

# Water and Energy Conservation Health Systems Cooperative Laundries

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**Driven to Discover<sup>SM</sup>**

# Company Background

- St. Paul, MN
- 300 employees
- 31 hospitals and 600 clinics
- 39 million lbs of laundry 2018
  - Projected 44 million in 2019



HSCL Front Entrance



# Project Overview

- **Situation in 2018**
  - 39 million lbs. of laundry
  - 35 million gallons of water
  - 1 million therms of natural gas
  - 3 million kWh



Finishing Floor

# Project Overview (Continued)

- **Project Motivation**
  - 5 million lbs. of laundry in 2019
  - Analyze compressed air system



Air Compressors and Air Dryer

# Types of Washers

## 1. Tunnel Washer

- 95% of laundry
- 30% of water



Tunnel Washers

## 2. Conventional Washers

- Medium and Custom
- 5% of laundry
- 70% of water



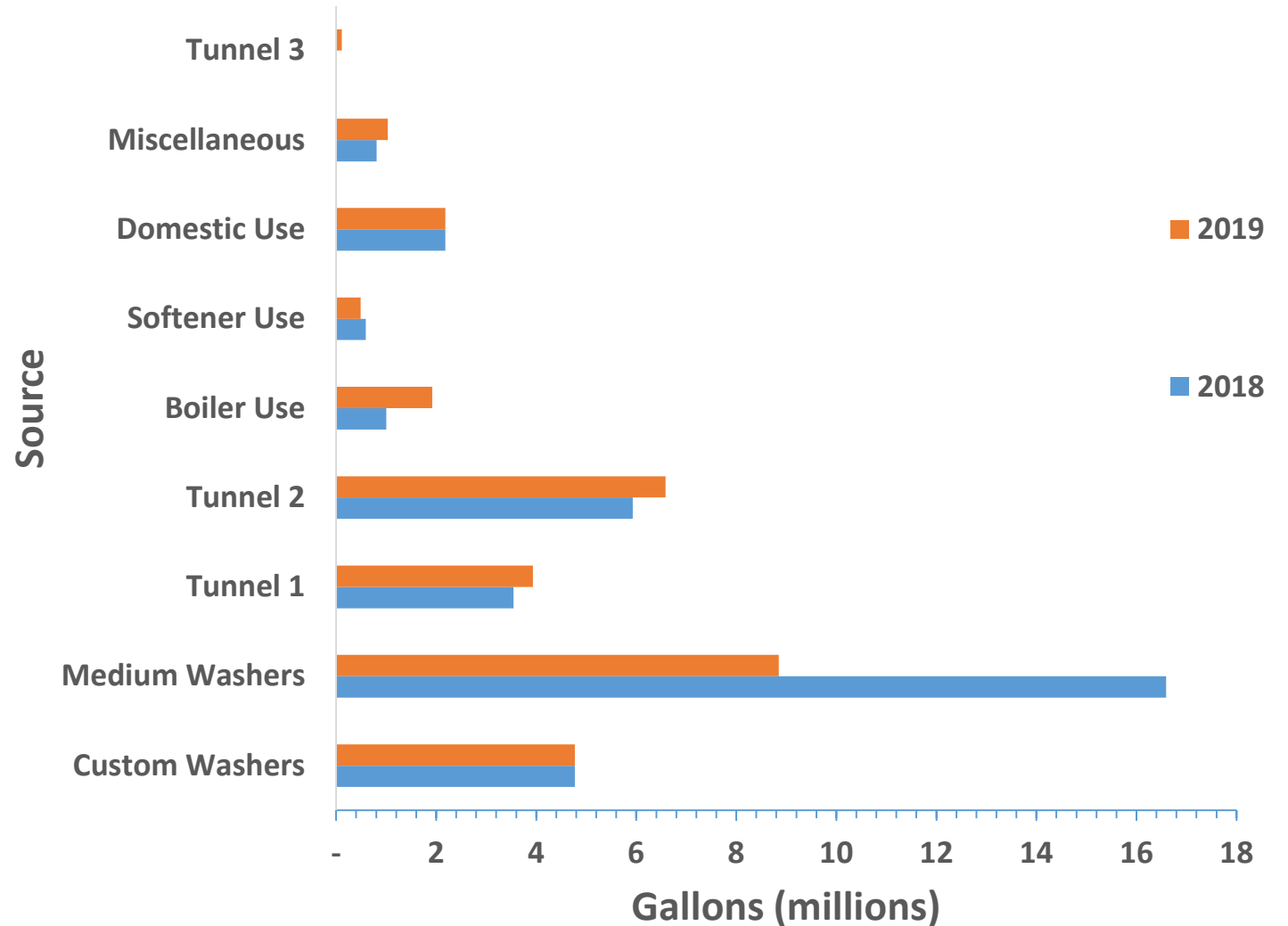
Conventional Washers



# Approach

- Tour plant
- Create water and gas balance
- Formulate ideas
- Test

2018 vs 2019 Water Usage



# Primary Recommendations

## Increase Medium Washer Load

- Reinstall scale

### Savings

- \$21,900 Total
- 2,250,800 gal
- 280 therms
- \$2,670 in chemical savings



Steam Dryers



Medium Washers

# Primary Recommendations (cont.)

## Optimize For Load Size

- 1,800 gal → 1,490 gal
- \$2.18 → \$1.80 in chemicals

### Savings

- \$11,100 Total
- 1,144,200 gal
- \$1,380 in chemicals



Medium Washers



# Summary Table

<u>Recommendations</u>	<u>Waste reduced (per year)</u>	<u>Implementation cost</u>	<u>Cost savings (per year)</u>	<u>Payback period</u>	<u>Status</u>	<b>Total Savings</b>
Increase medium washer loads	2,250,800 gal 280 therms chemicals	\$800	\$21,900	15 days	Recommended	<b><u>\$55,560</u></b>
Scale Down Utilities	1,144,200 gal Chemicals	None	\$11,100	Immediate	Recommended	
Fix Steam Traps and Air Leaks	142,500 gal 1,000 therms 4,700 kWh	\$1,000	\$3,000	18 days	Recommended	<b><u>3,635,440 Gallons</u></b>
Decrease Dryer Time	11,980 therms 30,790 kWh	None	\$7,980	Immediate	Implemented	<b><u>18,830 Therms</u></b>
Decrease Electric Motor Speeds	20,540 kWh	\$4,090	\$1,880	0-3.5 years	Recommended	
Decrease Compressor Pressure	16,480 kWh	None	\$1,500	Immediate	Implemented	<b><u>86,830 kWh</u></b>
Catch Misfed Linen	97,940 gallons 5,570 therms 14,320 kWh Chemicals	None	\$8,200	Immediate	Recommended	<b><u>Chemicals</u></b>

# Anecdote

## Talk to Everybody



## Adapt

