Fast Lanes and On-Ramps: Driving Adoption of Guideline 36

Hwakong Cheng, Taylor Engineers
Brent Eubanks, Eubanks Engineering Research
Reece Kiriu, Taylor Engineers
JoeDon Breda, TRC

ABSTRACT

Building automation systems (BAS) are critical to enabling heating, ventilation, and air conditioning (HVAC) systems to achieve thermal comfort, indoor air quality, and energy efficiency goals. However, decades of research have documented persistent challenges in designing and implementing effective control systems. ASHRAE Guideline 36 (G36), first published in 2018, was developed to partly address these challenges by establishing high-performance sequences of operations, or English-language descriptions for how HVAC systems should be controlled. Simulation studies have documented significant energy savings potential, multiple field demonstrations have shown the potential for HVAC energy savings of over 50 percent when G36 sequences were applied in control retrofits, and numerous trainings and resources now support its implementation. Yet, high-performing BASs largely remain an elusive ideal. This paper describes a multi-pronged approach to promote the successful scaling of G36 in commercial HVAC applications. The first approach, the on-ramp, provides a prioritized subset of measures to allow projects to focus on targeted elements from G36, as well as a roadmap for applying and adapting G36 concepts to existing buildings. The second approach, the fast lane, focuses on standardizing G36 control strategies through centralized programming libraries that have been validated by an objective method of test to ensure rigor, completeness, and conformance. These libraries enable economies of scale that streamline field deployment and improve quality. These efforts lower the bar for entry for project teams new to G36 and expand the range of applications. Together, these approaches provide multiple pathways to accelerate G36 adoption and scale high-performance HVAC controls.

Introduction

ASHRAE Guideline 36 *High-Performance Sequences of Operation for HVAC Systems* establishes high-performance control sequences that offer the opportunity to significantly improve HVAC system energy performance (ASHRAE 2024). As interest grows in G36, many stakeholders in the building HVAC delivery process are facing the challenge of applying G36 to their projects for the first time. Though it is intended to streamline the application of high-performance control sequences, G36 is significantly more detailed and complex than conventional control sequences. Designers that are not familiar with G36 may be overwhelmed and confused by its scale and complexity. Similarly, installers that are accustomed to reusing and adapting programs from recent projects may be daunted by the need to program such extensive control logic.

As a relatively new approach for an industry that adapts slowly to change, more work is needed to increase awareness of G36 and highlight its value proposition. However, that is not the focus of this study. Instead, the emphasis of this paper is on efforts that support the successful application of G36 and adoption by the building controls industry. In particular, two specific efforts are highlighted: one that supports the understanding and application of G36 to specific project circumstances and one that streamlines the implementation of G36 programming. Following the driving metaphor, we assume the drivers know where they want to go, focusing instead on describing on-ramps to get more cars onto the highway and into the fast lanes to help them reach their destination more quickly.

Background

Status Quo

Poorly implemented BASs are widely recognized as a major cause for HVAC systems that fail to meet their design intent of maintaining occupant comfort, indoor air quality, and energy performance. Challenges stem from a variety of factors including lack of controls understanding by designers, poor workmanship by installers, and inadequate commissioning processes. Building energy code requirements and best practices are often missing from BAS designs, likely due to a lack of awareness and attention (Rosenberg et al. 2017, Singla et al. 2023). Further, conventional practice involves a series of bespoke design and installation efforts that each require a high level of effort and quality control to perform as intended. Even when repeatedly applied to the same typical HVAC systems, subsequent projects commonly 'reinvent the wheel' for each BAS installation. A frequent outcome is that building HVAC systems fail to perform at maintaining comfort, indoor air quality, and energy efficiency due to a series of BAS related issues.

Table 1 describes some of the common pitfalls with conventional HVAC control implementation processes.

