

Commercial Advisory Committee (CAC)
Thursday, February 1, 2018
SeaTac Airport, Seattle, WA



Attendees:

In Person:

Mark Lensen – Puget Sound Energy
Michelle Lichtenfels – Bonneville Power Administration
Sinh Tran – Snohomish PUD
Peter Meyer – Tacoma Power
Joe Fernandi – Seattle City Light
Mattias Jarvegren – Clallam PUD

Keshmira McVey - Bonneville Power Administration
Kevin Smit – NW Power & Conservation Council (NWPPCC)
Bill Hibbs – Clark PUD
Blake Shelide – OR Dept of Energy (ODOE)
Shelley Martin – Idaho Power
Nancy Goddard – Pacific Power
Oliver Kesting – Energy Trust of Oregon
Chao Chen - Puget Sound Energy
Jim Conlan – Snohomish PUD
Jim White – Chelan PUD

On Phone:

Lorri Kirstein – Avista
Zeecha Van Hoose – Clark PUD
Natasha Houldson – Tacoma Power
Scott Pugrud – Idaho Office of Energy & Mineral Resources
Deb Martin Young – NorthWestern

NEEA Staff: BJ Moghadam, Emily Moore, Elaine Miller (phone), Maria Murphy, Christian Miner, Alisyn Maggiora, Julia Harper, Geoff Wickes, Neil Grigsby, Maria Alexandra Ramirez, Warren Fish, John Jennings (phone), Mark Rehley (phone), Jeff Mitchell (phone)

Resources

- *Packet link on Conduit:* <https://conduitnw.org/Pages/File.aspx?rid=4280>
- *Slides link on Conduit:* <https://conduitnw.org/Pages/File.aspx?rid=4287>

Welcome, Introductions, and Housekeeping Items

A. Welcome

1) Maria Alexandra Ramirez introduced herself as the new Stakeholder Relations Manager for the CAC.

B. Meeting [packet](#) review; see page 3 for links to newsletters and past meeting notes

1) CAC Charter Review (p. 24-25)

i. Note: Any substantive changes would go through the Executive Director (ED) and to the Board of Directors if the ED deems fit.

2) VHE DOAS Update (p.26 in the packet)

i. Doing initial analysis to evaluate electric energy savings

ii. Vote for Initiative Start (IS) next quarter (Q2)

iii. **ASK OF COMMITTEE:** If you know of any customers with heat pump RTUs or electric resistance RTUs and are willing to connect us with them, we are seeking to improve our metrics on those systems.

3) CBSA Over Sample Request (p.27)

i. This round of the CBSA will strive to overcome some challenges of prior studies by using geographically based sampling to develop a population frame from which the sites selected for field work will be sampled.

ii. If you do not already receive information on the CBSA and want to be included on distribution lists for webinars and other information about study progress, please email Dulane Moran (dmoran@neea.org).

- 4) Certified Practitioner in Energy Management Systems (p. 28) now has an [online offering](#)
- 5) C&I Lighting Regional Strategy Quarterly Newsletter (p. 29-30)
- C. Informational updates
 - 1) [Efficiency Exchange Conference](#) in Tacoma this year, May 15-16; registration opens February 20

Commercial Portfolio Update

Emily Moore (NEEA) gave an overview on the commercial portfolio. The desired outcome is to level-set on the current portfolio status and key activities for 2018. Refer to [slides 7-15](#) and page 4-6 in the [packet](#) for greater detail.

Presentation Highlights

- A. Introduction of new staff member
 - 1) Rachel Zakrasek, new program coordinator
- B. Portfolio Highlights (see p.4-5)
 - 1) 2018 Focus Areas
 - a) Advancing Luminaire Level Lighting Controls to Scale-Up Approval (SA)
 - b) Transitioning Reduced Wattage Lamp Replacement (RWLR) to Long Term Monitoring and Tracking (LTMT)
 - c) Leveraging Distributor Platform
 - d) Launching two new initiatives
 - i. Extended Motor Products
 - ii. Very High Efficiency Dedicated Outside Air System (Commercial HVAC)
 - e) Continuing to engage on the C+I Lighting Regional Strategic Market Plan
 - i. Seen great regional collaboration in areas identified by funders in early 2017:
 - a. Good/better/best guide for LED retrofits
 - b. User group gathering lamp pricing data and insights for utility programs
 - ii. Lighting Steering Committee plans to look at future of lighting; they are leading a process to update the plan for 2018 and will bring the updates to the next CAC mtg.
 - 2) Portfolio Update Q1 2018



- a) Commercial Lighting Market

Program	Q1 Update
 Reduced Wattage Lamp Replacement	<ul style="list-style-type: none"> 38% market penetration of low wattage lamps Touching 43% of overall lamp sales via 13 distributors (250+ branches) Planning transition to LTMT in early 2019 Continuing focus in 2018 on leverage of the distributor platform
 Luminaire Level Lighting Controls	<ul style="list-style-type: none"> Rolling out Advanced Lighting Controls training in collaboration with utilities New case study developed on PSE installation of LLLCs, now available on BetterBricks
 Top-Tier Trade Ally Advanced Training	<ul style="list-style-type: none"> Successful Q4 campaign to boost NXT Level applications Grown to 115 individuals and 37 companies with designation NXT Level 2 is designed and in development, will begin to plan for a launch later in 2018
 Commercial Lighting Resources	<ul style="list-style-type: none"> Design Lights Consortium membership renewed Northwest Lighting Network website update is complete

- **COMMITTEE ASK for LLLC:** Anne Curran (Program Manager) is seeking other opportunities to roll the Advanced Lighting Controls training out, particularly to trade allies – contact her if you’re interested (acurran@neea.org).

