



a clear direction for the future

case study

Union Park CSO Detention/Treatment Facility

Boston, MA

Overview

Boston, Massachusetts is a beautiful city with a rich history. Unfortunately, its infrastructure is also historic. During heavy rainstorms, the city's sewer system cannot adequately manage the excessive water flow, which can lead to flooding of streets and homes. As a result the city has built-in overflows called "combined sewer overflows" or CSOs. The CSOs manage the excess water by detaining, treating and releasing it into the nearest body of water. Managing this much water requires powerful pumps and other equipment. For the Union Park facility—which can hold up to 2.2 million gallons of combined sewage—four Solar Saturn gas turbine engines were installed. The engines needed a 90% destruction rate of carbon monoxide, and also had to comply with the strictest noise reduction standards for state and local codes.

Challenge

The engines at Boston's Union Park facility—although effectively doing their job—needed to meet proper sound and emissions requirements. Three of the engines had been in place since the 1970s and failed to comply with regulations. These engines needed to be retrofitted with catalytic silencers. A fourth engine needed to be installed and fitted with a catalytic silencer.

Solution

A bid had been out for some time, which used the specs of a competitor (and leading favorite for the job), when Boston-based environmental engineering firm Woodward & Cumin contacted GT Exhaust. Despite being told they only had a 10% chance of winning the bid, the GT Exhaust engineering department agreed to discuss the project with Woodward and Cumin. After familiarizing themselves with the challenge, GT Exhaust conducted the necessary calculations and sent a proposal. Two weeks later the specs were rewritten specific to GT Exhaust's catalytic silencers with no substitutes accepted.

The first engine was shipped and installed in late 2006 and tested in early 2007. The unit performed exceptionally well, meeting stringent acoustic and emissions standards. From only a few feet away, the unit achieved an ambient noise level. Based on the success of the project, GT Exhaust became the sole source for additional units. In late 2007, the company installing the products submitted a purchase order for 3 units to retrofit the older turbines. They shipped in early 2008 and are now installed.



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