Opportunity and Challenges with Guideline 36

G36 was developed to help address and overcome issues with BAS design and installation by establishing a series of high-performance sequences of operation, which are English-language descriptions for how HVAC systems are to be controlled. The use of G36 sequences provides the opportunity for significant energy efficiency and indoor environmental quality benefits when compared to standard practice. Since its initial publication in 2018, interest in G36 has grown rapidly, as indicated by numerous field demonstrations and simulation studies completed and underway, marketing efforts by manufacturers, and its incorporation into facility design standards. These early field demonstration studies successfully documented HVAC energy savings of over 20 percent in retrofits solely updating control sequences and up to 60 percent when coupled with other control system improvements (Cheng, Singla and Paliaga 2022) (Kiriu and Stein 2021). The simulation studies reported an average of 31 percent HVAC energy savings across a range of baseline conditions in California climates (Zhang et al. 2022).

Moreover, industry standardization around G36 provides the potential for substantial streamlining and improvement in implementation quality by allowing the G36 logic to be programmed and tested centrally by the major BAS manufacturers. Rather than the current approach of having individual installers interpret and program the control logic on a project-by-project basis, a process that is labor intensive and vulnerable to quality control issues, installers could instead draw from pre-programmed logic from within a library of manufacturer programming. Though additional adjustment and customization would generally be required for each project, starting from programming libraries could significantly streamline the programming process and improve quality.

Nevertheless, the use of G36 differs significantly from standard practice and its novelty and complexity are barriers to successful implementation. Table 1 also describes differences in HVAC control implementation with G36 and some of the common challenges with that approach.

Table 1. Challenges and Supporting Efforts Through the HVAC Controls Implementation Process

HVAC Controls Implementation Step	Conventional Process without Guideline 36	Conventional Process with Guideline 36	Current Efforts to Support Use of Guideline 36
Control sequence development	Designer provides brief sequences: • Only vague direction for programming • Does not ensure that code-required measures and other energy efficiency measures are included	G36 provides detailed sequences that support code compliance and energy efficiency: • G36 is long and complex, unfamiliar to most of industry, and a change from standard practices • G36 difficult to use • Customization may be needed for retrofit projects	• Software tools to facilitate use of G36 (ctrl-flow) • G36 Lite. Summary of key measures. Adapted measures. • Workforce training: classes, online trainings, and design guides
Control programming development	Installer adapts programs from a recent project: • May not follow project-specific intent • May not comply with latest codes or best practices • Custom modifications risk programming errors	BAS manufacturers offer libraries of G36 to their installers: • Significant effort required to program G36 if not using manufacturer libraries • Uncertainty about completeness or functionality of libraries • Possibility of inconsistent interpretations of sequences	• Code requirement to start with certified programming where applicable (CA Title 24) • Method of test to validate programming conformance with G36 (SPC 236)

Challenges for designers using Guideline 36.

A major barrier in the use of G36 is its length and complexity. Where conventional control sequences for a given piece of equipment might only consist of a few paragraphs, the corresponding sequences in G36 sometimes take up several pages or more. The overall guideline extends over 300 pages which may be overwhelming for users without familiarity. The scale of the guideline makes it difficult for new users to identify key energy measures. Retrofit applications are further complicated by the need to adapt either the sequences or the control infrastructure to be compatible, a process that is unfamiliar to many designers. The next section describes an effort titled “G36 Lite” which aims to highlight key energy measures within G36 and presents adapted versions of key measures that can be more readily implemented in retrofit applications.

The purchase of G36 provides access to the guideline in Microsoft Word software format where the conventional approach is to retain control sequences that apply to the specific equipment and control options for a specific application, deleting all other sections. The remaining control sequences can then be adjusted and supplemented as needed for other project-specific conditions that may not be directly supported by G36. The process of editing G36 to develop project-specific control sequences can be time consuming, tedious, and error-prone. The U.S. Department of Energy developed a free, online tool titled ctrl-flow that streamlines this process. The user indicates the desired equipment and control options in a simplified user interface, and the tool automatically generates the edited control sequences (Lawrence Berkeley National Labs n.d.). The current implementation supports the most common airside systems in G36, but ongoing efforts will expand ctrl-flow to include additional sequences in G36.

Challenges for installers using Guideline 36.

Even with perfectly developed high performance control sequences, projects face significant installation challenges due to the length and complexity of the sequences, and the need for programmers to review, interpret, and program the English-language descriptions into proprietary control programming languages.

