## Codes & Standards Utility Program Comments on Alternative to NDR Staff Report

*Additional submitted attachment is included below.*

**Date:**   March 12, 2021

**Subject:** <span style="color:green">**Response to Staff Report | Docket 19-BSTD-03**</span>
<span style="color:green">Nonresidential Data Repository for the 2022 Energy Code:</span>
<span style="color:green">Alternative to the Data Registry for Acceptance Test Technician Certification</span>
<span style="color:green">Providers</span>

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This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE) in response to the Nonresidential Data Repository for the 2022 Energy Code staff report docketed February 26, 2021. The signatories of this letter are collectively referred to herein as the Statewide Codes and Standards Utility Program.

The Statewide Codes and Standards Utility Program is funded by California utility customers under the auspices of the California Public Utilities Commission and saves energy on behalf of ratepayers. The Program aims to influence continuous improvements in energy efficiency regulations, improve compliance with existing codes and standards, work with local governments to develop ordinances that exceed statewide minimum requirements, and with other programs in the portfolio to coordinate activities.

The Compliance Improvement[1] team, within the Statewide Codes and Standards Utility Program, submits the following comments on the proposed alternative to the Nonresidential Data Registry (NDR) recommended in the staff paper[2]. The implications of the proposed changes may significantly impact the State's ability to collect quality project data in the repository and further complicate the compliance process for the building industry. This response to the staff paper includes several issues with the implementation of the recommended proposal as well as reasons we support a modified Option 3.

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[1] The Compliance Improvement program develops and maintains code compliance tools, training, and resources via the online platform EnergyCodeAce.com

[2] Docket 19-BSTD-03.  Nonresidential Data Repository for the 2022 Energy Code: Alternative to the Data Registry for Acceptance Test Technician Certification Providers.  Published February 26, 2021.

## Implementation Issues with Recommended Proposal

Based on our work with the market actors who participate in the compliance process, we have identified the following issues that will likely add complexity for designers, energy consultants, plans examiners, and acceptance test technicians:

### Submitting NRCC and NRCI Forms to Several ATTCPs

The proposal to expand the authority of Acceptance Test Technician Certification Providers (ATTCPs) to collect and store all compliance documents relative to its area of expertise instead of registering them with an NDR would require designers and energy consultants to submit documents to several ATTCPs. The staff paper indicates intention for the ATTCP program to cover envelope, plumbing, covered process, solar and electrical in the future. This could mean up to five additional ATTCP areas of expertise, beyond the current mechanical and lighting. Instead of registering all NRCC documents with one NDR provider, registering with various ATTCPs could unnecessarily add complexity for design teams.

### Duplicate Registration of NRCC forms

The primary issue stated in the staff paper is the duplicate cost associated with registering documents with both an ATTCP and NDR; we agree this duplication should be avoided. However, under the recommended proposal, projects using the performance path to comply would require duplicate registration with ATTCPs. The NRCC-PRF form covers all components included in the model, which often entail envelope, lighting and mechanical. Additionally, projects such as multifamily that require both HERS verifications and acceptance tests for mechanical systems would also require duplicate registrations with ATTCPs and HERS Provider's registries.

### Added Complexity in Verifying Registration

Currently, plans examiners are used to confirming document registration for residential documents by looking for a footer applied to the form when it's been registered. The same verification process would be usable if NRCC documents are registered with an NDR. If instead the NRCCs are submitted to more than one ATTCP/ HERS Provider, plans examiners would need to verify the NRCC has been submitted to all relevant ATTCPs, which may be difficult without the form being able to apply a footer from all the ATTCP systems. The alternative would be to discontinue the verification by the plans examiner, which would risk projects being issued construction permits without NRCC data being captured in the repository and ensuring the NRCC data is in the system where it could be used during the construction phase.

### Document Submission is Not Data Collection

The staff paper mentions the use of schemas and data dictionaries as a complex and structured approach and implies that using an API to transfer data from ATTCP databases to the repository would not require the use of schemas or data dictionaries. This may be the case for the data from the NRCA forms but capturing a static pdf or image of the NRCC and NRCI forms will not provide data to the repository without a post-processing effort to convert the document into data. Getting consistent data from