b) Commercial Building & New Construction markets

Program	Q1 Update
 Commercial Real Estate	<ul style="list-style-type: none"> Engagement with 48 industry groups and 20 CRE firms, representing 75M SF in NW Navigator tool is live on BetterBricks website
 Window Attachments	<ul style="list-style-type: none"> Continued support and collaboration with AERC Completed customer research study on Low-E storm windows
 Commercial and Industrial SEM Infrastructure	<ul style="list-style-type: none"> 62 attendees at the 7th Annual NW SEM Collaborative Fall Workshop SEM Wikipedia page launched
 Commercial Code Enhancement	<ul style="list-style-type: none"> Held State Coordination Plan kick offs in OR, WA and ID Identified four Washington code proposals for upcoming 2018 code development

3) Draft 2018 CAC Work Plan

- a) CRE, SEM are not slated as explicit agenda items for 2018, expect to provide more detail on those programs through 2019 Operations Planning

Q1 2018 Feb 1 - Seattle	Q2 2018 Apr 18 - Portland	Q3 2018 Jul 31 - Portland	Q4 2018 Oct 18 - Portland	Q1 2019 TBD
PORTFOLIO REVIEW				
Portfolio Review	Portfolio Review	Portfolio Review	Portfolio Review	Portfolio Review
PROGRAM REVIEWS				
Extended Motor Product (XMP) - IS VOTE REVIEW	Very High Efficiency Dedicated Outside Air Systems (VHE DOAS) - IS VOTE REVIEW	Top-Tier Trade Ally	LLLC - SA VOTE REVIEW	Reduced Wattage Lamp Replacement (RWLR) - Transition to Load Monitoring and Tracking
Commercial Code Enhancement (CCE)		Window Attachments	Commercial Code Enhancement (CCE)	
Reduced Wattage Lamp Replacement (RWLR)				
REGIONAL MARKET STRATEGIES				
	C&I Lighting - Progress review, proposed revisions			
ANNUAL OPERATIONS PLANNING				
	2019 Ops Plan update on process, CAC direction for 2019	2019 Ops Plan - CAC input on draft		
EMERGING TECH				
Washington Integrated Design Lab on Dynamic Glazing	Emerging Tech updates	Emerging Tech updates	Emerging Tech updates	Emerging Tech updates

Discussion:

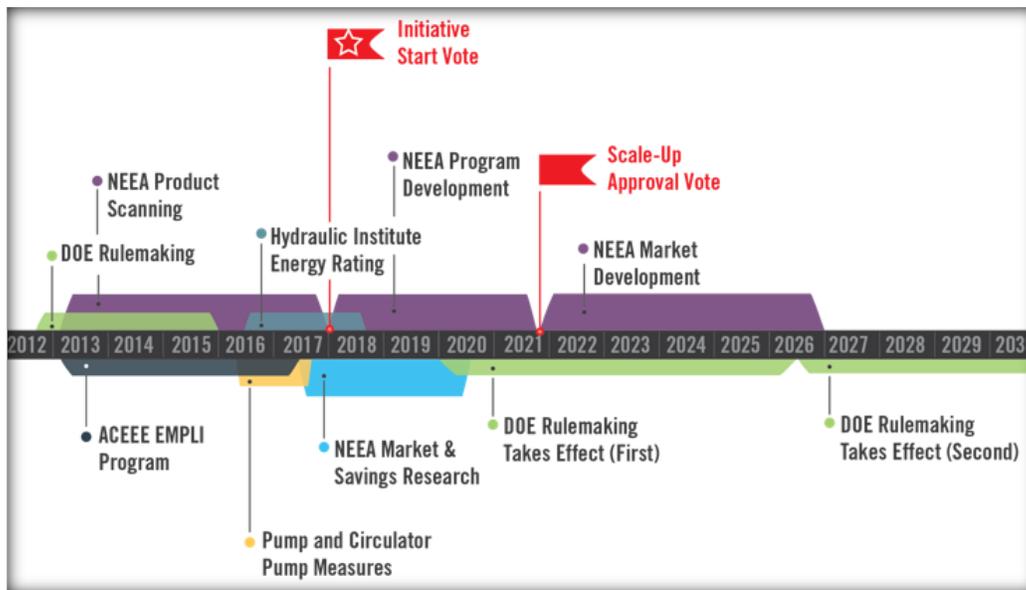
- **Tacoma Power:** Good level of overview
- **PSE:** This schedule will change as we go, correct? NEEA (Emily) confirmed that's the process that will be followed and we will add check-ins as needed; quarter-by-quarter things inevitably change.

Extended Motor Products (XMP) Initiative Start (IS) Program Review (54:00)

Warren Fish (NEEA) introduced the initiative. *The desired outcome is for CAC to understand the initiative and provide support for Initiative Start (IS) Milestone vote at RPAC on February 28, 2018. Refer to [slides 16-29](#) and page 7-20 in the [packet](#) for greater detail.*

Presentation Highlights

- A. Objectives
 - 1) Ensure understanding of the XMP program concept and adjustments to Initiative Start document since Q4
 - 2) Gain understanding of any remaining questions or concerns
 - 3) Prepare for RPAC approval vote for IS on February 28th
 - 4) Multiple funders noted that having a marked up version was appreciated (simple mark-up next time would be fine).
- B. What we heard
 - 1) Focus on pumps up to 50 hp
 - 2) Ensure review and approval for any expansion to other motor driven products – any additional significant changes will be brought back to the committee for review.
 - 3) Need for field research to validate energy savings across a range of pump applications
 - a) Held 90-minute webinar on January 16, 2018
 - b) Watching the webinar recording [HERE](#)
 - 4) Need more information about PEI
- C. Key revisions since Q4
 - 1) Focus: Packaged systems for clean water pumps and circulator pumps 50 hp and below
 - 2) Only with review and approval will XMP expand to include anything other than pumps. Fan and compressors will have to go through the CAC and IAC as well as RPAC review and approval to be considered to be added to the XMP initiative. ,
 - 3) Plan to convene a technical work group and ensure supplemental field research to validate savings
- D. Market Transformation Theory: Goal for XMP is to drive awareness, stocking & sales of efficient motor driven products and influence federal standards (next is 2020) over time.
- E. Support sales growth of efficient pumps
 - 1) Change default practices
 - 2) Make participation easy for distributors
- F. Timeline Overview



