November 13, 2025
Meeting Minutes

Welcome, Agenda Review and Meeting Minutes

Jennifer Light, RTF Chair, welcomed attendees at 9:00am and called for attendance. She counted 24 voting members. Gregory Brown, Tierra Resource Consultants, moved to adopt the minutes from the October meeting. Noe Contreras, NEEA, seconded. The minutes were adopted unanimously.

Eric Miller, independent, moved to adopt the day's agenda. Mark Jerome, CLEAResult, seconded. The agenda was adopted unanimously.

Management Update

Laura Thomas, RTF Manager, Presentation

Staff presented updates. There was no discussion.

Update DR Product: Irrigation Pump Controls Demand Response

Josh Rushton, RTF Contract Analyst (CAT), Presentation

Staff presented proposed updates to the demand response product on irrigation pump controls. Conversation touched on the concept of snapback, the unique qualities of demand response in the agricultural sector, the vintage of available data, and the timing of future work. The RTF voted to approve the update.

David Baylon, independent, felt that the DR definition on [Slide 4] was somewhat ambiguous, saying it's possible that "net electricity" implies a reset of electricity to the customer. He thought it might be useful to think of this as an option that transcends turning things on and off for the purposes of demand response.

- Light: Thanks. We can pass this feedback on to Council staff.
- Baylon: In California, they're trying to add resilience to solar systems. That's explicitly different than what they've done in previous decades.
- Light: This definition is from the Council's 2021 Plan. They're sticking with it. We have a portfolio of six products to work through with this definition. Let's not get hung up on this scope. The framework can change if needed.

Contreras asked what snapback means in practical terms [Slide 8].

- Josh Rushton, RTF Contract Analyst: Not all DR products will have snapback, but many will. For instance, consider residential connected thermostat DR. On a hot summer day,

the setpoint will move up a couple of degrees. At the end of the event, the thermostat will start to make up lost conditioning. That creates an increase in demand.

- Contreras: So, what about irrigation. Is there a need to make up water after an event?
- Rushton: We'll get to that.

Baylon wondered if the RTF is only addressing a particular measure without considering if that measure causes a need for demand response [Slide 10]. He said irrigation loads for Idaho Power and Pacific Power programs haven't really grown in the past couple of decades whereas the overall load (and overall demand) has grown a lot. He said this actual increase in demand is not being addressed here; we sort of take it as a given, like some kind of hurricane or earthquake, adding that the RTF is not looking at both sides of the issue.

- Rushton: We need to pick a baseline. That's where we capture the demand (for irrigation, at least) showing up as the hurricane delivered it to our doorstep.
- Light: To changes in the overall load, we don't do load forecasting at the RTF. The Council thinks about that in their planning. At the RTF, we consider the measures and products and how they can help address those loads. The RTF is not trying to solve everything in power planning land, just some of the technical pieces
- Baylon: I want to remind you that there are two sides to this problem, or more. We don't have to just impose this on the ag sector if there are more pressing products in the residential sector.
- Light: I get that. Ag irrigation might not be the most pressing need. There are other products and we'll get to them.
- Baylon: On the whole I agree. This is a good place to start. But as a reminder there are relatively complicated issues that will arise. And not necessarily because of what's going on in the ag sector, or any sector for that matter.
- Light: Got it. This is a tool in the toolbox. The subject of this presentation is only one piece of the pie.

Quentin Nesbitt, Idaho Power, addressed the inconvenience and value proposition laid out on [Slide 16]. He said customers also considers the risk of potentially damaging their crops.

- Light: Rushton can edit that note in the workbook

Contreras noted that the process described on [Slide 20] is automated, yet staff stated that load-up is not possible. He wondered how that can be. Contreras then asked if there are variable speed pumps and if the max is nameplate.

- Rushton: I did not pick a nameplate max. For load up let's consider a water heater with CTA 2045 controls. It will raise the setpoint regardless of if there is a water draw. It may move from 120°F to 125°F which increases electricity consumption. Then an event signal calls to decrease the load. That's not a factor with pumps. Farmers are not "pre-watering."
- Contreras: So, you can't overwater.
- Rushton: For the kW, you'd take the max you see on the meter. This shouldn't vary too much. It may within a season, but not within a day. If it's a variable speed pump, the max on the meter would reflect the level they're running at.

