# ASHRAE® Guideline 36 Delivered with Tracer® Controls

## What is ASHRAE Guideline 36?

Guideline 36 is an ASHRAE guideline which provides High-Performance Sequences of Operation for heating, ventilating, and air-conditioning (HVAC) systems. The purpose of the guideline is to provide uniform sequences of operation for HVAC systems that are intended to maximize system energy efficiency and performance, provide control stability, and allow for real-time fault detection and diagnostics.

The current version of the guideline provides sequences specific to Multiple Zone Variable Air Volume (VAV) systems. VAV boxes and Air Handling Units (AHU) utilizing electric heat are not included in the guideline, however, many of the concepts can still be utilized on these and other systems.

### Not a Standard

Guideline 36 is NOT a standard. While the guideline does provide sequences of operation, they are intended to be performance based. The intention of the sequences is to specify the functional result of the programming logic. While all sequences are described using specific programming logic as a way to clearly document the resulting functionality, implementations using alternative logic that result in the same functional performance are acceptable.

### Key Sequence Items

**Trim and Respond** is a method for adjusting setpoints to reduce energy intensity. **Automatic fault detection and diagnostics** (AFDD) is a sophisticated system for detecting and diagnosing air handler faults. The AFDD routines for AHUs continually assess AHU performance by comparing the values of BAS inputs and outputs to a subset of potential fault conditions

# Guideline 36 Promotes Clients Goals

### Occupant comfort and energy savings

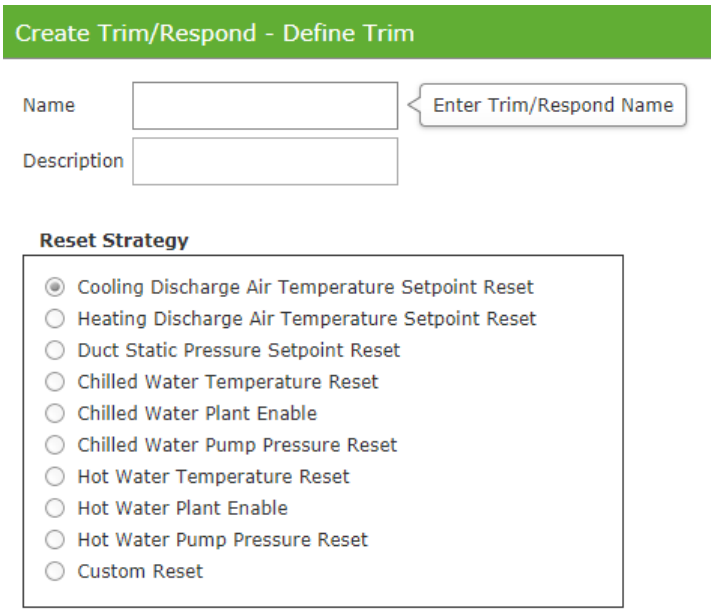
Guideline 36 reduces energy consumption by ensuring that proven, cost-effective strategies, including those required by ASHRAE® standards and building codes, are fully implemented.

The Guideline ensures improved indoor air quality through control sequences that are in compliance with IAQ standards and codes such as ASHRAE Standard 62.1.

Proper guideline implementation results in reduced energy consumption and reduced system downtime. Diagnostics help operators by detecting and diagnosing system faults before they cause performance problems.

### Delivering Performance

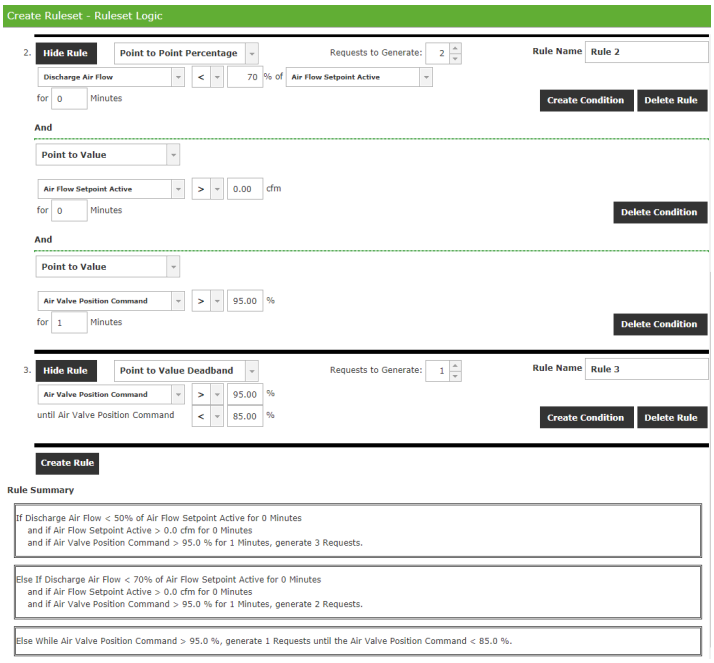
There is not a certificate or compliance process in place for guideline 36. The guideline is performance based, compliance means providing the same functional result.



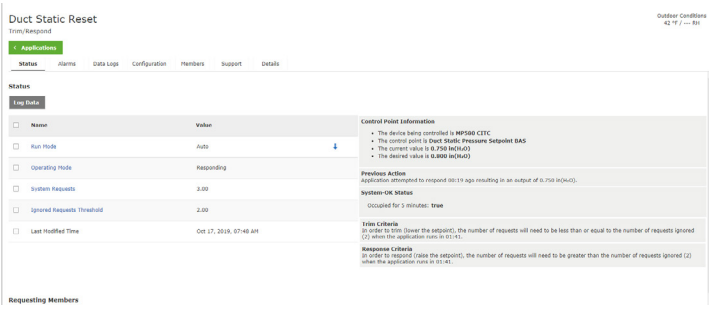

*Upon creation of a Trim and Respond application, a technician is presented with both pre-engineered selections that align with Guideline 36 rules as well as a custom option.*

### Trane's Approach

Trane® Tracer systems have been developed to deliver ASHRAE Guideline 36 sequences and performance. Our pre-engineered trim/respond application includes the ASHRAE GL 36 defined rules, allowing flexibility to modify or expand the rules to meet any building or system need.




*Trane's standard application is both flexible to meet unique project requirements and easy for a technician to implement.*




*The plain text representation on the standard status page allows operators to determine how the system will perform under various conditions.*

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