

**Thermal Renewable Energy Credits Rulemaking
Stakeholder Meeting Notes
September 7, 2016 – 1:30pm
Portland State of Oregon Office, Room 1E (800 NE Oregon St)**

Called to Order/ Introductions:

The meeting was called to order at 1:30 p.m. by ODOE staff. The purpose of this meeting was to discuss draft rules relating to the Renewable Portfolio Standard and to continue the discussions from the first two stakeholder meetings on the RPS that were held on June 20, 2016 and August 3, 2016. The floor was opened to introductions:

In Attendance:

Bill Carlson – OFIC
Linc Cannon – OFIC
Michael O’Brien – RNW
Tom Previsi – NWESI
Alex Schay – Wellons

From ODOE:

Rebecca Smith
Jessica Reichers
Marty Stipe
Andre Warren
Dan Avery
Wendy Simons

On Phone:

Marcie Newman – Shell
Christine Mahler – WREGIS
Mary Frantz – WREGIS
Andrea Coon – WREGIS
Dave Modal – ETO
Dona Stein – Shell Energy
Ian Bledsoe – Clatskanie PUD
Jeff Maag – City of Gresham
Alan Johnston – City of Gresham

Discussion of Changes to Draft Rule Language:

Rebecca Smith (ODOE) – Main point of discussion: What is considered secondary purpose and eligible? What is station service, therefore ineligible?

In this draft, any thermal energy used for on-site fuel processing, drying of fuel, is considered station service and is ineligible.

No change to fuel displacement requirement. This draft allows for either displacement of fuel or electricity. Received several comments. Aware that RPS is focused on electricity, but addition of TRECs adds to that exclusivity. Discussion of thermal energy end uses in which electricity would not be most efficient fuel.

Added language to retroactive crediting, included language on Stranded Thermal generation. There are now deadlines and how to apply for stranded thermal generation. Contingent upon facility submitting application, but also deadline for providing data.

Received comments regarding Geographical Boundaries. This draft is same as last draft. TRECs are unbundled, anyone in WECC can apply for Oregon RPS certification and generate TRECs. Suggested that ODOE include adder for Oregon facilities, provide more barriers for facilities not

located in Oregon. Have not included this. There is the possibility for facilities in Oregon who meet PURPA and PUC Requirements to generate unbundled RECs that are based on electricity that are exempt from the 20% cap on compliance with unbundled RECs that apply to IOUs. This draft of rule treats TRECs as eligible for this exemption if they meet requirements of ORS 469A.145.

Removed requirement for PE, as PE might not be the right person for facility's plan. Split in to two tiers (small facilities and large facilities). Goal is to provide administrative ease so small facilities can participate in TREC market, but administrative costs may exclude them. Rule now states threshold is ability to generate 1 TREC per hour (essentially 1 MW/hour). Will welcome discussion/comments on whether that threshold is appropriate.

Open Floor Discussion/General Comments:

Tom Prevish (NWESI) – Big picture related to station service, what counts and what does not. If there is a biomass plant making electricity and heat and they have the option to put power back in to the plant to make it more efficient, or not putting the auxiliary power back in and not using renewable power to generate more electric RECs. What prevents someone from trying to claim as many RECs as possible for electricity? If they want to get as many RECs as they can, instead of putting auxiliary heat back in to the system, they will make up for it by using non-renewable electricity or extra heat from natural gas.

Bill Carlson (OFIC) – By federal statute, you are supposed to power your auxiliaries with your own output and only receive credit for the net on the electric side. Where you make the division between the thermal side of plant and electric side, has been in question. If there is a co-gen facility with an existing boiler, before you added the turbine, the turbine portion could be incremental. The thermal portion existed previously and the auxiliary should be exempt from that. Tom's point about thermal is well taken. You could have electric driven water feed pump driven through turbine with steam, but turbine powered by steam would be more efficient from overall cycle efficiency stand point, but would now be station service.

Tom Prevish – What prevents someone from sending that heat/steam out and just claiming the RECs for the electricity generated?

Bill Carlson – Sort of counterproductive in that regard, if what you're after is maximum thermal efficiency.

Michael O'Brien (RNW) – Will depend how much the thermal REC is valued. To be incentivized to do that, the TRECs would need to have higher value than the electric RECs.

Bill Carlson – The whole process is still moving in positive direction. Working through the issues, with majority opinions. Recognition that arriving at BTUs of net energy delivered can be more difficult than totaling up MWhs. What you have under monitoring now recognizes that projects are unique. There may be certain innovative station service uses that should be allowed. Will

provide language suggesting how to include these. Clarification: In rule, are you saying electric REC and TREC are both considered unbundled, or identical, and then the rules applied to bundling of RECs also applies to TRECs?