Major BAS manufacturers have begun to program G36 centrally and some have released libraries of G36 control logic in their unique programming languages for use by their installers. The use of pre-programmed and pre-tested control logic offers the potential to improve quality control and to significantly streamline programming and testing efforts on individual projects.

These G36 programming libraries are not yet widely used and anecdotal feedback from some early applications indicates that some G36 libraries are incomplete and/or not robust. The 2025 version of the California Building Energy Efficiency Standards (Title 24) prescriptively requires the use of G36 for a handful of energy measures (California Energy Commission 2025). Title 24 also requires that applicable control programming start from a G36 programming library that is certified by the California Energy Commission. The current certification consists of a self-attestation that programming is provided for a list of control sequences and supporting documentation to demonstrate a good-faith effort. This is an important step that compels manufacturers to develop G36 programming libraries that can be made available to installers across the country, not just in California, and compels installers to also use these libraries at least as a starting point. Nevertheless, in the absence of an objective test standard, it is difficult for users to know whether manufacturer G36 programming libraries are complete, robust, and conform with the intent of G36. A later section below discusses efforts underway to develop an objective test standard.

The On-Ramp: G36 Lite

G36 is highly detailed and unfamiliar to most practitioners. That level of complexity and detail is inherently necessary to achieve the intended high performance and to comply with increasingly stringent energy and ventilation code requirements. Nevertheless, there is a significant barrier for new users to gain familiarity with the most important control strategies within the guideline. For applications where project teams wish to incorporate some of the key G36 energy measures rather than the whole of G36, there is a need for guidance on what sequences are most important. Though many field and simulation studies have evaluated the energy impact of upgrading all of the control to G36, much less work has focused on the impact of individual measures within G36.

80 percent of the buildings that exist today will still be around in 2050 (Grainger 2022). To make an appreciable improvement in energy consumption within the building sector, energy efficiency retrofits of existing buildings must also be prioritized. Improving the control of HVAC systems in existing buildings represents a large opportunity for savings but, in many cases, replacing the entire control system or all of the control programming may not be feasible. Better guidance on the most impactful measures can improve applicability and scaling of G36 to existing buildings through retro-commissioning and retrofit projects.

Key Measures in Guideline 36

One goal of "G36 Lite" is to leverage recent and past field demonstrations and simulation studies, as well as expert knowledge of G36 to identify a short list of energy measures that provide the best opportunity for energy savings, in terms of energy savings potential, ease of implementation, and prospect for scaling (Cheng, Breda, and LaPalme 2026). Common energy measures like supply air temperature (SAT) and duct static pressure (DSP) reset that have long been required in building energy codes are included based on the strategies outlined in G36. These measures have been well established and the control logic is relatively straightforward to implement, particularly where existing trim and respond logic (such as with pre-programmed blocks) can be leveraged. On the other hand, energy measures, like airside economizer control, that are deeply intertwined with other equipment control or have equipment-specific variations are omitted because of the complexity for implementation.

Table 2 provides a list of 10 energy measures within G36 that provide significant energy savings potential and some degree of ease of implementation. The list of measures focuses on airside control strategies where there is a larger opportunity for scaling across a wide range of building types and sizes. Energy measures for chilled water plants will tend to be limited to larger buildings, of which there are comparatively few. Most of the measures are required either explicitly or in concept by building energy codes (ANSI/ASHRAE/IES 2022, International Code Council 2024, California Energy Commission 2025). Some of the energy measures have been evaluated in isolation in simulation (Pang, Piette, and Zhou 2017). Some of the energy measures have also been evaluated in isolation in field studies, such as dual maximum variable air volume (VAV) logic (Arens et al. 2015), DSP reset (Zhou 2017), and occupied standby (Pang et al. 2020). A comprehensive energy analysis is currently in progress to evaluate the energy impact of these measures, along with others in G36, using EnergyPlus with Python EMS across a parametric analysis of different building types and climate zones (Lu et al. unpublished). One factor that is of particular note is the variability in energy savings for each measure across different climate zones. For example, the dynamic minimum outdoor airflow setpoint measure is one of the most impactful energy measures in colder and warmer climate zones but only offers a minor benefit in mild climate zone 3C where airside economizer hours dominate. In contrast, supply air temperature reset provides the most significant benefit in climate zone 3C with reduced benefit in more extreme climate zones.

