

# Getting the Most out of Your RTUs with AFDD

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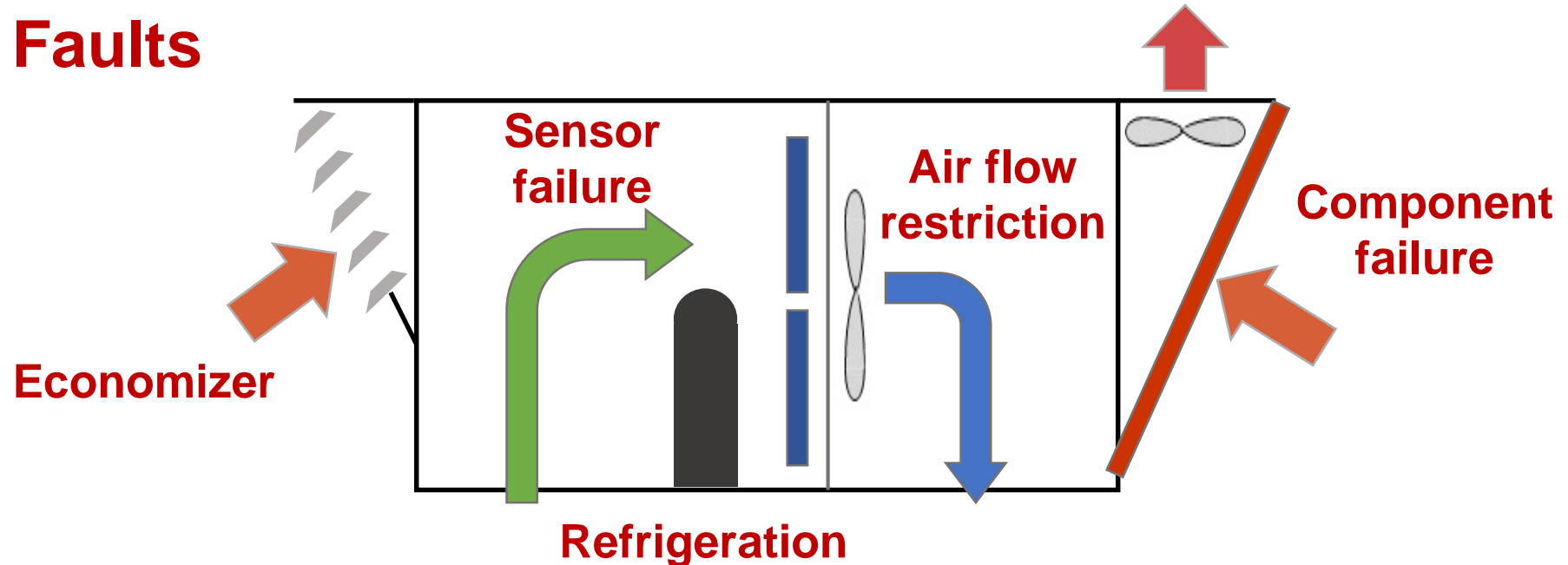
Sue Dunn, Sheetz

# What is AFDD?

## Automated Fault Detection and Diagnostics

Continuous monitoring of the health of your RTUs, diagnosing faults, and communicating the results

### Types of Faults



# Can AFDD Save Energy and Cost?

## Yes, but requires action

- AFDD enables faster informed actions
- AFDD saves energy by
  - Alerting of faults quickly
  - Some AFDD systems can reset RTUs or controls to clear minor faults
- AFDD saves costs by
  - Streamlining maintenance
  - Quicker repairs
  - Avoids costly shutdowns



# RTU AFDD Applications

- Basic fault categories
  - Economizer (California Title 24, 90.1-2016, and IECC 2015)
  - Refrigeration circuit
  - Air flow
  - Power
- AFDD installation locations
  - Embedded in RTU controls
  - Retrofit controller
  - Building automation system
  - Combination of 2 or 3

# DOE/NREL RTU AFDD Landscaping Study

- Timeline: Jan 2018 through Sep 2018
- Objectives:
  - Characterize the variety of RTU AFDD systems
  - Document performance experiences
  - Estimate the benefits and costs of RTU AFDD systems where possible
  - Identify research opportunities to improve performance
  - Identify market barriers to RTU AFDD technology
- Study participants:
  - Building owners
  - AFDD developers
  - RTU OEMs
  - Utilities

# Advanced Controls and AFDD help



- Convenience stores are challenging environments
- Advanced RTU controls and AFDD help Sheetz:
  - Maintain positive pressure
  - Improve humidity control
  - Monitor RTU health
  - Identify faults quickly
  - Save energy



# More Information on AFDD

- Advanced RTU Campaign website: [www.advancedRTU.org](http://www.advancedRTU.org)
- RTU OEMs, controls manufacturers, and other suppliers
- DOE/NREL RTU AFDD landscaping study ongoing now with results in September 2018.

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