

Memorandum



October 2, 2018

TO: Industrial Advisory Committee (IAC)
FROM: Eugene Rosolie, Stakeholder Relations Manager
SUBJECT: IAC Packet – Q4 2018

PACKET APPROACH

This packet continues the “tiered” approach:

- Tier-1 memo for items on the agenda;
- Tier-2 memos for informational updates on items not requiring agenda time
- Tier-3 materials provided as additional detail for those interested.

INFORMATIONAL UPDATES

Enclosed please find **Tier-2** informational updates on the following:

- Page 2: Industrial Portfolio Updates
- Page 3-5: Notes from Q3 IAC discussion of water and waste water efficiency opportunities
- Page 6: Proposed IAC 2019 Meeting Dates
- Page 7: Process Change: Notetaking for Advisory Committees
- Page 8: Conference Coordination

ADDITIONAL DETAILS (Tier 3)

Tier-3 materials related to the agenda items and informational updates listed above will be accessible through links in those memos. Additional Tier-3 details are available here:

- Q3 2018 [IAC Meeting Notes](#)
- Q3 2018 [RPAC Meeting Notes](#)
- Q3 2018 [Market Research & Evaluation Newsletter](#)
- Q3 2018 [Emerging Tech Report](#)
- Q3 2018 [Market Intelligence Newsletter](#)

Memorandum – *Informational (Tier 2)*



October 3, 2018

TO: Industrial Advisory Committee (IAC)
FROM: Emily Moore, Senior Manager, Commercial & Industrial
SUBJECT: Industrial Portfolio Updates

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ASK:

Please review the program highlights from the last quarter and direct any questions or comments to Emily Moore (emoore@neea.org or 503-688-5422) or Warren Fish (wfish@neea.org or 503-688-5402).

PROGRAM HIGHLIGHTS:

Pumps

Extended Motor Products

- Meeting #4 of the XMP Technical Workgroup will be held November 29th. Recordings and notes from past Technical Workgroup meetings are on our Conduit page [here](#).
- The Pumps Research Project is going well, with a lot of existing and primary data gathered so far. The team is still in the data gathering phase, and we sincerely appreciate the data contributions and efforts of many NEEA funders already. If you are interested in learning more about how your library of past utility custom projects with pumps would be valuable for this research effort, please reach out for Warren directly or refer to our [XMP initiative Conduit page](#) for more information.
- Took part in CEE Industry Partners meetings on pumps and contributed to shaping the CEE Program Specification currently in development. Our focus remains on leveraging the PEI and Hydraulic Institute’s Energy Rating Label Program to encourage procurement of energy efficient pumps.
- The XMP team is developing a project scope for the Market Characterization and Baseline study we anticipate launching in Q4.

Cross-cutting Infrastructure

Strategic Energy Management (SEM)

- The 8th annual Fall Workshop of the NW SEM Collaborative is set for October 25th in Portland. [You can view the agenda and more on the event here](#). Please join and invite your colleagues to attend.
- Completed work on current award cycle for 50001 Ready innovation project funded by LBNL, and submitted an application for a follow-on award of an additional \$100k.
- Continued to support SEM Hub and the subset of SEM Hub tools that are NEEA owned and maintained, including minor upgrades to the new SEM Hub Energy Management Assessment tool.
- Developed SEM Hub Newsletter to be distributed at Fall Workshop.
- Participated in and presented at the 2018 National SEM Summit held during ACEEE Summer Study.

Industrial Technical Training (ITT)

- In Q3-18, we delivered the following trainings in partnership with host sponsor utilities:
 - 9/11/18, Energy Efficiency of Chilled Water, Everett WA
 - 9/12/18, Energy Efficiency of Cooling Towers, Everett WA
 - 9/20/18, Air Cooled Refrigeration and Energy Efficiency, Missoula MT
- In Q3-18, 61 individuals participated in ITT course offerings.
- For Q3-18, we are kicking off annual planning, and we have two trainings scheduled. We remain on-track to meet or exceed all of our 2018 program goals and metrics.