Table 2. Key Energy Efficiency Measures in Guideline 36

Energy Measure
1. Dual maximum VAV logic with low minimums
2. Duct static pressure reset with trim & respond logic
3. Supply air temperature reset with trim & respond logic
4. Optimum start and morning warmup
5. Demand controlled ventilation
6. Occupied standby
7. Zone heating and cooling setpoints with demand levels and limits
8. Dynamic minimum outdoor airflow setpoint
9. Chilled water supply temperature reset with trim & respond logic
10. Hot water supply temperature reset with trim & respond logic

A few of the measures are described briefly here but each of the measures is described in more detail in Cheng, Breda, and LaPalme (2026).

Dual maximum VAV logic with low minimums.

Dual maximum VAV control logic sets a low minimum airflow limit in deadband equal to the zone ventilation requirement and then ramps up the flow in both heating and cooling modes (Taylor, Stein, Paliaga, and Cheng 2012). The minimum is often as low as 10 to 15 percent of the maximum. Compared to traditional single max logic where the minimum is often as high as 30 percent, this approach significantly reduces simultaneous heating and cooling and reduces the risk of overcooling of spaces with low cooling loads, with measured field savings of up to 20 percent HVAC energy (Arens et al. 2015). Dual maximum VAV logic also controls the reheat to maintain the discharge air temperature at setpoint, with a maximum limit to prevent stratification in heating. It has been required in some building energy standards since 2008 (California Energy Commission 2025) but is still often overlooked in designs for new construction (Singla et al. 2023) and in retro-commissioning despite being one of the most impactful measures in VAV systems.

Duct static pressure reset with trim & respond logic.

Duct static pressure reset is an approach that reduces fan energy to the minimum required to satisfy zone airflow demand (Taylor 2015). Where VAV reheat systems inherently have some inefficiency with fans generating pressure and VAV dampers “chewing up” excess pressure to meet individual zone airflow requirements, static pressure reset can significantly reduce the amount of wasted fan energy compared to operating with a fixed pressure setpoint. Field demonstrations have measured fan energy savings of up to 35 percent compared to operating with a fixed setpoint (Zhou 2017). Though this setpoint reset logic involves compiling feedback from all associated zone dampers, strategies are available to minimize control network traffic or avoid the need for zone level re-programming if needed.

Occupied standby.

Occupied standby is a control strategy that sets back ventilation and temperature control setpoints when a zone is scheduled to be occupied but is sensed to be vacant. Where ventilation standards previously required area-based ventilation during periods of expected occupancy, occupied standby relaxes that requirement for most occupancy types, and energy standards now widely require the use of occupied standby where allowed. When a zone is sensed to be vacant, such as by a motion sensor, occupied standby reduces zone ventilation requirements to zero, sets back zone heating and cooling temperature setpoints by 1 to 2°F, and reduces the system outdoor airflow setpoint by the corresponding amount. In simulations of a medium office building, occupied standby reduced HVAC energy use by 20 to 50 percent across the range of ASHRAE climate zones (Pang et al. 2020).

Adapting Guideline 36 to Existing Building Systems

G36 is largely written with new construction applications in mind. The HVAC equipment types and control approaches supported in G36 presume current best practice and code minimum compliance, which limits the direct applicability to existing building systems. Existing buildings may utilize different HVAC system types that are no longer common or code compliant for new construction (such as constant air volume reheat systems) and control configurations (such as return fan control through speed tracking) that are not directly supported by G36. The real and perceived incompatibility between G36 and retrofit applications is a major barrier to adoption. However, G36 is not necessarily meant to be turnkey. The sequences and control strategies in G36 can be adapted and successfully applied to other HVAC system types and configurations. Field demonstration studies have not only shown that G36 can be applied to existing buildings but that its measures can cost-effectively achieve substantial HVAC energy savings of up to 60 percent in retrofits (Cheng, Singla, and Paliaga 2022) and up to 20 percent with portions of the sequences are applied in retro-commissioning (Arens et al. 2015). More guidance is needed to support industry with applying G36 to typical existing building conditions.

