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Building Operator Certificate Renewal Rate Assumptions Memorandum

Prepared by:
Research Into Action
PO Box 12312
Portland, OR 97212

Northwest Energy Efficiency Alliance
PHONE
503-688-5400
FAX
503-688-5447
EMAIL
info@neea.org

Memorandum

To: Amy Webb, Project Manager, MR&E, NEEA, Project Manager

From: Ryan Bliss, Managing Director, Research Into Action

Date: April 8, 2016, Finalized May 3, 2016

Re: BOC Certificate Renewal Rate Assumptions Memorandum

This memorandum summarizes research conducted by Research Into Action from January to April 2016, regarding Building Operator Certification (BOC) certificant renewal rates. The primary objective of this research was to determine whether support exists for the current BOC certificate target renewal rate of 70%.

To accomplish this objective, Research Into Action conducted the following research activities:

- › Primary research consisting of brief telephone interviews with organizations that provide certifications similar to BOC.
- › Review of survey results published by the Institute for Credentialing Excellence (ICE).
- › Analysis of a nationwide BOC dataset to determine whether BOC renewal rates for the Pacific Northwest are comparable with those for the rest of the country.

The remainder of this memorandum provides the background and rationale for this research; discusses two definitions of “renewal rate” and the implications for the distinction between the two; shows the NEEC-reported BOC renewal rates for 2010-2014; describes the BOC renewal process, explaining why the renewal percentage that NEEA used to establish the existing target renewal percentage (see below) may be inflated; and then summarizes the results of the three research activities described above.

Background and Rationale

BOC certification is valid for one year at a time: as described in detail below, each year, NEEC invites continuing BOC certificants to renew certification for the next year. One of the Market Progress Indicators (MPIs) that NEEA established for the BOC Expansion (BOC-E) Initiative was MPI X: achieving 70% annual certification renewal rate in the four states of Idaho, Montana, Oregon, and Washington (the “Northwest”) by December 31, 2016.¹ NEEA based this MPI on the most recent renewal data (for 2012) that the Northwest Energy Efficiency Council (NEEC) had provided, which indicated a then-current (“baseline”) renewal rate of 61%.

¹ Source: BOCE Logic Model Assumption Tables v. 13. Market Progress Indicator X: 70% annual certification renewal rate, by 12/31/16.

The NEEC-reported BOC renewal rates since 2012, when BOC-E began, have been lower than the 70% target, and in fact lower than the 61% rate in 2012.

Definition of Renewal Rate

“Renewal rate” can have at least two meanings. It can refer to the percentage of all certificants who renewed at least once – that is, the percentage of certificants who renewed certification the first time they were eligible for renewal, regardless of whether or not they ever renewed again. This memo uses the term “first-time” renewal rate to refer to this rate. It indicates the percentage of certificants who “ever renewed” or “renewed at least once.”

“Renewal rate” also can refer to the percentage of all new or continuing certificants in a given year who renewed certification that year. In the latter case, the denominator may include certificants who renewed previously (“continuing certificants”) as well as new certificants who that year received their first invitation to renew. This memo uses the term “annual” renewal rate to refer to this rate.

This distinction has important implications. As discussed below, the first-time renewal rate is likely to be lower than the annual renewal rate. The latter includes those who have already renewed at least once, which is a self-selected group. The fact that they already renewed at least once suggests an inclination to maintain certification.

Which definition, then, applies to BOC-E MPI X? NEEA staff reported that NEEA established the target BOC-E renewal rate based on the percentage of eligible certificants who renewed in 2011, the year before BOC-E began. In other words, the target renewal rate represents an annual renewal rate, not a first-time renewal rate.

Reported BOC Renewal Rates for 2010 to 2014

Table 1 shows the annual BOC renewal rates that NEEC reported for Washington and Oregon from 2010 to 2014 and 2014 renewal rates for Idaho and Montana.² (NEEC began tracking renewal rates for Idaho and Montana only in 2014, when those states became part of the BOC-E Initiative.) The Washington/Oregon rates show an increase from 2010 to 2012, peaking at 61%, followed by a slight decrease. The 2014 renewal rates for Idaho and Montana are considerably lower than for Washington and Oregon.