Rebecca Smith – Yes, in that thermal RECs are intrinsically unbundled instruments. There is not any delivery of thermal energy to the grid along with that environmental benefit.

Bill Carlson – In Oregon, exemptions may apply and TRECs become bundled if able to meet other criteria.

Rebecca Smith – In reviewing 469A.145, which allows that certain facilities within Oregon may generate unbundled RECs that may be exempt from the 20% compliance cap that many IOUs face for use of unbundled RECs. IOUS can only use 20% unbundled to meet their compliance targets, but for net metered or co-gen facilities in Oregon, they can generate unbundled RECs that don't have to count toward the IOU compliance cap.

Michael O'Brien – Thermal RECs form this exemption without modification of statute?

Rebecca Smith – Our reading is that because RECs and TRECs are essentially equivalent, they would be equivalent here as well.

Michael O'Brien – From a plain language perspective, it says the limitation does not apply to RECs for electricity generated. Doesn't say for RECs from Thermal energy.

Rebecca Smith – There are places in statute that make specific reference to electricity. ODOE has moved forward with RECs/TRECs being equal. Do not see the use of word 'electricity' as a hard barrier, as we are now dealing with existing statute but adding a new type of energy in to that system.

Linc Cannon (OFIC) – Since this is what was required by the bill, there should be no legal hurdles regarding treating TRECs and RECs as equal. If someone takes issue with this, it should be addressed legislatively.

Michael O'Brien – On the issue of Fuel Displacement for Secondary Purpose, we want to keep it to electricity. There are multiple reasons ODOE has stated why it shouldn't, including necessity. But the argument "given a large share of renewables in Oregon's electricity mix" is very utility dependent and depends on what is meant by 'renewables,' whether it is qualifying renewables for the RPS. But to call that out as a reason that it shouldn't be 'electricity' and to allow thermal RECs to displace electric RECs under the RPS seems to be circular justification as to why it should be allowed to displace fuel or electricity. On this point, question for group...are there many facilities that are drying fuel that they would then sell?

Bill Carlson – Know of none that do that, have heard about it in natural gas facilities elsewhere that have lost their steam customer, then initiating a fuel drying business for biomass plants to meet the federal definition of having a steam offtaker. Do not know of any biomass plants in Oregon who dry fuel for other purposes.

Alex Schay (Wellons) – Agrees, does not know of any plant that dries fuel before generating energy.

Michael O’Brien – Question to ODOE, was this included then to keep it as an open option?

Rebecca Smith – It was added to draw the distinction. Also somewhat in response to a previous specific question with respect to torrefaction, would torrefied fuel sold to another facility count or not? Answering hypothetical question of fuel drying, if you not using that fuel onsite, that could be eligible thermal energy.

Marty Stipe (ODOE) – In an industrial facility, chip board plant, they were installing biomass-fired dryer for fuel drying. They may take some of their excess product and feed it back into biomass boiler or use it as dried fuel on site or dried product. Depending if they choose to make steam and electricity to get in to REC game, they could add electricity generation from a high pressure boiler and then expand into new renewable electric generation with new electric RECs and some of their dried fuel would come back in to the process. It leaves the door open to some other types of projects.

Bill Carlson – Roseburg Forest Products has pellet mill and large cogen that would qualify for this program. They could dry sawdust for pellets using thermal energy to displace natural gas and that would then qualify for TRECs.

Michael O’Brien – If the energy is used to make a product and the product itself sold where the TREC goes somewhere else, it creates a challenge to make any environmental claims with that product because the greenness has gone away with the credit. Trying to market the pellet as a “green product” but have sold the REC, you have already sold the environmental benefit.

Tom Prevish – What you’ve actually sold is the part of the energy requiring the drying or processing, but there are still other parts of it that are renewable. Only one part of making that pellet had a TREC associated with it, if they sold that to the utility, that would be gone, but there would be other benefits that would be associated with renewable.

Michael O’Brien – All environmental attributes go with REC. Gets into what is the definition of REC and whose jurisdiction they are under.

Alex Schay – While writing PPAs for dairy digester and utility, were careful to make sure for a dairy digester project that the project’s ability to destroy methane and reduce GHG emissions was separate from RECs. There is a way to pull this apart.

Rebecca Smith – Because these rules treat TRECs and RECs as equivalent instruments, we take the definition of RECs and apply it to TRECS, including the environmental attributes aspect. Will try to be as clear as possible in rules and direction head that off as much confusion as possible regarding these aspects.