Discussion

- **PSE (Mark):** *What happens when it takes effect?* NEEA (Warren) noted that the bottom 25% of energy performers (cataloged parts) (based on pump energy index score) will no longer be able to sell in the US after 2020.
 - **PSE (Mark)** sought clarification on whether you could sell pumps without controls. NEEA (Warren) explained that you can. The DOE rule making covers the bare pump, the pump motor combination, and the pump motor controls package system. The bare pump alone is not commonly sold in the 1-200hp range, it's often sold with the motor; the coupling of the pumps and the motor is key. The PEI covers all three categories.
 - **NEEA (Geoff)** added that after 2020, the PEI rating number must be on the name plate, the label is a voluntary program but the PEI number must be on the name plate. Bottom 25% of performers/pumps will not be included on the list. This will have some impact on the market. The beauty of this system is that it will index over time to continue to push efficiency upward and drop lower efficiency products from the market.
 - **NEEA (Warren)** added that there is a lot at play in the long-term with this initiative, need to keep that in mind. The Hydraulic Institute has invested in this as a pump manufacturer trade association; they want to make it easier to showcase why you would want a more energy efficient pump.

G. Key Activities Post-Initiative Start (IS)

- 1) Conduct research plan to validate energy savings across a range of pump applications in the Northwest (Q1 2018 - Q3 2019)
- 2) Complete market characterization and baseline (Q2 2018 - Q3 2019)
- 3) Develop market intervention plan (Q4 2018 - Q3 2019)
- 4) Begin small-scale market test with distributors (Q3 2018 - Q4 2019)
- 5) **NEEA (Emily)** added that this plan is significantly revised from what was provided at last quarter's meeting, as there is much more detail to how we plan to go about research plan. Input from funders is much appreciated. Puget Sound Energy was critical to this feedback and ensuring that we have a good sense of the savings, and the research plan helps to validate savings across a variety of applications.

Discussion

- **BPA (Michelle)** sought confirmation on whether this was being worked with the RTF to get UES measures out of planning. NEEA (Warren) confirmed that the pump research plan will do a lot of the work to get those planning measures to proven, that is the next step. NEEA (Geoff) added

that the research plan was outlined by the RTF (how to go from planning to proven). We're enhancing that with feedback from funders. Overall arching goal is for RTF.

H. Technical Workgroup – Efforts to Support Research Plan

- 1) Review existing data
- 2) Review research plan objectives
- 3) Assist with field research site selection
- 4) Guide market characterization and baseline
- 5) Review data analysis and findings

Discussion

- **Tacoma Power** : *Time commitment?* NEEA (Warren) noted that there will be a two hour kick-off meeting towards late March, then a 90-min meeting every other month going forward through September 2019.
- **PSE (Mark)**: Regarding market characterization – *does that include distributor interviews and understanding what the sales process looks like today?* NEEA (Warren) confirmed it includes both, and it also includes the conversation around how to adjust that sales process along with participation in a market test. Critical to establish a baseline as well as achieve growth in sales of the products we want to promote. Have done some market characterization already and some distributor interviews to establish what the practice is today, but there's more to do on that and to do it with relationship building in mind.
- **NEEA (Geoff)** added that one of the first steps will be to build use-cases. Will present those to the workgroup. Would love input from anyone on this. Will be a small building, a campus use case, a portfolio of buildings, a farmer or two, and likely and industrial participant; anticipating 10-20 use cases to review as part of this technical workgroup.
- **Pacific Power** *understood the focus to be on “commercial/industrial/agricultural pumps,” sounds like that has evolved; can you clarify the focus?* NEEA (Warren) clarified that commercial is the target to begin the pilot of a market test. Clean water pumps get sold into ag and industrial so may watch that as well, but regardless, NEEA focus is 50hp and below so many of those large pumps are not in scope for us.
- **PSE (Chao)**: In looking at the budget, see a lot of money allocated to assessments and research; not seeing anything related to a third party to do that research. Could be too much detail, but not sure here.
 - **NEEA (Warren)** directed attention to page 6 of the business case document (p. 13 of the [packet](#)). The \$450,000 research costs are external, outsourcing costs. NEEA costs are in the next table down regarding internal (NEEA) hours per week primarily for the program and product manager.

Proposed Investment for Next Phase (Q1-2018 – Q4-2019) (to get you to the next milestone)		
Activities (from Section 2.2)	Cost Center	Amount (Direct Costs)
Research plan to validate energy savings for small pumps and circulators	C/I/A	\$450,000
Market characterization and baseline	C/I/A	\$100,000
Market channel research and test with distributors	C/I/A	\$300,000

- **Snohomish PUD (Jim)**: *Can you clarify on the small scale test for distributors?* NEEA (Warren) directed him to activity #4 in the table in Section 2.2 on plans (p. 5 of the business case | top of p. 12 of the meeting [packet](#)): in Q3 2018 will start working with distributors to begin value exchange. Need their data (full category sales data) and we can help them change the mix of what they're selling. Working with those partners as industry partners and creating a path to also leverage manufacturer support to help move that market.
- **Pacific Power**: *Regarding the market test phase, are you anticipating market transformation incentives and are those in this budget?* NEEA (Warren) Yes. We know there's a cost increment

between the baseline of not-smart-pumps going to a smart pump; believe it will take some incentive dollars to do that. Will make the investments in a way that will ideally shift the sales mix and grow those products, but initially the idea is that NEEA is working to pioneer something with sales potential. This will require a lot of participation along the supply chain to prove what works and get this moving. Long-term NEEA will not have the budget so hopefully we build a platform that utilities can use to get the pump sales mix in their territories changed.