Another aspect of the G36 Lite effort focuses on identifying and adapting control strategies from G36 for application to typical existing HVAC equipment and control configurations (Cheng, Breda, and LaPalme 2026). A retrofit design guide highlights the key measures with concise summaries along with supporting data, tools, and resources. Where experienced designers may apply engineering judgment to recommend solutions for each opportunity, decision matrices and recommendations in the design guide will help steer users toward applicable approaches from among a range of possible implementation options based on consideration of the surrounding project context such as system age and project budget. Table 3 presents an abbreviated set of adapted measures from G36 for a range of typical HVAC systems.

Table 3. Example of Guideline 36 Measures Adapted for Existing Building Systems

HVAC System Type	Control Aspect	Adapted G36 Strategy
Multiple Zone VAV Air Handling Unit	Outdoor airflow (OA) setpoint determination	Reset OA setpoint based on design values to Zone Groups. G36 dynamically determines the OA setpoint based on the sum of zone requirements. Where zone-level work is not in scope or calculations are not practical/justified, the OA setpoint logic can be greatly simplified but still improve on a fixed minimum damper position or fixed OA airflow setpoint.
	Supply air temperature (SAT) and duct static pressure (DSP) reset	Trim and respond (T&R) setpoint reset for SAT and DSP reset is often implemented with a portion of the control logic residing on zone-level controllers to generate “requests” based on cooling loop output and VAV damper position, respectively. If zone-level re-programming is not in scope or not feasible (e.g., configurable-only controllers), T&R can still be implemented with a supervisory controller polling the zones and generating requests at the supervisory level.
Multiple Zone Constant Air Volume (CAV) System	SAT setpoint reset	SAT setpoint reset for VAV systems aims to balance the minimization of cooling, heating, and fan energy in G36. That approach resets the setpoint based on zone demand and outdoor air temperature. For a CAV system, the fan energy is fixed so the optimal SAT setpoint strategy needs only consider zone demand to minimize cooling and reheat energy.
Single Fan Dual Duct (SFDD) System	Economizer high limit	In a SFDD system, a common airside economizer and supply fan serve both the hot and cold duct networks. Enabling the airside economizer reduces mechanical cooling energy but at the same time may increase heating energy under some conditions. A modified economizer high limit strategy that considers the ratio of hot and cold duct airflows and energy costs can be used to improve energy performance.
	SAT setpoint reset	Normal T&R SAT setpoint reset can be applied to the hot and cold duct setpoints.
VAV Reheat Terminals	Dual maximum VAV logic	Where existing VAV control uses single maximum logic, some programmable and configurable controllers are capable of dual maximum but only configured with maximum and minimum limits, with the latter used for both heating and minimum. Dual maximum control can be achieved by revising the minimum limits and can still be effective even if there is no discharge air temperature sensor.

The Fast Lane: Method of Test for Guideline 36 Programming

Achieving broad adoption and successful application of G36 will depend on leveraging economies of scale around standardized implementations of the G36 sequences. Design guides and software tools can support the development of project-specific sequences from among the collection in G36, but interpreting the English-language sequences into control programming is a high-effort and high-risk process. Industry standardization around G36 allows for that control logic to be programmed and tested centrally, mostly by BAS manufacturers, so that individual programmers do not need to do so for every application. Some BAS manufacturers developed and released libraries prior to 2026 but the comprehensiveness, quality, and adherence to G36 were unknown. Studies have also reported that many installers are resistant to using manufacturer libraries, citing uncertainty about quality and differences in programming styles, preferring instead to adapt familiar programs to new applications (Singla et al. 2023). Codes and standards requirements, like Title 24, can drive the development of G36 programming libraries and encourage their use, but objective testing is needed to ensure that the libraries are robust and conform with G36, spur the use of these libraries, and help fully realize the potential of industry standardization around G36. Robust programming libraries offer the opportunity to significantly streamline implementation as well as improve quality compared to current practice.