DEFINITIONS

Section -0015

Rebecca Smith – Modification of “Qualifying Thermal Energy” to add “form of direct heat, steam, hot water, or other useful thermal form.” Language regarding “Secondary Purpose” changed slightly, but the definition remains the same. Removed some language and placed it under “Qualifying Thermal Energy.” Regarding “Station Service,” added language around auxiliary facilities in support of electricity generation system, and that station service includes thermal energy used to process the facility’s fuel. Also added “Stranded Thermal Energy” with date ranges for eligibility. Between date of statute (March 8, 2016) and the effective date of the rule will be allowable time for stranded thermal generation. Facility will have 6 months to report stranded generation to WREGIS and to apply with ODOE for Oregon certification. After the approval of application, facility has 6 months to report stranded thermal generation to WREGIS. After this timeframe, no longer eligible.

Bill Carlson – Under point b, only way you can become registered in WREGIS is for ODOE to register the generator. Is there no process to register with WREGIS directly? The facility would have to apply to ODOE and ODOE would approve and forward to WREGIS. Is that correct?

Andrew Warren (ODOE) – The generator itself is registered with WREGIS and a unique WREGIS identification number is assigned by WREGIS. After the registration with WREGIS is completed and the WREGIS ID number is assigned, the application for Oregon RPS eligibility can be submitted to ODOE.

Bill Carlson – Will WREGIS be in a position to accept those filings by that date, purely for thermal?

Rebecca Smith – All you will be doing at that point is essentially registering for that fuel. You provide WREGIS with static data and pay registration costs, then they wait to hear from Oregon that the facility is certified. First step is to register the account with WREGIS, then ODOE certifies for the RPS.

Moving next to definition of “Thermal Renewable Energy Certificate” states “a REC created in association with the generation of 3,412,000 British thermal units of qualifying thermal energy, which is equivalent to one REC created in association with the generation of one mega-watt hour of qualifying electricity.” Open discussion on these or any other definitions.

Linc Cannon – Regarding stranded RECs, is that a facility-specific reporting requirement? Will there be a process in place for facilities to go back and claim RECs? How do you retroactively go back and say that a facility generated X number of Btus?

Bill Carlson – Envision that process would be addressed along with the certification application. Say here is how I used the thermal energy, here in the past is how I metered it with my calculations.

Linc Cannon – So it would be a facility specific process.

Bill Carlson – Yes, beginning March 8 through date of rule, here is the calculation that was utilized, then ODOE can agree with or modify that calculation, for instance the instrumentation is so old it would have to be discounted by 20%, for example.

Marty Stipe – Methodology used to calculate the BTUs consumed is what facility is doing when they submit application. People that have already produced RECs, using eligible metering system, that data was collected and here are the dates I can go back. Metering is sufficient and meters have been calibrated, then the data should be the same moving forward as backward looking. May need to show different methodology to show without data.

Bill Carlson – Currently, likely no one has thermal energy meter that can convert to BTUs. Would have to be done by hand looking backward in most circumstances.

Rebecca Smith – This is part of rationale to put deadlines on applications to be aware of data integrity issues. Administrative costs also associated with reviewing data. Further back we go, the longer it is going to take, so this is reasoning for period of time to allow retroactive crediting.

Tom Prevish – Regarding Item 21, “Station Service,” electricity used for plant lighting, not counting...does that mean definition of auxiliary facilities for the heat is any heat that is put out by generating station that is used for building heat or hot water in the plant does not actually count?

Marty Stipe – If we draw the parallel between electricity and thermal, it’s the thermal for the power plant.

Tom Prevish – Makes it harder to envision what thermal energy will be available. Processing something sell or ship out in steam to another building?

Bill Carlson – The way I read this, if you have a sawmill and a power plant both heated using steam, steam used to heat power plant does not count, but steam to heat sawmill does.

Tom Prevish – Wouldn’t someone be tempted to heat building with natural gas and shift heat outside of the building? The way to avoid this would be to subtract auxiliary power or nonrenewable electric, or heat energy used toward the plant system, but this is probably too big of a change.

Alex Schay – In heating a building, the bulk of thermal load will be used for things like drying lumber. The amount of heat used to heat the building itself will be very low.

Linc Cannon – generally generating electricity at these facilities is a byproduct, or an add on to the primary function.

Tom Prevish – Picturing smaller CHP-type facilities that might be at a disadvantage.

Michael O'Brien – Clarify item 24, regarding Thermal RECs? More information on how TRECs and RECs are equivalent.

Rebecca Smith – Section meant to be compliant with RPS. These are types of RECs would be equivalent. Thermal RECs are a type of REC, differences in how some of them are created, and their inability to be bundled. For most part, made a distinction calling it “TREC”, seeking to make clear that these were still under the larger umbrella of REC except for specifically called out differences, they are fundamentally the same.

