

### The Customer

The Company recycles discarded metal items into smaller pieces that are used as raw materials for new goods.

The process is important for conserving natural resources, reducing energy consumption and minimizing environmental impact.

### The Process

Metal waste is collected, separated, and shredded. Emissions, such as VOCs and other unknown contaminants, can be generated, especially if the shredded materials contain coatings, paints, or other organic substances.

The emissions are collected and sent to an RTO (Regenerative Thermal Oxidizer) for destruction. The RTO breaks down these harmful particulates into water and carbon dioxide. Thermal oxidizers are very effective, with a more than 99% destruction rate, and are ideal for high concentration VOC applications.

### The Challenge

One of the challenges was they did not know the exact composition of the exhaust stream.

It is of varying energy content and can change rapidly. Danger is present when the inlet stream to the RTO suddenly gets rich enough to ignite or explode. They wanted to prevent this from happening.

The Company wanted to continuously measure and record the concentration of flammable vapors between the shredder and the RTO.

### The Solution

The Company chose Control Instruments' PrevEx Analyzers.

These analyzers have the unique ability to accurately measure the total flammability of all the constituents in the process exhaust stream. Based on a proprietary flame temperature measurement technique, this analyzer requires no recalibration, adjustment or the use of response factors for most common process VOC's. The analyzer has a very fast response time, less than 2 seconds (including sample transport time), and can react quickly to divert a high LFL stream from going to the RTO. Additional features that added to the selection of the PrevEx included: rugged design, easy calibration, low maintenance and failsafe operation.

### SIC Code

- 5051: Metal Service Centers and Offices

### NAICS Code

- 423510: Metal Service Centers and Other Metal Merchant Wholesales