² These data came from NEEC’s ‘2014 Certification Tables Quarterly Update.xlsx,’ as reported in *BOC-Expansion Initiative Market Progress Evaluation Report #3*. Prepared by Research Into Action, Inc. for Northwest Energy Efficiency Alliance, August 24, 2015. Accessible at: <http://neea.org/docs/default-source/reports/boc-expansion-initiative-market-progress-evaluation-report-3.pdf?sfvrsn=4>.

Table 1. Renewal Rates by State and Year

YEAR	WASHINGTON AND OREGON			IDAHO AND MONTANA*		
	WASHINGTON	OREGON	SUBTOTAL	IDAHO	MONTANA	SUBTOTAL
2010	45%	47%	45%	No Data Provided		
2011	46%	46%	46%			
2012**	60%	64%	61%			
2013	55%	51%	54%			
2014	51%	41%	48%			

* NEEC began tracking renewal rates for Idaho and Montana certificants only in 2014.

** NEEA based MPI X on the 61% renewal rate in 2012 (highlighted in the table), which was higher than the renewal rate for previous years.

Possible Inflated Baseline Value

NEEC processes certification renewals in March of each year. During this time, NEEC typically sends an invitation to renew to all certificants whose certification expired that year or either of the two previous years (a “three-year lookback”). Those certificants are the ones that are eligible to renew certification that year. All those who respond to the invitation and renew certification by the end of the year in which they received the invitation to renew remain certified through March 31 of the following year.

The year that NEEA set the target renewal percentage for the BOC-E initiative was an exceptional year, when NEEC sent invitations only to those whose certifications had expired that year and the year before (a “two-year lookback”). NEEC has observed that the likelihood that a certificant will renew is inversely related to how long it has been since their certification expired – so those whose certifications expired in the last year or two are more likely to renew than those whose certifications expired three years before. Therefore, since NEEC used a two-year lookback to invite certificants to renew certification, rather than the normal three-year lookback, the renewal rate was unusually high that year, providing an inflated baseline for establishing the renewal target for MPI X.

Given that the renewal rates for 2010 and 2011, which used the three-year lookback, were 45% and 46%, a more reasonable baseline might be 46%. Better still would be the mean renewal rate over a longer period of time – say five years – assuming all years used the three-year lookback.

Primary Research

In the three-year evaluation of BOC-E that Research Into Action carried out from 2013 to 2015, we identified several organizations that provide efficient-building-related certifications and attempted to contact representatives of those organizations to interview them about renewal rates. We were able to get information for two organizations:

- › A representative from ASHRAE (formerly: the American Society of Heating, Refrigerating, and Air-conditioning Engineers) reported 80% renewal rates for general maintenance certifications, but said it was too soon to tell what the renewal rate would be for ASHRAE’s newly introduced energy efficiency certification.
- › We were unable to contact a representative of the Building Performance Institute (BPI), but a year-end report available on the Internet reported a renewal rate of 84% in 2011.

In 2016, Research Into Action attempted to contact representatives of the Association of Energy Engineers (AEE), the U.S. Green Building Council (USGBC), and the International Facility Managers Association (IFMA), and to re-contact representatives of ASHRAE to follow up on the renewal rate for the new energy efficiency certification. We were successful in contacting and interviewing representatives for AEE and ASHRAE.

When asked what a reasonable estimate for a maximum renewal rate for certifications similar to BOC, one of the contacts provided an estimate of 70% to 75%. The contact’s comments indicated the contact was referring to first-time renewal rates: “I would be inclined to guess that the renewal rate of folks renewing the second time would be greater than 75% since they had already self-selected as finding value and renewing the first time around.”

