2019 Q1 Codes and Standards Quarterly Newsletter

Codes Update

National Model Development: NEEA is participating in the 2021 International Energy Conservation Code (IECC) process, providing technical support and proposal development. NEEA has submitted 15 proposals in January 2019 (see 2018 Q4 report for details) and will participate in upcoming code hearings in April and October of 2019. Adoption is anticipated to be finalized by November 2019. NEEA will provide IECC development updates through the state Code Collaboratives and CCE funder engagement.

Washington

Commercial Code: The Washington commercial code development process started in Q1 2018 and NEEA has stayed engaged throughout the process. In Q4, the State Building Code Council (SBCC) held two public hearings concerning the commercial energy Code and proposal review by the Energy Technical Advisory Group (TAG) and the SBCC members. The final SBCC meeting to determine the new WA Commercial Code is scheduled in April. NEEA will communicate the new Code requirements to stakeholders during Q3.

Residential Code: Washington State has begun the process of developing the integration of the Washington State Residential Code and 2018 IECC residential provision. The residential code amendment submittal window was open until April 15th, 2019. NEEA is working on several code change proposals and plans to submit the proposals prior to the submission deadline. Following the submission, two Technical Advisory Group (TAG) meetings will be held in Q2 and final recommendations will be made to the State Building Code Council. SBCC will then vote on the proposals to be considered at the public hearings. The public hearing is scheduled to be held in September 2019. NEEA staff serves as an alternate TAG member and will participate in the code development process and the TAG meetings.

Education and Training. NEEA continued to provide technical assistance and trainings on the current WA commercial and residential energy codes. The training attendees include design and construction professionals, building officials, plans examiners, home builders, contractors, field inspectors and fire marshals.

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In Q1, new training content was developed on the topics of building envelope control layers (air barrier, vapor retarder, weather barrier and insulation) and building enclosure testing. This training was delivered at the Washington Association of Building Officials (WABO) Annual Education Institute Conference in Lynnwood. Over 50 jurisdictional professionals attended this training. This educational content will be used to deliver a half day version for design and construction industry professionals later this year to help promote current and future air barrier requirements.

The residential energy code trainings delivered in Q1 are listed in the table below.

Location	Type of Training	Attendees	Date
Bellevue	WSEC* Training	26	1/30/2019
Bremerton	WSEC Training	16	3/19/2019
Olympia	Duct Testing Training	20	3/26/2019
Portland/HPC NW	WSEC Training	32	2/11/2019
Totals	**4**	**94**	

*WSEC: 2015 Washing State Energy Code (residential code)

Code Compliance Tool. NEEA continued to develop the new web-based WA commercial code compliance documentation portal. The technical support features of this website were publicly launched in February. As of the end of Q1, there were over 450 user registrations for this new tool with more registrations rolling in every day. Beta testing of the compliance documentation features are being initiated in early April and will continue through Q2. Programming updates and enhancements will be made in response to beta-tester feedback. Public launch of all features is scheduled to begin by the end of Q2.

Commercial Code Enhancement: CCE held the Q1 meeting on February 20th in Seattle. The topic of the meeting was using the Total System Performance Ratio (TSPR) tool in Utility programs. Washington utilities have expressed interest in exploring TSPR as a way to incentivize efficient commercial HVAC systems. Follow up items that will be discussed in the Q2 meeting include:

- Data sharing
- Upfront TSPR validation for utility energy savings
- Providing cost data for cost effectiveness
- Building out electric and gas baselines
- Including kWh and therm outputs

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- Identifying market potential and segmentation

Commercial Code Evaluation: The Washington Commercial Code Evaluation study (WCCE) has been kicked off. The study is focused on understanding how commercial new construction is being affected by current commercial code across the state. It will provide NEEA and its stakeholders information that will assist with code development and implementation (education and training) efforts by looking at which building systems are present, which compliance paths are being selected, and which code requirements are/are not being met. The project team has finished work on sample design and customer contact protocols. It is finalizing the data collection instrument, which will be tested in April. Data collection will begin in May and will be completed Q1, 2020.