several ATTCPs, HERS Providers or NDR providers requires defining a detailed data exchange specification that everyone uses, which is what the existing NRCC schemas do per the requirements in Joint Appendix 7 (JA7).
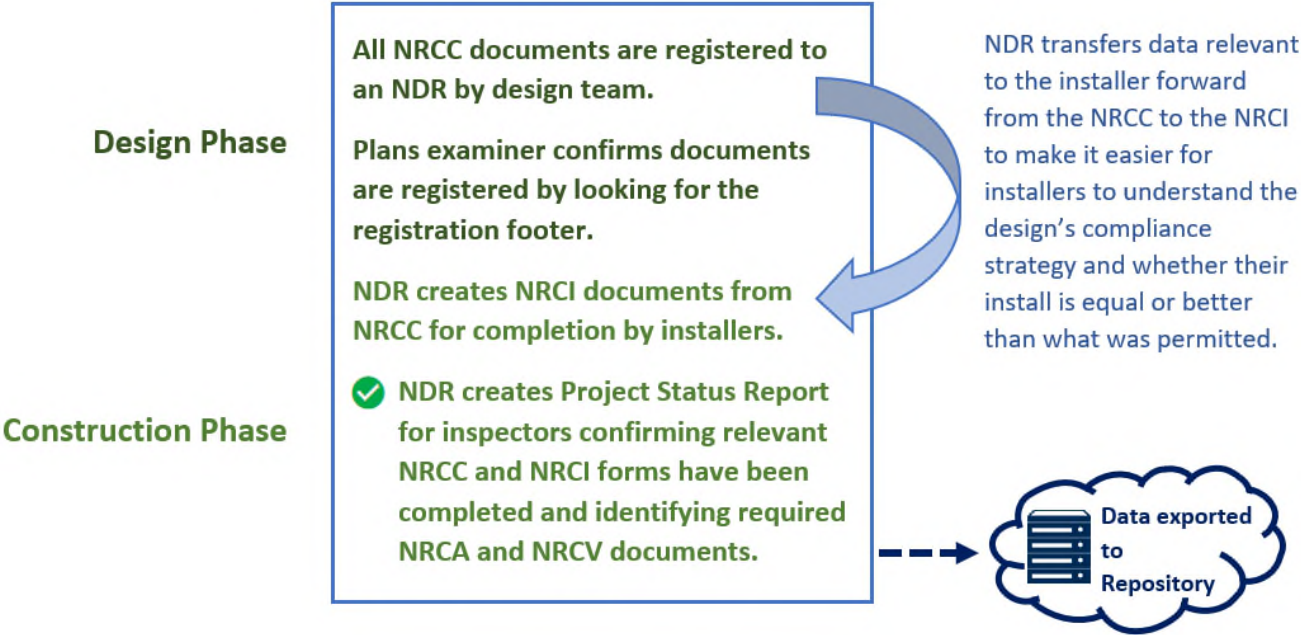
## A Modified Option 3

Another option presented in the staff paper is to define and allow data exchange between the ATTCP and the NDR. This could be a viable option, if data exchange between the systems is even necessary. The NDR could be used to register all NRCC and NRCI documents only, thereby eliminating duplicate registration and simplifying the process for designers, energy consultants, installers and plans examiners. The relevant NRCA forms could be documented with the appropriate ATTCP (as they are now) and the relevant NRCV forms could be documented with the appropriate HERS Provider (as they are now). This would not require ATTCPs to develop user interfaces and data systems using schemas for NRCC and NRCI forms and would not require NRCA and NRCV forms to be registered with both the Provider and NDR.

This option would also not preclude the ATTCPs from gathering pdfs of the NRCC and NRCI forms to use in their QA process. But it would result in validation of the NRCC and NRCI data with the rulesets that are built into the schemas, allowing the forms to say "Complies" or "Does not comply", automating the verification of whether project data complies with the Energy Code.

In the staff paper, Option 3 outlines an opportunity for staff to work with ATTCPs and other stakeholders to describe data exchanges between ATTCP databases and an NDR. The staff paper notes it may be difficult to conduct within the constraints of the 2022 Energy Code rulemaking process. Implementing the above process would allow NDRs to be developed now, without additional investment from ATTCPs, while stakeholders work with staff to determine if data exchange is even necessary, and if so, the best way to accomplish it. Because schemas already exist for NRCC documents, and will soon exist for NRCI documents, this would likely be the quickest avenue to populating the repository with quality NRCC, NRCI, NRCA and NRCV data.

Figure 1 on the following page illustrates how Option 3 could work to provide quality data to the repository while also assisting market actors with their tasks in the compliance process.

**NONRESIDENTIAL DATA REGISTRY (NDR)**

**Design Phase**

All NRCC documents are registered to an NDR by design team.

Plans examiner confirms documents are registered by looking for the registration footer.

NDR creates NRCI documents from NRCC for completion by installers.

NDR transfers data relevant to the installer forward from the NRCC to the NRCI to make it easier for installers to understand the design's compliance strategy and whether their install is equal or better than what was permitted.

**Construction Phase**

✅ NDR creates Project Status Report for inspectors confirming relevant NRCC and NRCI forms have been completed and identifying required NRCA and NRCV documents.

Data exported to Repository

**ATTCP DATABASES**

**HERS REGISTRIES**

**Verification Phase**

NRCA forms are completed through their respective ATTCP databases by the Acceptance Test Technician.

✅ ATTCP databases create Project Status Reports for inspectors confirming relevant NRCA forms have been completed.

NRCV forms are completed through a HERS Registry by the HERS Rater.

