

## Case Study

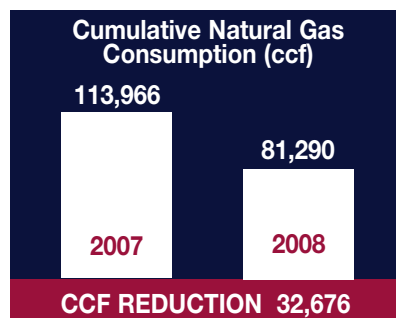
# ofs Avon, CT Retrofits Boilers *Reliability Up—Energy Costs Down*

### The Assessment

- Five nearly ten-year-old hot water boilers had been rebuilt, repaired and resuscitated many times.
- Natural gas consumption continued to rise from year to year as the efficiency of the boilers dropped off.
- The boilers needed to be replaced before their inevitable total failure—most likely at the worst possible time.

### The Resolution

- TNE worked as a team—with ofs Avon, the boiler manufacturer, manufacturer’s rep, and a consulting professional engineer—to design a boiler flat that would fit into a cramped area, within a tight budget, in a narrow install time window.
- The end result has proven to be a great success story. The project was completed on time and on budget.
- Reliability following the break-in and calibration period was exceptional, as was the virtually seamless integration into the automation system.
- Natural gas consumption has decreased over 27% compared to the same period the prior year. Analysis of the difference in climate conditions from year to year is negligible.



## Highlights

### Criteria

- Strict cost cap
- Absolutely critical installation schedule—no room for error  
*Not complete =  
 No production =  
 Lost revenue*
- Holiday weekend installation
- Cramped quarters
- Minimal demo of existing infrastructure

### Results

- Professional installation
- Maximum reliability
- Seamless integration of automation controls
- Real cost savings—\$37,812 YTD
- Lower NOX emissions
- Reduction in greenhouse gas emissions—enough CO2 reduction as removing 18 SUVs from the road driving 12,000 miles each per year!

### SERVICES PROVIDED

- ✓ Engineering
- ✓ Installation
- ✓ Service
- ✓ Automation

# Project Challenges & Resolutions

All projects have their unique challenges, the ofs Avon project was no different. At TNE, we take pride in our ability to affect a speedy resolution.

## Challenge Number 1 – Design Refinement

The contracted professional engineer did not meet the customer's need for a strict cost cap, mandatory boiler flat foot print and manufacturer delivery date.

### Resolution Number 1

TNE went back and offered proposals that were affordable/within budget, matched foot print and would meet schedule.

## Challenge Number 2 – Narrow Installation Window of Time

This project had to be completed during the Thanksgiving holiday period—from Friday after Thanksgiving until Monday morning when manufacturing had to resume.

### Resolution Number 2

TNE coordinated the efforts of their personnel, as well those of electrical, rigging, demo, roofing and pipe fitters. The boilers were online for Monday morning's start up.

## Challenge Number 3 – Cramped Space and Fall Protection

The boiler flat was extremely space limited and backed right up to a stairway.

### Resolution Number 3

Much effort was required to remove as little of the existing components and stay on the "no room to spare" foot print. TNE ensured safety by erecting a temporary platform to safely support the tradespersons.

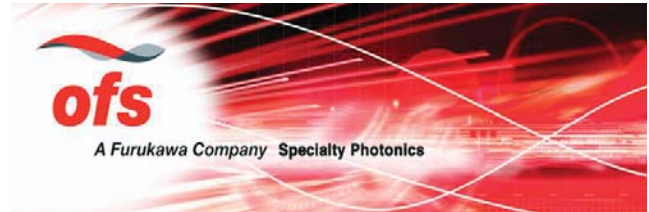
## Challenge Number 4 – Boiler Operating Troubles

Initially, the boilers kept tripping out at intermittent times, causing a potential for lower water temperature and critical systems shutting down.

### Resolution Number 4

TNE worked directly with ofs Avon plant engineering personnel, the manufacturer's rep and the manufacturer to resolve this tricky intermittent issue. Upon completing all manufacturer's recommended installation of a more specific air intake plenum, performance improved. However, the failures continued to occur randomly. TNE then took the definitive step to get the proper technical resources on site and hold them accountable for eradicating the issue. Once the boiler rep completed a newly released, comprehensive set up / start up / calibration procedure, the boilers performed flawlessly.

# The Client ofs Specialty Photonics Division, Avon, CT



OFS Specialty Photonics Division is the industry leader in optical fiber design or modification for highly customized applications. It develops focused fiber solutions – the right fibers, cables, and other specialty optical fiber products – to meet the needs of established and growing industries.



## Feedback from ofs

Wes Parker, ofs's Director of Plant Engineering relates, *"TNE is currently providing the total package – quality engineering, field service, sheet metal, controls and projects...very customer orientated & very good value."*

Realistically, it has always not been perfect as he goes on to state further, *"I have been critical of TNE from time to time, and instead of reacting negatively to criticism, they took steps to resolve criticism."*

*"TNE is the # 1 partner of ofs Plant Engineering Department, especially critical to Facilities and all HVAC operations. They are full service — trusted partners — customer driven — very well-liked service professionals — energy conservation minded."*