Oregon

Commercial Code Update: The Oregon Building Code Division (BCD) proposed to adopt the ASHRAE Standard 90.1–2016 (in replacement of 2018 IECC) as the new Oregon commercial energy code, effective on October 1, 2019. The Oregon Building Code Structures Board approved BCD's proposal at its board meeting on February 6th, 2019. In addition, BCD issued a Notice of Proposed Rulemaking Regarding Oregon Commercial Energy Code. NEEA provided written testimony to support the adoption of Standard 90.1-2016 and provided suggested changes on the proposed rule.

Education and Training: NEEA continued to provide technical assistance and trainings on the current Oregon commercial and residential energy codes.

The residential energy code trainings delivered in Q1 are listed in the table below.

Course	Attendees	Course	Attendees
Designing for the Future	28	Solving Energy Code Problems	115
Building Science Fundamentals	30	HVAC and the Energy Code	96
Making Sense of the Energy Code	33	2017 Energy Code Changes	159
Durability and Water Management	32	Thermodynamics	26
Moisture Management	35		

Commercial Code Enhancement: CCE held the Q1 Oregon meeting on February 14th with the Energy Trust. Key topics included updates on Oregon's new Commercial Code development and Data Sharing.

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- **OR Commercial Code Development:** Oregon has approved ASHRAE 90.1-2016 for its new commercial code with the tentative effective date of October 1, 2019. CCE will continue tracking the development of the new code adoption and implementation timelines and support the Energy Trust in revising program baselines.
- **Data Sharing:** CCE and Energy Trust will use Energy Trust New Buildings program data to track market adoption of above code measures and inform future code proposals. CCE will look into providing Energy Trust with 90.1 technology pipeline, in effort to align Energy Trust programs with future versions of 90.1.

Commercial Code Evaluation: The Oregon Commercial Evaluation Code study (OCCE) is nearly completed. The objectives of this study were to develop a profile of building characteristics found in commercial new construction, to assess how well buildings were complying with code and to get a sense of how well these new buildings were performing. All data has been collected. The project team will review the data analysis prepared by the contractor in early April. A final report will be available by the end of May 2019.

Idaho

Code Development: Idaho Building Code Board (BCB) held a series of public meetings in January and February 2019 to discuss and review the 2018 I-Codes including 2018 IECC for both residential and commercial provisions. Idaho Energy Code Collaborative presented the major changes on 2018 IECC at the meetings. In addition, the Idaho Residential Energy Code Field Study results were presented to the Board to inform how the new homes were built in Idaho. Next Board meeting was scheduled on April 16, 2019. The final vote from the Board on amendments and adoption of IECC will be held on August 20th, 2019.

Education and Training: The Idaho Energy Code Collaborative finalized a comprehensive energy code training plan for the state of Idaho that addresses current code requirements and prepares the market for upcoming 2018 IECC changes. An online request form and training calendar went live on March 1st, 2019.
Calendar - https://dbs.idaho.gov/programs/energy/calendar.html
Request Form - https://dbs.idaho.gov/programs/energy/training_request/

Idaho Trainings offered in Q1:
- IECC 2012/2015 Training (offered 4 times)
- Conditioned Crawlspaces (offered 5 times)
- Attic Ventilation (offered 4 times)
- Effective Air Sealing (offered 4 times)

Residential Code Evaluation: Pacific Northwest National Laboratory (PNNL) completed the report of the Idaho Residential Energy Code Field Study using DOE's methodology. The report was reviewed by NEEA and the Idaho Energy Code Collaborative. PNNL finalized the report by incorporating the review comments and published the final report in Q1.

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Commercial Code Enhancement (CCE): CCE participated in the Idaho Code Collaborative meeting on March 6th. Agenda highlights include:

- Agreement on a final draft of NEEA's Memo on the Residential Energy Code Field Study.
- Updates on 2018 IECC residential and commercial code adoption.
- Kicking off a five-year strategic plan for the Collaborative.

CCE is also exploring opportunities with the University of Idaho Integrated Design Lab to identify high performance commercial building projects in Idaho that incorporate above-code energy efficiency measures. These projects could be candidates for a case study to learn more about how they're exceeding code and the specific technologies and building strategies used.