Contreras was surprised by the water patterns on [Slide 23]. He said soil permeability doesn't change much and asked if this chart reflects the vegetation being watered.

- Rushton: That's beyond my knowledge.
- Baylon: I looked at this decades ago. It's a unique feature of grain farming in the Snake Valley. You pre-charge the roots by saturating the soil. Then you can then turn it off in a few weeks and make it a desert again so the crops can dry out.

Miller stated that the graph shows 6am to midnight, wondering what happens from midnight to 5 or 6am.

- Rushton: I'm not sure.

Baylon stated that a lot of things in Idaho's ag sector are not grain, pointing to potatoes and sugar beets [Slide 27]. He said the spike shown on the slide looks like grain irrigation, but other customers will look different. Baylon admitted that other crops could cycle through a given field—including sometimes a grain, sometimes something else. He insisted that these shapes will be unique to the farmer.

Eva Urbatsch, Puget Sound Energy, thought it would be hard to predict what happens year over year in July as there is a lot of variation in the weather [Slide 29].

- Rushton: Good point. Extrapolation risk is not just from a jurisdiction; there is also variation from year to year due to weather. I can add that to the extrapolation risks in the workbook.

Baylon voiced discomfort that the best information is from ELCAP. He said loads have changed dramatically in the past four decades but hedged that they may have not changed much in irrigation. Baylon asked why the region isn't getting data for better load shapes.

- Rushton: We are hoping to get better irrigation load data. We just don't have it now.
- Baylon: That's fair. But for DR, we need to know specifically what's going on. I'm not sure the load shape data you're generating is useful, other than as a general guideline.
- Laura Thomas, RTF Manager: There's a point where we just need to get some of this DR stuff out the door. This can improve over time as we get better data. We're paying attention to load and savings shapes. But there's a lot we don't know about DR. We'll talk to the region, but we wanted to push forward. I agree, though, we should get better data than ELCAP.
- Light: And Rushton has flagged that we're not trying to overstate the load shape reliability here.

Andrew Grant, Cadmus, addressed load shapes that were modified with DR evaluations on [Slide 32]. He asked if staff are planning to adjust load shapes for other RTF ag products.

- Thomas: We'd consider that during the next measure update or sooner if there is a very substantial change.

Baylon fundamentally agreed that this is a useful start but wondered why the review date is three years out [Slide 34]. He stressed that this particular irrigation issue is specific to Idaho and wondered about other DR potential in the ag sector like flooding irrigation in Columbia basin or deep pumping elsewhere. Baylon said that's not resolved here at all. He said there are not many players in ag whereas there are millions of players in residential.

- Thomas: We picked three years to try to line up EE and DR measures. This way analysts and the RTF can consider technologies/subjects at the same time. This timeline aligns with the irrigation measure that the RTF approved last month. That said, maybe DR needs some changes sooner, maybe based on 9th Plan work. If the RTF wants to expand this to other ag shapes, we could do that before the three years are up.
- Light: Also remember, we don't have guidelines for DR. These "review dates" don't have the same weight as an RTF sunset date.

Grant noted that the summary page is fairly standardized, calling that a great start. He asked what other DR products in progress are consistent in the workbooks.

- Thomas: We're trying to establish a template. As we work with the other technologies, we may need to adjust the template. It will be a work in progress.
- Grant: Understood. If a new key metric or standardization comes up, will the CAT update previous DR products to this?
- Thomas: Yes, we'd go back and make those adjustments.

MOTION
I, David Baylon, move that the RTF approves the Agricultural Irrigation Demand Response Product Workbook, as presented and Set review date to October 31, 2028. Mark Jerome, CLEAResult, seconded.

Vote on the motion. The motion carries. (25 yes, 0 no, 0 abstain)

BREAK

Update Standard Protocol: Commercial Boiler Systems
Ryan Firestone, RTF CAT Presentation
Staff presented the update. After discussing the percentage of condensing equipment and strategies to deal with data the RTF approved the protocol updates.