- **PSE (Mark):** Puget Sound utilities could likely be helpful in brainstorming which distributors to tackle to start. Don't have to just rely on the lighting distributor platform players. NEEA (Warren) noted that's the idea. Appreciate support from Puget Sound utilities and other partners around the region to provide contacts and facilitate relationships. Lucky we have the framework around data sharing and confidentiality agreements that we can leverage from the existing distributor lighting platform as well.
 - **PSE (Mark)** added that utilities could likely support on the incentive strategy as well, noting that they already provide this with some distributors. This wouldn't be anything new for us, we can certainly look at how we can help on that front as well.
- **Clallam PUD:** In the market definition section, not seeing well pumps. In rural areas you may see a greater percentage of well pumps than circulator pumps; you may want to consider those. NEEA (Warren) clarified that had been brought up recently and this is an important point. Also speaks to regional equity, appreciate you sharing that.
- **Tacoma Power:** Incentives are an opportunity for utilities to be in lock-step on dollar amounts to yield consistency. Because this is new, we should have further discussion about that. NEEA (Warren) added that this will help keep it simple for all involved.

Roll Call of Support (recommending the vote to RPAC member):

1. **Tacoma Power (Peter):** Supportive; appreciate NEEA's efforts to meet and make modifications based on feedback. Is a better initiative now than what it was when it started
2. **PSE:** Supportive
3. **Chelan PUD:** Supportive. Appreciative of this effort. Hope you consider smart pumps as well (measurements of pressure in addition to the control aspects). NEEA is right on track.
4. **Idaho Power:** No reservations
5. **Pacific Power:** No reservations
6. **Clark PUD:** No reservations, in support
7. **Snohomish PUD:** Supportive
8. **NorthWestern:** Supportive of moving to next stage. May still have some clarifying questions in the future.
9. **Seattle City Light:** Supportive and appreciate the in-person walk-through
10. **Avista:** *Not present during vote. NEEA circled back with Lorri Kirstein and Avista is supportive of XMP moving forward.*
11. **BPA:** Appreciate the hand-holding through the material and clear messaging; know Brent Barclay will be supportive.
12. **Clallam PUD:** No reservations
13. **NWPCC:** Highly supportive. Glad we're working to RTF proven measures
14. **Idaho Office of Mineral & Resources:** Supportive of proposal
15. **ODOE:** No reservations
16. **Energy Trust:** Appreciate changes, in support

Utility Share-outs/Round Robin

A. Jim White:

Nothing to report.

B. Idaho Power:

In process of evaluating all new program measures. Hired a third party to do TRM, that's in the works currently. Evaluating retro fit lighting measures and incentive structures; hoping to build in network lighting control incentive. Anticipating filing those changes with Oregon in May for a July 1 implementation date (speculation at this point, but working toward that target).

C. Avista:

Funder not present at time of share-out

D. Chelan PUD:

Funder not present at time of share-out

E. Snohomish PUD:

2017 interesting; lighting consumed 80% of budget so shut program down in July. Rolled out new lighting workbook last month. Have high incentive for controls. Expanded to include all BPA rebate measures. Custom programs' budget increased. Looking at some demand response projects to shave peak. Pay for Performance project running since November with a couple more on the way. Cannabis is on hold due to the federal Administration memo around enforcement. New construction program coming back later this year with a focus on lighting incentives. Industrial SEM going strong. 2018 budget is back to normal with \$6MM and 35MM kWh.

F. PSE (Mark):

Working on a commercial HVAC midstream program – focusing primarily on replacement market. Will be coordinating with NEEA folks on potential overlap (heating, water heating, packaged equipment). Starting new 2-year cycle. Commercial/Industrial: have contracting/consulting groups that can provide additional engineering support. New construction program will be inundated by Microsoft campus revisions in a couple years. Lighting workbook changed. Pay for performance pilot kicking off, focusing on 5 different sites; currently, looking for customers and contractors to bring proposals.

- **Snohomish PUD:** Looking to partner on the commercial HVAC program.

G. Seattle City Light (SCL):

Working on several programs supporting Seattle Building Ordinance program; tune-up accelerator program just launched with 105 participants and 70 agreements sent out. Piloting virtual energy assessments, will be an RFP going out this month. Working on retro commissioning program, looking to leverage PSE's program design to potentially collaborate. Pay for performance deep retrofit program getting ready to launch; close on M&V guidelines, eligibility, and incentives, seeking April to June launch. Energy efficiency as a service: scaling Bullitt Center prototype to a pilot for up to 10 buildings for up to 20 years; need the NWPPC's approval on that, hoping to approach them on March 1. Working with NEEA (Elaine) on mid-stream lighting leveraging the distributor platform. On downstream lighting looking to update calculator to remove fluorescents, updating per non-res lighting protocols, likely a June 1 release. Planning to release two RFPs; 1) demand side management project tracking system and 2) building and analytics database. Also just launched first public charging station on Beacon Hill.

- **Idaho Power:** *Regarding removing fluorescents from calculator, so you'll just be getting a set incentive for LEDs and controls?* SCL confirmed and added that they are also hoping to move to Good/Better/Best framework soon.
- **NWPPC:** *What is the buildings analytics database?* SCL clarified that it's aiming to build a complete inventory of the commercial buildings in their service territory so the energy management analysts can glean greater detail about the buildings.
 - **NWPPC:** Will that be available to the public? SCL was not sure, thought of it as internal.
 - **ACTION ITEM:** SCL (Joe) to follow up with program manager circle back with NWPPC (Kevin).

- **Tacoma Power:** Regarding the energy efficiency as a service, you noted it's similar to the Bullitt Center; *so is that new construction only and will you pay the new building owners for 20 years based on their performance relative to a baseline that would be comparable to a new construction building?* SCL clarified it's a performance-based program as well but paying out based on energy savings. Could be new construction, using EUI targets in Seattle as a baseline, or a deep retrofit in which we would use a regression model for the baseline. Looking for a variety of use cases, potentially multifamily but hitting a few snags there. Looking at deep retrofits, new construction and new renovation to see where it works and where it doesn't. That also includes different lease and ownership types, investors, etc.
- **NEEA (Anne C):** *You mentioned June 1 calculator was getting updated for savings on controls, is there any change with incentive levels or is that coming down the road with the Good/Better/Best?* SCL noted that the incentive levels will remain unchanged, just changing how we pay on controls and leveraging all the work the RTF did on the non-res lighting protocol. We are intending to remove lamp-only/bulb incentives from downstream in June and introduce them into midstream.

