

# Meeting Notes Industrial Advisory Committee (IAC) Tuesday, July 16, 2019



## Attendees:

### In Person:

Rick Rosenkilde - Snohomish Co. PUD

Todd Amundson – Bonneville Power Administration

Chao Chen – Puget Sound Energy

Randy Thorn – Idaho Power

Amanda Potter – Energy Trust of Oregon

### Phone:

Andy Paul – Avista

Jim White – Chelan PUD

Alan Fraser – Tacoma Power

Jim Conlan – Snohomish Co. PUD

Nancy Goddard – Pacific Power

Deb Martin Young – NorthWestern

Zeecha Van Hoose - Clark County PUD

**NEEA Staff:** Maria Alexandra, Emily Moore, Mark Rehley, Warren Fish, Alisyn Maggiora, Debbie Driscoll

**Guests (phone):** Layne McWilliams, Allison Grinczel (Snohomish PUD); Justin Ramsay (Energy350), Eric Braddock (Energy Trust)

## Resources

- **Packet link on neea.org:** <https://neea.org/advisory-committee-documents/q3-2019-iac-meeting-packet>
- **Slides link on neea.org:** <https://neea.org/advisory-committee-documents/q3-2019-iac-meeting-slides>
- **Meeting Recording:** <http://neea.adobeconnect.com/pte7mylfjf7o/>

## Welcome, Introductions and Housekeeping Items

Maria Alexandra Ramirez (NEEA) introduced the meeting and provided the overview. Refer to [slides 2-4](#) and page 2 in the [packet](#) for greater detail. If you have questions about the meeting, logistics, or general thoughts, please contact Maria Alexandra ([MARamirez@neea.org](mailto:MARamirez@neea.org)).

- A. Welcome
- B. Meeting packet review
  - 1) Industrial Advisory Committee Conference Coordination p.12
  - 2) C+I Lighting Regional Strategic Market Plan Quarterly Update p.13

## Industrial Portfolio Update

Emily Moore (NEEA), Warren Fish (NEEA) and Debbie Driscoll (NEEA) provided the overview, which included highlights on the industrial programs (Warren) and a specific overview of plans for the C&I Strategic Energy Management (SEM) program (Debbie).

The desired outcome is for committee members to be aware of key updates on industrial programs and planning for NEEA's Cycle 6. Refer to [slides 5-11](#) and [pages 3-7](#) in the [packet](#) for greater detail. If you have questions about this presentation please contact Emily ([EMoore@neea.org](mailto:EMoore@neea.org)) or Debbie ([DDriscoll@neea.org](mailto:DDriscoll@neea.org)).

- A. Updates for Cycle 6 (2020-2024) Business Plan & Operations
  - 1) Impending organizational changes
    - a) New structure around "product groups" rather than sectors
    - b) RPAC continuing to work through improvements to advisory committee roles and structure; reach out to your respective RPAC member in your organization for greater detail.
- B. Industrial Portfolio Update
  - 1) Extended Motor Products (XMP)
    - a) Final Technical Workgroup webinar slated for next Monday, July 22; pump research report focused on planning measures will be shared.
    - b) Following similar market engagement model as Reduced Wattage Lamp Replacement by capitalizing on the distributor platform/relationships.
    - c) Utility support will be critical for leveraging the program and incentive design strategy as the initiative progresses in order to start to transform the market towards the more efficient options.
  - 2) Industrial Technical Training
    - a) Program did not receive sufficient funding for Cycle 6 and thus, will retire at the end of this year with NEEA and transition to those utilities still interested in running it.
    - b) Have four trainings remaining for this year and trained 141 participants this year to-date.
    - c) See pages 4-7 in the packet for additional detail.
- C. Strategic Energy Management (SEM) – see slides 10 & 11 for additional detail
  - 1) Cycle 6 Plans
    - a) Similar support for SEM Hub and Collaborative as in past
    - b) "Talk cards" / training resources moving online
    - c) NEEA is facilitating the development of a regional SEM data plan. Top priorities for data insights emerged via workgroup meetings:
      - i.) Identifying which customers have the greatest potential
      - ii.) Determining measure life
      - iii.) Establishing best practices for baseline measurements and tracking against baseline over time, including what to measure for different business types
      - iv.) Estimating cost per unit saved
    - d) NEEA is drafting preliminary concepts for funder review and prioritization in Q3.

## Utility Share-outs/Round Robin

Committee members shared out current activities within their organizations since last meeting. Please listen to the recording for utility specific detail (between 2:00-3:00 hours of the recording). Key highlights or announcements that may impact the region included:

- A. Idaho Power shooting for 100% clean energy by 2045; currently at around 70% (this is not state mandated, Idaho Power decided to establish the progressive goal on their own).
- B. Energy Trust may pilot a streamlined SEM process in October.
- C. Puget Sound Energy will have a new CEO in January, the existing CEO is retiring.
- D. Bonneville Power Administration noted there are Resource Acquisition Plan updates that include increased incentives for some HVAC measures, mostly commercial and residential. Just rolled out another M&V protocol document in the BPA document library regarding capacity benefits of EE.

- Rolling out three BPA qualified measures related to welders, battery chargers, and water system leak abatement (which may eventually roll out to RTF measures) that will be available Oct 1, 2019.
- E. Tacoma Power looking at thermal loading on their cables; still evaluating this since that won't get at energy efficiency or demand response.