Baylon asked if the potential reduction justifies moving this protocol into the Small Saver category [Slide 4].

- Ryan Firestone, RTF CAT: We don't have a Small Saver designation for Standard Protocols, but you are right that the potential is pretty small.
- Light: As a reference point, the Guidelines uses 1 million therms as a suggested threshold for the Small Saver designation.

Contreras said he is seeing new technologies arising in this space in Canada, the Midwest, and Northeast [Slide 6].

- Light: If we see those technologies gaining market share in the Northwest they could be added to the Protocol in the future.

Andi Nix, Energy Trust of Oregon, didn't see end-uses other than space- and water-heating. They asked if others are excluded [Slide 7].

- Firestone: The protocol could apply to end uses other than space heating and water heating, but we currently only have supporting data for those two uses.

Baylon asked how 'parallel' contrasts with 'lead-lag' [Slide 9].

- Firestone: Parallel talks about configuration where all have the same supply and return water temperatures. Lead-lag is a control type where the first boiler operates alone until second boiler is needed versus balance controls which balances load across boilers.
- Baylon: So, the load is distributed evenly in balanced controls?
- Firestone: Yes, but the calculator assumes reasonably smart deployment and modulation to limit cycling.
- Contreras: Redundancy is often a design feature where a second boiler is there for peak conditions or primarily as a back-up to avoid downtime.
- Firestone: The protocol provides guidance for systems that cycle through boilers like that.

Lisa Gartland, ODOE, said that in Oregon, larger boilers above 1000 kBtu/h have a 90% minimum efficiency according to code section 6.5.4.8 [Slide 11].

- Firestone: Thanks. I think I got that in the 'New' column in the table.
- Gartland: That looks right.

Baylon wondered why only 60% of replacements are condensing [Slide 13] thinking it would be much closer to 80% [Slide 13].

- Firestone: It's a judgment call. We could change it when we get to the proposed motion.
- Contreras: Another way to divide boilers is high-mass versus low-mass. Are these efficiency values meant to average over that variable?
- Firestone: These are average values from the TSD. They reflect the range of products in the market. Also note that the smaller boiler efficiency is AFUE, so bump that up a couple of percentage points to get something comparable to the thermal efficiency used for larger boilers.

Adam Hadley, RTF CAT, found a typo in the right bottom row, thinking the two 0% entries should be 100%

- Firestone: Correct, thanks.

Grant said that CBECS provides EUIs at the census division level [Slide 16]. He asked how staff dealt with HI and AK being mixed in with OR and WA.

- Firestone: I'd have to go back and review that. For what it's worth, I don't think HI is in there. In any event, it's the data we have so we've used it.

- Grant: One option for improvement might be defining Northwest-like bounds on HDD and CDD and filter out CBECS entries operating outside of those bounds. Also, I've found CBECs water loads unrealistically small. The CBSA might be a better resource for some of these inputs.

Grant said the information on [Slide 19] all makes sense. He did question typical system efficiency at 72% wondering why it is so low.

- Firestone: This is influenced by everything in CBECS that consumes gas for heating. Also, it is an estimate of actual annual efficiency, not rated efficiency.
- Grant: I would question including non-boiler systems in the data behind this estimate.

Contreras said that pneumatic gas valves in boilers allow better turndown than non-pneumatic valves typical of furnaces. He thought combining them may bias the efficiency estimate.

- Firestone: This is just to get a ballpark EUI for estimating thermal load.
- Baylon: I'm also concerned about the 72% efficiency figure. But I'm not sure it's wrong because a 10-15% efficiency hit for distribution losses is not unusual. I think this issue could use further diligence.

Contreras asked if staff has to model the information on [Slide 23] with a condensing baseline.

- Firestone: The baseline is a condensing boiler if you're replacing a condensing boiler. But if you're replacing a non-condensing boiler, you can view multiple cases in the baseline, and you could reweight those if needed.
- Contreras: How are service hot water and area served by the boiler used in the protocol, and why are they coded like that?
- Firestone: We built the protocol around EUIs from CBECS, so that's why we use per/square foot. Those EUIs include service water heating. But the protocol also notes that if you actually empirically know the loads you should just use that.