H. Energy Trust:

Getting final numbers for 2017; looks pretty successful. Electric side came in right at goal for commercial as a whole, gas came in a little low. Energy Trust as a whole came in nailing the goals for all utilizes across all sectors. New buildings was fairly high, existing buildings had challenges on the gas side, likely due to difficulty in getting custom projects. Include multifamily in commercial programs and have had challenges with direct install so that created some shortfall. In terms of programs going forward, there aren't a lot of changes for 2018; some quick updates: pay for performance completed first pilot – 3 year project – getting ready to make final payment. Launched pay for performance for this next iteration. Put a lot of work into developing enrollment modeling guidelines, training, forms, etc. Didn't get a lot of interest in trade ally training; at this point only have 2-3 allies in the pay for performance program. Will go back and look at the challenges with this program to establish the reasons for lack of interest. Time and resources were part of it. Have heard through allies that a few customers ultimately decided not to pursue because they wanted the incentives up front instead of over several years.

- **NEEA (Emily):** *Types of allies or firms are participating?* ETO noted they had sub-contractors for existing buildings (Allied Technical Assistant Contractors) that they recruited to do retro-commissioning. Many didn't have the experience with regression analysis we were asking for, but we ended up giving them a tool to use. Even with that, still didn't get a lot of interest.

Getting ready to re-bid our new buildings program; CLEAResult currently running that program. That RFP is on a fast-track and will be out in Q2. Also looking at rebating lighting tool and getting into options of change out as well as more comprehensive designs is coming up.

I. Tacoma Power:

Tacoma Trying to do more with EVs this year. Exceeded targets for last year. In process of gearing up commercial SEM pilot, working with Michelle (BPA) and NEEA; will do review next week and expect to launch in Q2. Using a new savings calculator (BPA) for lighting program; biggest change was on TLEDS and A-lamps and some changes to the LLC controls. Ended Energy Smart Grocer Program at end of last year, will run those through ourselves now instead of through CLEAResult. We're losing a lighting person to PSE, so looking for a lighting specialist.

J. BPA (Michelle):

Whole team has been heads down on new lighting calculator, doing that in-house. Do have a version off to Tacoma who is running with it. Hoping most of our utilities will launch that sooner rather than later; expect to have that out in February. Rate period results have been rolling in, about 80% of savings from lighting. Looking at how we can diversify on HVAC measures. Plan to

have an RFP to integrate two trade ally networks. Two key commercial programs are lighting run by Evergreen and HVAC by Lockheed. Looking to get one primary contractor to run both of those networks and continue to provide field services and allow for more enhanced services as requested. Looking to figure how to bring new goals to trade ally network, like diversifying savings. RFP due March 2. Expect to have someone selected by end of April and new contract will start June 1. Lockheed and Evergreen contracts end June 30 so expecting to have some time for overlap and training. Comprehensive Commercial RFP had included SEM, now shifted the approach to a pilot approach. Keshmira (BPA) helping to push this back down through emerging tech; Tacoma is the first at the table on that – looking forward to learning more from our utilities on that pilot. BPA also published their agency strategy this week. Not much about EE, but brings greater context to where BPA direction is headed.

K. NWPCC:

Commercial building stock assessment kick-off meeting was yesterday.

COMMITTEE ASK: Looking for utilities that want to be included in the oversample. This needs to be decided in the near term, so if you're interested and aren't participating yet, please reach out to Kevin.

- **Tacoma Power:** Understand the Council recently had a decision on non-res lighting protocol, can you illuminate us on that?
- **Seattle City Light** clarified that it was approved as submitted and provides new assumptions on HVAC interactive affects and controls savings fractions by space type. Also contains set of approved hours by use by building type that owners can choose, or they can choose site specific but want to ensure they're not doing both. Also, a provision that if more than 5% of your savings are coming from controls rather than efficiency, it triggers the need for additional review.
- **NWPCC** later added that the RTF did a study on pay for performance. The recorded webinar will be available online if it isn't already.

L. Clallam:

Closed out last biennium for I-937 purposes strong at 150% of target. As a result, reduced incentives in BPA calculator down to 70% of willingness to pay = \$0.13/kwh; did this early in 2017. In the summer held off paying out on all large commercial lighting projects until 2018 just to shift the savings forward. Just started up energy smart brochure again. Couldn't get persuade to stay CLEAResult to stay; signed 1 year existing master service agreement for Simple Steps program, hoping to get more savings out of that. Challenge for 2018-19 is closing that gap on Residential savings. Closing out first marijuana grow operation but not sure where that will go this year given the Jeff Sessions memo on enforcement. Just ended net metering, paying market rates with customers now.

Integrated Design Lab – Chris Meek and Heather Burpee

Chris Meek and Heather Burpee provided an overview of recent and planned research as well as the Lake Union building Dynamic Window Glazing case study. *The Desired Outcome is to build familiarity with the role and benefits of the region's IDLs. Awareness of UW IDL's emerging technology work on dynamic glazing. Refer to [slides 35-91](#) and page 21 in the [packet](#) for greater detail.*

Presentation Highlights:

- A. Overview of IDL staff and partners
- B. Market Transformation model
 - 1) Leverages the University (of Washington) resources around education and outreach, technical assistance, and basic and translational research.
- C. Tracking IDL staff /assistants as they grow in their careers