A previous study identified an automated, bench-scale testing approach (concept shown in Figure 1) and successfully piloted that approach for a basic series of tests on a VAV reheat control program (Cheng, Singla, and Paliaga 2022). The approach involves computer-based testbed with a network connection to a physical BAS controller hosting the program to be tested. The testbed software reads from a set of scripted input overrides and expected responses from a data file, then communicates the overrides (writes) to the BAS controller to simulate a range of operating conditions. The testbed software monitors the responses from the controller and compares them to the expected responses to reach a pass/fail determination at each time step. The testing advances through a series of stepwise tests to exercise the control programming through the full range of operating conditions to determine conformance with G36 programming.

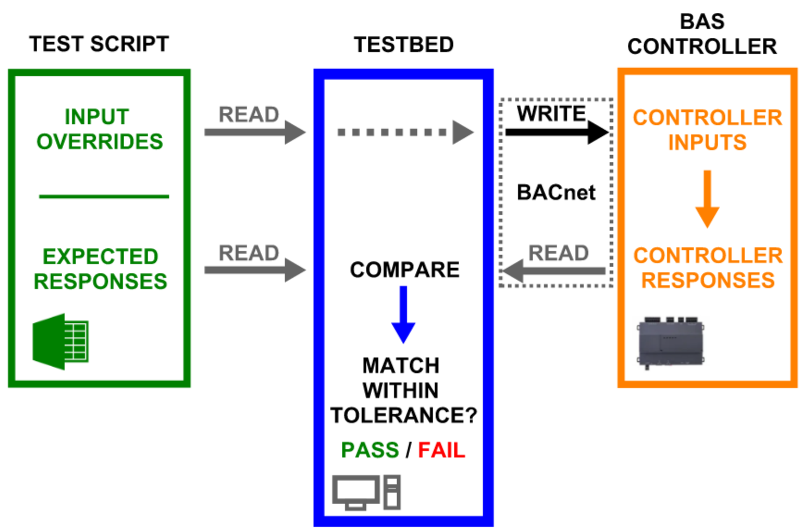

Figure 1. Testbed approach.

Our effort builds upon the initial proof-of-concept, expanding the test architecture, refining the test definitions, and building out comprehensive test script procedures. The full process is described as part of a comprehensive method of test (MOT) (Cheng et al. 2026). A flow chart of the test process is shown Figure 2. The test procedure takes as inputs:

- Test Configuration. This file indicates user selections of which tests to run.

- Pre-Set Parameters. A definition of control parameters that must be set to expected values on the controller for a successful test. These parameters are generally set to the default values listed in G36.
- Point Mapping Index. A list of control points that must be exposed for reading and writing through BACnet communication. The user provides input data to map the points to the intended targets on the controller.
- Test Scripts. Detailed test procedures arranged in a spreadsheet format. At each time step, every control input is explicitly described to define a specific test condition along with expected results for all monitored control outputs.