Parking Lot

Light brought both parking lot items forward. Starting with the first parking lot item: Assuming 60% condensing based on judgment. She asked if there are any strong views.

- Baylon: I would use at least 80%.
- Grant: The range Firestone put forward was 60-80%. I would make it 70-80% based on the given uncertainty range.
- Baylon: This data is older, so if anything, I think it might even be greater than 80%.
- Christian Douglass, RTF Vice Chair: Based on that, I think 80% seems reasonable.
- Light: Let's add 80% to the proposed motion language and we can test it in a motion.

Light then brought parking lot item two forward: Do we need an updated approach instead of the CBECs approach used to get that 72%.

- Contreras: For service hot water, I'd use occupants from the CBSA instead of that EUI.
- Firestone: How would that work for, for example, in schools? Does the CBSA include something like number of students?
- Contreras: Yes.

- Firestone: I'd have to look into it more to see what we're really holding when we drill down in CBSA.
- Grant: This can be hard going, partially because you need different size/activity metrics for different space use types. For example, for restaurants you need number of meals served while for nursing home you need number of beds. I recommend finding another path. How about refine methods using CBECs: It's important to understand census divisions and tease out cases most relevant to the region and benchmark against CBSA however you can.
- Baylon: I agree with Grant.
- Light: Add "Refine methods of using CBECS data for EUIs and benchmark to CBSA" to the proposed motion.

MOTION
I, David Baylon, move to approve the updates to the Commercial Boiler Systems Standard Protocol and Update current practice to 80% condensing where non-condensing is an option, Refine methods of using CBECS data for EUIs and benchmark to CBSA, Change binning method in consumption analysis, Improve functionality of demonstration calculator and Keep the Status at Active, set the Sunset Date to November 30, 2030.
Grant seconded.

Vote on the motion. The motion carries. (21 yes, 0 no, 0 abstain)

Update Small Saver UES: Commercial Boilers
Ryan Firestone, RTF CAT Presentation
Due to time constraints, the RTF voted to extend the sunset date to December 2025.

MOTION
I, Jes Rivas, Swift Strategy, move to extend the sunset date of the Commercial Boilers UES to December 30, 2025.
Grant seconded.

Vote on the motion. The motion carries. (21 yes, 0 no, 0 abstain)

Update Planning UES: Commercial Dishwashers Research Strategy
Logan Douglass, RTF CAT Presentation
After staff presented the update the RTF approved the research strategy.

Baylon noted that staff is stratifying by school/non-school [Slide 6]. He asked to see the sample stratified by this categorization as well.

- Light: We can capture that.

Contreras asked if the strategy on [Slide 8] include a consideration of booster water heaters.

- Denis Livchak, RTF CAT: We did not include booster separation in the research strategy. I agree that sometimes the booster is external. There is some uncertainty on the booster being low if it's a resistance unit. There is also some uncertainty on inlet temperature to boost, but that would be the same for an internal and external booster.

We do have the water temperature measurement at prerinse spray valve as a proxy for inlet temperature.

Baylon did not think a sample size of 10-20 was enough.

- Thomas: We can try for more, but there aren't that many equipment dealers in the region. And some cover the entire region.
- Livchak: There aren't many dishwasher manufacturers, it's pretty specialized. So, there are not that many distributors in the region. As far as interviews with school boards goes, we expect school schedules to be similar across the region.
- Baylon: So, that's the purchasing manager groups? There's just one per state?
- Livchak: That's the plan. It would be great to get more data, though.
- Baylon: I think two should be the minimum. One interview with one person in one place isn't sufficient.
- Light: Noted. We might want to address this in the research strategy and note where we might be able to get larger sample.
- Jackie Goss, Energy Trust of Oregon: This is candidate research that a utility might do. No utility is likely to cover all of those states so state segmentation may be a moot point.

MOTION
I, Eric Miller, move that the RTF approve the Commercial Dishwashers UES research strategy as presented.
Ben Mabee, BPA, seconded.