- D. A/E/C Market connections:
 - 1) Technical Assistance
 - a) Most of their work is regional, focused on Washington and the Puget Sound Region
 - b) Eight of ten AIA COTE Top-Ten Green Buildings have had IDL support/input.
 - 2) Market Scanning
 - 3) Utility Engagement
 - 4) Bullitt Center
 - a) Special opportunity to put all their efforts together in one building
- E. Comprehensive plug load management
- F. Metered Energy efficiency transaction structure (MEETS)
- G. Professional education series
- H. Ranking the Energy performance of all submitted projects
- I. NEEA CCE Initiative:
 - 1) Line-by-line code comparison for WA State baseline (2006) w/ NEEA and PNNL
 - 2) Provides context for all code proposals being submitted in this code cycle
 - 3) Providing technology briefs to CCE team on plug load management as a code feature
- J. NEEA LLLC initiative:
 - 1) Contributed to on campus illumination project at UW. Sought faculty and staff input
- K. NEEA CRE program
 - 1) Seattle building tune-up accelerator, voluntary program in preparation for impending code requirements.
 - 2) 3-year pilot program with funding supported by US DOE.
 - 3) IDL providing three levels of engagement on this
 - 4) Target of program is to save 100MM Btu every year.
- L. NEEA Emerging Technology
 - 1) Better Bricks
 - 2) Casey Study: 4-year NSF funded project on electrochromic windows with UW Architecture and UW Engineering programs
 - a) Glazing works on command either by manual trigger or programmed control settings
 - b) Secondary window system testing with Unico and NEEA
 - 1. Data M&V, occupancy normalization
 - 2. Seeing most the savings in the winter now that double pane windows are installed
- M. UW IDL
 - 1) NEEA connection and support has been instrumental in the success of the lab

Discussion:

- **Tacoma Power:** *What was the cost on the windows?* Chris from IDL was unsure, maybe less than \$100/sqft for glass. **ACTION ITEM: Chris Meeks to follow up with Peter.** NEEA (Christian) added that the non-dynamic glazing systems come in at around \$35/sqft installed.
- **Tacoma Power:** *Are you aware of any other projects with the MEETS program like the Bullitt Center?*
 - **Seattle City Light** noted that the energy efficiency as a service program he discussed earlier is a MEETS like program. Had some interest from stakeholders, some commercial and some multifamily; having some struggle with the multifamily one.
 - **IDL (Chris)** added that doing a MEETS type situation with new construction is a challenge because you have to create a counter-factual baseline. With existing

buildings it's much more straightforward because you have a weather-normalized baseline. The Bullitt Center was much like a science project.

- **NEEA (Warren):** *With all the new construction, any feedback about best practices from IDL and UW that are being incorporated?* IDL (Chris) noted that the human behavior component as it relates to energy efficiency and value, we will be working on that challenge for a while. Also, with new construction, the code is pretty strict. There is effort right now to simulate the path for code to generate energy efficiency on the HVAC and lighting side to trade off against the envelope – idea is to be able to do more glass because of the prescriptive limit on glass. Would like to find ways to improve envelope to better understand the true experience of that additional glass, thus helping designers and seeking to deliver that same value without having to trade back all that energy efficiency to get it.
 - **IDL (Heather)** added that the market has done a good job of moving the middle up. Our efforts, training, etc. has also been helpful to alleviate potential panic. We can see our direct influence in the health care projects where they are well beyond code.
- **NEEA (John)** added that there are other local labs as well, so for those that are not in the Puget Sound territory be sure to reach out to your local design lab. Contact John Jennings if you're unsure (jjennings@neea.org | 503-688-5471).

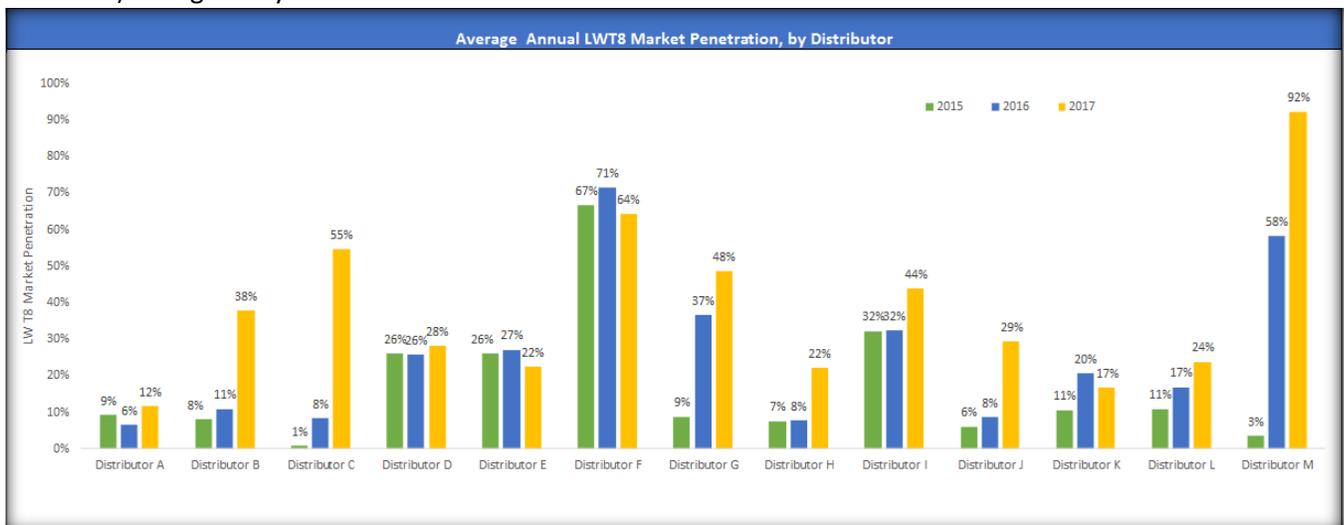
Reduced Wattage Lamp Replacement (RWLR) Update

Elaine Miller (NEEA) presented the update on the 2017 results and 2018 plans for preparing for Long Term Monitoring and Tracking (LTMT). *The Desired Outcome is familiarity with RWLR results, lessons learned and plans for transition complete. Refer to [slides](#) 93-108 and page 22 in the [packet](#) for greater detail.*

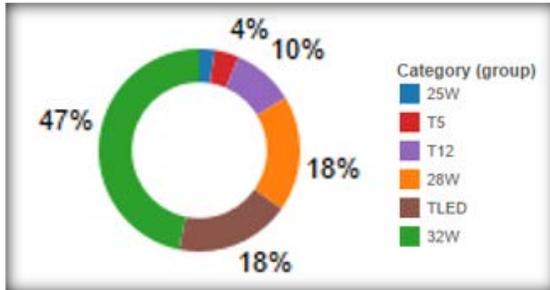
Presentation Highlights

A. 2017 Results

- 1) Big guys drive increase
 - a) Q4 2017 low-wattage market penetration was 37%, the highest to-date in the history of the program
 - b) 2017 performance among participating distributors ranged from 12% - 92%
 - c) Performance in 2017 was bolstered by the success of Platt and the CED Divisions
 - d) Despite the rise of TLEDs, there is still a large opportunity to convert 32W lamps. In Q4 2017, TLEDs had 31% market share, LW had 32%, and 32W had 44%.
- 2) Progress by Partner



