/benefits of either replacing the aging units or restoring the equipment with the most effective process to improve operating efficiency and indoor air quality. The proprietary PURE-Steam HVAC cleaning method was chosen based upon its efficacy of past performance.



Pure Air technician implements PURE-Steam



Recording of Ambient Conditions in mixing plenum



Face velocity verification

Before PURE-Steam



After PURE-Steam



# The Survey:

To demonstrate energy savings a survey was designed to take measurements on fan coil units in randomly selected rooms before and after cleaning. Readings were taken in the discharge of the supply air plenum. Performance factors and differential outcomes that were evaluated consisted of real-time readings in Temperature (°F), Relative Humidity (%), Enthalpy (BTU/lb), and Volume (CFM) as well as Specific Volume (f3/lb). Energy consumption data\* was also estimated utilizing seasonal conditions in central Florida, 8 cumulative operating hours per day, regional costs of \$0.10 KWh and a Coefficient of Performance (COP) of 2, which is characteristic of average age and condition. Marked improvements were recorded in every category after the PURE-Steam cleaning.

# The Result:

Data collected from the survey was entered into an efficiency calculation formula developed by the Building Sciences division at Pure Air Controls Services and reviewed by a third party professional engineer. Based on the COP=2 an estimated annual savings was reported of \$96.22 per unit per year. When extrapolated across all 650 units the estimated potential savings to the resort was \$62,543 annually. Finally, taking into account the cost per cleaning of each unit based on time and labor the estimated simple payback was 1.97 years or 50% ROI.

*“potential savings to the resort was \$62,543 annually”*

| EMPIRICAL DATA            | Parameters                             | Before PURE-Steam |             |               | After PURE-Steam |             |       |
|---------------------------|--|-------------------|-------------|---------------|------------------|-------------|-------|
|                           |  | Up Stream         | Down Stream | Δ             | Up Stream        | Down Stream | Δ     |
|                           | <b>CFM</b>                             | 448.00            |             |               | 630.00           |             |       |
|                           | <b>Temperature (°F)</b>                | 69.80             | 67.80       | 2.00          | 70.70            | 64.60       | 6.10  |
|                           | <b>Relative Humidity (%)</b>           | 76.20             | 70.80       | -5.40         | 73.90            | 83.80       | 9.90  |
|                           | <b>Specific Volume (f³/lb)</b>         | 13.57             | 13.51       | 0.06          | 13.59            | 13.44       | 0.15  |
|                           | <b>Enthalpy (BTU/lb)</b>               | 29.28             | 27.47       | 1.81          | 29.43            | 27.35       | 2.08  |
|                           | Energy Consumption                     | Before PURE-Steam |             |               | After PURE-Steam |             |       |
|                           |  | BTU               | KW          | COP=2         | BTU              | KW          | COP=2 |
|                           | <b>BTU/hr=Δh(CFMc X 60min) / SVC )</b> | 3,601.24          | 1.06        | 0.05          | 5,850.00         | 1.71        | 0.09  |
| <b>BTU/Year (365 Day)</b> | 10,515,631.09                          | 3,081.83          | 154.09      | 17,082,000.00 | 5,006.24         | 250.31      |       |

\*The survey and result do not include energy consumed by the fan motor.

## Benefits of the PURE-Steam

- Sanitizes the coils/blower assembly
- Removes latent debris from deep within the coils
- Creates improved air flow
- Creates better cooling capacity
- Saves Energy (typically .16 – .22 cents per sq ft)
- Improves indoor air quality
- Reduces HVAC related work orders
- Extends HVAC equipment



PURE-Steam is a valuable service to ensure optimal IAQ and HVAC performance for improved building health and energy savings!

**Call today to find out more!**  
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