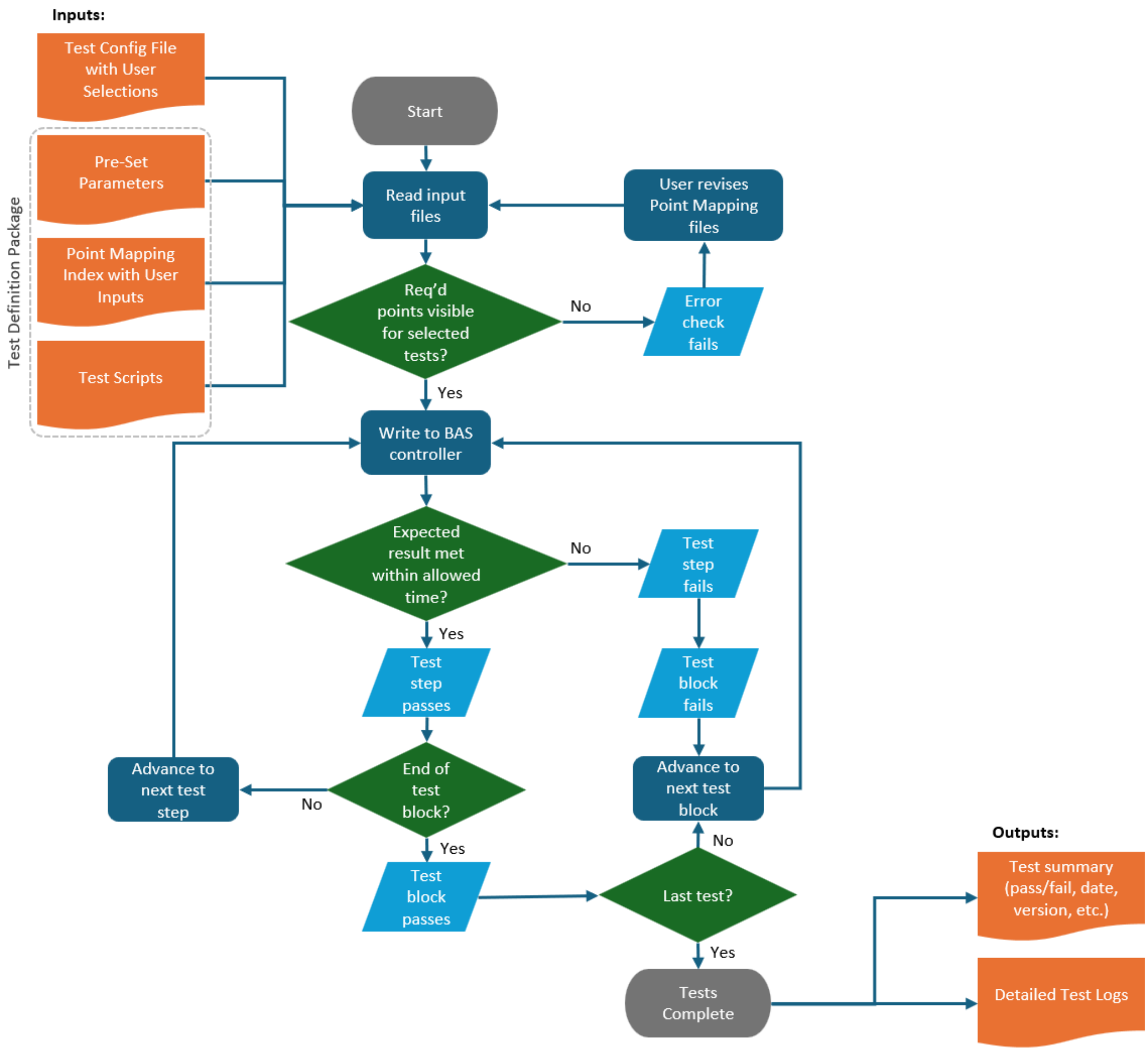

Figure 2. Testbed flow chart.

Test steps proceed sequentially with incremental changes in input conditions written to the controller. The controller responses are read by the testbed and evaluated against expected values to determine a pass/fail result for each step. Groups of individual test steps are organized functionally as a "test block" for convenience during testing. The first step in each test block is an initialization step that allows the controller to reach a known state, independent of history, before testing and evaluation begin. Subsequent test steps within the block continue from conditions in the previous step. At the conclusion of the tests, output files provide a summary of the overall test result and a detailed time-series reporting of all of the monitored control points for detailed review.

The MOT was developed in conjunction with further pilot testing using two software tools. The Functional Performance Test Module (FPTM) is a Windows-based computer program that was developed and modified by the National Institute of Standards and Technology (NIST) to support this test development (Milesi-Ferretti, Galler, and Bushby 2019). The FPTM was iteratively developed along with the test procedures and test scripts while being evaluated against a BAS manufacturer's G36 VAV reheat control program. In parallel, the Building Technologies Office of the U.S. Department of Energy (DOE) is developing an open-source testing software that leverages the same MOT procedures (Lawrence Berkeley National Laboratory and Pacific Northwest National Laboratory, n.d.). The DOE tool will be capable of simulation-based testing of control logic as well as testing of logic hosted on a physical controller via BACnet.

The evaluation of a monitored control point at every step is considered an individual test and the test passing rate over time with the FPTM is shown in Figure 3 for four sets of test blocks for a VAV reheat program. The tests largely reflected false negative results with most failed tests caused by control points that were incorrectly mapped, software implementation issues, test script and procedure issues, and/or controller configuration issues. Over time, as the various implementation issues were identified and overcome, the passing rate for each block of tests exceeded 90 percent. The remaining failed tests included correctly identified instances where the controller response did not match the expectation within a specified tolerance. Other failed tests still include additional software and testbed implementation issues that need continued review and resolution.