- 3) TLEDs rising – will be interesting to see the track over 2018 and how utility incentives continue to drive change in this over time.
- 4) Will add one more distributor this year for 9 months – the last CED division. Will be interesting to see how large they are; expect to get their baseline data today.
- 5) Decline in fluorescents is now running at 22% year (declined around 16% in 2016); confirmed we should be wrapping up incentives for low wattage lamps this year.
- 6) 2017 Product Mix



- a) See the 10% T12s still hanging on
- b) Still a ton of 32W lamps to convert

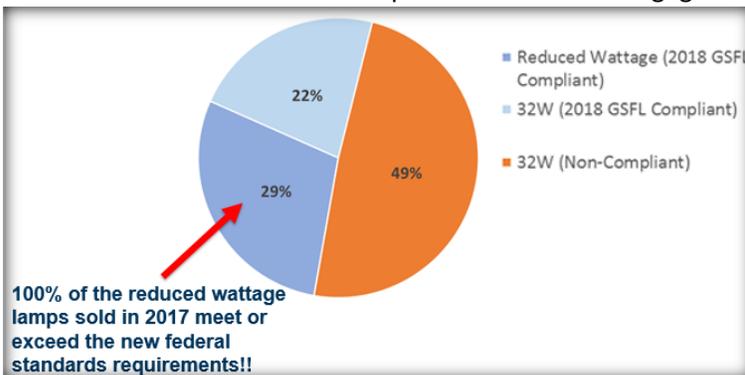
Discussion

- **PSE (Mark):** What are the particulars around special pricing for low-watt T8s, what is that mechanism and how does that work? NEEA (Elaine) clarified that it was the first intervention they tried with this program. Thought price was the barrier originally. It simply took encouraging distributors to focus on this product and ask for special pricing, especially for the 28W. It was simply a matter of asking and encouraging bulk buying to get the price down.
- **NorthWestern:** Market Progress Evaluation Reports (MPERs) will continue to track progress in this market, so if erosion came along because you weren't doing the push with the distributors, we would see that, correct? NEEA (Elaine) noted that will be addressed later in the presentation as part of the Long Term Monitoring and Tracking (LTMT) efforts.

7) 2018 RWLR Focus

- a) Contracts through 12/2018
- b) Sign last CED division
- c) Leverage new GSFL standard – an efficacy bump (lumens/watt)
 - i. CEE list going to only LW lamps.
 - ii. Efficacy raised from 89 L/w to 92.4.

B. General Service Fluorescent Lamp Federal Standard Engagement



- 1) In 2017, nearly 70% of all fluorescent T8s sold by RWLR participants were 32W and 30% were reduced wattage.

- 2) Across all linear fluorescent T8 lamps (25W, 28W, 32W) sold by RWLR participants in 2017, approximately 50% will not comply with the 2018 federal standards.
 - a) 100% of the noncompliant lamps are 32W.
- 3) Of all the 32W lamps sold by RWLR participants in 2017, 69% will not comply with the new standards.
- 4) 100% of the reduced wattage lamps sold in 2017 meet or exceed the new federal standards requirements.

Discussion:

- **PSE (Mark):** *Is there any enforcement on these? The distributors didn't know so good you're informing them, but is there anything that's pushing this to happen or is it on the manufacturers to start making them?* NEEA (Elaine) wasn't sure. It's a manufacturing ban on the non-compliant products, but the distributors can continue to sell them while they still have them in stock. Not sure about enforcement at the manufacturer level.
 - **ACTION ITEM:** Elaine will check in with NEEA's standards manager and circle back with PSE to advise on how that works.
- **Tacoma Power:** *Are you tracking the specific wattages of TLED lamps?* NEEA (Elaine) confirmed they were and can provide that data.

C. 2018 Plans for Transition Complete (expecting to go through TC milestone in Q1 2019)

- 1) Develop business case for distributors to continue engagement
 - a) Data and market intelligence exchange
 - b) Wrap data needs into Distributor Platform
 - c) Access to other programs
 - d) Other ideas?
- 2) Next Steps
 - a) Pilot supplying LLLC with sales data
 - b) Support XMP with distributor intervention test
 - c) Work closely to help SCL re LED products
 - d) Work closely with Snohomish PUD on possible TLED pilot
 - e) Collaboration with BPA and NEEA research and market intelligence teams

Discussion:

- **BPA:** Would like to see our trade ally networks go up stream a little more and take that infrastructure to better build a bridge on what you've built thus far. NEEA (Elaine) confirmed that was a great idea.

Commercial Code Enhancement (CCE) Update

Neil Grigsby (NEEA) introduced himself to the Committee and provided an update on State Coordination Plan development. *The Desired Outcome is to confirm CCE utility participants and garner agreement on the State Coordination Plan development process. Refer to [slides](#) 109-126 and page 23 in the [packet](#) for greater detail.*

Presentation Highlights

A. CCE Overview

- 1) Initiative Concept: A regional framework with state specific plans supporting the adoption of progressively effective energy codes.

- a) CCE is created to support the NEEA Codes program and transform the code process by looking further out, across multiple code cycles and identifying technologies and practices for future adoption.
 - b) We want to work within existing code processes and stakeholders to have a more strategic and collaborative approach to successfully develop and adopt efficient, value-added measures into code that can be implemented by jurisdictions and the D&E industry
 - c) If done correctly this can provide us with greater insight into upcoming code changes so we know how to support new technologies and building strategies through utility programs and CCE interventions strategies.
- 2) How CCE is different from the NEEA Code program
- a) Essentially formalizing the current process and demonstrating market support for code proposals. Longer-term strategic approach to supporting code cycles.
 - b) Development of energy-efficient strategies and technologies for implementation in utility programs and future state and local energy codes.