Memorandum – *Informational (Tier 2)*



October 1, 2018

TO: Industrial Advisory Committee (IAC)

FROM: Mark Rehley, Senior Manager Emerging Technology & Product Management

SUBJECT: Notes from Q3 IAC discussion of water and waste water efficiency opportunities

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ASK OF YOU

1. Review these notes and let us know if we captured what you shared. We are happy to update to fix any errors.
2. Give us guidance on if you would like to continue to explore this area and what next steps would be valuable to you and your organization.

Water & Wastewater Notes

1. Summary
 - a. How low can energy intensity get if best practices are applied? Check out the DOE study.
 - b. Common themes
 - i. Best versus standard practices
 - ii. A lot of benefits come through cohorts with an emphasis on energy management. Often starts with low/no cost changes, but tends to migrate to capital projects.
 - c. Local versus regional engagement
 - i. Local
 1. Cohorts and other facility level engagements
 2. Treasure hunts -
 - ii. Regional
 1. Engineering and design? Best / standard practices
 2. Manufacturer engagement and product testing
 3. Trade associations
 4. Operators associations
 - d. Companies offering efficient technologies
 - i. Xylem: In particular their Flygt brand products: <https://www.xylem.com/en-us/>
 1. Fine bubble aeration: <https://www.xylem.com/en-us/products-services/treatment-products-systems/aeration-equipment/fine-bubble-aeration/>
 - ii. JWC Environmental: HYDRO grinder - <https://www.jwce.com/blog/2012/12/05/hydro-sewage-grinders-prevent-pump-ragging-and-clogging/>
 - iii. Clean Infusion: Aerator cleaner - <https://www.cleaninfusion.com/>
 - e. Next steps
 - i. Invite Lane McWilliams at Cascade Energy to speak at a future IAC
 - ii. Share summary notes and studies with IAC
2. Idaho Power
 - a. Cohort approach

- i. Water Distribution
 - a. Helping the customer understand their hydraulic models.
 - b. Well by well production design and tradeoffs.
 - c. Reduce recirculation with head
 - ii. Waste Water
 - a. Dissolved oxygen control – o2 sensors
 - b. Fine bubbled diffusers - Aerostrip
 - c. Moving to turbo blowers instead of compressors
 - d. Working upstream with engineer firms on new designs to address environmental. Helping them to understand the efficiency benefits and rebates
 - e. All custom with savings normalized (energy intensity)
 - f. Pay for design costs to apply EE design up to \$12K
 - g. 20 year buildout plans – facilities run at part load for many years.
- 3. Snohomish PUD
 - a. General Program
 - i. 10 year effort
 - ii. 12 large waste water plants – 2-40M gal/ day
 - b. Cohort
 - i. 8 participants
 - ii. Conservative – high safety – applies a significant safety factor.
 - iii. Examine practices with consideration of assumptions and real impact on safety
 - iv. Tweak and peek.
 - v. Aeration accounts for 40-50% energy use
 - vi. Focused on no/low cost changes
 - vii. Capital projects are natural results
 - viii. Cohort approach works great, but not every organization is ready to commit to the process.
 - ix. EE not asked for by cities / owners.
 - x. Equipment Companies
 - 1. xylem
 - 2. Aerostrip
 - xi. Energy smart industrial program by BPA is a great resource for experience and resources.
- 4. PSE
 - a. UV system uses a lot of energy
 - i. There are efficient products but they are expensive. Does anyone know about a lower cost option?
 - ii. Pumping energy use – who has done much in this area?
 - iii. Bio gas used to offset power needs
 - b. Water treatment plans?
- 5. Clark PUD
 - a. Installed a couple of UV lamp upgrades.
 - b. Non ragging pump – Flight brand pumps were more energy efficiency
- 6. ETO
 - a. This is a link to a nice summary of some of ETO's waste water EE work. <https://www.energytrust.org/fact-sheets/wastewater-treatment-fact-sheet/>
- 7. Out of Region Research
 - a. Wastewater Dissolved Oxygen Sensor: Field evaluation of a dissolved oxygen sensor for wastewater treatment plants. The device will provide real-time feedback to blower systems to optimize operation, and hopefully reduce overall energy consumption.
 - i. San Diego Gas & Electric Company

