

Option #2: Extended Metering

As an option, at additional cost, Georgetown Utilities offers “Extended” pre- and post- treatment metering and data capture. The logistics which follow below are typical of a single roof-top DX unit of from about 3 tons up to about 40 tons. Although larger DX units, Water chillers, or Process Refrigeration units have small variations, they are largely the same.

1. 21-days before ProaTEQ treatment, Georgetown will install equipment instrumentation as follows:
 - a. Installation of equipment instrumentation requires 1-day on site and approximately 2-3 hours per unit. The equipment is de-energized for 15-30 min while the CTs are installed. All other instrumentation can be installed while the unit is running,
 - b. For DX units, measurements are taken of amps on all 3 phases, ambient dry bulb temperatures, wet bulb temperatures, and air velocities in both the supply and return air ducts,
 - c. For chillers, supply and return water temperatures and chiller GPM are measured,
 - d. Spot voltage readings are taken at multiple times during installation to ensure voltage is relatively constant,
 - e. Data on Amps, Temperatures, and GPM are recorded and stored continuously on 2-minute intervals.
2. On Treatment day Georgetown visits the site to download pre-treatment data and install ProaTEQ:
 - a. Requiring approximately 2-3 hours on site per unit,
 - b. Equipment is NOT out of service during ProaTEQ installation,
 - c. We provide a Snap Shot report 2-days after treatment, documenting initial performance improvement and capacity gain.
3. Following ProaTEQ installation, Georgetown recording data collection meters are left on the equipment for another of 21-day period.
4. 21-days after treatment, Georgetown downloads post-test data and removes its instrumentation:
 - a. Re-confirm performance improvement,
 - b. Requiring approximately 2-3 hours on site per unit of equipment,
 - c. Equipment is de-energized for 15-30 min while CT’s are removed.
5. 14 days after instrumentation removal, Georgetown will deliver a Final Report documenting the following:

- a. Performance Improvement,
 - b. Capacity Recovery,
 - c. Pre- and Post-Treatment Performance Modeling,
 - d. Energy, Peak Demand, and Dollar Savings,
 - e. Payback Period and ROI,
 - f. Performance Improvement Projections for other equipment for which we have been provided data.
6. As a further option, and at additional cost, Georgetown will come to the Customer's site to present the results to the Customer's staff and answer any questions regarding the report findings or any element of the project.

The primary advantage of the Extended Metering Option is that it captures the data necessary to model equipment's performance versus cooling load for a 21-day period before treatment. Doing so provides a reliable and "bulletproof" baseline against which post-treatment performance can be monitored, which result in highly reliable computations of business performance ratios, including Payback Period, Return on Investment, etc.

Option #2: EXTENDED METERING SCOPE OF WORK

1. PROJECT PLANNING, ACQUISITION, MANAGEMENT

Georgetown Principal, Mr. Richard Piepenbrink, will be assigned as lead Project Manager. He will engage subcontractors and conclude subcontracts, acquire materials, and manage the engagement, including traveling to the Project Location for the installation.

2. PLANNING & COORDINATION MEETING

Mr. Piepenbrink and two subcontractor personnel, Sr. Mechanical Engineer (Dr. Rick Parks), Sr. Electrical Engineer (Mr. G.C. Nichols), will travel to the site at the Project Location. A coordination meeting is required between Georgetown personnel and subcontractors with PPG personnel before the installation and is included in the price.

3. ENHANCED MONITORING PACKAGE OPTION PRE-INSTALLATION TASKS CLUSTER

This proposal includes an optional task at additional cost for Enhanced Monitoring. This will include monitoring done for a twenty (20) day period prior to and after installation, and is included in the attached schedule. Georgetown subcontractors will install meters in conjunction with oversight from PPG personnel.

4. INSPECT & PREPARE EQUIPMENT

When Georgetown personnel and subcontractors arrive, they will inspect and prepare the selected pilot units for ProaTEQ installation, including installation of any instruments and equipment needed for Test-in and ProaTEQ coating installation. Mr. Piepenbrink will be in attendance.

5. TEST-IN

Dr. Parks and Mr. Nichols will make the necessary readings for pre-installation data on the Snapshot Cooling Capacity Report. Mr. Piepenbrink will be in attendance.

6. INSTALL ProaTEQ COATING MATERIAL

Dr. Parks and Mr. Nichols will install the ProaTEQ coating material Mr. Piepenbrink will be in attendance.

7. TEST-OUT

Dr. Parks and Mr. Nichols will make some of the necessary post installation readings and data for the post-installation information in the Snapshot report. Mr. Piepenbrink will be in attendance.

8. RESTORE EQUIPMENT

Dr. Parks and Mr. Nichols will remove Georgetown instrumentation and equipment from PPG trial units and restore all connections to previous conditions. Mr. Piepenbrink and McCarthy will be in attendance.

9. ENHANCED MONITORING PACKAGE POST-INSTALLATION TASK CLUSTER

Under the selected Enhanced Monitoring Package, Georgetown will leave monitoring equipment installed for a period of twenty (20) days after coating installation, and there will be a return trip required of Georgetown subcontractors to capturing that data and removing that equipment. Georgetown Principal, Mr. McCarthy, will be in attendance.

10. DATA RECOVERY, ANALYSIS AND REPORT

Georgetown Principal Mr. McCarthy and subcontractor Dr. Parks will organize and analyze the site Test-In/Test-Out data for preparation of the Snapshot Report.

11. ENHANCED MONITORING PACKAGE REPORT PRESENTATION

Under the Enhanced Monitoring Package Georgetown will prepare, review, and present an Extended Monitoring Report, documenting increased performance of the test unit during the twenty (20) day period following the installation of ProaTEQ coating. Georgetown Principal, Mr. McCarthy, will present the Report to PPG personnel at the Project Location.