3) Timeline



4) Key Initiative Activities

- a) Develop state-specific coordination plans based on gaps and prioritized focus areas
- b) Identify, assess and prioritize technologies and practices with potential to be feasible and affordable
 - i. This will tell us what support these technologies and practices need to be adopted into code
- c) Demonstrate technologies and practices, develop tools and case studies, provide training to build market acceptance and support for code proposals
 - i. Through MIS (Market Intervention Strategies) we can Demonstrate feasibility and affordability, promoting the value proposition, and provide needed support for code proposals
- d) The desired future state is that market practice leads code adoption and that there is alignment between market practice, code adoption and utility programs
 - **Seattle City Light:** *Is cost analysis in the future part of the scope of either of these?* NEEA (Neil) confirmed that it is, this will be discussed later as part of the “scoring matrix.”

5) Stakeholder participation

- a) Review of Design Team
- b) **COMMITTEE ACTION ITEM:** Please confirm that you have the appropriate team member in the list below. If not, contact Neil at ngrigsby@neea.org | 503-688-5417.

	Montana	Idaho	Oregon	Washington
<i>Utility</i>	Deb Young <i>(Northwestern Energy)</i> Michelle Lichtenfels <i>(BPA)</i>	Sheree Willhite <i>(Idaho Power)</i> Tom Lienhard <i>(Avista)</i> Michelle Lichtenfels <i>(BPA)</i>	Jessica Iplikci <i>(Energy Trust)</i> Michelle Lichtenfels <i>(BPA)</i>	Bill Hibbs <i>(Clark PUD)</i> Doug Case <i>(CREA)</i> Rob Marks <i>(SnoPUD)</i> Mark Aalfs <i>(Tacoma)</i> Nancy Goddard <i>(PacifiCorp)</i> Tom Anderson <i>(PSE)</i> Colm Otten <i>(Seattle City Light)</i> Andrew Pultorak <i>(PSE)</i> Terry McKenzie <i>(Grant PUD)</i> Mattias Jarvegren <i>(Clallam County)</i> Michelle Lichtenfels <i>(BPA)</i>
<i>Non – Utility</i>	Dale Horton <i>(NCAT)</i>	Katie Pegan <i>(OER)</i>	Blake Shelide <i>(ODOE)</i> Jim Edelson <i>(NBI)</i>	Duane Jonlin <i>(City of Seattle)</i> Chuck Murray <i>(Dept. of Commerce)</i> Poppy Storm <i>(Ecolope)</i>
<i>Labs/Power Council</i>	Kevin Smit <i>(NWPPCC)</i> , Lisa Rosenow <i>(NEEC)</i> , Kevin Van Den Wymelenberg <i>(U of O)</i> , Christopher Meek <i>(U of W)</i> , Elizabeth Cooper <i>(U of I)</i>			

B. CCE Process

1) State Coordination Plans

- a) Identifies key outcomes of long term (15-20 year) Code development in each Northwest state.
- b) Guides CCE and utility program strategy
- c) Includes key code stakeholders and utilities from each state
- d) The planning process and resulting state plans will serve the following purposes:
 - i. Identify and document relevant state energy policy directives.
 - ii. Bring key parties together to develop a shared understanding of the value and need for coordinated effort to achieve initiative goals.
 - iii. Establish long range and interim goals and strategies for actions to enhance energy code adoption and compliance.
 - iv. Where appropriate, align commercial new construction voluntary programs with energy codes and policy.
 - v. Coordinate efforts between the NEEA code program, NEEA CCE initiative, CNC market strategy and emerging technologies.
 - vi. Create implementation guidelines for several code cycles.
 - vii. Develop and deliver education, training and technical assistance where needed to meet identified actions.
 - viii. Coordinate and deliver related information and any marketing materials and public relations, where appropriate.
 - ix. Track and assess progress to plan.
- e) Key Sections
 - i. Code/Utility Stakeholders
 - ii. Code Development Process and Timelines
 - iii. State Policies and Goals
 - iv. Utility Programs
- f) Kick-off meetings
 - i. November – OR
 - ii. December – WA, ID

- iii. Q1 2018 – MT
- g) Next Steps
 - i. First draft revisions – 2/14
 - ii. 2nd meeting – Feb/Early March
- 2) WA Proposals/Technology & Practice (T&P) Assessments
 - a) C407 Performance Path Baseline
 - b) HVAC System Performance Requirement
 - c) C406 Options Parity Method (for future code cycles)
 - d) DOAS Enhancement and Market Preparedness (for future code cycles)
 - e) Note: webinar on 2/5 (for Design Team) will provide a detailed update on each proposal
- 3) T&P Assessments Scoring Methodology – *note: this is an example only*

		Score				
		1	2	3	4	5
SAVINGS	Energy Savings Opportunity				X	
	Cost Effectiveness			x		
	Measurability				x	
MARKET	Defined and Available					x
	Market Ready		X			
	Market Friendly					x
PROGRAMS	Code Ready				x	
	Industry support	x				
	Compatibility with Utility Programs		x			

C. Questions to funders:

- 1) **How else would you like to stay involved in CCE?**
- 2) **Is your utility participating in code conversations outside of CCE?**

Discussion:

- **Tacoma Power:** Want the group to be aware that we have a representative on the State Building Code Council Technical Advisory Group representing utilities (Tacoma Power Engineer, Brian Russo); this can be another avenue for influencing the outcome of the code process.
- **Energy Trust:** Jessica is the correct person to represent us.

Wrap up/Feedback on Meeting

- A. Public Comments
 - 1) None
- B. Wrap-Up/Meeting Feedback
 - 1) **Tacoma Power:** Meeting went well
 - 2) **NorthWestern:** Appreciate having the video camera in the room
 - 3) **Seattle City Light:** Like the 2-page program highlights, makes it really easy to pass along internally
- C. Next meeting topic ideas
 - 1) Pay for performance