SECTION 0030

Allowed Vintage of Renewable Energy Certificates

Rebecca Smith – Makes clear that TRECs may be used to comply with Oregon RPS and includes date by which TRECs would be eligible, date of statute March 8, 2016.

NO ADDITIONAL COMMENTS

SECTION 0035

Application Process

Rebecca Smith – Section added, already existing rule, but new to draft. Includes “thermal energy” where electricity is called out in respect to application process. Revised language to state “Electricity or *thermal energy*.” Makes distinction application will need a thermal energy measurement plan.

Tom Prevish – Should it include language on schematics/more detail? To evaluate actual system itself, is it worth adding this type of language to this paragraph?

Bill Carlson – A person new to this process would look first to this section in rule for guidance, rather than Monitoring section, so they know what the requirements are earlier in the rules.

SECTION 0080

Thermal Energy from Generation of Electricity Using Biomass

Rebecca Smith – Changes to 4b, thermal energy returned back to biomass conversion device. Slight change because technically methodology was not 100% correct.

Marty Stipe – Also changed 2d, but only language change, not content.

Rebecca Smith – Discussion about removing 4d because of concerns if electricity device was creating thermal energy and went down. Would thermal energy just created not be eligible?

Rule language now says “if it were *generated* while electricity production system was in service.”

Bill Carlson – Regarding 2a, Facility must also generate thermal energy for secondary purpose. Seems wide open. Even though requirements are tightened up in rule later, maybe add more specificity such as “must simultaneously generate thermal energy using biomass sources...” Keeps distinction between thermal and electric energy produced. Additionally, regarding 4a suggest add to end of line “...unless approved an innovative station service use during the application process...” Will submit language recommendation.

Michael O’Brien – Would that be added to the electricity section as well?

Rebecca Smith – Would take a look to see if it fits. There is more leeway in the “Thermal Energy” definition and will be looked at on a case by case basis. Facilities should be able to make case for specific methodology. Electricity is easier to draw boundaries, likely hesitant to change electric section.

Tom Prevish – A couple examples of this. If there is anaerobic digester gas with CHP. Outside building, electricity and heat going in to office building. Shipping heat out this way, both electricity and thermal is eligible. Adding back into building for lights, heating, and others in the building it’s actually in, would then not count. Department has the right to say what should count, in this particular case, define “Power Plant.” Sub-MW facilities, units could be distributed inside a large building. Would probably want to define units as individual power plants within the same building that might help clarify using the output as RECs.

Marty Stipe – The portion of the space then becomes the power plant?

Tom Prevish – Yes that would work too.

Michael O’Brien – Concern is that if the rules that pertain to thermal energy should also pertain to electricity as well.

Rebecca Smith – While this currently only applies to Oregon for TRECs, other states may develop similar process. Would like those generating TRECs to have multiple markets.

Bill Carlson – Regarding 4b, “thermal energy may not be used if...” if you take a pound of steam out and return a pound of water, you have to subtract that.

Marty Stipe – Written broadly focusing only on the thermal characteristics of thermal leaving facility for secondary purpose and the thermal characteristics returning. Wastewater plant may use large water loop circulating through plant and depending on weather and other buildings they are heating, water temperature may come back as hot as when it left the plant. Have to make it clear it is not just measuring the energy leaving the generating site, you have to subtract the energy that comes back to it getting recycled or circulated.

Bill Carlson – Maybe state in rule not a weight measurement, rather a measurement of BTUs.

Section 0090

Metering, Monitoring, and Reporting of Qualifying Thermal Energy

Rebecca Smith – Section with lots of revisions. Now includes a difference for large/small facilities in terms of measuring and reporting. Everything is directly metered to secondary purpose. For small facilities, added provisional threshold of less than 3.4 million BTUs per hour. Have to install thermal measurement system. Some parameters that may be treated as constants within $\pm 2\%$. Will be part of measurement plan. More detail on measurement plan and application process for required supplemental material, including drawings, specifications, and diagrams. Removed PE section here. Updated data requirements that facilities keep thermal measured data/calculations on site for 5 years.

Tom Previs – Regarding 1b), $\pm 2\%$ for range for expected operating conditions.” Specify excluding start up period or “steady-state conditions only.” Regarding 1e), “Thermal energy measurement system must be reviewed and approved...” Concern is that ODOE will be approving and reviewing many things. In favor of the idea of not requiring a PE, but maybe encourage some professional review of system as a sidebar in application process itself. Specifically include a section in application on professional certification, not that it’s required, but would encourage applicant to have someone else review application/facility and would lighten load for ODOE certification process. For the discounting section, need more info on what you have in mind. Understand someone would go through and determine errors and apply discount factor. Some might always go to minimum, some would just apply the mean.