## Emerging Tech Guest Speakers

### Water/Wastewater Market Tech Measures – Layne McWilliams, Cascade Energy ([slides 14-41](#))

- A. Trends Overview
  - 1) Water is water, regardless of source; reuse of reclaimed wastewater for non-potable uses becoming common and even required in Arizona
  - 2) Owners asking for and expecting energy efficient construction, manufacturers responding
  - 3) Large generational turnover in the field (lots of retirees)
  - 4) Robots are coming!
  - 5) Typically find the most energy savings out in the distribution system
- B. Processing Overview
  - 1) Primary energy hog is in aeration, then solids stream and solids handling (see slide 20)
  - 2) Would need additional processing units added onto facilities to manage increasingly identified contaminants like hormones, etc.
  - 3) Mixers are necessary in any zone without air – typically systems used compressed air systems
- C. Process equipment to watch for
  - 1) Mixers: Linear motion (ex: Gresham, OR site – reached net zero on annual basis as result of EE improvements), “big bubble” mixing, Xylem “smart” mixers, mixer retrofits
  - 2) Unloading aeration basins: Primary filtration (ex: The Dalles, OR), sidestream or shortcut denitrification, simultaneous nitrification/denitrification (significantly reduces aeration loads)
  - 3) Instrumentation and controls: Phosphorous instruments, ammonia based aeration control, energy pump station optimization, AquaSite optimization umbrella, Hach WIMS

### Utility Cohorts: Learnings from the Field – Idaho Power, Snohomish PUD

- A. Idaho Power – Randy Thorn ([randythorn@idahopower.com](mailto:randythorn@idahopower.com)) ([slides 42-76](#))
  - 1) Examples shared of wastewater treatment facilities around Idaho that have made improvement projects yielding significant energy and cost savings.
  - 2) They have four primary cohort types: Refrigeration Operation Coaching, Wastewater, Schools, Water Supply
  - 3) Now actively working with design firms on the front end of projects to get more energy efficient technologies incorporated before construction occurs.
- B. Snohomish PUD – Jim Conlan ([jirconlan@snopud.com](mailto:jirconlan@snopud.com)) ([slides 77-84](#))
  - 1) Emphasis should be on O&M, low-cost, no-cost opportunities, not capital projects (particularly initially in researching EE opportunities)
  - 2) Keys to cohort success include critically good relationships with customers, selecting customers that are committed, proven strategy and resources (ESI), trust among cohort participants and willingness to share the good and the bad.
  - 3) Found several wastewater sites were understaffed, which resulted in low enrollment/representation from that industry sector.

### Air Saver Unit (ASU) Update – Justin Ramsey, Energy350 ([slides 86-100](#))

- A. Technology Introduction
- B. Study of Methodology
  - 1) Still working to get 10 open blowing applications; currently at six

- C. Review of Findings
  - 1) One hurdle they're seeing is intermittent operation of the unit where it stays open; while this is satisfactory to the customer since the action needed is still accomplished (i.e. clearing dust), the intended energy savings is lost.
- D. Identified Barriers
  - 1) Review slide 107
  - 2) Seeing lower uptake than desired
- E. Next Steps
  - 1) Continue identifying and recruiting participants
    - i. We are continually finding interested customers and working through scoping
  - 2) Work with manufacturer to identify issue with intermittent operation
  - 3) Finalize results across all installations
- F. Questions to Energy350 (answers below)
  - 1) Unit aperture is customizable/adjustable by the customer
  - 2) The savings are fairly linear between cfm:kwh
  - 3) Open blowing applications more suitable to debris clearing thus far, may know more soon on clearing water
  - 4) Operating hours are a primary aspect in cost-effectiveness calculations
  - 5) Aware of two manufacturers thus far
- G. QUESTIONS TO UTILITIES:

***Would utilities be interested in getting Unit Energy Savings "UES" by the regional technical forum for Air Saver units as applied in the field? Or would you rather handle this technology as a custom project solution? If the path is UES would it be beneficial for NEEA to build a specification, test procedure and qualified products list with recommended incentives? Do you think it should become part of a NEEA initiative or just end as a UES?***

#### DISCUSSION

- 1) Savings are so small, doesn't seem attractive to pursue
- 2) Based on what Clark PUD has seen in the field, they would not trust a customer operate it accurately; there's no feedback on settings
- 3) Please send any questions or ideas to Geoff Wickes ([GWickes@neea.org](mailto:GWickes@neea.org))

#### Waste Heat Capture System (Scanning Opportunities) – Eric Olson, NEEA ([slides](#) 101-117)

- A. Background & Opportunity
  - 1) DOE estimates that 20-50 percent of energy consumed is lost via waste heat
- B. Stirling Engine Technologies
  - 1) Olvondo Technology – ThermoLift (Norwegian)
    - a) Expect CO2 reductions of 165 tons/yr (reduced energy consumption by more than 50%)
    - b) Test site example: AstraZeneca
  - 2) Sound Energy THEAC-25 (thermoacoustic conversion)
    - a) Scavenges waste heat at 40-50% efficiency
    - b) Estimate electricity savings of up to 50MW hrs/year
    - c) Currently used in Netherlands in coffee roasting facility, and condensing air application in Dubai
    - d) \$50k in cost before scaling; would likely see an ROI in about 10 years at that cost

C. Utility interest

1) White and working papers on baseline results would be helpful

a) **ACTION ITEM: Eric to request these and distribute to the committee as received**

2) Expect they would need local support as a next step to consider further

D. Send questions/comments to Eric (EOlson@neea.org)

## **Opportunity for Public Comment**

None.

## **Wrap up/Feedback on Meeting**

1. No suggested topics for next meeting at this time.

2. Next Meeting is set for Thursday, October 10, in Portland at NEEA's office.