✅ HERS Registry creates Project Status Report for inspectors confirming relevant NRCV forms have been completed.
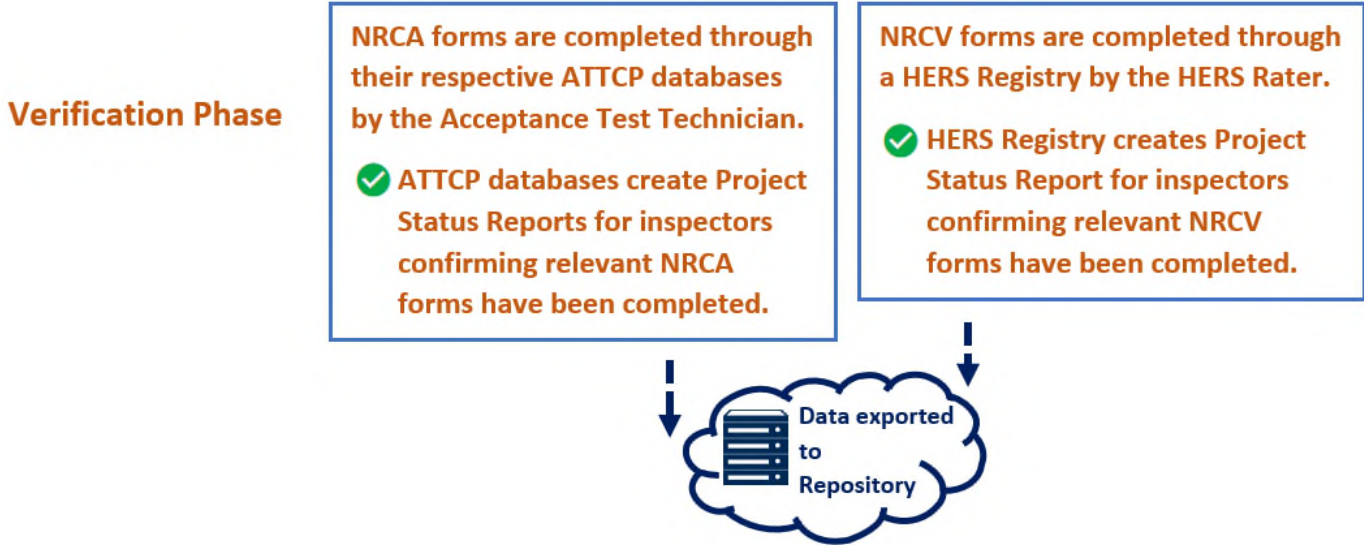
Data exported to Repository

FIGURE 1: Illustration of Option 3 within the building delivery process

## Option 3 Evaluation Criteria

The evaluation criteria in the staff paper for Option 3 lists a pass for all criteria except Construction Workflow, where it lists "Pass, with conditions". The summary from the staff paper is included below.

| Evaluation Criteria | Option Summary | Staff Evaluation |
|---|---|---|
| Construction Workflow | An NDR could make workflow smoother with the development of user training. Additionally, with the ATTCP database left intact, the support to the ATTs through the ATTCPs is also left intact and would promote better construction workflow. | Pass, with conditions |

FIGURE 2: Option 3 Construction Flow Evaluation Criteria from Staff Paper[3]

With the modifications to Option 3 suggested in this response, compliance in the construction workflow could improve for installers and would likely be a simplification over having NRCC and NRCI documents dispersed amongst several ATTCPs and HERS registries. The workflow could also improve for the inspector, by the NRCI being able to determine if the as-built conditions are equal or better than what was permitted, as well as the creation of the Project Status Reports.

[3] Nonresidential Data Repository for the 2022 Energy Code Staff Report.  Docket 19-BSTD-03.

https://efiling.energy.ca.gov/GetDocument.aspx?tn=236937&DocumentContentId=70095

Thank you for considering these comments regarding this very important decision. The nonresidential data registry, and other aspects of the nonresidential e-infrastructure, can be used to automate the compliance process making compliance faster and easier for market actors.

If data exchange specifications, data definitions and compliance rulesets are employed, complete and quality data can populate the repository and contribute to all the benefits listed in the staff paper, and likely many more. Most of the data exchange specifications, definitions and rulesets for nonresidential requirements in the 2019 Energy Code are completed and ready for use by a nonresidential registry provider.

In summary, the modified Option 3 illustrated in this response could provide the following benefits that would not be accomplished by the proposed alternative:

- Streamlined, consistent process for market actors
- Compilation of actual data that can be searched, sorted, and filtered; not just images of static forms
- Improved project compliance through automated data checks and the accountability of uploading comprehensive documentation to a registry
- A robust data set that can be leveraged to identify compliance gaps, pinpoint industry trends, and inform policy decisions

We welcome additional discussion on this topic as the Energy Commission progresses towards the release of the 45-day 2022 Energy Code draft language. Thank you for your consideration of these comments.

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