- b. Real Time Aeration Efficiency for Wastewater Plants (aka Wastewater Treatment Plant Demand Response): Wastewater aeration requires 50% of the energy use in wastewater treatment plants. A real-time analyzer that measures aeration efficiency was developed with CEC funding and has been demonstrated with SCE funding at several wastewater treatment plants over a one-year period. To achieve the full benefit from this technology it is necessary to integrate the analyzer signal with the dissolved oxygen probe signal that currently controls the wastewater aeration blowers in all wastewater treatment plants. At the completion of this one-year developmental demonstration, every wastewater facility will desire to install this low-cost analyzer and software (i.e., cost similar to existing dissolved oxygen probes) to utilize the oxygen transfer efficiency and dissolved oxygen signals as the key to controlling the aeration blowers output to operate as efficiently as possible, reducing significant kWh continuously.
 - i. Southern California Edison
- c. Sludge Mixing or Monitoring Valves: Switching out metering pumps to valves for wastewater treatment facility, eliminating pumping demand
 - i. Sacramento Municipal Utility District
- d. Pump Efficiency at Wastewater Plants: Piloting pump systems optimization at ten wastewater treatment plants.
 - i. National Grid
- e. Municipal Facilities Program: The pilot will be targeting water/wastewater infrastructure in addition to the other facility types. Process energy is used in both the treatment and distribution processes. Process electrical energy savings may result from the installation of variable frequency drives, more efficient or right sized motors and aeration technologies, new controls technologies, and the optimization of pumping systems. Process gas savings is largely a matter of making wastewater treatment process changes to reduce the volume of sludge produced and subsequently incinerated.
 - i. Consumers Energy

Memorandum – *Informational (Tier 2)*



October 2, 2018

TO: Industrial Advisory Committee (CAC)
FROM: Eugene Rosolie, Stakeholder Relations Manager
SUBJECT: Proposed IAC Meeting Dates for 2019

Our Ask of You:

Please review the proposed IAC meeting dates for 2019 below and let us know of any conflicts and any proposed alternative dates, by Wednesday, October 31, 2018. Bring any questions, feedback, or concerns to the Q4 CAC meeting on October 18.

Proposed CAC Meeting Dates for 2019

Q1 2019	Q2 2019	Q3 2019	Q4 2019
Tuesday, January 29	Thursday, April 11	Tuesday, July 16	Thursday, October 10

Please contact [Eugene Rosolie](#) you have immediate questions about this memo.

Memorandum – *Informational (Tier 2)*



October 2, 2018

TO: Industrial Advisory Committee (IAC)
FROM: Eugene Rosolie, Stakeholder Relations Manager
SUBJECT: Process Change: Notetaking for Advisory Committees (ACs)

Our Ask of You:

Please review this memo and bring any questions to the October 18th meeting.

Overview:

Effective Q4 2018, NEEA’s AC notetakers will follow the Board’s note-taking practice of capturing meeting participants, subjects, action items, decisions, owners and deadlines only. The highly-detailed notetaking NEEA has practiced with its ACs has been a significant resource investment for NEEA staff and AC members alike, particularly considering the 25+ AC meetings convened annually. Given that it’s already standard practice to record NEEA AC meetings, the meetings are being captured and the recording can be made available indefinitely for much less cost. Moving forward, AC members can expect to receive a written summary of these key points and a link to the audio recording, should they be interested in further detail. Thank you for working with us on this efficiency.

Please contact [Eugene Rosolie](#) if you have immediate questions about this memo.

Memorandum – Informational (Tier 2)



October 2, 2018

TO: Industrial Advisory Committee (RAC)
FROM: Eugene Rosolie, Stakeholder Relations
SUBJECT: Conference Coordination

BACKGROUND

In response to a NEEA Board discussion last year about conference/event attendance, NEEA developed a tracking system to improve its management of who's going to what, and criteria that improves NEEA's ability to manage to its annual operations plan and budget.

There is a coordination opportunity here, to ensure we're connecting as appropriate in advance, and sharing out relevant takeaways after, ensuring that the value of these events is shared with the region. This will be a standing Housekeeping item for this Advisory Committee moving forward.

OUR ASK OF YOU

Please review the Upcoming Event agenda(s) linked below and email me (erosolie@neea.org) if you'd like to coordinate with NEEA staff in advance of the event, and/or if there are specific topics/breakouts you'd like to hear about at our next IAC meeting.

UPCOMING EVENTS

Date	Conference	Report
10/7/2018	Northwest & Intermountain Power Producers Coalition	Conduit Posting