



PROJECT PROFILE: San Antonio, Texas University of Texas

Challenge:

The University of Texas San Antonio (UTSA) faced ongoing maintenance issues with two large air handler units (AHUs): AHU 23 S-7 and AHU 24 S-8. After years of wear and tear, the AHUs started to severely deteriorate. Eventually, the axle that drives the blower wheel broke and needed to be replaced. Because of this, there was no airflow or ventilation being supplied in the UTSA Convocation Center.

UTSA decided to restore the AHUs with the Higher Education Emergency Relief Fund (HEERF) provided by the Education Stabilization Fund (ESF) through the Coronavirus Aid, Relief, and Economic Security (CARES) Act. This presented a challenge because of the looming deadline to use the funds. From the time of the purchase order partnering with Grainger, WTI/Pure Air Control Services only had 30 days to order equipment (including fan arrays), mobilize, complete all work, and invoice the project.

Solution:

WTI/Pure Air Control Services came into this project with a very small window to complete the total HVAC restoration. But with the well-rounded team of Grainger, Tremco, and UTSA we were able to make the project a total success. The following services were executed on both AHUs.

Completion Date:	July 07, 2023
Project Type:	WTI/Pure Air Control Services
Project Size:	Two Air Handler Units at 25,000 cubic feet per minute each
Services Used:	HVAC New Life Restoration



Broken blower wheel removed Fan Array bulkhead wall installed

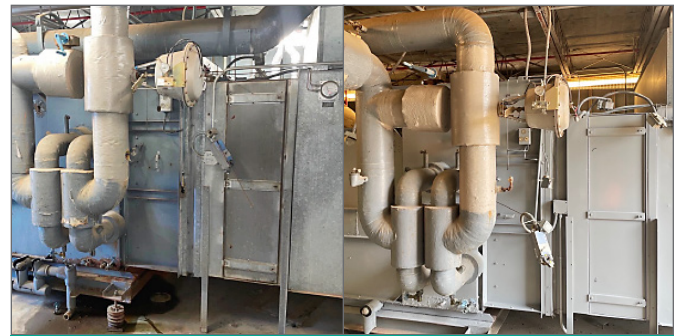


Before PURE-Steam with old insulation Floor Coating, PURE-Cell Insulation



Before New Life

After New Life



Before New Life

After New Life

HVAC New Life Restoration

HVAC New Life is a series of component services conducted over consecutive nights that effectively cleans and restores an AHU without loss of supply air during normal operating hours.

PURE-Steam AHU and Coil Cleaning

The first step was to environmentally remove any old and contaminated fiberglass insulation. After that, the units were thoroughly HEPA-vacuumed of residual debris. Next, airflow resistance readings were taken across the cooling coils. This is known as a Coil Cleanliness Verification test, or CCV. Then the interior of the unit was masked off and sanitized with WTI Pure Air's proprietary PURE-Steam process. This included a deep cleaning of the cooling coils as well. PURE-Steam utilized bio-enzyme treatments and high temperature, low-pressure steam to penetrate through debris lodged in the coil. CCV readings were also taken after the cleaning. This process improves AHU performance and indoor air quality.

Blower Removal and New Fan Array

The next step was to remove the old blower assemblies and motors. Then the new fan array that was re-engineered specifically for each AHU was installed. First, the pre-built bulkhead wall was secured into place. Then the fans are fitted into their channel locks and wired for service. Fan array retrofits provide improved efficiency and redundancy since there are no more bearings, belts, or shivs to maintain.

Sheet Metal Fabrication and New Access Doors

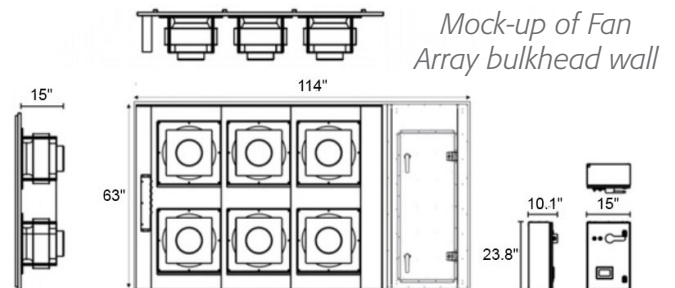
Years of condensation in the two AHUs corroded and structurally compromised their floors. These areas were

removed, secured and new sheet metal flooring panels were installed. External doors were also installed for ease of access and future maintenance.

High Performance Coatings and Fiberglass Free Insulation

The final step in the HVAC New Life restoration process includes refinishing the metal components of the units with high performance coatings that are corrosion resistant, flexible, and very low VOC. This includes relining the drain pans with a multi-part polyurethane coating that is designed and tested for HVAC systems. The entire process is completed with the installation of new, fiberglass-free insulation that is moisture resistant to prevent future degradation.

In summary, WTI/Pure Air Control Services helped restore the two AHUs for the Convocation Center within one month whereas new units would have taken more than 30 weeks to procure, deliver and install. **UTSA saved \$1,083,000 in capital expenditure (CAPEX) by restoring the AHUs instead of replacing them**, and static pressure performance was improved by 18%, which can directly help with energy savings over time. All in all, UTSA now has peace of mind in two restored units with five-year warranties on the fans and the coatings that will provide many more years of services for the convocation center.



Mock-up of Fan Array bulkhead wall

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