Montana

Code Development: NEEA is participating in the Montana Energy Code Collaborative to prepare for the 2018 IECC adoption in Montana. The timeframe remains unclear, as membership for the Building Codes Advisory Council has not been determined. The Building Codes Advisory Council works cooperatively with representatives from the construction industry, as well as members from the interested public to develop, implement, and interpret the state building codes.

Education and Training: The Montana Building Codes Education conference will be held on April 22-25 in Bozeman. NCAT will facilitate two energy code related sessions. A commercial energy code session will be held the morning of April 25 and the topic will be ASHRAE 90.1-2016. At the end of the session about 20 minutes will be set aside for NEEA staff to discuss the Commercial Codes Enhancement effort. On the afternoon on April 25 NCAT will conduct a session on the residential provisions of the energy code.

Montana Trainings offered in Q1:

- Energy /Tax credit training
- Marketing Energy Efficient Features/Montana Energy Code

Residential Code Evaluation: PNNL completed the draft report on the Montana Residential Energy Code Field Study. The report was reviewed by NEEA and Montana Energy Code Collaborative members. PNNL is in process to finalize the report by incorporating all review comments. The final report was posted in early April.

Commercial Code Enhancement (CCE): Participated in the Montana Code Collaborative quarterly call on January 21st. Updates included:

- 2018 IECC code are anticipated to be adopted by the end of 2019.
- CCE will present the program overview at the Montana Building Codes Education Conference in Bozeman, April 22-25.
- Brainstormed the following potential CCE Montana activities in 2019:

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- Build on the Montana State IDL Scanning Report with follow-up activities to highlight key projects or technologies.
- Track IECC changes proposed at the national level and report back to Montana Stakeholders.
- Develop a Montana Energy Code Roadmap.

Standards Update

Federal

- NEEA submitted comments to DOE in response to AHRI's petition for rulemaking related to furnace and furnace fan test procedures and energy conservation standards, which was published in the Federal Register on November 14th, 2018. NEEA commented that the proposed metric offered no benefit for reduced regulatory burden, would result in less efficiency, and would be costly and confusing for consumers.
- NEEA submitted comments to DOE in response to the Residential Furnaces and Commercial Water Heaters, Notice of Petition for Rulemaking. NEEA, NEEP, PG&E and National Grid submitted a report to DOE, *Investigation of Installation Barriers and Costs for Condensing Gas Appliances*. This report should facilitate DOE discussion concerning installation cost of condensing gas appliances.
- NEEA continues to be involved on ASRAC working group and subcommittee for the development of the VRF test procedure and standards level for DOE rulemaking. NEEA participated in the VRF ASRAC working group that met February 20 and 21st in Washington DC. NEEA has attended two 2-day subcommittee meetings (March 7 and 8th and March 27 and 28th) in Houston to discuss modifications to the 1230 VRF test procedure to make the test more representative of actual field energy use. Tentatively there has been an agreement with manufacturers to add operation tests used in Japan to reflect the control capability aspect of different VRF systems.
- NEEA attended a public meeting for NOPR for General Service Lamps (GSL) in Washington DC on February 28th. This NOPR changes the definitions of GSL to no longer cover GSIL (General Service Incandescent Lamps). If this NOPR is adopted, DOE would retain the existing statutory exemptions from the GSIL definition by withdrawing the revised definition of GSIL, which, among other lamps included as GSIL the five specialty incandescent lamps (rough service lamps, vibration service lamps, 3-way incandescent lamps, high lumen lamps and shatter-resistant lamps). This roll back in definition of GSILs as GSLs will result in the loss of planned standards savings captured in the 7th power plan on the order of 200 average mega-Watts over 20 years. NEEA will provide written comments to DOE concerning this GSL NOPR.
- DOE issued notice of proposed rulemaking (NOPR) for procedures for use in new or revised energy conservation standards and test procedures for consumer products and commercial/industrial equipment (the "Process Rule") on February 13th. NEEA attended DOE's public meeting on the Process Rule on March 21st. DOE was not able to cover all the topics during the meeting and has scheduled a second meeting scheduled in April.