Vote on the motion. The motion carries. (24 yes, 0 no, 0 abstain)

Light ended the meeting at 12:45

Voting Record: November 13, 2025

Motion Language	Yea	Nea	Abs	Motion Passes?	Percent of Yea Votes		Number of Voting Members Present
					RTF Voting Members (40% min)	Members Voting (60% min)	
Motion: Approve the minutes from the October 21, 2025 RTF meeting. (Brown/Contreras)	24	0	0	Yes	??	100%	24
Motion: Approve the agenda for the November 13, 2025 RTF meeting. (Miller/Jerome)	24	0	0	Yes	??	100%	24
Motion: Approves the Agricultural Irrigation Demand Response Product workbook, as presented	25	0	0	Yes	??	100%	25

and set the review date of October 31, 2028. (Baylon/Jerome)							
Motion: Approve the updates to the Commercial Boilers Systems Standard Protocol: -Update current practice to 90% condensing where non-condensing is an option -Refine methods of using CBECs data for EUIs and benchmark to CBSA -Change binning method in consumption analysis -Improve functionality of demonstration calculator -Keep the Status at Active -Set the Sunset Date to November 30, 2030 (Baylon/Grant)	21	0	0	Yes	??	100%	21
Motion: Set the sunset date Commercial Boilers UES to December 31, 2025 (Rivas/Grant)	23	0	0	Yes	??	100%	23
Motion: Approve the Commercial Dishwasher UES research strategy as presented. (Miller/Mabee)	24	0	0	Yes	??	100%	24

November 13, 2025, Meeting Attendance

* Designates Voting Member

Name	Affiliation
Jamie Anthony*	BPA
Landon Barber*	Idaho Power
David Baylon*	Independent
Jason Bird	IF Power
Angelena Bohman	WA UTC
David Bopp	RTF Contract Analyst
Gregory Brown*	Tierra Resource Consultants
Frank Brown	BPA
Kyle Chase*	Jefferson PUD
Noe Contreras*	NEEA

Bob Davis*	independent
Emily Donohue	Evergreen Energy
Christian Douglass*	RTF Vice Chair
Logan Douglass	RTF Contract Analyst
Emmanuel Eluobaju	Energy Solutions
Ryan Firestone	RTF Contract Analyst
Anthony Fontanini	Tacoma Power
Lisa Gartland*	ODOE
Kevin Geraghty*	independent
Jackie Goss	Energy Trust of Oregon
Andrew Grant*	Cadmus
Adam Hadley	RTF Contract Analyst
Wylie Hampton	NEEA
Bill Hibbs	Clark PUD
Michael Hoch*	Energy Trust of Oregon
Zachary Horvath	Cadmus
Aaron Ingle	NEEA
Mark Jerome*	CLEAResult
Hugh Kelly	Oregon Trail Electric Coop
Phillip Kelsven*	BPA
Erin Kempster	Power Take Off
Rick Knori*	Lower Valley Electric
Jennifer Light*	RTF Chair
Denis Livchak	RTF Contract Analyst
Ben Mabee*	BPA
Bruce Manclark*	Earth Advantage
Rob Marks*	Snohomish County PUD
Eric Miller*	Independent
Quentin Nesbitt	Idaho Power
Andi Nix*	Energy Trust of Oregon
Nick O'Neil*	Energy 350
Brian Owens	CLEAResult
Andrew Paul*	Avista Corp
Joe Prijyanonda	ICF International
Ronald Ramey	Energy Solution
Akanksha Rawal	ETO
Jes Rivas*	Swift Strategy
Samuel Rosenberg*	Pacific Northwest National Lab
Josh Rushton	RTF Contract Analyst
Leila Shokat	Energy Trust of Oregon

Paul Sklar	RTF Contract Analyst
Kevin Smit	NWPCC
Kenji Spielman	Energy Trust of Oregon
Laura Thomas	RTF Manager
Eva Urbatsch*	Puget Sound Energy
Michelle Wildie	Puget Sound Energy
Joe Walderman	NWPCC