



A Central Nonresidential Data Registry/Repository

CEA recommendations to support improved compliance and enforcement of California's Building Energy Efficiency Standards

Summary

In 1978, the California Building Standards Commission created the Building Energy Efficiency Standards (BEES or Energy Standards) to reduce the energy consumption of commercial and residential buildings. Acceptance testing, which includes a series of construction inspections and functional tests for certain types of nonresidential building equipment, was added to the Energy Standards in 2005. Acceptance testing (AT) is designed to ensure that equipment is installed and operates in compliance with Energy Standards requirements. While the AT program is conceptually sound, in practice, it is hampered by significant and ongoing challenges that continue to undermine its energy savings ability. Central to these challenges is the ongoing and pervasive use of non-compliant building designs coupled with inconsistent enforcement of acceptance testing requirements at the local level.

We believe these issues could be permanently resolved through development and use of a Central Nonresidential Data Registry/Repository (CNDP). The CNDP would store and make available all completed Energy Standards compliance, installation, and acceptance test forms and information required for each regulated construction project in California. This would provide a centralized solution for document access by authorized individuals. The CNDP would provide transparency on design and construction practices, give authorities having jurisdiction (AHJ) one central repository for viewing all completed compliance documents, facilitate identification of non-compliant projects, and highlight gaps in regional enforcement.

Background

Currently, AHJs receive Energy Standards compliance documents from multiple sources during different phases of the project. This includes acceptance test forms, which are completed at the end of the construction phase prior to issuance of the occupancy permit.

To support the acceptance test process and its specific certification requirements, each Acceptance Test Technician Certification Provider (ATTCP) utilizes a proprietary, secure, AT project database that is accessible to relevant program stakeholders. These ATTCP databases house information on each project initiated and completed by its certified acceptance test technicians (ATTs), and are also used for quality assurance, program oversight, and other business purposes within the individual ATTCP programs. While proprietary, each ATTCP developed its database with the overarching intent of aligning with the data registry requirements as defined in Joint Appendix JA7 of the Reference Appendices. However, the current Energy Standards do not require use of such a database, they do not require an ATTCP database, when used, to be compliant with JA7, nor do they include specific requirements pertaining to interaction of a JA7 compliant data registry with an ATTCP database.

As part of its 2022 Energy Standards update, the California Energy Commission is considering mandatory requirements for use of ATTCP database systems, and development and use of a JA7-compliant data registry to centralize, collect and store project and acceptance testing information from each ATTCP database. The Energy Commission cites multiple benefits of shared database access for staff as well as AHJs, and recognizes there are several potential database and data registry integration methods to consider.

During a recent workshop held on March 10, 2020, CEC staff presented multiple benefits it envisioned from accessing ATTCP databases including:

- Improved CEC support for ATTCP quality assurance programs
- Improved access to printed and electronic copies of completed acceptance test forms for AHJs
- Creation of verification tools for AHJs including services to validate submitted acceptance test compliance documents
- Ability to track proposed versus completed acceptance tests

Energy Commission staff also briefly discussed development of a centralized JA7-compliant data registry for acceptance testing (NDR-ATTCP) and its impact on existing ATTCP programs and databases. Upon its development, a nonresidential certificate of acceptance would be valid only if registered in the NDR-ATTCP.

Staff presented three options for registry development and interaction with ATTCP databases: 1) Develop a new NDR-ATTCP and require each ATTCP to utilize the registry as an authorized user, 2) Develop a new NDR-ATTCP, require the ATTCP databases to comply with JA7, and certify each as an optional data entry system for the NDR-ATTCP, and 3) Develop a new NDR-ATTCP, and add a section to JA7 that specifies the data exchange between the ATTCP database and the registry.

Recommendations

After reviewing the three options presented, the undersigned ATTCPs support an approach to develop a Central Nonresidential Data Registry/Repository (CNDR) to collect and store information from all phases of the compliance process, not just acceptance testing. In addition, we support development of a data exchange schema as part of JA7 for acceptance test information given that ATTCPs have already developed database systems that perform the majority of data registry functions.

We believe that it makes sense for the ATTCPs to continue using their established databases for program quality assurance, certified technician and employer accountability, and other ATTCP business purposes. We do not support a system where an ATTCP relies solely on a NDR-ATTCP. Establishing a process and requirements where the NDR-ATTCP provides all ATTCP functions including quality assurance would be duplicative, create unnecessary delays in program execution and oversight, be unnecessarily complicated, and increase costs to both the State and the ATTCPs.

Creating a CNDR, operated by the CEC, would provide an expeditious solution that avoids the costs and complexity of establishing a duplicative AT-specific registry, and, instead, provides a comprehensive system that provides a consistent solution for compliance and enforcement across all phases of a project (compliance, installation and acceptance testing). The CNDR would provide the accessible dataset necessary for establishing systematic methods to hold responsible parties accountable for project compliance. In particular, use of single CNDR will resolve the most significant AT compliance and enforcement challenges by improving visibility of and access to AT documents that demonstrate compliance by design and construction teams, facilitating better enforcement by cities and counties, while serving as a tool for education and outreach by stakeholders tasked with program oversight.

In the short term, we support starting with development of an AT data exchange for JA7, which would keep the individual ATTCP databases intact, but require certain information to be exchanged with the CNDR. The AT data exchange will specify how and in what form authorized entities upload pertinent information to the CNDR including project addresses, permit numbers and acceptance form information. Then, as part of future work and in collaboration with industry, we support development of a registry that requires submission of compliance and installation forms. This could be accomplished by submitting information on a project-by-project basis to the registry directly or through third-party platforms, similar to what the ATTCPs have done. The latter option requires that additional data exchanges for compliance and installation information be added to JA7. Ultimately, the CEC will have provided a single, comprehensive data registry/repository with the potential to dramatically improve compliance and enforcement programs.

In summary, the CEA and member ATTCPs support the following:

1. Combine proposed data registry and repository functions into a central nonresidential data registry/repository platform (CNDR) for all phases of construction – a universal data registry/repository.
2. Utilize the 3rd option presented by the CEC at the March 10th meeting in regard to AT data exchanges and ATTCP database access as modified: Add new requirements to JA7 to describe the authorized data exchanges between an ATTCP and a universal CNDR platform.
3. Develop future data exchanges and possibly other registry options for compliance and installation forms and information.
4. The CNDR should be run by the CEC, not a third-party.

We recognize that the CEC faces constraints on time, money and resources in building and operating a registry. As such, there is mutual benefit in solutions that are economical and non-redundant. The undersigned ATTCPs are committed to working with the CEC on systematic approaches to access ATTCP database information that take into account functional and financial impacts to the existing databases that ATTCPs developed before the creation of a central NDR. We commit to reasonable utilization of our databases as a tool for creating and testing the larger CNDR.

We feel that moving forward with these recommendations will improve enforcement of Title 24, Part 6 requirements, provide greater oversight, increase the accuracy of project documentation and lead to universal compliance, which is the ultimate mutual objective of the ATTCPs and the Energy Commission.

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