Marty Stipe – What we had in mind was the variety of facilities that we could have done pre-engineering with, we would instead let flexibility go out to site in preparation of the application. Discount factor may be “first 10% of process do not into product, recycled in to back end somewhere else, therefore have to discount.” The more meters in calculation, the probability is lower that it’s the actual accurate number. That level of analysis is left up to the site to report to ODOE.

Tom Previs – Would the discount always be what the lowest known amount is?

Marty Stipe – It would depend on what is reasonable to the applicant. ODOE will need to do technical reviews of applications.

Bill Carlson – Regarding 1b), $\pm 2\%$, many of these systems are highly cyclical. There are facilities that maybe 8-10 days a year everything is running, but they can’t keep the pressure up to heat the system. Perhaps error bar should be $\pm 5\%$. There are conditions that simply put more drag on the system than $\pm 2\%$.

Marty Stipe – This was arrived at, thinking for instance, in a community-distributed energy system with hot water loop maintaining constant temperature, this is very controllable. Temp stays at a set level, plus or minus 10 degrees. The heat capacity remains constant because the temperature band is narrow.

Bill Carlson – Comment on last line, “reporting must be conducted...according to WREGIS requirements.” Defined well by WREGIS, but they do have a certain class of generators that can self-report. It would be nice if facilities of a certain size could do self-reporting without the need for a Qualified Reporting Entity, this is fairly costly, especially for a small facility on a quarterly basis.

Rebecca Smith – ODOE will consider, discuss with WREGIS.

Michael O’Brien – In next round of written comments, can we revisit issues?

Rebecca Smith – We welcome any and all comments on rules or process, especially in areas where people feel strongly.

Discussion of Small Business Fiscal Impacts

Rebecca Smith – Need to discuss small business fiscal impacts. In reviewing these rules and how small business may be impacted, we have come to expect the cost of compliance to be minimal. This is a voluntary program, so businesses that choose to participate will determine if the final benefits are worth the transaction costs for their needs. Of the Oregon-certified facilities currently generating electricity from biomass, one fourth would meet small business requirements. Others are owned by COUs, municipalities, etc. We think facilities that begin generating TRECs could have fewer than 50 employees and operated in low margin business areas, such as forest products and agriculture. Part of rationale to add size threshold for small versus large facilities and the costs associated with data collection. Fiscal impact form will be eventually filed.

Alex Schay – Is the purpose of this current discussion whether cost of participating in TREC program is onerous to companies that may participate, or is it something different?

Wendy Simons (ODOE) – Statute tells us to identify the number of small businesses, then we are to describe what type of reporting or administrative activities would be required for compliance and increased admin. Then describe the manner in which small businesses were involved to provide input. The presumption is that ODOE will do as much as possible to make it less onerous. Trying to make it possible within the RPS for smaller facilities, while maintaining overall integrity. Want to make it possible that a smaller facility would be able to comply and be able to supply TRECs in to the market. Challenge is that there are many different types of facilities with different designs, so models may be different from facility to facility.

Alex Schay – Will there be a review charge for RPS? Would need to review application and methodology, math, etc. Where does the department stand on review fee?

Rebecca Smith – Since there is no charge on the electricity side of RPS, need to get further down the road here as to what the application process will look like and what administrative costs will be encountered by ODOE. At this point, there is no plan for a fee, but there may be the need for one after having time to operate the program under the new rules. If we do implement a fee, it would be only if necessary.

Bill Carlson – Does ODOE have experience/history of bringing in outside experts in for third party assistance in times of high volume?

Marty Stipe – Agency has hired temporary positions in the past, using state procurement process. Certain programs need additional help, and utilize state procurement process. ODOE's plan is to develop a clean application process that will minimize the questions when ODOE goes to review the application. ODOE will be able to make more of determination once we have a chance to run the program for some time.

Linc Cannon – Experienced similar needs with other state agencies, situations where additional staff resources were needed. Possibly contract someone, if there is the need.

Rebecca Smith – Written comments for this draft due Friday, September 16. Technical subgroups will be developing applications, let ODOE know if you would like to participate in this process. We will file forms with Secretary of State for intent on September 15. Public meeting will be held November 2. November 29 is target to file final rules with Secretary of State.

Bill Carlson – What does a typical public hearing look like?

Wendy Simons - Always different. Some have high participation, others none. Comments will be accepted in writing or in person.

Meeting was adjourned at 3:13 pm.