The second contact indicated a lower first-time renewal rate of “at least 30%,” with annual renewal rates of “above 50%” – rates much more in line with those of BOC. This contact suggested that certificants would maintain certification through renewals for a maximum of 15 to 20 years, depending on the age of the certification program.

Review of Secondary Literature

Research Into Action reviewed the ICE report titled *What Your CFO wants to know: Results of the 2014 Business of Certification Survey*. The report provided a summary of responses to a 2014 survey of 66 credentialing organizations throughout the country. Organizations that took part in the survey represented a variety of sectors, with the majority (68%) offering credentials in the healthcare sector. It was not possible to determine the proportion of organizations in the sample that offered credentials similar to BOC; however, a total of 21% were in either construction, education and training, or trades.

The authors of the report found a median renewal rate of 77%. Although the report did not state explicitly whether the renewal rates represented first-time or annual renewal rates, the survey question used to elicit the renewal rate was, “What was your certificant renewal or recertification percentage during the last renewing period?,” which suggests an annual renewal rate.

The authors found a relationship between the recertification interval and renewal rates – certifications with shorter renewal intervals had higher renewal rates (Table 2). The authors

noted, however, that the recertification interval actually had little impact on the “effective” renewal rate, as shown when the median renewal rates are annualized.³

Table 2: Median Renewal Rate, by Recertification Interval

RECERTIFICATION INTERVAL	MEDIAN RENEWAL RATE	ANNUALIZED MEDIAN RENEWAL RATE
Annually (n=13)	95%	95%
Every 2 years (n=7)	90%	95%
Every 3 years (n=10)	84%	94%
Every 4 years (n=6)	70%	92%
Every 5 years (n=15)	66%	92%

^a Source: ICE 2015. *What Your CFO wants to know: Results of the 2014 Business of Certification Survey.*

The ICE report did not show renewal rates by type of organization, nor did it provide data on which or how many of the credentials were required for employment or maintenance of a license for practice or on the requirements for renewing certification. Therefore, it is not possible to know the extent to which the above data are applicable to a voluntary certification like BOC.

Database Analysis

Research Into Action conducted analyses of a nationwide dataset of BOC certificants to determine how renewal rates in the Northwest compare to other parts of the country.⁴

The dataset that we worked with did not explicitly track renewals or renewal dates. However, the dataset provides the years in which each person received certification and when the certification expired. The initial certification is good for the certification year and the next year. Therefore, we can infer with some reasonable certainty that any certificant who remains certified for more than two years has renewed certification at least once. We can further infer the number of times someone renewed certification based on the number of years that person remained certified. This information allowed us to estimate the percentage of certificants who renewed certification at all (“first-time renewal percentage”), as well as the percentage who renewed certification having previously renewed any given number of times.