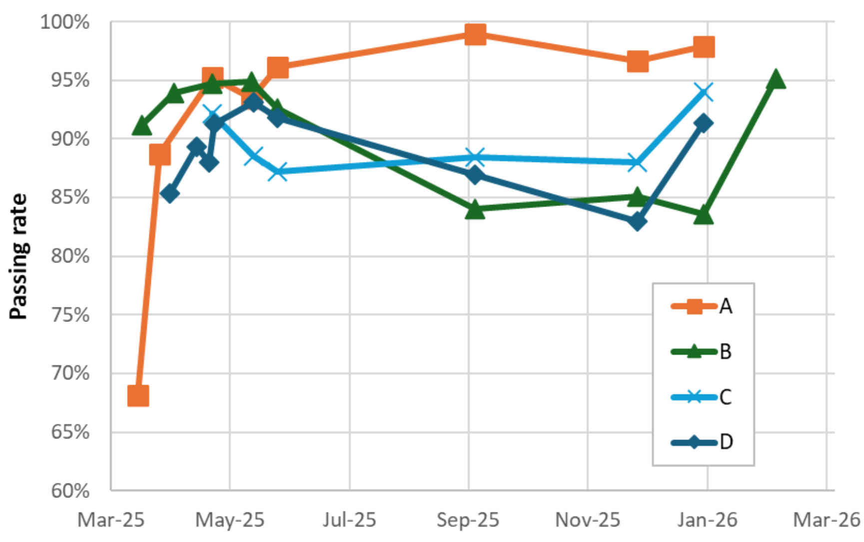

Figure 3. Pilot test results with the FPTM for four blocks of tests on a VAV reheat program.

The BAS manufacturer's G36 VAV reheat control program was lightly modified at the beginning of the effort to support the testing process. For example, many required control points were not network visible or writeable points, a several minor control points were missing from the control logic, and one programming block needed to be replaced with basic programming to allow for a required control point to be writeable. The point mapping step was repeated for another manufacturer's VAV reheat control program with a comparable number of points that could be readily mapped and others added without significant issue.

Stakeholders were engaged and frequently updated throughout the development of the draft MOT, particularly ASHRAE Standing Guideline Project Committee 36 members and BAS manufacturers, with feedback informing development efforts. With strong support from stakeholders, a new ASHRAE standard committee was established in 2026: Standard Project Committee (SPC) 236 *Method of Test for Control Programming Conformance with HVAC Sequences of Operation*. SPC 236 will be responsible for overseeing the development and publication of the MOT as a future ASHRAE standard.

Conclusions and Recommendations

G36 Lite offers a user-friendly introduction to the full guideline, with concise overviews of each of the key energy efficiency measures. Powered with the understanding of the most important elements in G36, inexperienced users should be better equipped to apply G36 to different project circumstances. In particular, G36 Lite enables users to focus attention on the most essential measures and provides a roadmap for more easily applying concepts from G36 to existing building systems through retrofits and retro-commissioning efforts.

A rigorous MOT for validation control programming conformance with G36 will raise confidence in and support the use of manufacturer G36 programming libraries. For manufacturers, the MOT will also provide a clear development objective and help ensure consistency across different platforms, even when used in a voluntary context. The draft MOT described has already been used by some manufacturers to support their G36 programming library development and certification with California Title 24 requirements. More work is needed to continue development of the MOT and to expand pilot testing to G36 programs from additional manufacturers. Future publication of the MOT as an ASHRAE standard will pave the way for G36 control approaches to be integrated into codes and standards through its associated control programming. Combined, these efforts are expected to accelerate the successful adoption of G36 into standard HVAC control practice.

The envisioned use of G36 at scale with designers providing detailed high-performance control sequences and installers leveraging manufacturers' programming libraries that have been independently validated would be a major shift from conventional industry practices. Efforts like G36 Lite and the MOT are two significant efforts that can help support this shift, along with others, to transition toward a more consistent future of high performing HVAC control systems.

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