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DOE is proposing to update and modernize its Process Rule originally established in 1996 by addressing the following major topics:
1) Require that the Process Rule is binding on DOE.
2) Applying the Process Rule to both consumer products and commercial equipment
3) Applying the Process Rule's application with regard to equipment covered by ASHRAE Standard 90.1.
4) Expanding the Process Rule to test procedure rulemakings, as well as energy conservation standards rulemakings;
5) Committing to both an "early look" process and other robust methods for early stakeholder input.
6) Establish a significant energy savings threshold that must be met before DOE will update an energy conservation standard;
7) Clarify DOE's commitment to publish a test procedure six month before a related standards NOPR;
8) Establish DOE's authority under the Negotiated Rulemaking Act and EPCA's direct final rule ("DFR") provision, while clarifying that negotiated rulemakings and DFRs are two separate processes with their own sets of requirements.

The impact of most of these changes to the process rule will create several off ramps for proposed rulemakings being pursued or implemented and will likely result in additional litigation and delay or halt new rulemaking on a whole host of commercial or residential appliances. NEEA plans to provide written comments to DOE concerning the Process Rule NOPR.

Washington:

- Appliance Efficiency Standards Bill (HB 1444) has passed the Senate and been concurred upon by the House. It is pending for the Governor's signature. The list of products covers a wide range of products. NEEA provided technical data on Hi-CRI lamps and grid-connected water heaters per request from WA.
- Building Energy Efficiency Bill (HB 1257) has passed through the House and on floor calendar in the Senate. This bill increases energy efficiency and the use of renewable fuels that reduce the amount of greenhouse gas emissions in the state and provides a public utility tax credit against the taxes owing by utilities for the incentives provided for implementation by eligible building owners of energy efficiency and renewable energy measures. The bill requires the Department of Commerce to: 1) establish by rule a state energy performance standard for covered commercial buildings; and 2) establish a state energy performance standard early adoption incentive program.

California: California Energy Commission opened a rulemaking in 2018 that proposed to establish state efficiency standards for commercial and industrial air compressors. In early 2019 state efficiency standards were established. NEEA participated and submitted comments in the support of standards for this product. The test procedure and standards levels adopted were

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based upon DOE test procedures and standards levels established by DOE but were never adopted by DOE. NEEA participated in public meetings on both the test procedure and stand level NOPR and RFI over the last couple of years. NEEA was supportive of establishing the test procedure and standard levels developed in the DOE process. In addition, NEEA supports a test and list requirements in CA for reciprocating compressors, which were excluded in the DOE coverage.

Others:

- NEEA continued to participate in the monthly call with the Pacific Coast Collaborative (PCC) and coordinate the codes and standards activities in British Columbia, Washington, Oregon, and California. Some of the group's work is focused on harmonizing standards, and a growing body of work is in developing needed test and rating procedures.
- NEEA continues to work with the Canadian Standards Association (CSA) Group Technical Committee on efficiency of residential gas fired furnaces/boilers and industrial and commercial gas-fired package furnaces (P.2. & P.8). The test procedure has been completed and the committee is completing one more final review on the entire test procedure before submitting for public review. The final review is planned to extend into Q2. This standard will support the condensing gas RTU initiative that NEEA is undertaking.
- CSA Group completed the final editing on the technical draft of new load-based HVAC test procedures this quarter after some very helpful test lab input commissioned by NEEA. This new standard was published in Q1. NEEA-funded test labs have begun to use the new procedures to test and rate various types of systems with products from multiple manufacturers. The outcome of the lab testing is to begin assembling a new performance database. Project partners include NRCan, NEEA, NEEP, Canadian utilities, CA utilities, and others. Utility program administrators and others can use the standard and its resulting ratings to identify which systems perform best in various climate zones.
- NEEA and CSA continued working on new test and rating procedures for air-to-water heat pumps. The first draft of this set of procedures is planned to be finished in Q2 2019.
- NEEA is also working with CSA on a test procedure for modular commercial gas furnaces. The first draft test procedure was scheduled for public review in Q2. NEEA has provided building modeling, test procedure development, and rooftop equipment heat transfer analysis for the project committee.

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