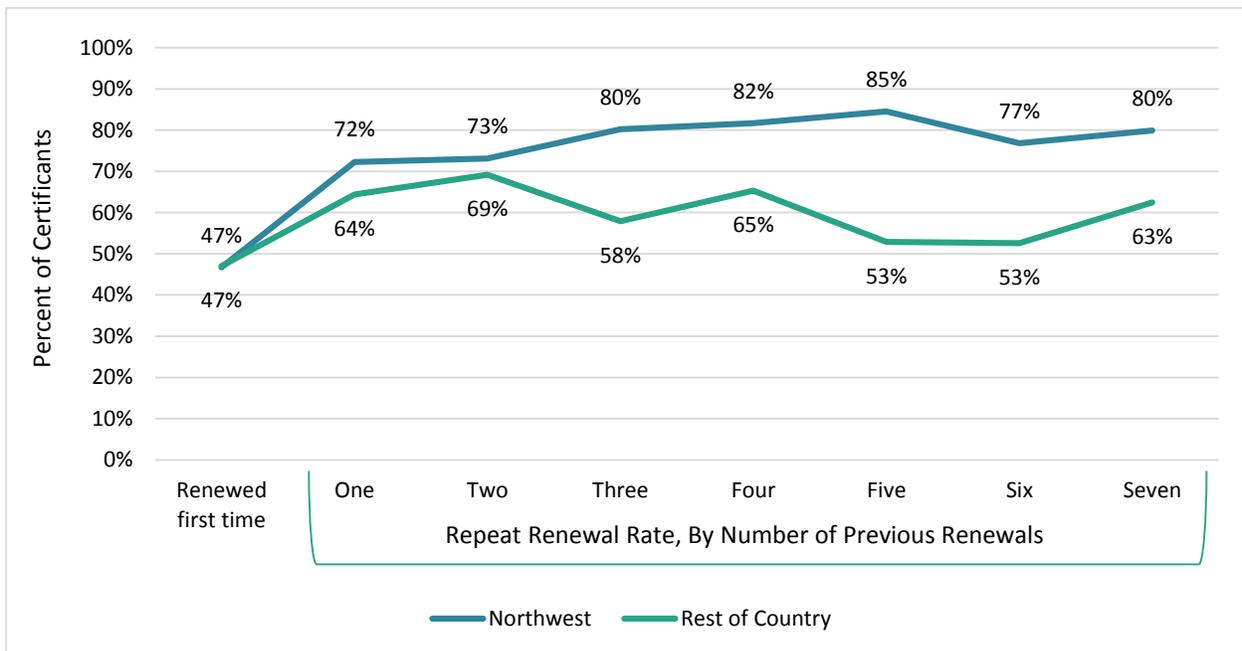
The analyses show that the Northwest is similar to rest of country in the percentage of certificants that have renewed at least once (47%), but that the Northwest has a higher percentage of certificants who renew multiple times (Figure 1). For example, of the Northwest certificants

³ For example, the median renewal rate of 66% for a 5-year recertification interval is mathematically equivalent to an annual renewal rate of 92%, since $.92 * .92 * .92 * .92 * .92 = .66$.

⁴ The nationwide dataset provided by NEEC as part of other research purposes, contained records of all BOC certificants in the US through 2014.

who renewed one time, 72% renewed a second time, compared to 64% of certificants in the rest of the country. This pattern continues such that, of Northwest certificants who renewed seven times previously, 80% renewed an eighth time, compared to 63% of those in the rest of the country.

Figure 1: Percent of Certificants that Renewed, by Number of Times Renewed Previously



Conclusion

Through the research activities discussed above, Research Into Action determined that BOC renewal rates may be lower than for some other certifications targeting professionals in the energy and building trades sector but are on a par with at least one other. There is insufficient data to know exactly why BOC renewal rates may be lower than for some other certifications. It is possible that the BOC program may have some unique challenges to increasing renewal rates compared to other certification programs, although it would not be possible to say what those are without further research. Regardless of the reasons for why BOC renewal rates are lower than for some other certifications targeting similar groups, the above findings also show that the “baseline” renewal percentage of 61%, upon which NEEA based the MPI X target of 70%, was inflated.

Based on the above, Research Into Action offers the following recommendations:

- › **Revise MPI X not only to account for the fact that 61% is an artificially high baseline, but also to account for the fact that year-by-year renewal rates vary.** The current logic model assumptions tables specify the requirement of a 70% *annual certification renewal rate* by the end of 2016. The use of the phrase “annual certification

renewal rate” seems to imply a requirement to achieve at least a 70% renewal *each year*, from 2016 on. Presumably, even if the required renewal rate is reduced, the requirement would still be to achieve at least the specified renewal rate each year. Given that renewal rates may vary from year to year, it may be more meaningful to state the MPI requirement in terms of the *mean* certification renewal rate over a multi-year period, say from 2015 through 2017.

- › **Survey BOC certificants and comparable groups with other certifications** to identify any differences in motives for maintaining certification, ease or difficulty of renewing certification, and effectiveness of recertification messaging. To the extent possible, the comparison groups in such research should be certificants of similar programs – that is, those providing voluntary certification targeting workers in the building trades.